

DERIVATIONAL NETWORKS
OF NOUNS AND ADJECTIVES IN TURKISH

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DERIVATIONAL NETWORKS
OF NOUNS AND ADJECTIVES IN TURKISH

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DECLARATION OF ORIGINALITY

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ABSTRACT

Derivational Networks of Nouns and Adjectives in Turkish

In Turkish, the distinction between nouns and adjectives is not clear. According to Braun and Haig (2000), nouns and adjectives in Turkish are on a continuum. The distinction between nouns and adjectives is not straightforward since nouns can behave like adjectives and modify other nouns and adjectives can go under conversion and take nominal suffixes. This study aims to shed light on the derivational properties of nouns and adjectives in Turkish. These properties are observed through a model called Derivational Networks, which is first used in Projekt Monika: Cross-linguistic research into derivational networks (Bagasheva et al., frth.). The Derivational Networks model focuses on the semantic categories of the outcomes of derivation rather than analyzing the formal properties of derivational affixes (Bagasheva et al., frth.). In the Derivational Networks project, Göksel and Kapan (frth.) state that nouns and adjectives share similarities as well as differences in their derivation, which inspired this study. In order to analyze the derivational properties of nouns and adjectives in Turkish, 65 base nouns and 65 base adjectives have been selected and their derivations are spread out on derivational network tables. One of the findings is that nouns and adjectives differ in terms of their potential to derive new lexical items and the actualizations of those potentials. Nouns have a higher number of derivatives and a maximum derivational network number than adjectives whereas adjectives have a higher saturation value, suggesting that even though the potential of adjectives to derive new lexical items is smaller than nouns, adjectives actualize their potential more than nouns.

ÖZET

Türkçede İsimler ve Sıfatların Türetimsel Ağları

Türkçede isimler ve sıfatların arasındaki ayırım belirgin değildir. Braun ve Haig (2000)'e göre, Türkçedeki isimler ve sıfatlar bir sürem üzerindedir. İsimler ve sıfatların arasındaki ayırım, isimlerin sıfat gibi davranıp başka isimleri niteleyebilmesi ve sıfatların isimlere evrişimi ile adsıl sonekleri alabilmesi sebebiyle açık değildir. Bu çalışma Türkçedeki isim ve sıfatların türetimsel özelliklerine ışık tutmayı amaçlamaktadır. Bu özellikler, ilk olarak 'Projekt Monika: Cross-linguistic research into derivational networks' çalışmasında kullanılan Türetimsel Ağlar denilen bir model tarafından gözlemlenmektedir (Bagasheva et al., frth.). Türetimsel Ağlar modeli, sadece yapım eklerini incelemek yerine daha çok türetimin sonuçlarının anlam kategorilerine odaklanmaktadır (Bagasheva et al., frth.). Türetim Ağları projesinde Göksel ve Kapan (frth.), isimler ve sıfatların türetimlerinde benzerlikler ve farklılıklar olduğunu belirtirler, bu da bu çalışmaya ilham kaynağı olmuştur. Türkçedeki isim ve sıfatların türetimsel özelliklerini analiz edebilmek için 65 isim ve 65 sıfat tabanı seçilmiştir ve türetimleri, türetim ağları tablosuna işlenmiştir. Bulgulardan biri, isimler ve sıfatların yeni sözlüksel birimler üretme potansiyelleri ve bu potansiyellerin gerçekleştirilmesi açılarından farklı olmalarıdır. İsimlerin daha fazla türetimleri ve maksimum türetimsel ağ sayısı bulunurken sıfatların daha fazla doyma değeri vardır, bu da sıfatların yeni sözlüksel birim üretme potansiyelinin isimlerden daha az olmasına rağmen sıfatların bu potansiyellerini daha çok gerçekleştirdiklerini öne sürmektedir.

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ABBREVIATIONS

ABIL	Ability
ABL	Ablative
AOR	Aorist
CAUS	Causative
DER	Derivational morpheme
INF	Infinitival
NDER	Nominal derivational morpheme
NEG	Negative
NP	Noun phrase
PASS	Passive
PL	Plural
REC	Reciprocal
REF	Reflexive
VDER	Verbal derivational morpheme

CHAPTER 1
INTRODUCTION

1.1 The aim of the study

In Turkish, it is well-known that it is hard to draw a line between nouns and adjectives considering these two lexical categories occur in similar syntactic and morphological environments as opposed to verbs (Braun & Haig, 2000; Göksel & Kerslake, 2005; Uygun, 2009). Thus, nouns and adjectives are classified under a broader lexical category of nominal or substantives (Sebüktekin, 1971; Uygun, 2009). For instance, both nouns and adjectives can occur as modifiers of another nominal. *Kadın* ‘woman’ which is traditionally classified as a noun can occur as the modifier of another noun *polis* ‘police officer’ as seen in (1a). The example in (1b) shows that this order can be swapped as well. In (1c), *genç* ‘young’, which is an adjective in the traditional sense, occurs as a modifier of a noun as expected. However, the example in (1d) suggests that an adjective can behave like a noun and a noun can behave as its modifier.

- (1) a. kadın polis
woman police.officer
‘policewoman’
- b. polis kadın
police.officer woman
‘a woman who is a police officer’
- c. genç polis
young police.officer
‘young police’

d. polis genç

police.officer young

‘a young (person) who is a police officer’

Another similarity between these two lexical categories is that nominal inflectional morphology markers can attach to both nouns and adjectives in Turkish. For instance, case markers can attach to both nouns and adjectives as shown in (2a) and (2b) whereas the same marker cannot attach to a verb as shown in (2c).

(2) a. kadın-ı

human-ACC

b. genç-i

young-ACC

c. *yürü-yü

walk-ACC

In short, nouns and adjectives in Turkish are clearly intertwined and lack a clear-cut distinction between them. As proposed by Braun and Haig (2000), they are in a continuum: some nominals are more noun-like whereas others are more adjective-like. An example for a more noun-like nominal can be *polis* ‘police officer’ and an example for a nominal that behaves more adjective-like is *büyük* ‘big’. Other nominals can behave somewhere in between these two sides on this continuum.

In the absence of other differences, my thesis focuses only on one aspect of the relationship between these two lexical categories in Turkish: the derivational properties of nouns and adjectives. In this study, I will examine the derivational patterns of nouns and adjectives and present a comparison of their potential to derive lexical items based on a set of semantic categories. I will thus be able to observe the interaction of semantic categories that result from the derivations across these two

groups. In order to find out these properties, I use the methodology used in Projekt Monika: Cross-linguistic research into derivational networks (Bagasheva, Körtvélyessy, Štekauer, & Valera, frth.). In total, I have selected 130 base words, 65 of which are nouns and 65 of which are adjectives. Then, I created the derivational network tables of the selected base words.

The concept of derivational networks comes from the combination of two paradigms in derivational morphology (Bagasheva et al., frth.). One paradigm is the direct derivation of a base word called ‘paradigmatic capacity’ and the other paradigm is the linear derivations that originate from one single base called ‘derivational degree’ (Bagasheva et al., frth.). This concept has been proposed in ‘Projekt Monika: Cross-linguistic research into derivational networks’, which is the inspiration for my study. In the study Projekt Monika, 10 nouns, 10 adjectives, and 10 verbs have been analyzed across 40 European languages in terms of the semantic categories whose exponents are affixes (Bagasheva et al., frth.). Thus, no participles, gerunds, affixoids, or compounding are included as word formation operations. This project aims to compare and analyze the derivational behavior of 40 European languages, which are selected according to the “data availability”. Only languages from the 0-4 levels of *Ethnologue*’s “Expanded Graded Intergenerational Disruption Scale” were selected. These languages are analyzed in terms of their paradigmatic capacity, derivational degree, saturation values and the occurrences of the semantic categories in the derivational network tables. In my thesis, I have slightly diverged from the methodology of the project in that in addition to affixation, I have also included partial reduplication as the word-formation processes in the derivational networks of the selected base words. It is important to note that derivational networks do not focus on the derivational morphemes that attach to the base words

but to the semantic categories that attach to a base and to the results from the derivation. Thus, this study does not go into the details of the derivational morphemes in Turkish but rather focuses on the semantic categories that build words, their interaction with other semantic categories, their iterativity and blocking effects, and the results of these findings for the classes of nouns and adjectives.

1.2 The outline of the thesis

Chapter 2 of this thesis focuses on ‘Projekt Monika: Cross-linguistic research into derivational networks’ and the creation and analysis of derivational networks. This chapter also includes the explanation of the components of a derivational network and the calculation of maximum derivational network number and the saturation values that are relevant for the analysis of the derivational networks.

In Chapter 3, I talk about the semantic categories that result from the derivational processes in Turkish. Each section in this chapter gives information about a semantic category and its examples from Turkish.

In Chapter 4, I talk about the lexical categories that are analyzed in this thesis: nouns and adjectives. This chapter focuses on the properties and the semantic subcategories of nouns and adjectives. This chapter also includes the discussion on the similarities and differences of nouns and adjectives in Turkish.

In Chapter 5, I will present the data, the findings, and the analysis of the derivational network tables. This chapter begins with the description and properties of the selected base words. The following sections are about the findings on derivational properties of nouns and adjectives, respectively. Section 5.4 of this chapter focuses on the similarities and differences nouns and adjectives have, based on the derivational properties they display in the derivational network tables.

Chapter 6 includes the discussion on the findings presented in the previous chapter. Chapter 7 concludes the thesis with the summary of the points that are made throughout this thesis. This final chapter also includes recommendations for further research.

Appendix tables A1–A65 show the derivational network tables of all the selected base nouns for this thesis and Appendix tables B1–B65 include the ones for adjectives (see Appendix A and B). Some of the derivational network tables of the base words are split up in two or more tables due to page limitations. Appendix tables C1–C6 show the distribution of the derivatives in each semantic category to each semantic subcategory of nouns and Appendix tables D1–D6 present the same data for adjectives (see Appendix C and D).

CHAPTER 2

DERIVATIONAL NETWORKS

2.1 Background

The work presented in this thesis is inspired by Project Monika: Cross-linguistic research into derivational networks. It is an international project initiated by the scholars from Pavol Jozef Šafárik University, Košice, Slovakia, the University of Sofia, Bulgaria, and the University of Granada, Spain. It explores the concept of “Derivational Networks” and its applicability using 40 European languages, including Turkish. The purpose of the project is to compare the derivational properties of these languages by creating and analyzing derivational network tables of 30 sample words (Bagasheva et al., frth.).

The concept of derivational networks is used to evaluate the paradigmatic capacity, the derivational degree, and the saturation value of 30 underived sample words. The derivational network of a sample word is created by combining its paradigmatic capacity and derivational degree into a single network. The notions of paradigmatic capacity and derivational degree are explained in sections 2.1.1 and 2.1.2 of this chapter respectively. Combining the paradigmatic capacity and the derivational degree results in the creation of the derivational network, which is explained in section 2.1.3. This combination shows the saturation value of the sample word. The calculation of the saturation value depends on both the derived lexical items from the base and the semantic categories of these derived lexical items. The lexical items derived from the sample word are labelled with a semantic category when they are added to the derivational network table. The calculation of saturation values is explained in the section 2.1.4. The semantic categories are explained in

2.1.5 and in chapter 3 in detail. Finally, the methodology used in this thesis is explained in section 2.2 of this chapter.

2.1.1 Paradigmatic capacity

Paradigmatic capacity refers to the collection of complex words derived directly from a word form base (Bagasheva et al., frth.). Guilbert (1975) classifies this as “paradigms of fan-shape” (as cited in Pounder, 2000, p. 90). In figure 1, Guilbert’s (1975) paradigm structure is shown and here ‘X’ refers to the base, and ‘a’, ‘b’, and ‘c’ are derivational suffixes that attach to the base (as cited in Pounder, 2000, p. 90). The set of ‘X+a’, ‘X+b’ and ‘X+c’ is called the paradigmatic capacity in derivational networks.

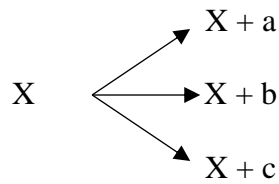


Figure 1. Paradigms of fan-shape (Guilbert, 1975)

[Pounder, 2000, p.90]

In (1), some direct derivations of *göz* ‘eye’ in Turkish are given as an example to its derivatives in the sense of paradigmatic capacity.

- (1) a. *göz*
‘eye’
b. *göz-cü*
‘observer’

- c. göz-lük
'eyeglasses'
- d. göz-süz
'eyeless'
- e. göz-enek
'pore'
- f. göz-le-
'to observe'

The paradigmatic capacity could also be called the vertical dimension (Bagasheva et al., frth.). It constitutes the vertical portion of a derivational network table which groups the direct derivations from a base word. The paradigmatic capacity of each simplex or complex base creates an “order”. The complex words that are derived directly from an underived base word creates the first order. For instance, the examples given in (1) are in the first derivational order of *göz* ‘eye’. The next orders are numbered depending on the derivational degree, which is explained in the following section.

2.1.2 Derivational degree

The linear dimension of a derivational network is called the derivational degree (Bagasheva et al., frth.). Derivational degree refers to all the successive derivations that are created from a single word form base (Bagasheva et al., frth.). For example, the derivational series, *göz-lük* ‘eyeglasses’, *göz-lük-çü* ‘optician’ and *göz-lük-çü-lük* ‘opticianry’ represent an example for the derivational degree of the word *göz* ‘eye’ in Turkish. This type of derivational relation is called “paradigms en cumuls successifs” (paradigms of “cumulative series”, translation of Pounder, 2000, p. 91) according to

the derivational paradigm typology of Guilbert (1975) (as cited in Pounder, 2000).

This type of word-formation process is shown in Figure 2. Again, in this figure, ‘X’ refers to the base and ‘a’ and ‘b’ refer to the derivational affixes.

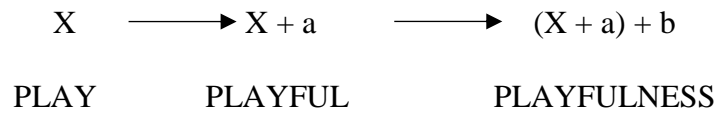


Figure 2. Paradigms of “cumulative series” (Guilbert, 1975)

[Pounder, 2000, p.91]

In (2), the derivational steps of *göz-lük-çü-lük* ‘opticianry’ are given as an example for the derivational degree of the base word, *göz* ‘eye’. As seen here, there are three derivational steps from *göz* ‘eye’ to *göz-lük-çü-lük* ‘opticianry’. These derivational steps are called “orders of derivation” in Derivational Networks Project (Bagasheva et al., frth.). Each successive derivation in the derivational degree belongs to a different order. In (2), *göz-lük* ‘eyeglasses’ is in the first order of derivation of *göz* ‘eye’, *göz-lük-çü* ‘optician’ is in the second order and finally *göz-lük-çü-lük* ‘opticianry’ is in the third order.

- (2) a. *göz*
eye
‘eye’
b. *göz-lük*
eye-NDER
‘eyeglasses’

c. göz-lük-çü

eye-NDER-NDER

‘optician’

d. göz-lük-çü-lük

eye-NDER-NDER-NDER

‘opticianry’

The derivational degree of a word varies from derivative to derivative. Here, derivative refers to a lexical item that is derived from a base with a derivational morpheme. In Turkish, derivation after the first order is blocked for some derivations whereas for others it may go up to the sixth order. In (3b) and (3c), two derivations show different derivational degrees of the base word *iyi* ‘good’.

(3) a. iyi

good

‘good’

b. iyi-ce

good-NDER

‘goodish’

c. iyi-leş-tir-me-ci-lik

good-VDER-CAUS-NDER-NDER-NDER

‘reformism’

2.1.3 Creating the derivational network table

A derivational network table is the combination of the paradigmatic capacity and derivational degree of a base word and a derivational network is created for each base word. The derivations of a base word are written on the derivational networks

table labelled with the semantic category that they derive into. In a derivational network table, each derivation is written on a different row, except for the first one of its successive derivations. Columns are used to separate different derivatives from different semantic categories. Columns are also used to indicate different orders of derivation. Table 1 is the derivational network of the verb *to read* in English and it is used as an example to explain the creation of a derivational network table.

Table 1. The Derivational Network of the Verb *to read* in English

1st order of derivation						2nd order of derivation		
Agent	Instrument	Process	Quality	Anteriority	Iterative	Collectivity	Process	Ability
reader						readership		
	reader							
		reading						
			readable					readability
				preread			prereading	
					reread		rereading	

[“Project Profile”, n.d.¹]

As seen in table 1, the derivatives under the first order of derivation show the paradigmatic capacity of the verb *to read*. The subsequent derivations show its derivational degree and it goes up to the second order of derivation according to table 1. The combination of the paradigmatic capacity and the derivational degree creates the derivational network table of the verb *to read*, which is the entirety of Table 1. As seen here, each derivative is listed under a semantic category label. For instance, *reader*, which refers to a person who does the action of reading is listed under the semantic category AGENT and the other *reader*, which refers to a book, is listed under the semantic category INSTRUMENT. As stated above, in a derivational network table, each derivative is listed on different rows except for the first one of their successive

¹ The reference for the derivational network table is accessible via the following link: <https://www.ugr.es/~svalera/Monika/downloads/Examples%20of%20DN.xlsx>

derivations. For example, in the first order of derivation, each derivative is listed in separate rows. In the second order of derivation, *readership*, which is derived from *reader* in the first order, is on the same row as *reader*. If *reader* had another derivation to be listed in the second order in the derivational network table, it would have been listed on a separate row from *readership*. In addition, if there was another derivative originating from *readership*, such as *readershipness*, it would have been listed on the same row as *readership* but in a different column under the label of third order of derivation. The derivatives are also shown under different orders of derivation, depending on the derivational degree. Again, with the same examples, the derivative *reader* is in the first order of derivation and *readership*, which derives from *reader*, is in the following order. More than one derivative may be listed under the same semantic category as seen in the 2nd order of derivation under the semantic category PROCESS with the derivatives *prereading* and *rereading*.

If the derivations have multiple meanings, or in other words if they belong to more than one semantic category, they are listed as many times as the different semantic categories they have. For example, in Turkish *gün-lük* ‘diary’ or ‘daily’ has two meanings and these two meanings belong to two different semantic categories. For this reason, these two meanings are treated as two distinct entries. Thus, *gün-lük* ‘diary’ or ‘daily’ is listed twice in its derivational network table under the semantic categories INSTRUMENT and TEMPORAL, respectively.

2.1.4 Maximum derivational network number and saturation value

Maximum derivational network number shows the highest derivational potential of a word from a certain lexical category (Bagasheva et al., frth.). Saturation value shows the “structural richness” of a word form in terms of its ability to derive complex

lexical items (Körtvélyessy, 2016). In derivational networks, saturation value is used to show the derivational capacity of individual base words and also to compare the structural richness of different lexical items, lexical categories, and languages. (Bagasheva et al., frth.). The maximum derivational network number is calculated in relation to the derivational networks of other base words and this calculation depends on the semantic categories of the lexical items that are derived from all base words (Bagasheva et al., frth.). The saturation value of a base word is calculated by comparing the highest potential, namely the maximum derivational network number, to the actual derivatives originating from a base word (Bagasheva et al., frth.). In the remainder of this section, the procedure for the calculation of the maximum derivational network number and the saturation value is explained. The tables 2, 3 and 4 are given as an example from Göksel and Kapan (frth.) for the calculation of the maximum derivational network and the saturation value.

In order to calculate the saturation value, maximum derivational network number needs to be calculated first. As explained above, the maximum derivational network number shows the highest derivational potential. This number is calculated by analyzing the number of derivatives in the derivational network tables of all base words for each derivational order separately. The number of derivatives under a semantic category label is compared for all base words. The highest numbers from each semantic category are added up to reach the “maximum derivational network number” for each order. This is done for each lexical category separately. Table 2 shows the distribution of the derivatives for each semantic category in the first order of verbs from Göksel and Kapan (frth.). As seen here, the number of derivatives of 10 base verbs are counted separately. For example, the figure 2 at the intersection of *kes-* ‘to cut’ and STATE means that there are two derivatives of *kes-* ‘to cut’ in the

semantic category STATE in the first order. The figure 1 in the intersection of *bil-* ‘to know’ and STATE shows that *bil-* ‘to know’ derives only one lexical item into the semantic category STATE in the first order. In this semantic category, the highest number of derivatives that comes from a single base word is two. This highest number is given in the row “MAX in column” along with the other highest number of derivatives that comes from a single base word for each semantic category. In row “Sum MAX”, these highest numbers are added up to reach the maximum derivational network number, which is 24 for the first derivational order of the sample verbs in Turkish. The same process is repeated for each order of derivation.

Table 2. Number of Derivatives in Semantic Categories for the First Order of Verbs

		STATE	ACTION	PROCESS	DIMINUTIVE	AGENT	CAUSATIVE	QUALITY	RESULTATIVE	INSTRUMENT	ITERATIVE	RECIPROCAL	INTENSIVE	ENTITY
<i>kes</i>	‘cut’	2	3	1			1	3	1	2				
<i>kaz</i>	‘dig’	2	2	1	1		1		3					
<i>çek</i>	‘pull’	2	2	1		1	1	1	1	1	1	1		
<i>at</i>	‘throw’	2	2	1		1	1		2			1		
<i>ver</i>	‘give’	2	2	1		1	1			1				
<i>tut</i>	‘hold’	2	2	1			1		1	4		1	1	
<i>dik</i>	‘sew’	2	2			1	1	1	2					
<i>yan</i>	‘burn’	2	2	1				2						
<i>iç</i>	‘drink’	2	2	1		1	1		1					2
<i>bil</i>	‘know’	1	2	1			1	1	1					
MAX in column:		2	3	1	1	1	1	3	3	4	1	1	1	2
Sum MAX:		24												

[Göksel & Kapan, frth.]

The second step is to add up the maximum derivational network for each derivational order. This gives us the maximum derivational network number of a lexical category. Table 3 shows the maximum derivatives per order of derivation for the sample verbs in Turkish. The number of maximum derivatives per each order of derivation are added up to obtain the maximum derivational network. This number is 93 for the 10

sample verbs in Turkish and it shows the number of the highest possible derivatives in relation to the semantic categories.

Table 3. Maximum Derivatives of the Verbs in Turkish

Order of derivation	Sum total of maximum derivatives in individual semantic categories
1st	24
2nd	35
3rd	22
4th	10
5th	2
Σ	93

[Göksel & Kapan, frth.]

The third step in finding the saturation value of a base word is to count the number of actual derivatives a base word has for a derivational order and then divide the sum by the maximum derivational network number. Finally, the result of this division is multiplied by 100. The outcome of this calculation gives the saturation value of the base word and it can be done for each base word, each order, and each lexical category. For instance, as seen in table 2, the verb *kes-* ‘to cut’ has 13 derivations in total in the first order of derivation. This number is divided by the highest potential suggested by the maximum derivational network number, which is 24 for the first order of derivation. The result of this division gives us 0.5417. Its multiplication by 100 gives us the saturation value of *kes-* ‘to cut’ in its first order, which is 54.17%. In table 4, the saturation value for each base word and for each order is shown separately. This table also shows the average saturation value of the sample verbs in Turkish under the column ‘Saturation Value’.

Table 4. Saturation Values of Verbs in Turkish

Verbs		Saturation value (%)	1 st order (%)	2 nd order (%)	3 rd order (%)	4 th order (%)	5 th order (%)
kes	'cut'	46.24	54.17	40	63.64	20	0
kaz	'dig'	40.86	41.67	48.57	40.91	20	0
çek	'pull'	55.91	50	68.57	63.64	20	0
at	'throw'	30.11	41.67	40	18.18	0	0
ver	'give'	17.2	33.33	22.86	0	0	0
tut	'hold'	33.33	54.17	42.86	13.64	0	0
dik	'sew'	29.03	37.5	31.43	31.82	0	0
yan	'burn'	15.05	29.17	17.14	4.55	0	0
iç	'drink'	38.71	41.67	57.14	27.27	0	0
bil	'know'	58.06	29.17	45.71	86.36	100	100

[Göksel & Kapan, frth.]

In sum, the saturation value of a base word is calculated by comparing the highest number of possible derivations, namely the maximum derivational network to the actual number of derivatives. It is used to show the structural richness of a base word compared to other base words in the same lexical category. It can also be used to show the saturation value of individual derivational orders, and the average saturation value of the lexical category as a whole.

2.1.5 Semantic categories

In the modelling of Bagasheva et al. (frth.), the derivational networks map out the paradigmatic capacity and the derivational degree of a base word on a table and label the derivatives according to the semantic categories they belong to. In addition, the calculation of the saturation value and the analysis of the derivational properties of a base word are reliant on the semantic categories. Even though base words and the affixes are the main participants in the word-formation process, the semantic category of the end result of this process is the main focus of the discussion of the derivational capacity of a base word in terms of its capability of creating vocabulary items into certain semantic categories in this model.

Not being solely reliant on derivational morphemes in the creation of derivational networks has several reasons. As discussed by Lieber (2012), there may be “mismatches between form and content” in derivation. Some affixes may derive vocabulary items into different semantic categories even though they are homophonous. For instance, derivation into both AGENT and INSTRUMENT categories with the same derivational affix is a phenomenon that can be observed in many languages such as English, Dutch, Czech (Lieber, 2012, p. 2112), and Turkish. For example, the complex derivational affix *-(y)ICI* in Turkish derives deverbal nouns that may belong to different semantic categories such as AGENT (4a), INSTRUMENT (4b), and QUALITY (4c).

(4) a. bak-*I*-*ci*

look-DER-DER

‘caretaker’

b. yaz-*I*-*ci*

write-DER-DER

‘printer’

c. kes-*i*-*ci*

cut-DER-DER

‘sharp’

Focusing only on the derivational affixes without any regard to the semantic categories would lead us to group the lexical items in (4) together. The derivational networks eliminate this problem by focusing not only on the individual affixes themselves but grouping the derivatives that belong to the same semantic category regardless of the affixes they bear.

Another point to be made here is that in this model, only the forms that are listed in the lexicon are listed in the derivational network tables. For instance, in (4a), the verb *bak-* ‘to look’ attaches to a complex derivational morpheme, which is *(y)ICI*. The first step of this derivation, *bak-ı* is not listed in the lexicon; therefore, *bak-ı* would not be listed in the derivational network tables as this is a lexical based study.

In addition, there are multiple derivational affixes with the same functions such as *-ity* and *-ness* in English (Lieber, 2012). For example, in Turkish *çar-çabuk* and *çabu-cak*², both meaning ‘quickly’ with an intensified meaning of *çabuk* ‘quick’ are derived with different derivational processes, partial reduplication and affixation, respectively. Only analyzing the derivational processes could lead us to different results but in a derivational network table *çar-çabuk* and *çabu-cak* ‘quickly’ are grouped under the same semantic label, which is AUGMENTATIVE.

2.1.6 The summary of the preliminary results from Turkic languages in Projekt Monika

According to Göksel and Kapan (frth.), the derivational networks study on Turkish shows that verbs have the highest maximum derivational network numbers for all orders except the fifth order, meaning that they have more potential to derive new lexical items than nouns and adjectives. The nouns and adjectives in this study are quite similar in their derivational capacity. There are derivations up to the fifth order for all three lexical categories, nouns, verbs, and adjectives. Further details on the findings of the study are given in sections 4.3 and 5.4.1.

² The final consonant, *-k* in *çabuk* is deleted before the diminutive affix *-cAk* (Korkmaz, 2009).

The data on Turkish from Göksel and Kapan (frth.) can be compared to the only other Turkic language present in the study, Tatar. According to Károly (frth.), base words from the verbal category derive the most lexical items compared to other categories. The derivational degree goes up to only the fourth order, and it is rare. An interesting fact to note is that according to the average saturation values of Tatar, the highest saturation value for a lexical category in a derivational order is 28.333% from the third order of adjectives. The highest average saturation value from Turkish according to Göksel & Kapan (frth.) is 42.857%, which is higher than Tatar, but it also comes from the third order of adjectives.

2.2 Methodology used in this thesis

In this thesis, the concept of derivational networks, the derivational network tables and the saturation values are used as the means for the analysis of the derivational properties of 65 nouns and 65 adjectives in Turkish. The procedure used in Projekt Monika, which is explained in sections 2.1.3 and 2.1.4 of this chapter, is followed in the creation of the tables and the calculation of the saturation values for this thesis, as well.

2.2.1 Base word selection

In order to create the derivational networks, one has to start from a base and spread out its derivatives on a derivational network table. However, the selection of these base words is a meticulous process since every derivational table influences the calculation of the overall saturation values. For this reason, base words that are put into the derivational network tables are selected from different classes of adjectival

and nominal categories. The aim is to see the derivational patterns of different types of adjectives and nouns.

The preferred base word is simplex, unbound, and of Turkic origin, e.g. *iyi* ‘good’ and *dar* ‘narrow’. However, there are some base words that do not fit into this description, as well. For instance, the origin of *siyah* ‘black’ is Persian (Eyüboğlu, 1988) but it is selected in order to be compared to the adjective with the same meaning with a Turkic origin, *kara* ‘black’. The adjectival and nominal categories are explained in further detail in chapter 4 and the base words are given in section 5.1 of this thesis.

In addition, in order to make the calculations easier and comparable, the number of base words from the adjectival and nominal categories are equal, which is 65 for the adjectival base words and 65 for the nominal base words.

2.2.2 Data collection

The main source of derivatives in the derivational network tables is the Comprehensive Turkish Dictionary of the Turkish Language Association (Türk Dil Kurumu Büyük Türkçe Sözlük, 2018). When the data in the Turkish Language Association dictionary seem insufficient, the data gathered from TS Corpus³ and Google searches are used (Sezer & Sezer, 2013). The Turkish Language Association dictionary has been selected as the main source since it is deemed as the most comprehensive dictionary of the Turkish language and the lexical items listed in there suggest their undeniable usage in the language. TS Corpus and Google searches are used as supplements to the dictionary. From these sources, the derivatives are

³ TS Corpus is an online corpus of over 491 million lexical items, which are tagged with lexical category and morphological information (Sezer & Sezer, 2013). It is accessible via the following website: <https://tscorpus.com/>

collected and mapped out on a derivational network table with their semantic category labels. If a derivative has more than one meaning that belongs to different semantic categories, they are treated as different items and listed multiple times under separate semantic category labels as mentioned in 2.1.3. Thus, the data reflect the different semantic categories that the derivatives have, not the actual number of derivatives themselves.

In this thesis, the only word-formation process that has been analyzed is the derivation of selected base words through affixation and partial reduplication. Other word formation techniques such as compounding and base modification are not included in the derivational networks. Participles are also left out since they are viewed as an inflectional process with an effect on the syntactic category (Booij, 2000).

2.2.3 Data Analysis

In Derivational Networks Project and in this thesis, the derivational network tables and the saturation values are the main tools for analyzing the derivational patterns of a language. The derivational networks and the saturation values indicate the characteristics of the derivation in the language, the correlation between the semantic categories and the derivation, the derivational degree and capacity of the lexical items, and also the blocking effects if there are any.

The categorization of the derivatives according to their semantic labels on a derivational network table shows the derivational patterns. Derivational patterns include the typical paradigmatic capacity and the typical derivational degree a base word can reach, the typical occurrence of the semantic categories depending on the order of derivation or a lexical category (i.e. the most used semantic category label

for a particular order of derivation or a lexical category), and the typical combinations of the semantic categories (i.e. which semantic category usually follows a another semantic category).

The saturation value is a tool that is used to show the maximum derivatives a lexical category can potentially reach, and the actual derivatives that are created. This information is also used to find similarities and differences between different base words, or to compare the derivations of a base word to the entirety of the lexical category it belongs to. Instead of comparing the derivational capacity of base words on a one-to-one basis (i.e. one set of actual derivatives from a base word to the other), the saturation value is a tool do this comparison with numbers. In addition, the saturation values help to calculate the average, the least, or the highest number of derivatives.

2.3 Summary of the chapter

In this chapter, I have presented ‘Projekt Monika: Cross-linguistic research into derivational networks’ and its basic components, namely the paradigmatic capacity, the derivational degree, the saturation value, and the semantic categories. I have also demonstrated how a derivational network is created and how saturation values are calculated. This chapter also includes the methodology used in this thesis, the data collection and what is done with the data.

CHAPTER 3

SEMANTIC CATEGORIES

Semantic categories have a fundamental role in the creation of derivational networks and the calculation of saturation values. As explained in the previous chapter, semantic categories are used to label the derivatives in derivational network tables, and these labels are taken into consideration when saturation values are calculated. Considering that derivational network tables and saturation values are used to describe the characteristics of the derivational patterns of a language along with the combinatorial characteristics of the semantic categories relating to other semantic categories, lexical categories, and the derivational orders, the semantic categories are used for the same purpose both directly and indirectly.

In the Derivational Networks Project, initiators of the project proposed a general set of semantic categories, which are then expanded by the differences in the languages of the project participants (Bagasheva et al., frth.). According to this work, the final list of semantic categories contains “theory-neutral cross-linguistically applicable, comparative semantic concepts”. These semantic categories are described and demonstrated with examples from a selection of languages for the project, which can also be accessed online in the project website⁴. The same semantic categories are also used in this work as labels in the derivational network tables and in the evaluation of the derivational networks. The aim of this chapter is to describe these semantic categories. In each of the following sections, the explanation of a semantic

⁴ The semantic categories used in the Derivational Networks Project are accessible via the following link:
https://www.ugr.es/~svalera/Monika/downloads/Semantic%20categories_Revised_12_May_2017.xlsx

category is given with an example from Turkish and occasionally from English. The semantic categories to be discussed in each section of this chapter are ABILITY, ABSTRACTION, ACTION, AGENT, AUGMENTATIVE, CAUSATIVE, COLLECTIVE, COMITATIVE, COMPOSITION, DESIDERATIVE, DIMINUTIVE, DIRECTIONAL, DISTRIBUTIVE, DURATIVE, DWELLER, ENTITY, EXPERIENCER, FEMALE, HYPERONYMY, HYPONYMY, INSTRUMENT, ITERATIVE, LOCATION, MANNER, ORNATIVE, PATIENT, PEJORATIVE, PERCEPTIVE, PLURACTIONALITY, POSSESSIVE, PRIVATIVE, PROCESS, PURPOSIVE, QUALITY, RECIPROCAL, REFLEXIVE, RELATIONAL, RESULTATIVE, SIMILATIVE, SINGULATIVE, STATIVE, and TEMPORAL.

3.1 Ability

The semantic category ABILITY refers to the “possibility” of an action to be performed (“Semantic categories”, n.d.). For instance, in English *drinkable* is an adjective that refers to the possibility of the verb *to drink* being realized. In Turkish, the ability marker *-(y)Abil* attaches to verbs to add the “possibility” meaning (Göksel & Kerslake, 2005). However, it requires further affixation as shown in the example (1). In addition, as *-(y)Abil* is a bound form, it will not be included in the derivational network tables.

- (1) oku-n-abil-ir
read-PASS-ABIL-AOR
'readable'

3.2 Abstraction

A noun that refers to the opposite of something concrete and something that is outside of our perception belongs to the semantic category ABSTRACTION (Kreidler,

1998). In English, the derivational affixes *-hood*, *-ness*, *-ity* and *-ship* can derive abstract nouns such as *childhood* and *kingship* (Lieber, 2012). In Turkish, derivational morphemes such as *-Am*, *-Ç*, *-I*, and *-GI* can be used to derive abstract nouns from verbs and *-LIK* can be used to derive abstract nouns from nouns and adjectives (Göksel & Kerslake, 2005; Korkmaz, 2009). In (2), nouns that are derived into the ABSTRACTION category with the aforementioned suffixes are given⁵.

- (2) a. kur-am
set-DER
'theory'
- b. bil-gi
know-DER
'knowledge'
- c. inan-ç
believe-DER
'faith'
- d. hoş.gör-ü
tolerate-DER
'tolerance'
- e. insan-lık
human-DER
'humanity'

⁵ The examples in (2a) and (2b) are from (Göksel & Kerslake, 2005) and the examples in (2c), (2d) and (2e) are from (Korkmaz, 2009).

3.3 Action

The semantic category ACTION refers to the “performing of an activity” (“Semantic categories”, n.d.). In English, the deverbal nouns *argument* and *reading* refer to the performing of the activities *to argue* and *to read*. In Turkish, the suffixes *-Im*, *-mA*, and *-(y)Iş* attaches to verbs to derive lexical items belonging to the ACTION category (Korkmaz, 2009), which can be seen in (3)⁶.

- (3) a. yık-ım
destroy-DER
‘destruction’
- b. gör-me
see-DER
‘vision/seeing’
- c. uç-uş
fly-DER
‘flight’

3.4 Agent

AGENT refers to someone who performs the action denoted by the verb (Luschützky & Rainer, 2011, p.290), and the one who makes the event happen “possibly intentionally” (Andrews, 2007, p. 137). This semantic category can also carry additional meanings such as doing the action “excessively”, “habitually”, or “as a profession” (Luschützky & Rainer, 2011, p.290). In English, some of the suffixes that can derive agents are *-er*, *-ant*, *-ist*, and *-an* as in *writer*, *actant*, *artist*, and

⁶ The example (3a) is from (Korkmaz, 2009).

librarian (Bauer, Lieber & Plag, 2013). In Turkish, the morphemes that can derive AGENTS are the following: *-Ar*, *-CI*, *-(y)I-cl*, *-GIÇ*, *-mAn*, *-(y)An*, *-kar*, (Göksel & Kerslake, 2005; Korkmaz, 2009; Kornfilt, 1997). In (4), AGENT nouns derived with these suffixes are given as examples⁷.

- (4) a. *aş-çı*
food-DER
'cook'
- b. *koş-ucu*
run-DER
'runner'
- c. *dal-gıç*
dive-DER
'diver'
- d. *eğit-men*
educate-DER
'educator'
- e. *hizmet-kar*
service-DER
'servant'
- f. *yaz-ar*
write-DER
'writer'

⁷ The examples are from (Korkmaz, 2009) and (Kornfilt, 1997)

3.5 Augmentative

The derivational “markings of a large size” produce lexical items into the semantic category AUGMENTATIVE (Frawley, 1992). The outcome of the derivation refers to the “bigger version of the base” (Lieber, 2010). In English, prefixes such as *hyper-*, *maxi-*, *mega-* and *super-* add AUGMENTATIVE meanings to their bases (Bauer, Lieber & Plag, 2013). In Turkish, partial reduplication creates this effect, which can be seen in (5).

- (5) a. siyah
 ‘black’
 b. sim-siyah
 ‘very black’

In addition, the derivational suffix *-CAk* as in *çabu-cak*⁸ ‘quickly’, and the combination of the derivational suffixes *-CA* and *-CAk* as in *hemen-ce-cik* ‘instantly’ can add AUGMENTATIVE meaning to their base *çabuk* ‘quick’ (Korkmaz, 2009).

3.6 Causative

The semantic category CAUSATIVE refers to an action being caused by another agent. A derivational morpheme attaching to the base “X” alters its meaning to “make X” and “cause to become X” (Lieber, 2004). In English, the suffixes *-ize* and *-ify* can be used for causation as in the examples *standardize* and *acidify* (Lieber, 2015). In Turkish, the morphemes *-Ar*, *-DIr*, *-Ir*, *-(I)t*, *-lAt* (which is the combination of the derivational morpheme *-lA* and the causative morpheme *-t*) are used to add the

⁸ The final consonant *-k* in *çabuk* ‘quick’ is deleted before the derivational suffix *-cAk* (Korkmaz, 2009).

meaning of causation (Korkmaz, 2009). For example, the causative form of *çık-* ‘to exit’ is *çık-ar-mak* ‘to remove’.

3.7 Collective

The semantic category COLLECTIVE is defined as multiple elements behaving as one unit (Joosten et al., 2007). In Turkish, the derivational morphemes *-gil*, *-tay* and *-CAk* can be used to derive lexical items with a COLLECTIVE meaning (Göksel & Kerslake, 2005), which are shown in (6).

- (6) a. *kedi-gil-ler*
cat-DER-PL
‘felidae’
- b. *danış-tay*
consult-DER
‘council of state’
- c. *aile-cek*
family-DER
‘with the whole family’

3.8 Comitative

The semantic category COMITATIVE denotes the meanings “along with someone else” (Bauer, 2004) or “accompanied by” (Booij, 2005, p. 132). In English, the prefix *co-* can attach to a base word such as *pilot* to derive *co-pilot* into this semantic category. The derivational morpheme *-(D)Aş* has the same function in Turkish. It can attach to *ad* ‘name’ to create *ad-aş* ‘the person with the same name’ (Korkmaz, 2009).

3.9 Composition

The semantic category COMPOSITION denotes the meaning “made of” (“Semantic categories”, n.d.). In English, *deverbal* meaning ‘derived from a verb’ can be given as an example for this semantic category. In Turkish, the same meaning is usually delivered with Noun + Noun compounds such as *tahta kaşık* ‘wooden spoon’ (Göksel & Kerslake, 2005). In addition, the ablative suffix *-DAn* can be used to refer to “origin and material” in Turkish (Spencer & Zwicky, 2001), which can be seen in (7).

- (7) taş-tan bir ev⁹
stone-ABL a house
‘a house of stone’

3.10 Desiderative

The semantic category DESIDERATIVE refers to wanting or wishing an action or a thing (Bybee, 1985). In Turkish, the derivational morpheme *-Cil* derives adjectives and nouns which adds the meanings “love” and “affinity” to their bases (Göksel & Kerslake, 2005). For instance, *kötü-cül* ‘malicious’ which is derived from *kötü* ‘bad’, is defined as “kötülük isteyen kimse, kötü niyetli” [someone who wants evil, malicious] (TDK, 2018)¹⁰. This morpheme also attaches to plant or animal names that ‘loves’ to dwell in a particular place (Korkmaz, 2009) and derives lexical items into the semantic category DWELLER, which is explained in section 3.15.

⁹ The example is from Spencer & Zwicky (2001, p.59).

¹⁰ The definition of *kötücül* ‘malicious’ is taken from the Comprehensive Turkish Dictionary of the Turkish Language Association and it is accessible via the following link:
http://www.tdk.gov.tr/index.php?option=com_bts&arama=kelime&guid=TDK.GTS.5c177f0326bde2.66243334

3.11 Diminutive

The semantic category DIMINUTIVE conveys the meaning of “being small in size or in quantity” (Ponsonnet, 2018). In English, the suffix *-let* attaches to a base such as *pig* to derive *piglet* which means the smaller version of its base (Bauer, Lieber & Plag, 2013, p. 386). In Turkish, the suffixes *-CA*, *-CAK*, *-CAğIz*, and *-CIK* attaches to nouns and adjectives to give DIMINUTIVE meanings (Göksel & Kerslake, 2005), shown in (8). These diminutive suffixes can also carry emotions such as ‘empathy’, ‘pity’ and ‘endearment’ (Kornfilt, 1997). For instance, the example (8c), the diminutive suffix *-CAğIz* in *kadıncağIz* ‘poor woman’ gives the ‘pity’ meaning to the base *kadın* ‘woman’. This phenomenon is also observed in other languages that have diminutives such as English, Italian and Spanish (Bauer, 1997; Jurafsky, 1996; Ponsonnet, 2018).

- (8) a. uzun-ca
long-DER
‘longish’
- b. büyü-cek
large-DER
‘largish’
- c. kadın-cağIz
woman-DER
‘poor woman’
- d. kedi-cik
cat-DER
‘little cat’

3.12 Directional

The semantic category DIRECTIONAL has a meaning related to “a specified spatial dimension” (“Semantic categories”, n.d.). For instance, in Turkish, the derivational suffix *-ArI*, which is no longer productive, attaches to *iç* ‘inside’ and *dış* ‘outside’ and derive *içeri* and *dışarı*, both of which indicate direction (Göksel & Kerslake, 2005). In addition, lexical items such as *güney* and *kuzey*, which are no longer segmentable in modern Turkish, refer to a place ‘in the direction of the sun’ and ‘not in the direction of the sun’ respectively (Korkmaz, 2009). They are derived with the suffix *-Ay*, which is now used for deriving lexical items referring to ‘direction’ such as *dikey* ‘vertical’ and *yatay* ‘horizontal’ (Korkmaz, 2009).

3.13 Distributive

The semantic category DISTRIBUTIVE is described as “allotted among members of a set” (“Semantic categories”, n.d.). In Turkish, the suffix *-(ş)Ar* attaches to numbers and derive DISTRIBUTIVE numbers such as *iki-şer* ‘two for each’ and *on-ar* ‘ten for each’ (Korkmaz, 2009).

3.14 Durative

The semantic category DURATIVE refers to an action that is “distributed over time” (Frawley, 1992). The lexical items in this category can co-occur with temporal phrases such as “for a while” or “for an hour” (Frawley, 1992). In Turkish, *-Agel* attaches to verbs to give DURATIVE meaning, as shown in (9).

- (9) a. *sür-mek*
continue-INF
‘to continue’

b. sür-e-gel-mek

continue-DER-come-INF

‘to continue for a while/up until now’

In addition, the derivational morpheme *-AGAn* derives deverbal nouns and adjectives with a DURATIVE meaning. For instance, the adjective *durağan* ‘stable’ denotes the meaning of the base *dur-* ‘to stop’ being done continuously.

3.15 Dweller

The semantic category DWELLER refers to a person or a thing that is an inhabitant of a place (“Semantic categories”, n.d.). For instance, the term for the inhabitant of the city of *London* is derived with the derivational morpheme *-er*, which is *Londoner*. In Turkish, the derivational morphemes *-li* and *-çil* can derive lexical items into the DWELLER category. For example, a person who lives in *İstanbul* is called *İstanbul-lu* ‘Istanbul resident’. As for *-çil*, it has the additional meaning of usually a plant or an animal that “likes” to live there (Korkmaz, 2009). Thus, *sıcak-çil*, which is derived from *sıcak* ‘hot’ means a plant or an animal that loves to live in ‘hot places’.

3.16 Entity

The semantic category ENTITY is described as an object that exists in the material world (“Semantic categories”, n.d.). In Turkish, the derivational suffixes *-mAk* and *-GI* can create entities. For instance, the nouns *bit-ki* ‘plant’ and *ye-mek* ‘food’ are derived into this semantic category.

3.17 Experiencer

The category EXPERIENCER is described as a participant to “perceptual”, “affective” or “cognition” actions (“Semantic categories”, n.d.) and according to Frawley (1992), this action affects its “internal state or constitution”. In English, *hearer* can be given as an example to an EXPERIENCER of the verb *to hear* (Lieber, 2010, p. 194). In Turkish, derivational morphemes such as *-Ak* and *-Gaç*, *-GIn* attaches to verbs and derive adjectives belonging to the EXPERIENCER category (Korkmaz, 2009). For instance, *kork-ak* ‘coward’ is the active participant of the action *kork-* ‘to be scared’. Other examples are given in (10).

- (10) a. utan-gaç
be.shy-DER
‘shy’
- b. üz-gün
to.upset-DER
‘upset’
- c. ürk-ek
to.fear-DER
‘fearful’

3.18 Female

This semantic category refers to beings who are female. For instance, ‘waitress’ in English is the female equivalent of ‘waiter’. In Turkish, there is no derivational morpheme for this category. However, there are some loanwords bearing a female marker such as *sahib-e* ‘female owner’. It is the female equivalent of *sahip* ‘owner’, which comes from Arabic (Eyüboğlu, 1988, p. 275).

3.19 Hyperonymy

HYPERONYMY refers to a hierarchical relation in which the item in question is superior (“Semantic categories”, n.d.). For instance, in English *arch-* in *archbishop* results in the HYPERONYMY meaning (ibid). In Turkish, HYPERONYMY meanings are usually formed with compounds with a lexical item referring to the hierarchical relation. For example, *üst* ‘top’ and *kurul* ‘board, council’ forms the compound *üst kurul* ‘supreme board’. In addition, *baş* ‘head’ may refer to leaders and ‘head of an organization’ in Turkish (Aksan, 2011, p. 247). For instance, *baş* ‘head’ and *bakan* ‘minister’ forms the compound *başbakan* ‘prime minister’

3.20 Hyponymy

HYPONYM refers to a hierarchical relation in which the item in question is inferior or the subordinate (“Semantic categories”, n.d.). *Sub-* in *subcontractor* in English leads to the subordinate meaning (ibid). In Turkish, this meaning relation is again formed with compounds. For instance, *alt* ‘bottom’ and *kurul* ‘board, council’ forms the compound *alt kurul* meaning ‘subcommittee’.

3.21 Instrument

The semantic category INSTRUMENT refers to a tool that is used to perform an action (Lieber, 2010). In Turkish, there are many derivational morphemes that can derive INSTRUMENTS when they are attached to verb roots. These are *-(A)C*, *-(A)K*, *-(y)AcAk*, *-(A)r*, *-GA*, *-GAC*, *-GI*, *-(y)ICI*, *-(I)r*, *-(I)t*, *-mA*, *-mAK* and *-Ilk*. Some of their derivations can be seen in (11).

- (11) a. yaz-ıcı
write-DER
'printer'
- b. yak-acak
burn-DER
'fuel'
- c. kes-er
cut-DER
'adze'
- d. ele-k
sift-DER
'sieve'
- e. taşı-t
carry-DER
vehicle
- f. kaz-ma
dig-DER
'pickaxe'

3.22 Iterative

An action that refers to an “iterative” or “repetitive” activity belongs to the semantic category ITERATIVE (Bybee, 1985, p. 150). In Turkish, the derivational suffixes -*(A)kI*, -*Al*, -*In*, -*IntI*, -*(I)ş-tIr* (which is the combination of reciprocal and causative markers -*(I)ş* and -*DIr* respectively) attaches to verbs and add the meaning of ‘repeating the action’ (Göksel & Kerslake, 2005; Korkmaz, 2009). Among these

suffixes *-(A)kla*, *-AlA*, *-In*, *-(I)ş-tIr* derive verbs and *-IntI* derives nouns. The derivational morpheme *-In* also adds a reflexive meaning while deriving a selection of verbs in Turkish (Korkmaz, 2009). The derivations made with these morphemes are given as examples in (12)¹¹.

(12) a. *it-ekle-mek*

push-DER-INF

‘push repeatedly’

b. *ov-ala-mak*

rub-DER-INF

‘to scrub/rub repeatedly’

c. *bak-in-mak*

look-DER-INF

‘to look around, to look in several directions’

d. *çarp-ıntı*

hit-DER

‘palpitation, noticeable beating of the heart’

e. *ara-ş-tır-mak*

search-REC-CAUS-INF

‘to research’

3.23 Location

The semantic category LOCATION refers to a place or a position where an action is done such as *entry* or it can refer to an action which results in making something to

¹¹ The examples (12a), (12b), (12c) and (12d) are taken from (Korkmaz, 2009) and the example in (12e) is taken from (Göksel & Kerslake, 2005).

go to that location such as *hospitalize* (Bauer, Lieber & Plag, 2013). In English, derivational suffixes such as *-ery*, *-age*, *-ation* and *-ment* are also used to derive nouns into the LOCATION category (Bauer, Lieber & Plag, 2013, p. 237). In Turkish, there are several morphemes with the function of deriving a place name. The derivational morpheme *-Ak* may derive nouns from verbs into the LOCATION category. For instance, *dur-ak* ‘(bus) stop’ is the place where the action *dur-* ‘to stop’ takes place. The derivational morpheme *-lik*, which is quite productive, can derive words such as *mezar-lik* ‘graveyard’ to refer to a location with a collection of *mezar* ‘grave’. The suffix *-ra*, which is no longer productive, derives lexical items that refer to locations such as *bu-ra* ‘here’ from demonstratives such as *bu* ‘this’. In addition, *-(h)ane*, which is originally a loanword from Persian meaning ‘house’, can form words such as *postane* ‘post office’ or *hastane* ‘hospital’ that denote place names (Göksel & Kerslake, 2005).

3.24 Manner

The semantic category MANNER includes lexical items that refer to the “way” of doing an action position (“Semantic categories”, n.d.). In English, the suffix *-ly* can derive lexical items into the semantic category MANNER. For example, the adverb *wisely* means doing an action in a *wise* manner. In Turkish, the stressable suffix *-CA* can create adverbs into the MANNER category as seen in (13).

- (13) a. *yavaş*
 ‘slow’
 b. *yavaş-ça*
 ‘slowly’

In addition, *-lAmA*, which is a combination of the suffixes *-lA* and *-mA*, can derive lexical items into the MANNER category, as well. For instance, when it attaches to a noun such as *balık* ‘fish’, it creates *balık-la-ma* which refers to the manner of diving ‘headfirst’ (Göksel & Kerslake, 2005). Finally, *-AdAk* attaches to onomatopoeic roots and derive lexical items with a MANNER meaning such as *şakkadak* ‘unexpectedly/suddenly’ (Korkmaz, 2009).

3.25 Ornative

The semantic category ORNATIVE is described as providing with something (Bauer, Lieber & Plag, 2013, p. 282). This addition can be an item or a quality. For instance, in English, the verb *accessorize* refers to the addition of *accessories* (Bauer, Lieber & Plag, 2013, p. 283). In Turkish, the derivational suffix *-lA* can create denominal verbs with an ORNATIVE meaning, which can be seen in (14).

- (14) tuz-la-mak
salt-DER-INF
‘to add salt’

3.26 Patient

The semantic category PATIENT refers to a person that has been affected by an action (Lieber, 2010). In English, the suffix *-ee* can derive nouns into this semantic category (Bauer, Lieber & Plag, 2013). For instance, *employee* refers to someone who is affected by the verb *to employ*. In Turkish, the derivational morpheme *-sak* can derive a noun such as *tutsak* ‘prisoner’ who is the PATIENT of the action *tut-* ‘to hold’ (Göksel & Kerslake, 2005). The affix *-man*, which usually derives nouns in the semantic category AGENT, may also derive a PATIENT. For example, *danış-man*

‘consultant’ is the person to whom the action of *danış-* ‘to consult’ is done. In addition, *-zede*, which is borrowed from Persian, can attach to nouns and add the meaning of “victim (of a disaster)” such as *kazazede* ‘victim of an accident’ and *depremzede* ‘victim of an earthquake’ (Göksel & Kerslake, 2005).

3.27 Pejorative

The semantic category PEJORATIVE refers to having negative or undesirable features (“Semantic categories”, n.d.). According to Bauer, Lieber & Plag (2013), it is in “between the morphology of negation and evaluative morphology” (p. 366). In English, the prefixes *mal-* and *mis-* add PEJORATIVE meanings (Bauer, Lieber & Plag, 2013). In Turkish, the suffixes *-IAk* as in *dişlek* ‘toothy’ and *aylak* ‘idler’, *-Ak* as in *korkak* ‘coward’ and *kaçak* ‘fugitive’, *-Ik* as in *yılışık* ‘unctuous’, and *-mAz* as in *yaramaz* ‘naughty’ derive adjectives into the PEJORATIVE category (Korkmaz, 2009). In addition, the derivational suffix *-baz*, as in *düzen-baz* ‘trickster’, is borrowed from Persian and it has the same function (Göksel & Kerslake, 2005).

3.28 Perceptive

The semantic category PERCEPTIVE refers to experiences that are the result of the “physical senses” or “reasoning” (“Semantic categories”, n.d.). In English, the prefix *under-* can add a pejorative meaning as in *underachieve* (Bauer, Lieber & Plag, 2013). In Turkish, the derivational suffixes *-sI*, *-sIn* and *-(Im)sA* derive nouns into the PERCEPTIVE category (Korkmaz, 2009). In (15), some of their derivations are given as examples¹².

¹² The examples are taken from Korkmaz (2009).

- (15) a. irak-s1-mak
distant-DER-INF
‘to perceive (sth.) as distant’
- b. zor-sun-mak
difficult- DER-INF
‘to perceive as difficult’
- c. önem-se-mek
importance-DER-INF
‘to consider something important’

3.29 Pluractionality

This semantic category conveys the meaning of distributing an action to more than one argument (“Semantic categories”, n.d.). For instance, in Turkish, the suffix *-(I)ş* can attach to verbs to derive new ones into the semantic category PLURACTIONALITY. It can add the meanings of multiple agents doing an action at the same time, which can be seen in (16). The same suffix can also add the RECIPROCAL meaning, i.e. having multiple agents doing an action to one another, which is explained in section 3.35 of this chapter.

- (16) uç-uş-mak
fly-DER-INF
‘to fly together’

3.30 Possessive

The semantic category POSSESSIVE shows a possession relation between two entities (“Semantic categories”, n.d.). In Turkish, the derivational suffix *-II* can attach to

nouns to add POSSESSIVE meaning (Lewis, 2000), which can be seen in (17). The derivational suffix *-CI* may also derive lexical items into this category. For instance, *miras-çı* ‘inheritor’ is someone who possesses *miras* ‘inheritance’.

- (17) yeşil göz-lü çocuk
green eye-DER child
‘green-eyed child’

3.31 Privative

PRIVATIVE refers to the absence of properties or the removal of an entity (Lieber, 2010). In English, a noun such as *shoeless* and a verb such as *demilitarize* belong to the semantic category PRIVATIVE (Bauer, Lieber & Plag, 2013). In Turkish, the derivational suffix *-sIZ* attaches to nouns and pronouns to add the meaning “without” (Kornfilt, 1997) as it can be seen in (18).

- (18) şans-sız
luck-DER
‘unlucky’

In Turkish, there are also prefixes such as *anti-*, *bi-*, *gayr-* and *na-* which have PRIVATIVE meanings, but their origins are not Turkish (Göksel & Kerslake, 2005). In (19), two lexical items derived with these prefixes are given as examples.

- (19) a. bi-haber
DER-news
‘unaware’ [*lit.* ‘without news’]
b. na-tamam
DER-complete
‘incomplete’

3.32 Process

The semantic category PROCESS refers to a “change of state” and that change is “natural and non-volitional” (“Semantic categories”, n.d.). In Turkish, the derivational suffixes *-(A)r*, *-lAş* (which is the combination of the derivational suffixes *-lA* and *-ş*) can attach to lexical items to form verbs with the PROCESS meaning (Göksel & Kerslake, 2005). Some examples are given in (20).

(20) a. *kara-r-mak*

dark-DER-INF

‘to get darker’

b. *güzel-leş-mek*

beautiful-DER-INF

‘to become beautiful’

3.33 Purposive

The semantic category PURPOSIVE includes lexical items with the meaning of having “a desired result or aim” (“Semantic categories”, n.d.). The derivational suffix *-lIK* in Turkish can add the “intended for” meaning to the nouns it attaches to (Lewis, 2000). For instance, *elbise-lik* ‘for a dress’ is derived from the noun *elbise* ‘dress’ and it refers to possibly a piece of cloth that is suitable or intended for sewing a dress (Göksel & Kerslake, 2005).

3.34 Quality

The semantic category QUALITY refers to having a certain characteristic or a feature that may be the result of an action (“Semantic categories”, n.d.). In Turkish, the derivational suffix *-lI* is quite productive in deriving lexical items with a QUALITY

meaning. For example, it can derive nouns such as *yaş-li* ‘old’ and *akıl-li* ‘smart’.

Other derivational suffixes in Turkish that have the same function are *-Ç*, *-InÇ*, *-GIn*, *-mAn*, *-(y)IcI*, *-(A)ç*, *-It*, and *-Ik*. The derivations that are made with these suffixes are exemplified in (21)¹³.

(21) a. dur-ağan

stop-DER

‘stable/immobile’

b. gül-ünç

smile-DER

‘laughable’

c. kes-kin

cut-DER

‘sharp’

d. şiş-man

swell-DER

‘fat’

e. yan-ıcı

burn-DER

‘flammable’

f. ana-ç

mother-DER

‘motherly’

¹³ The examples are from Göksel & Kerslake (2005).

g. karşı-t
opposing-DER
'opposite'

3.35 Reciprocal

The semantic category RECIPROCAL conveys the meaning of having multiple agents doing an action to one another and doing the action “mutuality” (“Semantic categories”, n.d.). In Turkish, the derivational suffix *-(y)Iş* can derive verbs into the RECIPROCAL category. For instance, *gör-üş-mek* ‘to see each other’ is derived from the verb *gör-mek* ‘to see’. In this example, multiple agents are doing the action *gör-mek* ‘to see’ mutually.

3.36 Reflexive

The semantic category REFLEXIVE refers to an action with two arguments, an agent and a patient or an experiencer that refer to the same entity. In Turkish, the suffix *-(I)n* and *-lAn* are used to derive verbs into the REFLEXIVE category as seen with the examples in (22)¹⁴.

- (22) a. yıka-n-mak
wash-DER-INF
'to bathe oneself'
- b. kuru-la-n-mak
dry-DER-REF-INF
'to dry oneself'

¹⁴ The examples are from Göksel & Kerslake (2005).

3.37 Relational

The semantic category RELATIONAL conveys the meaning of having an affiliation or relation (Booij, 2005). In English, the derivational suffixes *-ic*, *-al* and *-ial* are used to derive RELATIONAL adjectives (Booij, 2005, p. 57). For instance, *musical* refers to something that is related to *music* (ibid). In Turkish, the derivational suffix *-sAl* can derive lexical items into the RELATIONAL category. For example, *gör-sel* ‘visual/related to seeing’ is derived from the verb *gör-mek* ‘to see’ (Göksel & Kerslake, 2005).

3.38 Resultative

The semantic category RESULTATIVE refers to “the product or the result of an event” (Melloni, 2011, p. 5). In English, *addition* and *understanding* can be given as examples to the RESULTATIVE category as the results of the verbs *to add* and *to understand* (Bauer, Lieber & Plag, 2013, p. 209). In Turkish, the derivational suffixes *-(A)y*, *-CA*, *-I*, *-IK*, *-In*, *-IntI*, *-mA*, *-v*, and *-(y)Im* create deverbal nouns or adjectives into the RESULTATIVE category. For instance, the deverbal noun *yaz-t*¹⁵ ‘text’ refers to the result of the action *yaz-mak* ‘to write’ and *seç-im* ‘choice’ is the result of the action *seç-mek* ‘to choose’. Derivations with other suffixes are given in (23)¹⁶.

- (23) a. *dene-y*
experiment-DER
‘experiment’

¹⁵ The examples *yaz-t* ‘text’ and *seç-im* ‘choice’ are from Göksel & Kerslake (2005).

¹⁶ The examples are from Korkmaz (2009).

b. düşün-ce

think-DER

‘thought’

c. yık-ık

demolish-DER

‘demolished’

d. yığ-ın

pile.up-DER

‘pile’

e. kes-inti

cut-DER

‘deduction’

f. dol-ma

fill-DER

‘stuffed (vegetables)’

3.39 Similitive

The semantic category SIMILATIVE conveys the meaning of behaving in the ‘manner’ of or being similar to another thing (Bauer, Lieber & Plag, 2013). In Turkish, the suffixes *-(y)Imst* and *-(y)Imtrak* derive lexical items into the SIMILATIVE category, as seen in (24a) and (24b).

(24) a. yeşil-imsi

‘greenish’

b. sarı-mtırak

‘yellowish’

3.40 Singulative

The semantic category SINGULATIVE singles out “an individual entity from a mass” or it refers to “a momentary or punctiliar action” (“Semantic categories”, n.d.). In Turkish, the suffix *-Im* may derive lexical items into the SINGULATIVE category such as *dilim* ‘slice’ (Korkmaz, 2009).

3.41 Stative

The semantic category STATIVE conveys the meaning “the state of doing X” or “being X” (Bauer, Lieber & Plag, 2013). In English, *existence* or *contentment* can be given as examples to the STATIVE category (Bauer, Lieber & Plag, 2013, p. 212). In Turkish, the derivational suffix *-LIK*, which is quite productive, can derive nouns into the STATIVE category from adjectives such as *güzel-lik* ‘beauty’ or nouns such as *anne-lik* ‘motherhood’.

3.42 Temporal

The lexical items in the semantic category TEMPORAL are related to “time” or “duration” (“Semantic categories”, n.d.). In Turkish, the suffixes *-LIK*, *-leyin* and *-(y)In* can derive TEMPORAL adjectives and adverbs such as *gün-lük* ‘daily’, *sabah-leyin* ‘in the morning’ and *yaz-in* ‘during the summer’.

3.43 Summary of the chapter

In this chapter, I have presented the semantic categories that can be created via the derivational morphemes in Turkish. In each section of the chapter, the semantic categories such as ABSTRACT, MANNER and TEMPORAL have been described. The examples of the semantic categories with derivations from Turkish and sometimes

English are given in these sections as well. These semantic categories along with a very few others are used as labels in the derivational network tables for the derivatives of the selected base words. The explanation of the usage of the semantic categories in the derivational network tables is given in chapter 2 and the findings on the actual usage of the semantic categories are given in chapter 5.

In the following chapter, I will talk about nouns and adjectives in general and how they are similar in terms of their morphological and syntactical behavior in Turkish. This chapter will also include the semantic subcategories of nouns and adjectives, which are used as the basis for the selection of the base words.

CHAPTER 4

NOUNS AND ADJECTIVES

The classification of lexical items into lexical categories or “parts of speech” is said to be one of the oldest studies in linguistics (Baker, 2003). Even though it has been studied for a long time, the definitions of lexical categories are not easy to make. In a traditional sense, lexical items are divided into categories depending on the meaning behind them (McGregor, 2009). Verbs are traditionally defined as denoting “actions”, nouns are said to refer to “people, places, or things”, and adjectives are said to denote “properties or qualities” (Beck, 2002; Croft, 1991; Evans, 2000; Lyons, 1981). Even though these definitions give the typical characteristics of a lexical category, semantics alone is not sufficient to define them. Languages may use lexical items from different lexical categories to talk about a similar concept (Wierzbicka, 1988). For instance, *round* and *circle* refer to a similar concept, but the former is an adjective and the latter is a noun (Wierzbicka, 1988). Another point is made by Dixon (2004) who gives examples from different languages which use different lexical categories to talk about a similar concept. For example, terms referring to kinship are expressed with nouns in some languages such as *mother* and *father* in English, but other languages may refer to the same concept with a light verb construction such as ‘be a mother of’ in Yuman languages (Dixon, 2004). In addition to this, a native speaker can intuitively determine the lexical category of a word by considering at its syntactical and morphological properties (Radford, Atkinson, Britain, Clahsen & Spencer, 2009). For instance, in (1), the sentence has a non-sensical word given in italics. Even though its meaning is not known, a native speaker can guess the category of *plingle*.

(1) A *plingle* has arrived¹⁷.

In short, the lexical categories cannot easily be divided solely on semantic grounds. Though, they may be of use when generalizations about a lexical category need to be made and morphological and syntactical evidence for a distinction in the lexical category are not enough.

In addition, some lexical categories are expected to occur in specific morphological and syntactical environments. For instance, nominal and verbal inflection attach to their respective categories. Thus, they can be used as a means in the distinction of nouns and verbs. As an example, Turkish is highly regular in dividing verbs and nominals with inflectional morphology (Sebüktekin, 1971). However, there are also languages where certain grammatical environments can be shared by different lexical categories. For instance, in languages such as Latin, and again, Turkish, nouns and adjectives behave similarly more so than they do with verbs (Lyons, 1981). To sum up, neither semantic criteria nor morphological and syntactical criteria can be used as the single basis for the distinction of lexical categories.

In this chapter, I aim to explore the general properties of the lexical categories, nouns and adjectives, in sections 4.1 and 4.2 respectively. However, in this chapter, by no means, my survey of the properties of lexical categories results in a conclusive definition of said lexical categories. I will discuss the properties of nouns and adjectives in Turkish in section 4.3 of this chapter. I will reiterate the previous discussion on the lack of a clear-cut separation between the noun and adjective categories in Turkish (Braun & Haig, 2000) and say that nouns and

¹⁷ The example is taken from (Radford et al., 2009, p.129).

adjectives are usually classified under the category “nominals” (Göksel & Kerslake, 2005; Uygun, 2009). Furthermore, I will survey the semantic subcategories of nouns and adjectives in sections 4.4 and 4.5. Finally, the subcategories of nouns and adjectives that are used in this thesis will be given in section 4.6. These subcategories have been used during the selection process of the base words for the derivational network tables, which are analyzed in chapter 5.

4.1 Nouns

The prototypical definition of a noun includes referring to “people, places and things” and “being arguments” (Croft, 1991; Evans, 2000; Lyons, 1981; Schachter & Shopen, 2007). Morphologically, nouns may be marked for number, gender, case, possession, and definiteness (Lehmann & Moravcsik, 2000; Schachter & Shopen, 2007). Semantically, languages exhibit their “time-stable” concepts in the noun class as opposed to dynamic ones being verbs (Lehmann & Moravcsik, 2000).

Even though in some instances the traditional definition of nouns might work, describing nouns as “people, places and things” is deemed as being circular since the definition of “things” is not clear (Baker, 2003). According to Baker (2003), nouns are separated from other lexical categories with the following criteria given in (2).

- (2) a. Semantic version: nouns and only nouns have *criteria of identity*, whereby they can serve as standards of sameness. (p. 95).
- b. Syntactic version: X is a noun if and only if X is a lexical category and X bears a referential index, expressed as an ordered pair of integers. (p. 95).

The semantic criterion Baker (2003) proposes is that only nouns have “criteria of identity”, which means that in order for the structure in (3) to be acceptable, the lexical item filling the gap needs to be a noun. This is illustrated with examples in (4). In (4a) and (4b), the gaps in the structures given in (3) are filled with nouns and

the formulations are acceptable. In (4c) and (4d), on the other hand, the gaps are filled with adjectives and this results in sentences which are unacceptable.

(3) X is the same _____ as Y. ¹⁸

(4) a. That is the same man you saw yesterday. ¹⁹

b. The French want to have the same liberty as the Americans have.

c. *This is the same long as this.

d. *She is the same intelligent as he is.

Although the reason why (4c) and (4d) are not acceptable is related to syntax and adjectives not being able to occur in the gap in the structure given in (3), Baker (2003) argues that adjectives cannot occur in that position because they lack the “criteria of identity” and they cannot be seen as a “standard” for sameness.

The syntactic criterion Baker (2003) proposes is that a noun can “bear a referential index” (p. 95). This criterion refers to nouns being able to bind anaphors, traces, and theta-roles of verbs (Baker, 2003) and only nouns are able to do so. Baker (2003) gives the examples in (5) and states that the reason why (5a) is acceptable whereas (5b) is not is that in (5b) the adjective cannot be an antecedent to the reflexive pronoun.

(5) a. Albania_{j,k}'s destruction of itself_{j} ²⁰

b. *The Albanian destruction of itself_{j}

Another point made by Baker (2003) is that verbs that are converted from nouns and adjectives have systematic differences in their meanings. Baker (2003) argues that the verbs resulting from nouns have more idiosyncratic meaning than those resulting from adjectives. For instance, *clear* as a verb means ‘to become clear’ whereas *man*

¹⁸ The structure in (3) are taken from Baker (2003, p.101).

¹⁹ The examples in (4) are taken from Baker (2003, p.101).

²⁰ The examples in (5) are taken from Baker (2003, p.126).

as a verb does not mean ‘to become a man’ but rather it refers to an action of ‘operating an equipment or machinery’ (Baker, 2003).

To summarize, nouns are traditionally defined as lexical items referring to “people, places or things” but nouns cannot be defined solely on semantic grounds. Several morphological and syntactical features of nouns such as occurring in the argument positions, being marked for gender, number and case might be enough to differentiate nouns from verbs. However, this distinction might not be enough to differentiate nouns from adjectives in languages where adjectives might also occur in argument positions and be inflected with gender, number, or case markers.

4.2 Adjectives

Adjectives are traditionally defined as “modifiers of nouns” and they prototypically denote “properties and qualities” (Bhat & Pustet, 2000; Croft, 1991; Evans, 2000; Lyons, 1981; Schachter & Shopen 2007). Even though languages usually make a clear distinction between the lexical categories of nouns and verbs, this is not always the case for the distinction of adjectives as a separate category (Schachter & Shopen, 2007). Dixon (2004), on the other hand, proposes that all languages have adjectives as a distinct class. Dixon (2004) states that grammatical criteria is always present in a language that separates a noun from an adjective even though these distinctions can sometimes be “subtle” even for languages that do not have a clear distinction between the two classes.

Bhat (1994) differentiates adjectives from nouns in terms of the ability of adjectives to denote a “single property” (p. 24). Bhat (1994) quotes Givón (1984)’s argument and says that the notion of *horse* has several properties such as its color, shape, and size. A change of these properties will not result in a change of the

“horseness” of said *horse* (Bhat, 1994, p. 24). As adjectives denote a single property, they are able to occur in comparative and superlative constructions and they can occur with degree modifiers (Bhat, 1994). Thus, they may be inflected with comparison in a number of languages such as English (Beck, 2002). Other morphological markers that adjectives may have include equative, intensive, approximative, and agreement markers with its head (Croft, 1991). In addition, some languages might differ in their morphological rules depending on the category of the lexical item.

According to Dixon (2010), there are two primary functions that adjectives possess. The first one is “stating a property” and the second one is “further specifying a referent of a noun” (p. 70). In some languages, adjectives may serve additional functions (Dixon, 2010). These are “functioning as the parameter for comparison” and “modifying verbs either bare or after a derivational process” (Dixon, 2010, p. 71-72). In addition, Dixon (2010) states that adjectives and nouns are distinguishable in terms of the “internal syntax of NPs”, “morphological processes”, “comparative constructions” and in their “adverbial use” (p. 84). Dixon (2010) states that prototypically an NP contains a noun in the head position and an adjective as its modifier. Outside of the prototypical constructions, in some languages, a noun may function as a modifier in an NP while in others an adjective might stand alone in an NP (Dixon, 2010). However, Dixon (2010) states that nouns have limited abilities as modifiers in the sense that an NP might not contain more than one noun as a modifier in a language in which multiple adjectives are acceptable. Additionally, the nouns that can behave as modifiers come from a limited subset of nouns such as “human” and “material” (Dixon, 2010). Dixon (2010)

discusses that NPs that have adjectives without modifying a noun could be treated as its noun being omitted “in most instances”.

Another property of adjectives is that languages denote certain semantic meanings with adjectives such as COLOR, VALUE, PHYSICAL PROPERTY, and AGE (Bhat, 1994). The semantic properties of adjectives are discussed in more detail in section 4.5 of this chapter.

In short, adjectives are traditionally classified as “modifiers”. However, the lexical category is not easily distinguishable from nouns in some languages and verbs in others. While there are certain features that the adjectives share across languages (e.g. occurring in comparative and superlative structures), the morphological and syntactical criteria might not be enough to differentiate them from nouns and verbs.

4.3 Nouns and adjectives in Turkish

Lexical categories in Turkish are usually divided into two major categories: verbs and nominals (Braun & Haig, 2000; Göksel & Kerslake, 2005; Uygun, 2009). The nominal category, also called substantives, is a broad term, which includes nouns, adjectives, pronouns, and adverbs (Göksel & Kerslake, 2005). In Turkish, lexical items belong to either the verb or the nominal category except for a few roots such as *eski* ‘old’ and *ekşi* ‘sour’, which can act as a verb or a nominal depending on the morphological and the syntactical environment they appear (Braun & Haig, 2000).

Lexical items from verbal and nominal categories are easily distinguishable by the morphemes that they bear, and Turkish inflectional morphemes are quite regular in this regard (Sebüktekin, 1971). The verbs in Turkish can be inflected with TMA markers such as *-DI* (Sebüktekin, 1971) and the negation marker *-mA* (Braun

& Haig, 2000). The lexical items in the nominal category can be inflected with case markers, possessive markers, the plural suffix *-lar*, and personal suffixes (Sebüktekin, 1971). In (6) and (7), the difference between the verbs and the nominals regarding their inflectional morphology is illustrated with examples. In (6), a verb, a noun, and an adjective are inflected with the negation marker *-mA* but only the combination of the verb and the negation marker is acceptable. In (7), the same lexical items are inflected with the plural suffix *-lar*. This time, the combination of the verb and the plural suffix is unacceptable whereas the combination of the noun and the adjective with the plural suffix is acceptable.

- (6) a. koş-ma
run-NEG
‘don’t run’
- b. *ev-me
house-NEG
- c. *güzel-me
beautiful-NEG

- (7) a. *koş-lar
run-PL
- b. ev-ler
house-PL
‘houses’
- c. güzel-ler
beautiful-PL
‘The ones who are beautiful’

Derivational morphology also differs between the two major lexical categories (Uygun, 2009). In Turkish, derivational morphemes such as *-GI* and *-Im* only target verb roots whereas derivational morphemes such as *-lik* and *-IA* only attach to nominal roots (Uygun, 2009).

In contrast, the distinction between nouns and adjectives in Turkish is not that clear to make. As seen in (6) and (7), inflectional morphology can be used to differentiate between verbs and nominals. However, the same cannot be said for differentiating nouns and adjectives. Nominal inflectional morphology can be used for both nouns and most adjectives (Sebüktekin, 1971) as seen in (7b) and (7c) with the plural marker occurring both on a noun and an adjective.

In addition to inflection, there is little differentiation in the usage of the derivational affixes that attach to nouns and adjectives in Turkish (Bhat, 1994, p.180). Derivational morphemes do not specifically target noun roots or adjective roots (Uygun, 2009) even though they may have inclinations towards a certain category. For instance, a derivational suffix such as *-lik* can attach to both nouns *kitap-lik* ‘bookcase’ and adjectives *güzel-lik* ‘beauty’. However, the same does not apply to a derivational suffix such as *-Imtrak* (Uygun, 2009). It results in a SIMILATIVE meaning when it attaches to adjectives of ‘color’ and ‘taste’ such as *sarı-mtrak* ‘yellowish’ and *acı-mtrak* ‘being somewhat hot/spicy’ (Uygun, 2009). However, *-Imtrak* and similar affixes that target a specific subcategory of nominals (i.e. nouns or adjectives) usually leave out other members of the target subcategory. For instance, *-Imtrak* cannot be added to lexical items such as *zengin* ‘rich’ or *evli* ‘married’, which can be used to modify typical nouns in the language and thus can be considered as adjectives. Moreover, *sarı* ‘yellow’ and *acı* ‘hot/spicy’ can occur as nouns and adjectives depending on their syntactic environment (Uygun, 2009). In

short, there are no reliable morphological criteria to separate nouns and adjectives in Turkish.

Some syntactic constructions may be used to show tendencies of nominals as being more noun-like or more adjective-like. For instance, adjectives can be found as the first item in the construction “substantive₁ + *bir* ‘one’+ substantive₂”, where the first substantive modifies the second (Sebüktekin, 1971). As adjectives are regarded as “modifiers”, they are expected to occur in the first position. However, they cannot be used as definite criteria for distinguishing nouns and adjectives. A few nouns can occur in the same position (Sebüktekin, 1971). For instance, in (8), *zengin* ‘rich’, *akıllı* ‘smart’ *taş* ‘stone’, and *kitap* ‘book’ are placed in the modifier position in the aforementioned construction. *Zengin* ‘rich’ and *akıllı* ‘smart’ are usually used as modifiers and can be regarded as typical adjectives whereas *taş* ‘stone’ and *kitap* ‘book’ refer to entities and can be regarded as typical nouns. Despite its typical classification as a noun, in (8c), *taş* ‘stone’ occurs as the modifier in this construction along with the typical adjectives *zengin* ‘rich’ and *akıllı* ‘smart’. The same cannot be said about *kitap* ‘book’, which yields an unacceptable formation in (8d).

(8) a. *zengin bir adam*²¹

rich a man

‘a rich man’

b. *akıllı bir çocuk*

smart a child

‘a smart child’

²¹ The examples (8a) and (8c) are from Sebüktekin (1971).

c. taş bir bina

stone a building

‘a stone building/a building made of stone’

d. *kitap bir defter

book a notebook

Another syntactical similarity among the nominal category in Turkish is that nouns and adjectives can occur inversely to their prototypical nature. A noun might occur as a modifier and an adjective occur as the head of an NP.

Braun and Haig (2000) divide nominal category in Turkish into three sections, which are “noun-like”, “neutral”, and “adjective-like”. Noun-like lexical items refer to typical nouns such as *ağaç* ‘tree’ (Braun & Haig, 2000). Adjective-like ones are defined to be “prototypical adjectives” such as *büyük* ‘big’ (Braun & Haig, 2000). Finally, the neutral category has lexical items that refer to humans such as *polis* ‘police officer’ and *genç* ‘young’ (Braun & Haig, 2000). All three categories might occur as the head or a modifier in an NP even though there are some restrictions. For instance, in (9a) and (9b) adjective-like nominals *zengin* ‘rich’ and *Ankaralı* ‘from Ankara’ are given as occurring in both positions. In (9c) and (9d), noun-like nominals *polis* ‘police officer’ and *kadın* ‘woman’ are given as occurring as a head and a modifier. In (9e) and (9f), the neutral nominals *genç* ‘young’ and *hasta* ‘sick’ are given in the same structures as the others.

(9) a. *zengin Ankara-lı*²²

rich Ankara-DER

‘a rich (person) from Ankara’

²² The examples are taken from Braun and Haig (2000, p.88).

b. Ankara-lı zengin

Ankara-DER rich

‘a rich (person) from Ankara’

c. polis kadın

police.officer woman

‘a woman who is a police officer’

d. kadın polis

woman police.officer

‘policewoman’

e. genç hasta

young patient

‘young patient’

f. hasta genç

sick young

‘young (person) who is sick’

However, the same interchangeability cannot be observed when nominals from different categories (i.e. noun-like, neutral, adjective-like) are used in the same NP (Braun & Haig, 2000). The acceptable constructions include an adjective-like or a neutral nominal to occur in the modifier position when a noun-like nominal is in the head position (Braun & Haig, 2000). When an adjective-like and a neutral nominal appear in the same NP, the adjective-like one is seen as better suited to the modifier position (Braun & Haig, 2000).

In order to solve the problem of differentiating nouns and adjectives, Braun and Haig (2000) propose five criteria for the three nominal sets. The “positive criteria” for adjectives are the following: being able to occur in an “intensifying

reduplication” construction (e.g. *ter-temiz* ‘very clean’), being gradable (e.g. *çok güzel* ‘very beautiful’), and being able to occur in a “substantive₁ + *bir* ‘one’+ substantive₂” construction (e.g. *güzel bir kız* ‘a beautiful girl’) (Braun & Haig, 2000). The “negative criteria” for adjectives are the following: being able to attach to the derivational suffixes *-lı* and *-siz* (e.g. *tuz-lu* ‘salty’) and being able to trigger a compound marker in a compound (e.g. *yeşil kalem* ‘green pen’ vs. *yatak oda-sı* ‘bedroom’) (Braun & Haig, 2000). According to Braun and Haig (2000), even though the noun-like set has no variation, the behavior of the adjective-like set and the neutral set differ among themselves when the criteria are applied to them. Some behave more noun-like such as *polis* ‘police officer’, some behave more adjective-like such as *büyük* ‘big’, and other lexical items are somewhere in between.

To summarize the points above, Braun and Haig (2000) state that the nominal category in Turkish is a continuum between a “prototypical noun” and a “prototypical adjective” since no definite criteria can distinguish nouns and adjectives both morphologically and syntactically in Turkish (p. 91). Finally, according to Uygun (2009), nominals are not labeled as nouns and adjectives in the lexicon, but they are “nounized” or “adjectivized” in syntax. Since there is no definite distinction between the two categories in Turkish, in the remainder of the chapter and the thesis, I refer to the prototypical definition of a noun or an adjective when I use the terms.

Finally, according to the findings of Göksel and Kapan (frth.) in the derivational networks project, the lexical categories nouns and adjectives share similarities in their derivational properties compared to verbs. The number of derivatives originating from the base nouns and adjectives is closer in number whereas the number of derivatives originating from verbs is much higher (Göksel &

Kapan, frth.). Similarly, the maximum derivational network number of verbs and the saturation value of verbs are higher than nouns and adjectives (Göksel & Kapan, frth.). This shows that nouns and adjectives behave similarly, which is expected as they are seen as a part of a much larger category, nominals. However, nouns and adjectives have differences among themselves. The maximum derivational network number of nouns is higher than adjectives (Göksel & Kapan, frth.). This result shows that nouns can create more derivatives that are either in different semantic categories or more derivatives in the same semantic category. However, this fact does not mean that nouns on average derive more and fulfill their potential more. On the contrary, the saturation value of adjectives is higher than nouns (Göksel & Kapan, frth.). This means that on average, adjectives fulfill their derivational potential more than nouns.

4.4 Semantic subcategories of nouns

According to Ye (2017), the internal structure and semantics of nouns have not been investigated as much as those of verbs and adjectives. The studies about the classification of nouns are usually on noun classes and their grammatical properties (Ye, 2017). There are, however, traditional classifications of nouns, which are abstract and concrete nouns, common and proper nouns, and count and mass nouns (Lehmann & Moravcsik, 2000).

In addition to the traditional classifications of abstract and concrete nouns, Lyons (1977) divides nouns into three orders (as cited in Mackenzie, 2004, p. 974). First-order entities are nouns that refer to “physical objects” such as *woman* and *book* (Mackenzie, 2004). Second-order entities are “located in time” and they refer to events that “take place or occur” such as *arrival* and *error* (Mackenzie, 2004, p. 974). Third-order entities refer to abstract concepts that are “outside of space and

time” such as *belief* and *idea* (Mackenzie, 2004, p. 974). Mackenzie (2004) adds fourth-order entities to the first three orders which are proposed by Lyons (1977) and these refer to “speech acts” such as *promise* and *command*. (p. 974).

Rijkhoff (2002) classifies the first-order nouns into six subcategories depending on the features “Shape” and “Homogeneity”. These are general nouns, sort nouns, mass nouns, set nouns, singular object nouns and collective nouns (Rijkhoff, 2002).

Frawley (1992) proposes that there are “eight classes of semantic properties of entities”, which are “specificity, boundedness, animacy, gender, kinship, social status, physical structure, and function” (p. 68). “Specificity” refers to the definiteness that is given by the context and it is not internal to the entity itself (Frawley, 1992). “Boundedness” and “unboundedness” refer to an entity having or not having the “limits” in the conceptual space (Frawley, 1992). Mass nouns, count nouns, and pluralization are topics related to boundedness and it is an inherent property of entities unlike specificity (Frawley, 1992). “Animacy” refers to an entity having life and movement (Frawley, 1992). “Humans” and “non-humans” are commonly divided under the animacy category. (Frawley, 1992). Frawley (1992) distinguishes between “sex” and “gender” and he states that they do not usually match up in languages. According to Frawley (1992), “sex” is a biological component that is different from “gender”, which is a grammatical component in languages. “Gender” is usually divided into three categories, which are male, female, and neutral (Frawley, 1992). The property “kinship” refers to the familial relations between two entities such as *child* and *father* (Frawley, 1992). “Social status” is linked to the context and it refers to the relation between a “speaker” and a “non-speaker” (Frawley, 1992). “Physical properties” of entities refers to the way entities

take up place in space (Frawley, 1992). According to Frawley (1992), there are four basic subcategories of “physical properties” which are “extendedness, interiority, size, and consistency” (p. 121). Finally, “function” is related to the actions that can be performed on the entities such as being “edible”, being an “instrument”, or being a “vehicle” (Frawley, 1992).

According to Dixon (2005), nouns in English have five subcategories, some of which have their own subcategories (p. 82-83). In (10), the subcategories of nouns in English according to Dixon (2005) are given with their examples.

(10) Semantic subcategories of nouns with their examples (Dixon, 2005, p. 82-83)

1. CONCRETE

- | | |
|---------------------------|--------------------------------|
| a. HUMAN | <i>human, girl, boy</i> |
| i. RANK | <i>lady, lieutenant, chief</i> |
| ii. SOCIAL GROUP | <i>nation, army, crowd</i> |
| iii. KIN TERMS | <i>father, daughter, uncle</i> |
| b. Other ANIMATE | <i>animal, horse, dog</i> |
| c. Body and other PARTS | <i>head, wrist, piece</i> |
| d. INANIMATE | |
| i. FLORA | <i>flower, grass, rose</i> |
| ii. CELESTIAL and WEATHER | <i>sun, wind, shade</i> |
| iii. ENVIRONMENT | <i>air, water, stone</i> |
| iv. ARTEFACTS | <i>building, market, door</i> |

2. ABSTRACT

- | | |
|-------------|--------------------------------|
| a. TIME | <i>time, future, yesterday</i> |
| b. PLACE | <i>place, front, edge</i> |
| c. QUANTITY | <i>number, amount, age</i> |

d. VARIETY	<i>type, character, shape</i>
e. LANGUAGE	<i>sound, word, sentence</i>
f. General ABSTRACT terms	<i>idea, unit, problem</i>
3. STATES and PROPERTIES	<i>pleasure, joy, ache</i>
4. ACTIVITIES	<i>war, decision, speculation</i>
5. SPEECH ACTS	<i>question, order, description</i>

Dixon (2005) also states that even though other languages have words belonging to these subcategories, they may not always belong to the nominal category. Dixon (2005) gives Dyirbal²³ as an example and says that only lexical items with a CONCRETE meaning are nouns and others belong to adjectival or verbal categories.

Turkish, on the other hand, has nouns that belong to all the subcategories given in (10). Turkish has CONCRETE nouns, including all of its subcategories (e.g. *kız* ‘girl’, *at* ‘horse’, *bilek* ‘wrist’, *parça* ‘piece’, *çim* ‘grass’, *yıldız* ‘star’, *ateş* ‘fire’, *tepe* ‘hill’, *şehir* ‘city’, *masa* ‘table’), ABSTRACT nouns, including all of its subcategories (e.g. *ay* ‘month’, *ön* ‘front’, *yaş* ‘age’, *çember* ‘circle’, *sözcük* ‘word’, *düşünce* ‘idea’), nouns for STATES and PROPERTIES (e.g. *sevinç* ‘joy’, *güç* ‘strength’), nouns for ACTIVITIES (e.g. *savaş* ‘war’, *karar* ‘decision’) and nouns for SPEECH ACTS (e.g. *soru* ‘question’, *söz* ‘promise’). These nouns may be of Turkic origin such as *yıldız* ‘star’, or loanwords such as *şehir* ‘city’²⁴. The nouns may be underived such as *güç* ‘strength’ and *kız* ‘girl’, or they may be derived from verbs such as *sor-u* ‘to.question-DER’ ‘question’, from adjectives such as *genç-lik* ‘young-DER’ ‘youth’, or other nouns such as *söz-cük* ‘saying-DER’ ‘word’.

²³ Dyirbal is an Australian language spoken in Northern Australia by 28 people according to a 2006 census (Simons & Fennig, 2018).

²⁴ *Şehir* ‘city’ originates from Persian (Eyüboğlu, 1988).

4.5 Semantic subcategories of adjectives

There have been several studies that categorize adjectives according to their semantic types (Dixon, 1982; Dixon, 1991; Dixon, 2004; Frawley, 1992). Dixon (1982) classifies adjectives into seven categories and later revises the list of semantic types of adjectives, increasing the adjective types from 7 to 10 (Dixon, 1991), and then to 13 (Dixon, 2004). The semantic subcategories of adjectives in Dixon (1982) are given in (11) with their examples from English.

(11) Semantic subcategories of adjectives with their examples (Dixon, 1982, p. 16)

- | | |
|----------------------|-----------------------------|
| 1. DIMENSION | <i>big, large, little</i> |
| 2. PHYSICAL PROPERTY | <i>hard, soft, heavy</i> |
| 3. COLOR | <i>black, white, red</i> |
| 4. HUMAN PROPENSITY | <i>jealous, happy, kind</i> |
| 5. AGE | <i>new, young, old</i> |
| 6. VALUE | <i>good, bad, proper</i> |
| 7. SPEED | <i>fast, quick, slow</i> |

Dixon (1991) adds three more semantic subcategories of adjectives, which are DIFFICULTY, QUALIFICATION and SIMILARITY (as cited in Bhat, 1994, pp. 40-41). The new semantic categories added to the list in (11) are given in (12) with their examples from English.

(12) Additional semantic subcategories of adjectives with their examples (Dixon, 1991) (as cited in Bhat, 1994, pp. 40-41)

- | | |
|------------------|-----------------------------------|
| 8. DIFFICULTY | <i>easy, difficult, tough</i> |
| 9. QUALIFICATION | <i>definite, possible, normal</i> |
| 10. SIMILARITY | <i>like, unlike, similar</i> |

Later, Dixon (2004) increases the number of the subcategories from 10 to 13 by adding QUANTIFICATION, POSITION and CARDINAL NUMBERS to the lists given above.

The new semantic categories are given in (13) with their examples from English.

(13) Additional semantic subcategories of adjectives with their examples (Dixon, 2004)

11. QUANTIFICATION *all, many, some*

12. POSITION *high, low, near*

13. CARDINAL NUMBERS *one, first, last*

Dixon (2004) also groups these 13 semantic types into 3 sets. First, there is a core set, which is found in languages with small or medium sized set of adjectives (Dixon, 2004). The core set of semantic types are DIMENSION, AGE, VALUE and COLOR (Dixon, 2004, p. 3). Dixon (2004) calls the next set of semantic types “peripheral” and states that these semantic types can be found in languages with medium or large set of adjectives (p. 4). This set includes PHYSICAL PROPERTY, HUMAN PROPENSITY and SPEED (Dixon, 2004, p. 4). Finally, the remaining semantic subcategories are usually found in languages that have a large set of adjectives (Dixon, 2004). These semantic categories are DIFFICULTY, SIMILARITY, QUALIFICATION, QUANTIFICATION, POSITION, and CARDINAL NUMBERS (Dixon, 2004, p. 5).

Frawley (1992) categorizes adjectives into six broad categories and their subcategories (p. 437). The “six categories of property concepts” are COLOR, VALUE, AGE, HUMAN PROPENSITY, PHYSICAL PROPERTIES, and QUANTITY (Frawley, 1992, p. 447). According to Frawley (1992), there are three subcategories of HUMAN PROPENSITY, which are MENTAL STATE, PHYSICAL STATE, and BEHAVIOR (p. 458). In addition, Frawley (1992) adds that there are seven subcategories of PHYSICAL PROPERTIES, which are SENSE, CONSISTENCY, TEXTURE, TEMPERATURE, EDIBILITY,

SUBSTANTIALITY, and CONFIGURATION (p. 461). Finally, Frawley (1992) splits QUANTITY into two subcategories, which are NONNUMERICAL and NUMERICAL PROPERTIES (p. 465). NUMERICAL refers to cardinal and ordinal numbers whereas NONNUMERICAL refers to “logical quantifiers” such as *several* (Frawley, 1992, p. 465). In (14), the semantic subcategories of adjectives according to Frawley (1992) are given as a summary.

(14) Semantic subcategories of adjectives with their examples (Frawley, 1992)

1. COLOR
2. VALUE
3. AGE
4. HUMAN PROPENSITY
 - a. MENTAL STATE *jealous, happy, elated*
 - b. PHYSICAL STATE *weak, strong, thirsty*
 - c. BEHAVIOR *wild, drunken, interruptive*
5. PHYSICAL PROPERTIES
 - a. SENSE *loud, soft, quiet*
 - b. CONSISTENCY *hard, soft, rubbery*
 - c. TEXTURE *rough, smooth, tacky*
 - d. TEMPERATURE *hot, cold, cool*
 - e. EDIBILITY *raw, cooked, ripe*
 - f. SUBSTANTIALITY *heavy, light, fat*
 - g. CONFIGURATION *sharp, dull, blunt*
6. QUANTITY
 - a. NONNUMERICAL *several, some, every*
 - b. NUMERICAL *one, two, first*

4.6 Semantic subcategories selected for the thesis

In the sections 4.4 and 4.5, I have mentioned the studies on the semantic subcategories of nouns and adjectives. As there are different forms of classifying the semantic properties of nouns and adjectives, I have chosen one classification for nouns and one for adjectives in order to select the base words whose derivational network tables are created. The selected base words are equally distributed among the semantic subcategories. The reason why I select the base words depending on different semantic subcategories is to make sure that the derivational characteristics of the semantic subcategories, which are predicted to be varied, are represented in the analysis of the derivational network tables. The semantic subcategories of nouns and adjectives selected for the thesis are presented in sections 4.6.1 and 4.6.2.

4.6.1 Semantic subcategories of nouns selected for the thesis

For the semantic subcategories of nouns, I use the classification in Dixon (2005) with a few modifications. The categories CONCRETE and ABSTRACT are replaced with their subcategories since the subcategories (HUMAN, other ANIMATE, body and other PARTS, and INANIMATE for CONCRETE nouns and general ABSTRACT terms, TIME, PLACE, QUANTITY, VARIETY, and LANGUAGE for ABSTRACT nouns) are able to represent these categories as a whole. The subcategories, STATES and PROPERTIES, ACTIVITIES, and SPEECH ACTS are kept the same. Further subcategories of CONCRETE nouns such as KINSHIP under the HUMAN category are not listed but they are taken into consideration in the selection process. In addition, a few names of the subcategories are simplified. For instance, GENERAL ABSTRACT is used instead of general ABSTRACT terms. Finally, a total of 13 semantic subcategories of nouns are selected. The final list of the semantic subcategories of nouns selected for the thesis is given in (15).

(15) Semantic subcategories of nouns used in the thesis (Modified from Dixon, 2005)

1. HUMAN
2. ANIMATE
3. PARTS
4. INANIMATE
5. GENERAL ABSTRACT
6. TIME
7. PLACE
8. QUANTITY
9. VARIETY
10. LANGUAGE
11. STATES and PROPERTIES
12. ACTIVITIES
13. SPEECH ACTS

4.6.2 Semantic subcategories of adjectives selected for the thesis

For the semantic subcategories of adjectives, I use the classification made by Dixon (2004) without any modifications. A total of 13 semantic subcategories of adjectives are given in (16).

(16) Semantic subcategories of adjectives used in the thesis (Dixon, 2004)

1. DIMENSION
2. PHYSICAL PROPERTY
3. COLOR
4. HUMAN PROPENSITY
5. AGE

6. VALUE
7. SPEED
8. DIFFICULTY
9. QUALIFICATION
10. SIMILARITY
11. QUANTIFICATION
12. POSITION
13. CARDINAL NUMBERS

4.7 Summary of the chapter

In this chapter, I have talked about the general properties of the lexical categories, nouns and adjectives, in sections 4.1 and 4.2. Nouns are traditionally defined as referring to “people, places and things”, and adjectives are traditionally called “modifiers”. Even though their traditional definitions are not failproof, they can be used as a basic method of classifying the lexical categories. In addition, I have stated that I refer to the prototypical definitions of nouns and adjectives when I refer to those lexical categories since nouns and adjectives cannot be easily separated in Turkish as explained in section 4.3 of this chapter. Additionally, I have also discussed the semantic classifications of nouns and adjectives in sections 4.4 and 4.5. Finally, in section 4.6, I have presented 13 semantic subcategories of nouns and 13 semantic subcategories of adjectives I have selected for this thesis. In the following chapter, I analyze the derivational network tables of the base words that are selected depending on the semantic subcategories. In the next chapter, I will present the findings that are gathered from the derivational network tables of the selected base nouns and adjectives in Turkish.

CHAPTER 5

FINDINGS AND ANALYSIS

Previous chapters in this thesis have focused on the description and the properties of the components of a derivational network. Chapter 2 gives information about “Project Monika: Cross-linguistic research into derivational networks”, the components and the creation of the derivational network tables and the way I use a similar procedure to create the derivational network tables in this thesis. Chapter 3 focuses on the explanations of the semantic categories that are used as labels in the derivational network tables. Chapter 4 surveys the characteristics of nouns and adjectives in general and the lack of a noun-adjective distinction in Turkish. Chapter 4 also divides nouns and adjectives into 13 semantic subcategories each. The combination of these features helps to create and analyze a derivational network table.

In this chapter, I present the data and the findings I have gathered using the derivational network tables created by using the information given in the previous chapters. I also comment on the similarities and differences of nouns and adjectives in the context of their derivational properties. The first section of this chapter gives information about the base words selected for the derivational network tables, their origins, and their morphological complexity. In sections 5.2 and 5.3, I describe the derivational properties of base nouns and base adjectives, respectively. Section 5.4 compares the data on base nouns and base adjectives given in the former sections. I discuss the implications of these findings in section 5.5. The chapter concludes with a summary in section 5.6.

5.1 The data

The data consists of the derivational networks of 130 base words in Turkish. The base words are selected from two major lexical categories: nouns and adjectives. The base nouns and adjectives come from their semantic subcategories, which are 13 for each lexical category. Then, five base words are selected from each semantic subcategory, making it a total of 65 nouns and 65 adjectives.

The derivations of the selected base words are spread out on derivational network tables depending on their paradigmatic capacity and derivational degree, which are explained in chapter 2 along with the creation of the derivational network tables. As explained in section 2.2.2, the derivations of the base words are gathered from the Comprehensive Turkish Dictionary of Turkish Language Association (TDK), TS Corpus, and Google searches.

The entirety of the derivational network tables of base nouns and base adjectives, and the tables on the distribution of semantic categories across derivational orders are given in the Appendix section. The derivational networks of base nouns are given in Appendix A and the derivational networks of base adjectives are given in Appendix B. Appendix C and Appendix D contain the distribution of derivations of the base nouns and base adjectives across the semantic categories, respectively.

5.1.1 Base nouns

Among 65 base nouns, 10 of them are of Arabic origin (*insan* ‘human’, *hayvan* ‘animal’, *akıl* ‘mind’, *fikir* ‘idea’, *zaman* ‘time’, *cins* ‘type/kind’, *halka* ‘circle’, *isim* ‘noun’, *kelime* ‘word’, and *sıfat* ‘adjective’), two of them are borrowed from Persian

(*parça* ‘piece’ and *çember* ‘circle’), one noun is borrowed from French (*numara* ‘number’), and the rest are of Turkic origin²⁵.

As for the morphological complexity, six of the base nouns are derived and are segmentable in modern Turkish, which are *say-ı* ‘number’, *biç-im* ‘form/shape’, *tüm-ce* ‘sentence’, *er-dem* ‘virtue’, *dile-k* ‘wish’, and *sor-u* ‘question’. Four of them are deverbal nouns (*say-ı* ‘number’, *biç-im* ‘form/shape’, *dile-k* ‘wish’, and *sor-u* ‘question’) and the other two are denominals (*tüm-ce* ‘sentence’ and *er-dem* ‘virtue’). There are also nouns that are derived from bound roots or nouns that are no longer segmentable in modern Turkish such as *yanıt* ‘answer’ and *gece* ‘night’. The former is *yanıt* ‘something which comes back’ in Old Turkic and it is derived from the verb *yan-* (Clauson, 1972). *Gece* ‘night’ is *kéçe*: ‘late in the evening’ and it is derived from the verb *ké:ç-* ‘to be late’ in Old Turkic (Clauson, 1972). The selected base nouns are given in (1).

(1) Base Nouns²⁶

1. HUMAN: *insan* ‘human’, *baba* ‘father’, *bey* ‘governor/lord’, *kadın* ‘woman’, *ordu* ‘army’
2. ANIMATE: *hayvan* ‘animal’, *balık* ‘fish’, *bit* ‘louse’, *köpek* ‘dog’, *kuş* ‘bird’
3. PARTS: *baş* ‘head’, *diş* ‘tooth’, *göz* ‘eye’, *kemik* ‘bone’, *parça* ‘piece’
4. INANIMATE: *çiçek* ‘flower’, *yıldız* ‘star’, *buz* ‘ice’, *taş* ‘stone’, *ev* ‘house’
5. GENERAL ABSTRACT: *ad* ‘name’, *akıl* ‘mind’, *amaç* ‘goal’, *fikir* ‘idea’, *öğ* ‘constituent’
6. TIME: *zaman* ‘time’, *gece* ‘night’, *gün* ‘day’, *kış* ‘winter’, *yıl* ‘year’
7. PLACE: *yer* ‘place’, *arka* ‘back’, *dış* ‘exterior’, *ön* ‘front’, *üst* ‘top’

²⁵ The information on the etymology of the base words is gathered from Clauson (1972), Eyüboğlu (1988) and Nişanyan (2019).

²⁶ The list of semantic subcategories of nouns is modified from Dixon (2005).

8. QUANTITY: *boy* ‘length’, *en* ‘width’, *numara* ‘number’, *sayı* ‘number’, *yaş* ‘age’
9. VARIETY: *biçim* ‘form/shape’, *cins* ‘type/kind’, *çember* ‘circle’, *halka* ‘circle’, *tür* ‘type/kind/species’
10. LANGUAGE: *isim* ‘noun’, *kelime* ‘word’, *ses* ‘sound’, *sıfat* ‘adjective’, *tümce* ‘clause/sentence’
11. STATES and PROPERTIES: *ağrı* ‘pain/ache’, *erdem* ‘merit/virtue’, *güç* ‘strength’, *öfke* ‘anger’, *tat* ‘taste’
12. ACTIVITIES: *iş* ‘work/job’, *kuşku* ‘doubt’, *oyun* ‘game’, *savaş* ‘war’, *yardım* ‘help’
13. SPEECH ACTS: *betim* ‘description’, *dilek* ‘wish’, *soru* ‘question’, *söz* ‘statement’, *yanıt* ‘answer’

5.1.2 Base adjectives

Among 65 adjectives, five of them have Arabic origins (*beyaz* ‘white’, *kibar* ‘kind/polite’, : *acele* ‘urgent’, *basit* ‘simple’, and *aynı* ‘same’), seven of them are from Persian (*sert* ‘tough’, *siyah* ‘black’, *şen* ‘merry’, *çirkin* ‘ugly’, *çabuk* ‘quick’, *çevik* ‘agile’, and *zor* ‘difficult’), one is borrowed from French (*normal* ‘normal’), and the rest are of Turkic origin (Eyüboğlu, 1988; Nişanyan, 2019).

As for the morphological complexity of the base adjectives, eight of them are derived and segmentable in modern Turkish. These adjectives are *er-gen* ‘adolescent’, *kar-ma-ş-ık* ‘complicated’, *kes-in* ‘certain’, *yan(i)l-ış* ‘wrong’, *ay(i)r-ı* ‘different’, *benze-r* ‘similar’, *öte-ki* ‘other’, and *uza-k* ‘far’. Only *öte-ki* ‘other’ is derived from a nominal and the rest are deverbal adjectives. There are adjectives that are derived from bound roots and the ones that are no longer segmentable in modern

Turkish such as *mut-lu* ‘happy’ and *sıcak* ‘hot’²⁷. The base adjectives are given in

(2).

(2) Base Adjectives²⁸

1. DIMENSION: *dar* ‘narrow’, *ince* ‘thin’, *kalın* ‘thick’, *kısa* ‘short’, *uzun* ‘long/tall’
2. PHYSICAL PROPERTY: *ağır* ‘heavy’, *düz* ‘straight’, *kuru* ‘dry’, *sert* ‘tough’, *sıcak* ‘hot’
3. COLOR: *beyaz* ‘white’, *kara* ‘black’, *sarı* ‘yellow’, *siyah* ‘black’, *yeşil* ‘green’
4. HUMAN PROPENSITY: *aptal* ‘foolish’, *deli* ‘mad’, *kibar* ‘kind/polite’, *mutlu* ‘happy’, *şen* ‘merry’
5. AGE: *ergen* ‘adolescent’, *eski* ‘old’, *genç* ‘young’, *kart* ‘old’, *yeni* ‘new’
6. VALUE: *çirkin* ‘ugly’, *gerçek* ‘real’, *güzel* ‘beautiful’, *iyi* ‘good’, *kötü* ‘bad’
7. SPEED: *acele* ‘urgent’, *çabuk* ‘quick’, *çevik* ‘agile’, *tez* ‘rapid’, *yavaş* ‘slow’
8. DIFFICULTY: *basit* ‘simple’, *çetin* ‘difficult/tough’, *karmaşık* ‘complicated’, *kolay* ‘easy’, *zor* ‘difficult’
9. QUALIFICATION: *belli* ‘definite’, *doğru* ‘true’, *kesin* ‘certain’, *normal* ‘normal’, *yanlış* ‘wrong’
10. SIMILARITY: *aynı* ‘same’, *ayrı* ‘different’, *başka* ‘different’, *benzer* ‘similar’, *öteki* ‘other’
11. QUANTIFICATION: *az* ‘little/few’, *bütün* ‘whole’, *çok* ‘many’, *tek* ‘only’, *tüm* ‘all’
12. POSITION: *alçak* ‘low’, *sol* ‘left’, *uzak* ‘far’, *yakın* ‘near’, *yüksek* ‘high’
13. CARDINAL NUMBERS: *iki* ‘two’, *yedi* ‘seven’, *kırk* ‘forty’, *ilk* ‘first’, *son* ‘last’

²⁷ *Sıcak* ‘hot’ is an abbreviated form of *ısıcak*, which is the diminutive form of *ısığ* in Old Turkic (Clauson, 1972).

²⁸ The list of semantic subcategories of adjectives are taken from Dixon (2004).

5.2 Findings on the derivational properties of base nouns

This section consists of subsections in which I give information about the derivational properties of selected base nouns. In section 5.2.1, I present the numerical data on the actual number of derivations produced by the base nouns. The following section 5.2.2, gives their maximum derivational network, which shows the number of potential derivations a noun can produce. In section 5.2.3, I talk about the derivational orders that are created by the base nouns. In section 5.2.4, I give the data on the saturation values of the base nouns. Finally, in section 5.2.5, I talk about the semantic categories that are created by the base nouns and I comment on the occurrence patterns of the semantic categories.

5.2.1 Total and average number of derivations for base nouns

In this section, I give information about the total, the average, the highest, and the lowest number of derivations that are created by the base nouns. Table 5 and its continuation the next page as table 6 display the total number of derivations produced by each base noun per order of derivation. The sum of all derivations created by the base nouns is also given in the final column of the table under the title “All Orders”.

The highest number of derivations created by a single base noun is 82. These derivations belong to the base noun *ön* ‘front’, which is a member of the semantic subcategory PLACE. *Ön* ‘front’ derives up to the sixth order. The second highest number of derivations is 67 created by the base noun *baş* ‘head’. *Baş* ‘head’ comes from the semantic subcategory PARTS and it derives up to the fifth order. The third highest number of derivations is 63 and these derivations are created by the base noun *gün* ‘day’ from the TIME category. *Gün* ‘day’ derives up to the fifth order, as well.

In contrast, the lowest number of derivations created by a base noun is four. This title is shared between the base nouns *bey* ‘governor/lord’ and *soru* ‘question’, which are from the semantic subcategories HUMAN and SPEECH ACTS, respectively. *Bey* ‘governor/lord’ derives up to the third order and *soru* ‘question’ derives up to the second order. Here, it should be mentioned that *soru* ‘question’ is a deverbal noun and the fact that it is already a morphologically complex noun might have an effect on its derivational abilities. The second smallest set of derivations is created by the base noun *kelime* ‘word’ and it comes from the LANGUAGE category. It derives five lexical items and they derive into the second order. *Kelime* ‘word’ is a loanword from Arabic (Eyüboğlu, 1988), which might be the reason for its derivational capabilities. The third lowest number of derivations created by a base noun is six. Several base nouns have six derivations. These are *tümce* ‘sentence’ from the LANGUAGE category, *ağrı* ‘pain’, *erdem* ‘virtue’ both from the category STATES and PROPERTIES, and *savaş* ‘war’ from the category ACTIVITIES²⁹.

Table 5. Total Number of Derivations of Nouns

Noun	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>insan</i>	human	HUMAN	16	13	11	6	2	0	48
<i>baba</i>	father	HUMAN	11	6	0	0	0	0	17
<i>bey</i>	lord/governor	HUMAN	2	1	1	0	0	0	4
<i>kadın</i>	woman	HUMAN	12	4	5	2	0	0	23
<i>ordu</i>	army	HUMAN	8	5	1	0	0	0	14
<i>hayvan</i>	animal	ANIMAL	13	3	1	0	0	0	17
<i>balık</i>	fish	ANIMAL	8	7	2	2	1	0	20
<i>bit</i>	louse	ANIMAL	5	4	2	1	0	0	12
<i>köpek</i>	dog	ANIMAL	11	3	3	1	0	0	18
<i>kuş</i>	bird	ANIMAL	10	3	0	0	0	0	13

²⁹ Both *tümce* ‘sentence’ and *erdem* ‘virtue’ are morphologically complex base nouns. Thus, their smaller set of derivations might be the result of this fact. In addition, both *ağrı* ‘pain’ and *savaş* ‘war’ have verbal counterparts as *ağrı-* ‘to ache’ and *savaş-* ‘to battle’, which might be the blocking effect on the creation of new verbs originating from these base nouns.

Table 6. Total Number of Derivations of Nouns (continued)

Noun	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>baş</i>	head	PARTS	13	24	17	11	2	0	67
<i>diş</i>	tooth	PARTS	8	8	3	0	0	0	19
<i>göz</i>	eye	PARTS	9	17	12	4	2	1	45
<i>kemik</i>	bone	PARTS	7	4	1	0	0	0	12
<i>parça</i>	piece	PARTS	6	7	7	2	0	0	22
<i>çiçek</i>	flower	INANIMATE	10	7	4	2	1	0	24
<i>yıldız</i>	star	INANIMATE	8	3	2	0	0	0	13
<i>buz</i>	ice	INANIMATE	11	9	6	0	0	0	26
<i>taş</i>	stone	INANIMATE	10	7	6	2	0	0	25
<i>ev</i>	house	INANIMATE	17	14	5	3	2	1	42
<i>ad</i>	name	GENERAL ABSTRACT	7	8	4	5	2	0	26
<i>akıl</i>	mind	GENERAL ABSTRACT	8	12	5	1	0	0	26
<i>amaç</i>	goal	GENERAL ABSTRACT	4	7	3	1	0	0	15
<i>fikir</i>	idea	GENERAL ABSTRACT	9	6	2	0	0	0	17
<i>öğre</i>	constituent	GENERAL ABSTRACT	5	3	1	0	0	0	9
<i>zaman</i>	time	TIME	8	8	3	1	0	0	20
<i>gece</i>	night	TIME	7	4	0	0	0	0	11
<i>gün</i>	day	TIME	14	22	14	10	3	0	63
<i>kış</i>	winter	TIME	6	2	1	0	0	0	9
<i> yıl</i>	year	TIME	6	5	4	2	1	0	18
<i>yer</i>	place	PLACE	11	17	13	8	3	1	53
<i>arka</i>	back	PLACE	5	7	1	0	0	0	13
<i>dış</i>	exterior	PLACE	11	12	6	2	1	0	32
<i>ön</i>	front	PLACE	11	29	26	11	4	1	82
<i>üst</i>	top	PLACE	10	12	8	1	0	0	31
<i>boy</i>	length	QUANTITY	7	12	11	4	3	2	39
<i>en</i>	width	QUANTITY	5	7	3	0	0	0	15
<i>numara</i>	number	QUANTITY	4	4	3	2	1	0	14
<i>sayı</i>	number	QUANTITY	8	6	6	8	2	0	30
<i>yaş</i>	age	QUANTITY	5	10	12	5	0	0	32
<i>biçim</i>	form/shape	VARIETY	7	11	9	7	2	0	36
<i>cins</i>	type/kind	VARIETY	6	6	3	0	0	0	15
<i>çember</i>	circle	VARIETY	6	3	2	0	0	0	11
<i>halka</i>	circle	VARIETY	8	6	4	0	0	0	18
<i>tür</i>	kind/species	VARIETY	7	9	7	6	2	0	31
<i>isim</i>	noun	LANGUAGE	8	6	5	3	0	0	22
<i>kelime</i>	word	LANGUAGE	3	2	0	0	0	0	5
<i>ses</i>	sound	LANGUAGE	9	11	8	7	2	0	37
<i>sıfat</i>	adjective	LANGUAGE	4	4	2	0	0	0	10
<i>tümce</i>	sentence	LANGUAGE	5	1	0	0	0	0	6
<i>ağrı</i>	pain	STATES AND PROPERTIES	3	3	0	0	0	0	6
<i>erdem</i>	virtue	STATES AND PROPERTIES	3	3	0	0	0	0	6
<i>güç</i>	strength	STATES AND PROPERTIES	4	8	5	4	1	0	22
<i>öfke</i>	anger	STATES AND PROPERTIES	4	5	1	0	0	0	10
<i>tat</i>	taste	STATES AND PROPERTIES	5	11	6	2	1	0	25
<i>iş</i>	work/job	ACTIVITIES	6	14	22	14	3	0	59
<i>kuşku</i>	doubt	ACTIVITIES	4	7	2	0	0	0	13
<i>oyun</i>	game	ACTIVITIES	10	11	3	1	0	0	25
<i>savaş</i>	war	ACTIVITIES	4	2	0	0	0	0	6
<i>yardım</i>	help	ACTIVITIES	5	4	1	1	0	0	11
<i>betim</i>	description	SPEECH ACTS	4	5	4	1	0	0	14
<i>dilek</i>	wish	SPEECH ACTS	5	2	0	0	0	0	7
<i>soru</i>	question	SPEECH ACTS	3	1	0	0	0	0	4
<i>söz</i>	statement	SPEECH ACTS	13	15	9	8	3	0	48
<i>yanıt</i>	answer	SPEECH ACTS	3	4	2	2	1	0	12

Table 7 gives the average number of derivations in a semantic subcategory of nouns per order of derivation. The average for all derivational orders is given in the last column of the table under the title “All Orders” similar to the previous table. As seen

in table 7, in the first derivational order, STATES and PROPERTIES have the lowest average for the derivations produced by the nouns in that category and the semantic subcategory INANIMATE has the highest average. In the second and the subsequent derivational orders, the semantic category PLACE has the highest average number of derivations that are produced by the nouns in that category. In the sixth order, PLACE shares the same average number of derivations with the semantic subcategory QUANTITY. Starting from the second up to the fifth derivational order, the semantic category ANIMAL has the lowest average number of derivations. In the sixth order, only four semantic subcategories have an average and the rest do not have derivations. The highest two are PLACE and QUANTITY as mentioned above. The lowest ones are INANIMATE and PARTS.

Table 7. Average Number of Derivations of the Subcategories of Nouns

Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
HUMAN	9.8	5.8	3.6	1.6	0.4	0	21.2
ANIMAL	9.4	4	1.6	0.8	0.2	0	16
PARTS	8.6	12	8	3.4	0.8	0.2	33
INANIMATE	11.2	8	4.6	1.4	0.6	0.2	26
GENERAL ABSTRACT	6.6	7.2	3	1.4	0.4	0	18.6
TIME	8.2	8.2	4.4	2.6	0.8	0	24.2
PLACE	9.6	15.4	10.8	4.4	1.6	0.4	42.2
QUANTITY	5.8	7.8	7	3.8	1.2	0.4	26
VARIETY	6.8	7	5	2.6	0.8	0	22.2
LANGUAGE	5.8	4.8	3	2	0.4	0	16
STATES AND PROPERTIES	3.8	6	2.4	1.2	0.4	0	13.8
ACTIVITIES	5.8	7.6	5.6	3.2	0.6	0	22.8
SPEECH ACTS	5.6	5.4	3	2.2	0.8	0	17

In addition, as seen in table 7, for all derivational orders, the semantic subcategory STATES and PROPERTIES have the lowest average number of derivations with 13.8 derivations on average. Meanwhile, the semantic subcategory PLACE has the highest average with 42 derivations.

Table 8 shows the average number of derivations, the highest number of derivations, and the total number of derivations per each derivational order of all

base nouns. The data for all derivational orders are also given in the last column. In addition, the information on this table is compared to those of adjectives in section 5.4 of this chapter.

As seen in table 8, on average, nouns create a total of 23 derivations in all orders. The average number of derivations slightly increases from the first order to the second order of derivation, from 7.4 to 7.6 derivations. It gradually decreases from the second order to the sixth order of derivation. The same increasing and decreasing pattern in the average number of derivations is observed in Göksel and Kapan (frth.), as well.

Similarly, the highest number of derivations increases from 17 in the first order of derivation to 29 in the second order of derivation. A decline can be observed in the subsequent orders of derivation similar to the average number of derivations. Combining the derivations in all orders, 82 is the highest number of derivations created by a single noun, *ön* ‘front’, which is also mentioned above.

Table 8. Average, Highest and Total Number of Derivations for Base Nouns

	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
Average number of derivations	7.4	7.6	4.8	2.4	0.7	0.1	23
Highest number of derivations	17	29	26	14	4	2	82
Total number of derivations	485	496	310	153	45	6	1495

Finally, the total number of derivations given in table 8 shows the same increasing and decreasing pattern in the number of derivations per order as the average and the highest number of derivations. In sum, 65 base nouns create a total of 1495 derivations in all orders.

The data in table 8 above is used in the comparison of nouns and adjectives in the upcoming section 5.4. In the following section, I present the maximum derivational network numbers for the base nouns.

5.2.2 Maximum derivational network of base nouns

Before commenting on the maximum derivational network of nouns, I would like to reiterate what it signifies and how it is calculated. Maximum derivational network shows the highest potential number a base noun can derive. It is useful for comparing the potential to the actual derivations. Maximum derivational network is used in the calculation of saturation values, which are given on tables 10 and 11 in section 5.2.4 of this chapter. The saturation value is the comparison of the derivational potential, i.e. the maximum derivational network given in table 9, to the actual number of derivations given on tables 5 and 6 in the previous section.

Maximum derivational network number is calculated by summing up the highest number of derivatives under a semantic category label (i.e. the semantic categories explained in chapter 3 such as ACTION, STATE, and QUALITY) created by a single base noun. This calculation is done for each semantic category in each order of derivation. For instance, in the first order of derivation, there is a total of eight derivations under the semantic category label ABSTRACTION. The highest number of derivations by a single base noun in the semantic category ABSTRACTION is 2. Thus, it shows that there is a potential for all nouns to derive two lexical items under the semantic category label ABSTRACTION in the first derivational order. Whether it is realized by other nouns or not is not the concern here. Another example is from the semantic category DIMINUTIVE. In the first derivational order, there is a total of 28 derivations under the semantic category label DIMINUTIVE. The highest number of

DIMINUTIVES created by a single base noun is four. The same calculation is done separately for all the semantic categories of each derivations of all base words. Then, the sum of the highest numbers of derivations (e.g. two for the semantic category ABSTRACTION, four for the semantic category DIMINUTIVE in the first order) is added up to reach the maximum derivational network for a derivational order. The same procedure is carried out for each derivational order separately. Finally, all the maximum derivational network numbers of all orders are added up to reach the maximum derivational network for a lexical category.

As seen in table 9, for the first order of nouns, the sum of all the highest numbers of derivation under different semantic category labels is 50, which gives us the maximum derivational network for the first order. The maximum derivational network increases from 50 in the first order to 59 in the second order. The maximum derivational network number declines from the second order until the sixth order, as well. The same pattern of increase in the maximum derivational network from the first order to the second one and the gradual decrease from that until the last order of derivation is also observed in Göksel and Kapan (frth.). In sum, a base noun can potentially derive 194 lexical items as seen under the last column of table 9. Even the base noun *ön* ‘front’ with the highest number of derivations, which is a total of 82 derivations, cannot reach to half of its potential.

Table 9. Maximum Derivational Network of Base Nouns

Maximum Derivational Networks						
1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
50	59	46	30	7	2	194

The data in table 9 above is also used in the comparison of nouns and adjectives in section 5.4 of this chapter. In the following section, I comment on the derivational

orders of base nouns and compare them to the data given in Göksel and Kapan (frth.).

5.2.3 Derivational orders of base nouns

As seen in tables 5 and 6 given in 5.2.1, derivational orders for nouns go up to the sixth order. However, the sixth order of derivation is not as densely filled as other orders of derivation. All 65 base nouns have derivations in the first and the second derivational orders. There are 18 base nouns that derive only up to the third order and 14 base nouns that derive up to the fourth order. There are 18 base nouns that derive up to the fifth order. Finally, only five base nouns derive up to the sixth order.

Average number of derivational orders for base nouns is 3.8. This is slightly above the average number of derivational orders for base nouns in the data presented in Göksel and Kapan (frth.). Average number of derivational orders for base nouns is 3.4 in Göksel and Kapan (frth.). In the same study, nouns only go up to the fifth order of derivation³⁰. This suggests that nouns that are not included in the data might derive further than the sixth order of derivation. In the next section, I talk about the saturation values of each base noun and their average in their semantic subcategories.

5.2.4 Saturation values of base nouns

Prior to commenting on the saturation values, I would like to reiterate the meaning behind the saturation value and its calculation. The saturation value is the calculation of the actualization of the potential derivations, obtained by the maximum derivational network. It is calculated by dividing the actual number of derivations a

³⁰ The data in Project Monika consists of 10 nouns, 10 adjectives and 10 verbs (Bagasheva et al., frth.).

base noun creates by the maximum derivational network number (Bagasheva et al., frth.). Then, it is multiplied by 100 (Bagasheva et al., frth.). The result gives us the percentage of the saturation value. It shows how much a base noun fulfills its potential derivational slots. For instance, in the first order of derivation, the base noun *insan* ‘human’ derives 16 lexical items. In the first order of derivation, the maximum derivational network is 50. The outcome of 16 divided by 50 and multiplied by 100 is 32 which can be seen under the first order column in the row *insan* ‘human’ in table 10.

Table 10. Saturation Values of Nouns

Noun	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>insan</i>	human	HUMAN	32	22.03	23.91	20	28.57	0	24.74
<i>baba</i>	father	HUMAN	22	10.17	0	0	0	0	8.76
<i>bey</i>	lord/governor	HUMAN	4	1.69	2.17	0	0	0	2.06
<i>kadın</i>	woman	HUMAN	24	6.78	10.87	6.67	0	0	11.86
<i>ordu</i>	army	HUMAN	16	8.47	2.17	0	0	0	7.22
<i>hayvan</i>	animal	ANIMAL	26	5.08	2.17	0	0	0	8.76
<i>balık</i>	fish	ANIMAL	16	11.86	4.35	6.67	14.29	0	10.31
<i>bit</i>	louse	ANIMAL	10	6.78	4.35	3.33	0	0	6.19
<i>köpek</i>	dog	ANIMAL	22	5.08	6.52	3.33	0	0	9.28
<i>kuş</i>	bird	ANIMAL	20	5.08	0	0	0	0	6.7
<i>baş</i>	head	PARTS	26	40.68	36.96	36.67	28.57	0	34.54
<i>dış</i>	tooth	PARTS	16	13.56	6.52	0	0	0	9.79
<i>göz</i>	eye	PARTS	18	28.81	26.09	13.33	28.57	14.29	23.2
<i>kemik</i>	bone	PARTS	14	6.78	2.17	0	0	0	6.19
<i>parça</i>	piece	PARTS	12	11.86	15.22	6.67	0	0	11.34
<i>çiçek</i>	flower	INANIMATE	20	11.86	8.7	6.67	14.29	0	12.37
<i>yıldız</i>	star	INANIMATE	16	5.08	4.35	0	0	0	6.7
<i>buz</i>	ice	INANIMATE	22	15.25	13.04	0	0	0	13.4
<i>taş</i>	stone	INANIMATE	20	11.86	13.04	6.67	0	0	12.89
<i>ev</i>	house	INANIMATE	34	23.73	10.87	10	28.57	14.29	21.65
<i>ad</i>	name	GENERAL ABSTRACT	14	13.56	8.7	16.67	28.57	0	13.4
<i>akıl</i>	mind	GENERAL ABSTRACT	16	20.34	10.87	3.33	0	0	13.4
<i>amaç</i>	goal	GENERAL ABSTRACT	8	11.86	6.52	3.33	0	0	7.73
<i>fikir</i>	idea	GENERAL ABSTRACT	18	10.17	4.35	0	0	0	8.76
<i>öge</i>	constituent	GENERAL ABSTRACT	10	5.08	2.17	0	0	0	4.64
<i>zaman</i>	time	TIME	16	13.56	6.52	3.33	0	0	10.31
<i>gece</i>	night	TIME	14	6.78	0	0	0	0	5.67
<i>gün</i>	day	TIME	28	37.29	30.43	33.33	42.86	0	32.47
<i>kış</i>	winter	TIME	12	3.39	2.17	0	0	0	4.64
<i>yıl</i>	year	TIME	12	8.47	8.7	6.67	14.29	0	9.28
<i>yer</i>	place	PLACE	22	28.81	28.26	26.67	42.86	14.29	27.32
<i>arka</i>	back	PLACE	10	11.86	2.17	0	0	0	6.7
<i>dış</i>	exterior	PLACE	22	20.34	13.04	6.67	14.29	0	16.49
<i>ön</i>	front	PLACE	22	49.15	56.52	36.67	57.14	14.29	42.27
<i>üst</i>	top	PLACE	20	20.34	17.39	3.33	0	0	15.98

Table 11. Saturation Values of Nouns (continued)

Noun	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>boy</i>	length	QUANTITY	14	20.34	23.91	13.33	42.86	28.57	20.1
<i>en</i>	width	QUANTITY	10	11.86	6.52	0	0	0	7.73
<i>numara</i>	number	QUANTITY	8	6.78	6.52	6.67	14.29	0	7.22
<i>sayı</i>	number	QUANTITY	16	10.17	13.04	26.67	28.57	0	15.46
<i>yaş</i>	age	QUANTITY	10	16.95	26.09	16.67	0	0	16.49
<i>biçim</i>	form/shape	VARIETY	14	18.64	19.57	23.33	28.57	0	18.56
<i>cins</i>	type/kind	VARIETY	12	10.17	6.52	0	0	0	7.73
<i>çember</i>	circle	VARIETY	12	5.08	4.35	0	0	0	5.67
<i>halka</i>	circle	VARIETY	16	10.17	8.7	0	0	0	9.28
<i>tür</i>	kind/species	VARIETY	14	15.25	15.22	20	28.57	0	15.98
<i>isim</i>	noun	LANGUAGE	16	10.17	10.87	10	0	0	11.34
<i>kelime</i>	word	LANGUAGE	6	3.39	0	0	0	0	2.58
<i>ses</i>	sound	LANGUAGE	18	18.64	17.39	23.33	28.57	0	19.07
<i>sıfat</i>	adjective	LANGUAGE	8	6.78	4.35	0	0	0	5.15
<i>tümce</i>	sentence	LANGUAGE	10	1.69	0	0	0	0	3.09
<i>ağrı</i>	pain	STATES AND PROPERTIES	6	5.08	0	0	0	0	3.09
<i>erdem</i>	virtue	STATES AND PROPERTIES	6	5.08	0	0	0	0	3.09
<i>güç</i>	strength	STATES AND PROPERTIES	8	13.56	10.87	13.33	14.29	0	11.34
<i>öfke</i>	anger	STATES AND PROPERTIES	8	8.47	2.17	0	0	0	5.15
<i>tat</i>	taste	STATES AND PROPERTIES	10	18.64	13.04	6.67	14.29	0	12.89
<i>iş</i>	work/job	ACTIVITIES	12	23.73	47.83	46.67	42.86	0	30.41
<i>kuşku</i>	doubt	ACTIVITIES	8	11.86	4.35	0	0	0	6.7
<i>oyun</i>	game	ACTIVITIES	20	18.64	6.52	3.33	0	0	12.89
<i>savaş</i>	war	ACTIVITIES	8	3.39	0	0	0	0	3.09
<i>yardım</i>	help	ACTIVITIES	10	6.78	2.17	3.33	0	0	5.67
<i>betim</i>	description	SPEECH ACTS	8	8.47	8.7	3.33	0	0	7.22
<i>dilek</i>	wish	SPEECH ACTS	10	3.39	0	0	0	0	3.61
<i>soru</i>	question	SPEECH ACTS	6	1.69	0	0	0	0	2.06
<i>söz</i>	statement	SPEECH ACTS	26	25.42	19.57	26.67	42.86	0	24.74
<i>yanıt</i>	answer	SPEECH ACTS	6	6.78	4.35	6.67	14.29	0	6.19

As it can be seen in tables 10 and 11, in the first derivational order, the base noun with the highest saturation value is *ev* ‘house’ from the INANIMATE subcategory with 34% saturation value. The lowest saturation value belongs to the base noun *bey* ‘lord/governor’ from the semantic subcategory HUMAN with a saturation value of 4%.

In the second derivational order, *bey* ‘lord/governor’ again has the lowest saturation value along with two other base nouns, which are *tümce* ‘sentence’ from the LANGUAGE subcategory and *soru* ‘question’ from SPEECH ACTS. They share a saturation value of 1.69% in the second derivational order. In this order, the highest saturation value belongs to *ön* ‘front’ from the semantic subcategory PLACE. It has a saturation value of 49.15%. This saturation value means that *ön* ‘front’ actualizes almost half of its derivational potential.

In the third derivational order, *ön* ‘front’ has the highest saturation value again with 56.52%. In this order, 10 base nouns do not have derivations; thus, they have a saturation value of 0%. Other than those with 0% saturation value, nine nouns have the same lowest saturation value, which is 2.17%. These nouns are *bey* ‘lord/governor’, *kış* ‘winter’, *öğre* ‘constituent’, *hayvan* ‘animal’, *yardım* ‘help’, *kemik* ‘bone’, *öfke* ‘anger’, *ordu* ‘army’, and *arka* ‘back’.

In the fourth order, the nouns with the saturation value of 0% goes up to 28. The next lowest saturation value is 3.33%. It is shared by nine base nouns, which are *yardım* ‘help’, *bit* ‘louse’, *köpek* ‘dog’, *amaç* ‘goal’, *zaman* ‘time’, *oyun* ‘game’, *betim* ‘description’, *akıl* ‘mind’, and *üst* ‘top’. The highest saturation value in the fourth order belongs to *iş* ‘work’ from the semantic subcategory ACTIVITIES. It has a saturation value of 46.67%.

In the fifth order, only 28 base nouns have saturation values above 0%, meaning that the rest do not derive any lexical items in this order. The next lowest saturation value in this order is 14.29%, shared by eight base nouns. These nouns are *yanıt* ‘answer’, *balık* ‘fish’, *numara* ‘number’, *yıl* ‘year’, *çiçek* ‘flower’, *tat* ‘taste’, *dış* ‘exterior’, and *güç* ‘strength’. In the fifth order, the highest saturation value is 57.14% and it belongs to *ön* ‘front’ from the semantic subcategory PLACE.

Finally, only five base nouns have derivations in the sixth order, meaning that the rest have 0% saturation values. The highest saturation value in this order is 28.57% and it belongs to *boy* ‘length’ from the semantic subcategory QUANTITY. The rest of the base nouns with derivations in this order have a saturation value of 14.29%. These nouns are *ev* ‘house’, *göz* ‘eye’, *yer* ‘place’, and *ön* ‘front’.

Overall, *ön* ‘front’ from the semantic subcategory PLACE has the highest saturation value among all base nouns with 42.49%. The second highest overall

saturation value is 34.72% and it belongs to *baş* ‘head’ from PARTS. The next highest one is *gün* ‘day’ from the TIME subcategory with 32.64%. Finally, *bey* ‘lord/governor’ from the subcategory HUMAN and *soru* ‘question’ from SPEECH ACTS share the lowest overall saturation value, which is 2.07%. The next lowest saturation value is 2.59% and it comes from *kelime* ‘word’ from the semantic subcategory LANGUAGE.

Table 12 shows the average saturation values of the base nouns collectively in their semantic subcategories per each derivational order. The final column shows the average saturation value for all orders.

On average, STATES and PROPERTIES have the lowest overall saturation value, which is 7.11% whereas PLACE has the highest saturation value, which is 21.75%.

Table 12 also shows the average saturation values of all base nouns for each derivational order and all orders together in the last row. The highest saturation value for a derivational order appears to be in the first derivational order for the selected base nouns.

Table 12. Average Saturation Values for the Subcategories of Nouns

Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
HUMAN	19.6	9.83	7.82	5.33	5.71	0	10.93
ANIMAL	18.8	6.78	3.48	2.67	2.86	0	8.25
PARTS	17.2	20.34	17.39	11.33	11.43	2.86	17.01
INANIMATE	22.4	13.56	10	4.67	8.57	2.86	13.4
GENERAL ABSTRACT	13.2	12.2	6.52	4.67	5.71	0	9.59
TIME	16.4	13.9	9.56	8.67	11.43	0	12.47
PLACE	19.2	26.1	23.48	14.67	22.86	5.72	21.75
QUANTITY	11.6	13.22	15.22	12.67	17.14	5.71	13.4
VARIETY	13.6	11.86	10.87	8.67	11.43	0	11.44
LANGUAGE	11.6	8.13	6.52	6.67	5.71	0	8.25
STATES AND PROPERTIES	7.6	10.17	5.22	4	5.72	0	7.11
ACTIVITIES	11.6	12.88	12.17	10.67	8.57	0	11.75
SPEECH ACTS	11.2	9.15	6.52	7.33	11.43	0	8.76
Average	14.89	12.72	10.6	7.85	9.89	1.32	11.85

The data in table 12 is used in the comparison of nouns and adjectives in the section 5.4. In the following section, I comment on the semantic categories used in the derivations of the base nouns.

5.2.5 The distribution of semantic categories among base nouns

In this section, I comment on the number of derivations that occur under the semantic category labels, which are explained in Chapter 3 of this thesis. The section starts with the data on the highest number of derivations under the semantic category labels in each order of derivation. Then, I give the semantic categories with the highest and lowest number of derivations. Following the presentation of this data, I discuss the occurrences of the semantic categories with the derivations of the subcategories of nouns.

In the first derivational order, a total of 485 derivations from 31 different semantic categories are created by the base nouns. Among them, the semantic category PRIVATIVE interacts with the base nouns the most. Among 65 base nouns, 55 of them derive lexical items into the PRIVATIVE category. The lexical items in this category bear the privative suffix *-siz* as shown in (3).

- (3) *ev-siz*
house-DER
'homeless'

The second most derivations comes from the semantic category RELATIONAL in the first order. Fifty new lexical items are derived from 35 different base nouns into the RELATIONAL category via several derivational suffixes such as *-sal*, *-al*, and *-i* for base nouns that originate from Arabic. Their examples are given in (4).

- (4) a. sayı-sal
 number-DER
 ‘numerical’
- b. yer-el
 location-DER
 ‘local’
- c. insan-i
 human-DER
 ‘relating to humans’

The semantic categories POSSESSIVE and QUALITY have the third highest number of derivations in the first order. POSSESSIVE and QUALITY create 47 new lexical items from 47 and 30 base nouns, respectively. The lexical items in the semantic category POSSESSIVE bear the derivational suffix *-II*. The reason why the POSSESSIVE category, derived with *-II* does not create as many derivations as the PRIVATIVE, derived with *-sIz* is simple. The semantic category POSSESSIVE needs two entities, one possessing the other. In some instances of the derivational suffix *-II*, there are not two entities unlike the definition of the possessive category requires. Thus, the derivation with *-II* results in the semantic category QUALITY. For instance, the adjective *boy-lu* ‘tall’, derived from the noun *boy* ‘length’, refers to one entity that bears the quality of being ‘tall’. On the other hand, there are various suffixes that derive lexical items into the semantic category QUALITY such as *-CII*, *-GIn*, and *-II* as mentioned above.

Other semantic categories that are worth mentioning in the first order of derivation are ACTION, AGENT and QUALITY. The semantic category ACTION occurs with 39 different nouns that derive 42 lexical items. AGENT derives the same number of lexical items originating from 35 different base nouns.

In the second order of derivation, lexical items are derived into 26 different semantic categories. This is fewer than the number of different semantic categories created in the first order of derivation. In the second order, the semantic category with the highest number of derivations is STATE. 139 out of 496 derivations come from the semantic category STATE. Lexical items are derived into this category with the derivational suffix *-LIK*.

The semantic category with the second highest number of derivations in the second order is ACTION with 103 derivations from 58 different base nouns. The category action includes verbal and nominals derivations with suffixes such as *-mA*, *-(y)Iş*, and *-IA*.

The semantic category with the third highest number of derivations in the second order is PROCESS with 39 derivations originating from 24 nouns. Lexical items are derived into this category with the derivational suffix *-IAş* such as *ev-cil-leş-* ‘to become tame’. In one instance, the suffix *-sI* is used for deriving a verb into the PROCESS category. According to the Comprehensive Dictionary of Turkish, *çiçek-si-* means ‘to become like a flower’ (Türk Dil Kurumu Büyük Türkçe Sözlük, 2018).

In the third order of derivation, 310 lexical items from 19 different semantic categories are derived by the base nouns. Among them, the semantic category ACTION has the most derivations with 149 derived lexical items originating from 51 different base nouns. The second highest number of derivations under a semantic category label comes from CAUSATIVE. It has 45 derivations originating from 30 base nouns with the derivational suffixes *-t*, *-DIr*, *-IA*, and the combination of *-IA* and *-t* as *-IAt*. The third highest number of derivations is 33 derivations from 18 base nouns in the STATE category.

As for the fourth order of derivation, lexical items from 13 different semantic categories are derived. Out of 153 total derivations in this order, 84 of them are from the semantic category ACTION. There are 22 derivations from the semantic category UNDERGOER created by the suffix *-II*. Another semantic category to note here is the STATE category. It has 11 derivations.

In the fifth derivational order, there are a total of 45 derivations from three different semantic categories. The semantic category ACTION has the most derivations like the previous order. Thirty-one derivations belong to the semantic category ACTION in this order. The other two semantic categories in this order are STATE and UNDERGOER with nine and five derived lexical items, respectively.

Finally, in the sixth derivational order, there are only six derivations in total. All of these derivations come from the semantic category ACTION.

In sum, in all derivational orders, base nouns derive lexical items into 32 different semantic categories. Among these semantic categories, ACTION has the most derivations in all derivational orders combined. It contains a total of 415 derivations out of the 1495 derivations that all base nouns create in total. The second highest number of derivations come from the semantic category STATE with 210 derivations. The third place is tied between the semantic categories AGENT and CAUSATIVE with 87 derivations. The semantic categories with the least number of derivations are ITERATIVE, ORNATIVE, and SINGULATIVE with one derivation each.

In the remainder of this section, I comment on the prominent occurrences of semantic categories with the subcategories of nouns in all orders of derivation. The tables C1 to C6 in Appendix C summarize the occurrences of semantic categories with the base nouns from different subcategory of nouns. The tables C1 to C6 show

the number of base nouns (maximum five base nouns from each subcategory) which have derivations in related semantic categories.

The derivations in the semantic category ABSTRACTION are sparse compared to other semantic categories that occur in the derivational networks of the base nouns. The base words in these derivations are from the subcategories PLACE, QUANTITY, SPEECH ACTS and PARTS and the derivations occur on the first, second and third orders. The derivational suffixes that attach to the base words to derive lexical items into the ABSTRACTION category are various such *-Cil*, *-(A)m*, *-Gİç*, *-CA*, and *-It*.

On average, the semantic category ACTION interacts with most base nouns when all derivational orders are combined. In the first derivational order, there are no nouns from STATES and PROPERTIES that derive into the ACTION category and only one of the base nouns derive into this category from HUMAN and ACTIVITIES categories. In addition, it should be noted that the one from is the HUMAN category is a form of slang in Turkish, which is *babalan-* ‘to become enraged / to act as a mafia boss’. Thus, it could be said that nouns from the HUMAN category do not typically derive into the ACTION category in the first order of derivation. In other orders of derivation, ACTION usually contains further derivations of denominal verbs with the suffixes *-mA* and *-(y)Iş*.

The semantic category AGENT is the most prominent in the first order of derivation occurring with all subcategories of nouns. The important thing to note in the first order of derivation is that all base nouns from the ACTIVITIES subcategory derive AGENTS. This might be the result of the fact that the activities in this category (*iş* ‘work/job’, *kuşku* ‘doubt’, *oyun* ‘game’, *savaş* ‘war’, and *yardım* ‘help’) conceptually have agents that perform these activities.

In the first derivational order, the semantic category CAUSATIVE only occurs with one noun, *ev* ‘house’ from the INANIMATE subcategory of nouns in the form of *ev-er-* ‘to make someone get married’. Other than this example, no other base noun derives into the CAUSATIVE category in the first order of derivation. Before deriving into the CAUSATIVE category, base nouns derive into ACTION, PROCESS, REFLEXIVE or RECIPROCAL categories first. In contrast, base adjectives might derive into CAUSATIVE in the first order of derivation as in *kuru-la-* ‘to make something dry’³¹. The second and third orders of derivation has more derivations in CAUSATIVE than other orders. In total, the third order has the highest number of derivations in the semantic category CAUSATIVE, and the number of lexical items in this semantic category is 45 in the third derivational order.

The semantic category COLLECTIVE occurs mostly with base nouns from the HUMAN and ANIMAL subcategories. Other semantic subcategories of nouns they occur with are INANIMATE and TIME.

The semantic category COMITATIVE is observed to be in the first derivational order. Additionally, the base nouns with a concrete meaning (HUMAN, ANIMALS, and PARTS except for one base word in the INANIMATE subcategory), and the base nouns from PLACE, STATES and PROPERTIES, and SPEECH ACTS do not derive into this category.

DESIDERATIVE occurs with two base nouns in the first order of derivation from the ANIMAL and TIME subcategories and with one base noun in the second order from the subcategory TIME again.

³¹ In the derivational network of *kuru* ‘dry’, the derivations of its verbal counterpart *kuru* ‘to dry’ is not included. Thus, I did not list *kuru-t-* ‘to make something dry’ in the derivational network of *kuru* ‘dry’.

DIMINUTIVE is another semantic category that is mostly prevalent in the first order of derivation. It occurs with almost all CONCRETE base nouns (except for two from HUMAN, and one from INANIMATE) in the first order along with one base noun from each of the following subcategories of nouns: VARIETY, LANGUAGE, and SPEECH ACTS. In other derivational orders, one base noun from QUANTITY and two base nouns from PLACE derive into this semantic category.

The semantic category DIRECTIONAL has only three derivations in total. These derivations come from the subcategories TIME and PLACE in the first derivational order, and QUANTITY in the third order.

The semantic category ENTITY creates 13 derivations in total and 11 of them are in the first derivational order. These derivations originate from base nouns from various subcategories. Only in the PARTS category there is more than one single base noun that derives into the ENTITY category.

There are derivations that are from the semantic category INSTRUMENT up to the fourth order of derivation though most of them are in the first order. The highest number of base nouns from a single subcategory of nouns that derive into the semantic category INSTRUMENT is PARTS. However, the subcategory TIME in the first order has more derivations in total.

The derivations from the semantic category LOCATION are from the first, second, and third derivational orders. The highest number of derivations in the LOCATION category from a single subcategory of nouns comes from INANIMATE and PLACE in the first order, and again PLACE in the second order. Another subcategory of nouns is to note is ACTIVITIES, base nouns of which have derivations in all three orders mentioned above.

The semantic category MANNER has its derivations mostly in the first and in the second derivational orders of base nouns. In the first order of derivation, the subcategory HUMAN has the highest number of base nouns that derive into the semantic category MANNER. However, in the second order of derivation, derivatives of the HUMAN subcategory have no further derivations into the MANNER category. In the second order of derivation, the subcategories ANIMAL and GENERAL ABSTRACT have two base nouns each that have derivations into this semantic category, which is a higher number of base nouns than other subcategories of nouns.

PEJORATIVE is another semantic category with sparse derivations across the derivational networks of the base nouns. Only three base nouns have derivations into this semantic category, and they are from the subcategories HUMAN, PARTS, and ACTIVITIES. These derivations are all in the first order. In the subsequent derivational orders, no lexical items are derived into the semantic category PEJORATIVE.

In total, there are four lexical items that are derived into the semantic category PERCEPTIVE. Two of these derivations are in the first derivational order and they originate from one base noun, *ev* ‘house’, which is in the INANIMATE subcategory of nouns. The other two are in the second order and these derivations come from two different base nouns in the PLACE subcategory, which are *ön* ‘front’ and *üst* ‘top’.

The semantic category POSSESSIVE occurs with occurs with base nouns from all subcategories except TIME in the first order of derivation. In the other categories, almost all base nouns have derivations into the semantic category POSSESSIVE with the exception of PLACE, QUANTITY, and STATES AND PROPERTIES. In the subcategories that are mentioned as the exceptions, only two base nouns derive into the POSSESSIVE category. In the second derivational order, base nouns from the subcategories

HUMAN, ANIMAL, and LANGUAGE do not derive further into POSSESSIVE. Other subcategories of nouns have only up to three base nouns deriving into this category in this order and in the following orders of derivation.

The semantic category PRIVATIVE is similar to POSSESSIVE in terms of the number of derivations from different base nouns and subcategories of nouns. Base nouns from all categories with no exceptions derive into the PRIVATIVE category in the first order. This semantic category has the highest number of derivations in the first order of derivation. However, the same cannot be said about PRIVATIVE in the following derivational order. The second order has less derivations in the PRIVATIVE category than the first. The decrease in the number of derivations continues until the fifth order in which no base noun derives into this semantic category.

The semantic category PROCESS has derivations originating from more base nouns in the second order of derivation than the first and the third order. The number of derivations in the first order in the semantic category PROCESS is close to the number of derivations in the second order. In contrast, there are fewer derivations in the third order. There are no derivations in the semantic category PROCESS in other derivational orders.

The lexical items that derive into the semantic category PURPOSIVE originate from the base nouns from the semantic categories PARTS, TIME, PLACE and ACTIVITIES. One lexical from the base nouns from PLACE and PARTS categories derives into the PURPOSIVE category in the second and the fourth derivational orders, respectively. In other orders of derivation, there are no lexical items created into this semantic category.

QUALITY is another semantic category that has more derivations in the first order than in other orders. All subcategories of nouns contain at least one base noun

that derives into the semantic category QUALITY in the first order of derivation. The majority of base nouns come from the following subcategories: TIME, PLACE and QUANTITY. In the second and subsequent orders of derivation, the number of subcategories of nouns that have derivations into this category decreases. There are no lexical items derived into QUALITY in the fifth and the sixth derivational orders.

Only in the first and the second orders of derivation, we see the semantic category RECIPROCAL with derivations under its label. One base noun each from GENERAL ABSTRACT and ACTIVITIES in the first order and only one base noun from SPEECH ACTS in the second order derives into the semantic category RECIPROCAL.

The semantic category REFLEXIVE has more derivations in the second order than it does in the first order. The derivations of REFLEXIVE in the first order come from the subcategories HUMAN, INANIMATE, STATES AND PROPERTIES, and ACTIVITIES. In the second order, base nouns from ANIMAL, PARTS, INANIMATE, QUANTITY, and SPEECH ACTS derive into REFLEXIVE. In the third order, REFLEXIVE has only one base noun from each of the subcategories TIME and QUANTITY. All of these subcategories of base nouns are different when we look at all orders, except for the INANIMATE subcategory. There are no derivations into this semantic category in other orders.

In the first order, there are lexical items derived into the semantic category RELATIONAL from all subcategories of base nouns. Majority of the base nouns come from the subcategories INANIMATE, PLACE and VARIETY in the first order. In the following orders, the derivations into the RELATIONAL category decrease in number.

The semantic category RESULTATIVE is another category with an increase in the number of derivations from the first order to the second order of derivation. In the first order, only one of the base nouns from the subcategories PLACE and SPEECH

ACTS derive into RESULTATIVE. In the following order, the number of subcategories of nouns increases from two to seven. However, the number of base nouns in each category stay the same. In every subcategory, only one base noun derives into RESULTATIVE in the second order. In the third order, this changes with the subcategory PARTS as it has two base nouns that derive into a RESULTATIVE. Finally, the fourth derivational order has only one derivation into this semantic category since the fifth and the sixth orders have no derivations under the RESULTATIVE label.

The majority of the derivations into the semantic category SIMILATIVE is in the first derivational order. These derivations are from 14 different base nouns, which come from seven different subcategories of nouns. The highest number of base nouns from one single subcategory that derives into the SIMILATIVE category is four and these four derivations come from INANIMATE. There are only two derivations in the second order and these derivations originate from base nouns in the PLACE and STATES AND PROPERTIES subcategories.

The semantic category STATE is another semantic category that has more derivations under its label in the second order of derivation than in the first order of derivation. In the second order, 53 out of 65 base nouns derive into STATE whereas the number of base nouns with such derivation is 15 in the first order. It should be noted that in the first order, all base nouns from the HUMAN subcategory of nouns derive into STATE. Even the third order has more base nouns that derive into STATE than the first order since 18 base nouns has derivations under the STATE label. However, no subcategory of nouns has all of its base nouns derive into the STATE category unlike HUMAN in the first order. The number of lexical items from the STATE category decreases in the following orders of derivation

The semantic category TEMPORAL has derivations from eight different base nouns in the first order of derivation and five of these derivations come from the TIME subcategory. Other subcategories of nouns that derives into TEMPORAL in the first order are ANIMAL, PLACE, and QUANTITY. Other than the derivations mentioned above, there is only one derivation into this semantic category from the subcategory TIME in the second order.

The UNDERGOER category is another semantic category that has more derivations under its label in second and third orders than it does in the first order. Only two base nouns derive into UNDERGOER in the first order of derivation and these nouns come from the LANGUAGE subcategory of nouns. In other orders of derivation, the semantic category UNDERGOER interacts with various subcategories of base nouns up until the fifth order. The highest number of subcategories of base nouns that UNDERGOER has derivations with occur in the fourth order of derivation. Only the subcategory ACTIVITIES do not have derivations into the UNDERGOER category in the fourth order.

As mentioned above, the semantic categories with the least number of derivations are AUGMENTATIVE, ITERATIVE, ORNATIVE, and SINGULATIVE. Each of them has only one derivation in all derivational networks of the all base nouns. In the first order of derivation, there are no derivations listed in the derivational networks under the AUGMENTATIVE category. Some Google searches include derivations such as *kapkadın* ‘extremely womanly’ but these derivations are not used regularly and conventionally. There are derivations into the semantic category AUGMENTATIVE only in the second order of derivation from the subcategories QUANTITY and STATES AND PROPERTIES. As for the semantic category ITERATIVE, only one base noun derives into this category and this derivation comes from the subcategory PLACE. The

only derivation in the semantic category ORNATIVE comes from the INANIMATE subcategory of nouns. Finally, the only derivation in the SINGULATIVE category is originates from a base noun in the subcategory PLACE in the first order of derivation.

To summarize a few points made above, contrasting the first and the subsequent orders of derivation, it is possible to say that derivations into the POSSESSIVE and PRIVATIVE categories in the first order seem more like a regular morphological phenomenon than derivations in the following orders. Moreover, more base nouns in the second order derive into the semantic categories ACTION, CAUSATIVE, PROCESS, REFLEXIVE, RESULTATIVE, STATE, and UNDERGOER than they do in the first order. As for the CAUSATIVE category, the same number of base nouns have further derivations in the second order and the third order but the total number of derivations in the third order.

5.3 Findings on the derivational properties of base adjectives

This section follows the same structure of the section 5.2 of this chapter. In section 5.3, I present data on the same concepts this time on the selected base adjectives and I discuss their derivational properties. In the first subsection, I present the data on the average, the highest and the total number of derivations produced by the selected base adjectives. In section 5.3.2, I talk about the maximum derivational network of adjectives. In section 5.3.3, I mention the derivational orders of adjectives and compare them to the data given in Göksel and Kapan (frth.). Section 5.2.4 presents the data on the saturation values of the base adjectives. Finally, section 5.2.5, I discuss the semantic categories that are created by the base adjectives.

5.3.1 Total and average number of derivations for base adjectives

In this section, I present the data on the total, the average, the highest and the lowest number of derivations created by the selected base adjectives. Tables 13 and 14 display the total number of derivations created by each base adjective per each derivational order. The final column under the title “All orders”, the number of total derivations created by the base adjectives is given.

The lowest number of total derivations created by a single adjective is two and these two derivations belong to *yüksek* ‘high’ in the semantic subcategory POSITION. The second lowest number of total derivations belong to *belli* ‘definite’ in the semantic subcategory category QUALIFICATION with three derivations. *Benzer* ‘similar’ in the semantic subcategory SIMILARITY has the next lowest number of total derivations with five derivations. On the other end of the total number of derivations, *iki* ‘two’ has the highest number of derivations created by a single base adjective. *İki* ‘two’ belongs to the semantic subcategory of CARDINAL NUMBERS and it has a total of 50 derivations. The reason why *iki* ‘two’ has the highest number of derivations might be related to the fact that it creates several abstract concepts such as *ikilem* ‘dilemma’, which sequentially have their own derivations. The adjective with the second highest number of total derivations is *son* ‘last’ in the same semantic subcategory with 44 derivations. The adjective with the third highest number of total derivations is *düz* ‘straight’ with 41 derivations. *Düz* ‘straight’ belongs to the semantic category PHYSICAL PROPERTY.

Table 13. Total Number of Derivations of Base Adjectives

Adjective	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>dar</i>	narrow	DIMENSION	7	6	9	4	0	0	26
<i>ince</i>	thin	DIMENSION	8	11	11	5	1	0	36
<i>kalın</i>	thick	DIMENSION	7	4	3	2	0	0	16
<i>kısa</i>	short	DIMENSION	6	4	6	4	0	0	20

Table 14. Total Number of Derivations of Base Adjectives (continued)

Adjective	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>uzun</i>	long/tall	DIMENSION	5	4	3	2	1	0	15
<i>ağır</i>	heavy	PHYSICAL PROPERTY	8	9	6	3	1	0	27
<i>düz</i>	straight	PHYSICAL PROPERTY	8	13	13	6	1	0	41
<i>kuru</i>	dry	PHYSICAL PROPERTY	3	4	2	0	0	0	9
<i>sert</i>	tough	PHYSICAL PROPERTY	7	6	3	1	0	0	17
<i>sıcak</i>	hot	PHYSICAL PROPERTY	7	2	2	1	0	0	12
<i>beyaz</i>	white	COLOR	7	4	6	3	1	0	21
<i>kara</i>	black	COLOR	13	13	9	2	0	0	37
<i>sarı</i>	yellow	COLOR	9	11	2	0	0	0	22
<i>siyah</i>	black	COLOR	7	4	5	3	1	0	20
<i>yeşil</i>	green	COLOR	11	5	3	1	0	0	20
<i>aptal</i>	foolish	HUMAN PROPENSITY	5	3	2	1	0	0	11
<i>deli</i>	mad	HUMAN PROPENSITY	7	7	3	1	0	0	18
<i>kibar</i>	kind/polite	HUMAN PROPENSITY	5	2	2	1	0	0	10
<i>mutlu</i>	happy	HUMAN PROPENSITY	5	3	1	0	0	0	9
<i>şen</i>	merry	HUMAN PROPENSITY	4	6	4	1	0	0	15
<i>ergen</i>	adolescent	AGE	4	2	0	0	0	0	6
<i>eski</i>	old	AGE	8	2	0	0	0	0	10
<i>genç</i>	young	AGE	6	3	3	1	0	0	13
<i>kart</i>	old	AGE	7	2	0	0	0	0	9
<i>yeni</i>	new	AGE	6	8	7	4	3	0	28
<i>çirkin</i>	ugly	VALUE	6	3	2	1	0	0	12
<i>gerçek</i>	real	VALUE	8	6	3	4	1	0	22
<i>güzel</i>	beautiful	VALUE	6	3	3	3	1	0	16
<i>iyi</i>	good	VALUE	9	7	4	3	1	0	24
<i>kötü</i>	bad	VALUE	5	9	6	3	1	0	24
<i>acele</i>	urgent	SPEED	4	3	1	0	0	0	8
<i>çabuk</i>	quick	SPEED	5	2	1	0	0	0	8
<i>çevik</i>	agile	SPEED	4	2	1	0	0	0	7
<i>tez</i>	rapid	SPEED	3	2	2	1	0	0	8
<i>yavaş</i>	slow	SPEED	5	3	4	1	0	0	13
<i>basit</i>	simple	DIFFICULTY	4	2	3	1	0	0	10
<i>çetin</i>	difficult/tough	DIFFICULTY	4	2	1	0	0	0	7
<i>karmaşık</i>	complicated	DIFFICULTY	2	2	2	1	0	0	7
<i>kolay</i>	easy	DIFFICULTY	5	5	3	3	2	0	18
<i>zor</i>	difficult	DIFFICULTY	10	11	10	4	1	0	36
<i>belli</i>	definite	QUALIFICATION	3	0	0	0	0	0	3
<i>doğru</i>	correct	QUALIFICATION	8	6	4	1	0	0	19
<i>kesin</i>	certain	QUALIFICATION	4	4	4	3	1	0	16
<i>normal</i>	normal	QUALIFICATION	8	6	3	1	0	0	18
<i>yanlış</i>	wrong	QUALIFICATION	5	5	4	2	0	0	16
<i>aynı</i>	same	SIMILARITY	2	2	2	1	0	0	7
<i>ayrı</i>	different	SIMILARITY	4	5	3	2	0	0	14
<i>başka</i>	different	SIMILARITY	3	3	4	0	0	0	10
<i>benzer</i>	similar	SIMILARITY	2	2	1	0	0	0	5
<i>öteki</i>	other	SIMILARITY	4	3	3	1	0	0	11
<i>az</i>	little/few	QUANTIFICATION	6	7	5	2	0	0	20
<i>bütün</i>	whole	QUANTIFICATION	7	8	6	2	1	0	24
<i>çok</i>	many	QUANTIFICATION	10	10	10	3	1	0	34
<i>tek</i>	only	QUANTIFICATION	6	5	2	0	0	0	13
<i>tüm</i>	all	QUANTIFICATION	6	13	7	5	1	0	32
<i>alçak</i>	low	POSITION	3	2	1	0	0	0	6
<i>sol</i>	left	POSITION	5	3	0	0	0	0	8
<i>uzak</i>	far	POSITION	5	4	4	1	0	0	14
<i>yakın</i>	near	POSITION	7	5	4	0	0	0	16
<i>yüksek</i>	high	POSITION	1	1	0	0	0	0	2
<i>iki</i>	two	CARDINAL NUMBERS	14	23	12	1	0	0	50
<i>yedi</i>	seven	CARDINAL NUMBERS	6	2	0	0	0	0	8
<i>kirik</i>	forty	CARDINAL NUMBERS	5	3	1	0	0	0	9
<i>ilk</i>	first	CARDINAL NUMBERS	5	11	8	5	1	0	30
<i>son</i>	last	CARDINAL NUMBERS	10	12	9	9	3	1	44

Table 15 displays the average number of derivations created by the base adjectives from different semantic subcategories for each order of derivation. The average of the total number of derivations from all orders is given in the last column of the table. As seen in table 15, the adjectives in the semantic subcategory SIMILARITY has the lowest average in the first order of derivation with an average of three derivations. In contrast, the semantic subcategory COLOR has the highest average with 9.4 average derivations.

In the second order, the semantic subcategory SPEED has the lowest average number of total derivations. On average, the adjectives in the SPEED subcategory derive 2.4 lexical items. CARDINAL NUMBERS, on the other hand, have the highest average with 10.2 derivations.

In the next derivational order, the adjectives in the SPEED subcategory have the lowest average with 1.8 derivations along with the semantic subcategory POSITION. The adjectives in the semantic subcategory DIMENSION have the highest average number of total derivations with 6.4 derivations.

In the fourth derivational order, the semantic subcategory POSITION possesses the lowest average number of derivations with 0.2 derivations. The semantic subcategory DIMENSION has the highest average of total derivations again. In the fourth derivational order, DIMENSION has 3.4 derivations on average, which is almost half of its average derivation in the previous order.

In the fifth order, there are four semantic subcategories of adjectives with no derivations. These semantic subcategories are HUMAN PROPENSITY, SPEED, SIMILARITY, and POSITION. In contrast to base adjectives, every subcategory of nouns has an average above zero in the fifth order. Other than the semantic subcategories with an average of zero, the subcategory QUALIFICATION has the lowest average

number of derivations with 0.2 derivations. In this order, the subcategories VALUE and CARDINAL NUMBERS have the highest average with 0.8 derivations.

In the sixth order, the only semantic subcategory of adjectives which has a derivation is CARDINAL NUMBERS. It has an average of 0.2 derivations, meaning that only one base adjective has a derivation in this order. Other semantic subcategories do not have a derivation; thus, have no average in this order.

Finally, for all orders of derivation, the semantic subcategory SPEED has the lowest average number of derivations with 8.8 derivations. The highest average number of derivations belong to CARDINAL NUMBERS. This semantic subcategory has 28.2 derivations on average.

Table 15. Average Number of Derivations of the Subcategories of Adjectives

Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
DIMENSION	6.6	5.8	6.4	3.4	0.4	0	22.6
PHYSICAL PROPERTY	6.6	6.8	5.2	2.2	0.4	0	21.2
COLOR	9.4	7.4	5	1.8	0.4	0	24
HUMAN PROPENSITY	5.2	4.2	2.4	0.8	0	0	12.6
AGE	6.2	3.4	2	1	0.6	0	13.2
VALUE	6.8	5.6	3.6	2.8	0.8	0	19.6
SPEED	4.2	2.4	1.8	0.4	0	0	8.8
DIFFICULTY	5	4.4	3.8	1.8	0.6	0	15.6
QUALIFICATION	5.6	4.2	3	1.4	0.2	0	14.4
SIMILARITY	3	3	2.6	0.8	0	0	9.4
QUANTIFICATION	7	8.6	6	2.4	0.6	0	24.6
POSITION	4.2	3	1.8	0.2	0	0	9.2
CARDINAL NUMBERS	8	10.2	6	3	0.8	0.2	28.2

Compared to the average number of derivations of the subcategories of nouns shown in table 7, the subcategories adjectives show more diversity with the highest and the lowest average number of derivations per order of derivation. For the base nouns, the semantic subcategory PLACE has the highest average except for the first order of derivation and accompanied by QUANTITY in the sixth order of derivation.

In table 16, I present the highest, the total and the overall average number of derivations for the selected base adjectives per each order of derivation and the total

of all derivations. There is a gradual decline in the average and the total number of derivations of the base adjectives. On average, base adjectives derive 17.2 lexical items including all orders of derivation. In total, 65 base adjectives derive 1117 lexical items.

Furthermore, the highest number of derivations created by a single base adjective increases from 14 in the first order to 23 in the second order. From then on, the highest number of derivations gradually decreases until the sixth order, in which one single base adjective creates only one derivation.

Table 16. Average, Highest and Total Number of Derivations for Base Adjectives

	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
Average number of derivations	6	5.3	3.8	1.6	0.3	0.02	17.2
Highest number of derivations	14	23	13	9	3	1	50
Total number of derivations	389	345	248	110	24	1	1117

The data in table 16 is used in the comparison of nouns and adjectives in section 5.4. Following the structure in section 5.2, which describes the derivational properties of base nouns, I present the maximum derivational network numbers for the base adjectives in the following section.

5.3.2 Maximum derivational network of base adjectives

As explained in chapter 2 and in section 5.2.2 of this chapter, maximum derivational network represents the potential of a base word in deriving lexical items. In table 17, I present the maximum derivational network numbers of the selected base adjectives for each order of derivation and for all orders in total. The maximum derivational network number is 51 in the first order of base adjectives. Similar to the maximum derivational networks of the adjectives in Göksel and Kapan (frth.), the maximum

derivational network number is the highest in the first order and it gradually decreases in the following orders. The maximum derivation number declines to one in the sixth order as it can be seen in table 17. For all orders combined, the maximum derivational network number is 135 for the base adjectives. Again, it represents the possible derivations of adjectives gathered by analyzing the derivational networks of all base adjectives.

Table 17. Maximum derivational network of base adjectives

Maximum Derivational Networks						
1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
51	38	27	14	4	1	135

The data in table 17 is also used in the comparison of nouns and adjectives in section 5.4 of this chapter. In the following section, I talk about the derivational orders of the selected base adjectives.

5.3.3 Derivational orders of base adjectives

As seen in tables 13 and 14 and as mentioned in section 5.3.1, the selected base adjectives have derivations that go up to the sixth order. However, the fifth and the sixth derivational orders of adjectives do not have as many derivations as they do in the first four orders of derivation. Among the base adjectives selected for this thesis, there is one adjective, *belli* ‘definite’ that does not derive further than the first order. There are six adjectives that derive only up to the second order. Thirteen adjectives have derivations no further than the third order. The majority of base adjectives, 26 in total, derive up to the fourth order. Eighteen adjectives derive up to the fifth derivational order. Finally, only one base adjective derives up to the sixth order. This adjective is *son* ‘last’.

The selected base adjectives have 3.9 derivational orders on average. This average is close to the average number of derivational orders of adjectives in the data of Göksel and Kapan (frth.), which is 3.7 derivational orders on average. However, in that data, adjectives derive up to only the fifth order (Göksel & Kapan, frth.). In the following section, I talk about the saturation value of the base adjectives and the average saturation values for the semantic subcategories of adjectives.

5.3.4 Saturation values of base adjectives

Table 18 and table 19 show the saturation values of the base adjectives in each of their derivational orders and their overall saturation values. As explained in chapter 2 and in section 5.2.4 of this thesis, saturation values compare the potential to the existing derivations. It is calculated by dividing the number of derivations a base word has to the maximum derivational network number and the result of this calculation is multiplied by 100 (Bagasheva, et al., frth.).

As seen in tables 18 and 19, in the first order of derivation, the lowest saturation value belongs to *yüksek* ‘high’ from the subcategory POSITION with a saturation value of 1.96%. The next lowest saturation value is 3.92%, which is shared by the base adjectives *karmaşık* ‘complicated’, *aynı* ‘same’, and *benzer* ‘similar’. *Karmaşık* ‘complicated’ is from DIFFICULTY and the other two come from the semantic subcategory SIMILARITY. The highest saturation value in the first order of derivation belongs to *iki* ‘two’ with a saturation value of 27.45%. *İki* ‘two’ comes from the semantic subcategory CARDINAL NUMBERS. The second and the third highest saturation values in the first derivational order belong to *kara* ‘black’ with 25.49% and *yeşil* ‘green’ with 21.57%, both from the semantic subcategory COLOR.

In the second derivational order, again *iki* ‘two’ has the highest saturation value with 60.53%, which is almost double the amount of the next highest saturation value. The next highest saturation value is 34.21% which is shared by *tüm* ‘all’ from the semantic subcategory QUANTIFICATION, *kara* ‘black’ from COLOR, and *düz* ‘straight’ from PHYSICAL PROPERTY. In this order, the lowest saturation value is 0%, meaning that this base adjective does not have derivations in this order, and it belongs to *belli* ‘definite’. Other than 0%, the lowest saturation value is 2.63% and it belongs to *yüksek* ‘high’ from the semantic subcategory POSITION.

As for the third derivational order, seven base adjectives do not have derivations and have 0% saturation values. Three of them come from the semantic subcategory AGE and these adjectives are *ergen* ‘adolescent’, *eski* ‘old’, and *kart* ‘old’. Two adjectives with a 0% saturation value in the third order are from the subcategory POSITION and these base adjectives are *sol* ‘left’ and *yüksek* ‘high’. Finally, the other two are *yedi* ‘seven’ from CARDINAL NUMBERS and *belli* ‘definite’ as mentioned to be lacking derivation in the second order. Other than 0%, the lowest saturation value in the third order of base adjectives is 3.7% and eight adjectives share this saturation value. In the third order of derivation, the highest saturation value is 48.15% which comes from *düz* ‘straight’ in the semantic subcategory PHYSICAL PROPERTY. The next highest saturation value is 44.44% from *iki* ‘two’ and the third highest saturation value is 40.74% from *ince* ‘thin’ from the semantic subcategory DIMENSION.

In the fourth order of derivation, 20 base adjectives do not have derivations and have a saturation value of 0%. Among them, the semantic subcategories of adjectives that are worth mentioning are POSITION with four base adjectives (*alçak* ‘low’, *sol* ‘left’, *yakın* ‘near’, and *yüksek* ‘high’), AGE with the base adjectives

mentioned in the previous order, and SPEED with three base adjectives (*acele* ‘urgent’, *çabuk* ‘quick’, and *çevik* ‘agile’). The next lowest saturation value is 7.14%, which is shared by 19 base adjectives. The one subcategory that is worth mentioning is HUMAN PROPENSITY. This semantic subcategory has four out of five base adjectives that has the lowest saturation value in this order. As for the highest saturation value in the fourth order, *son* ‘last’ from CARDINAL NUMBERS is the first with a saturation value of 64.29%. *Düz* ‘straight’ from PHYSICAL PROPERTY has the second highest saturation value with 42.86% and it is followed by *tüm* ‘all’ from QUANTIFICATION, *ince* ‘thin’ from DIMENSION, and *ilk* ‘first’ from CARDINAL NUMBERS, all of which share the saturation value of 35.71%.

In the following derivational order, only 19 adjectives have a saturation value above 0%. *Yeni* ‘new’ from AGE and *son* ‘last’ from CARDINAL NUMBERS have the highest saturation value in this order, which is 75%. The lowest saturation value other than zero in this order is 25% and it is shared by 16 base adjectives. The ones that are worth mentioning with this saturation value are the semantic subcategories VALUE and QUANTIFICATION. VALUE has four out of five base adjectives and QUANTIFICATION has three out of five base adjectives in this order with a saturation value of 25%.

Finally, in the sixth order, only *son* ‘last’ has a saturation value, which is 100%. The reason for this is that out of all 65 base adjectives, only *son* ‘last’ has a derivation in this order, fulfilling the only potential there is.

Table 18. Saturation Values of Adjectives

Adjective	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>dar</i>	narrow	DIMENSION	13.73	15.79	33.33	28.57	0	0	19.26
<i>ince</i>	thin	DIMENSION	15.69	28.95	40.74	35.71	25	0	26.67
<i>kalin</i>	thick	DIMENSION	13.73	10.53	11.11	14.29	0	0	11.85
<i>kısa</i>	short	DIMENSION	11.76	10.53	22.22	28.57	0	0	14.81

Table 19. Saturation Values of Adjectives (continued)

Adjective	Translation	Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
<i>uzun</i>	long/tall	DIMENSION	9.8	10.53	11.11	14.29	25	0	11.11
<i>ağır</i>	heavy	PHYSICAL PROPERTY	15.69	23.68	22.22	21.43	25	0	20
<i>düz</i>	straight	PHYSICAL PROPERTY	15.69	34.21	48.15	42.86	25	0	30.37
<i>kuru</i>	dry	PHYSICAL PROPERTY	5.88	10.53	7.41	0	0	0	6.67
<i>sert</i>	tough	PHYSICAL PROPERTY	13.73	15.79	11.11	7.14	0	0	12.59
<i>sıcak</i>	hot	PHYSICAL PROPERTY	13.73	5.26	7.41	7.14	0	0	8.89
<i>beyaz</i>	white	COLOR	13.73	10.53	22.22	21.43	25	0	15.56
<i>kara</i>	black	COLOR	25.49	34.21	33.33	14.29	0	0	27.41
<i>sarı</i>	yellow	COLOR	17.65	28.95	7.41	0	0	0	16.3
<i>siyah</i>	black	COLOR	13.73	10.53	18.52	21.43	25	0	14.81
<i>yeşil</i>	green	COLOR	21.57	13.16	11.11	7.14	0	0	14.81
<i>aptal</i>	foolish	HUMAN PROPENSITY	9.8	7.89	7.41	7.14	0	0	8.15
<i>deli</i>	mad	HUMAN PROPENSITY	13.73	18.42	11.11	7.14	0	0	13.33
<i>kibar</i>	kind/polite	HUMAN PROPENSITY	9.8	5.26	7.41	7.14	0	0	7.41
<i>mutlu</i>	happy	HUMAN PROPENSITY	9.8	7.89	3.7	0	0	0	6.67
<i>şen</i>	merry	HUMAN PROPENSITY	7.84	15.79	14.81	7.14	0	0	11.11
<i>ergen</i>	adolescent	AGE	7.84	5.26	0	0	0	0	4.44
<i>eski</i>	old	AGE	15.69	5.26	0	0	0	0	7.41
<i>genç</i>	young	AGE	11.76	7.89	11.11	7.14	0	0	9.63
<i>kart</i>	old	AGE	13.73	5.26	0	0	0	0	6.67
<i>yeni</i>	new	AGE	11.76	21.05	25.93	28.57	75	0	20.74
<i>çirkin</i>	ugly	VALUE	11.76	7.89	7.41	7.14	0	0	8.89
<i>gerçek</i>	real	VALUE	15.69	15.79	11.11	28.57	25	0	16.3
<i>güzel</i>	beautiful	VALUE	11.76	7.89	11.11	21.43	25	0	11.85
<i>iyi</i>	good	VALUE	17.65	18.42	14.81	21.43	25	0	17.78
<i>kötü</i>	bad	VALUE	9.8	23.68	22.22	21.43	25	0	17.78
<i>acele</i>	urgent	SPEED	7.84	7.89	3.7	0	0	0	5.93
<i>çabuk</i>	quick	SPEED	9.8	5.26	3.7	0	0	0	5.93
<i>çevik</i>	agile	SPEED	7.84	5.26	3.7	0	0	0	5.19
<i>tez</i>	rapid	SPEED	5.88	5.26	7.41	7.14	0	0	5.93
<i>yavaş</i>	slow	SPEED	9.8	7.89	14.81	7.14	0	0	9.63
<i>basit</i>	simple	DIFFICULTY	7.84	5.26	11.11	7.14	0	0	7.41
<i>çetin</i>	difficult/tough	DIFFICULTY	7.84	5.26	3.7	0	0	0	5.19
<i>karmaşık</i>	complicated	DIFFICULTY	3.92	5.26	7.41	7.14	0	0	5.19
<i>kolay</i>	easy	DIFFICULTY	9.8	13.16	11.11	21.43	50	0	13.33
<i>zor</i>	difficult	DIFFICULTY	19.61	28.95	37.04	28.57	25	0	26.67
<i>belli</i>	definite	QUALIFICATION	5.88	0	0	0	0	0	2.22
<i>doğru</i>	correct	QUALIFICATION	15.69	15.79	14.81	7.14	0	0	14.07
<i>kesin</i>	certain	QUALIFICATION	7.84	10.53	14.81	21.43	25	0	11.85
<i>normal</i>	normal	QUALIFICATION	15.69	15.79	11.11	7.14	0	0	13.33
<i>yanlış</i>	wrong	QUALIFICATION	9.8	13.16	14.81	14.29	0	0	11.85
<i>aynı</i>	same	SIMILARITY	3.92	5.26	7.41	7.14	0	0	5.19
<i>ayrı</i>	different	SIMILARITY	7.84	13.16	11.11	14.29	0	0	10.37
<i>başka</i>	different	SIMILARITY	5.88	7.89	14.81	0	0	0	7.41
<i>benzer</i>	similar	SIMILARITY	3.92	5.26	3.7	0	0	0	3.7
<i>öteki</i>	other	SIMILARITY	7.84	7.89	11.11	7.14	0	0	8.15
<i>az</i>	little/few	QUANTIFICATION	11.76	18.42	18.52	14.29	0	0	14.81
<i>bütün</i>	whole	QUANTIFICATION	13.73	21.05	22.22	14.29	25	0	17.78
<i>çok</i>	many	QUANTIFICATION	19.61	26.32	37.04	21.43	25	0	25.19
<i>tek</i>	only	QUANTIFICATION	11.76	13.16	7.41	0	0	0	9.63
<i>tüm</i>	all	QUANTIFICATION	11.76	34.21	25.93	35.71	25	0	23.7
<i>alçak</i>	low	POSITION	5.88	5.26	3.7	0	0	0	4.44
<i>sol</i>	left	POSITION	9.8	7.89	0	0	0	0	5.93
<i>uzak</i>	far	POSITION	9.8	10.53	14.81	7.14	0	0	10.37
<i>yakın</i>	near	POSITION	13.73	13.16	14.81	0	0	0	11.85
<i>yüksek</i>	high	POSITION	1.96	2.63	0	0	0	0	1.48
<i>iki</i>	two	CARDINAL NUMBERS	27.45	60.53	44.44	7.14	0	0	37.04
<i>yedi</i>	seven	CARDINAL NUMBERS	11.76	5.26	0	0	0	0	5.93
<i>kurk</i>	forty	CARDINAL NUMBERS	9.8	7.89	3.7	0	0	0	6.67
<i>ilk</i>	first	CARDINAL NUMBERS	9.8	28.95	29.63	35.71	25	0	22.22
<i>son</i>	last	CARDINAL NUMBERS	19.61	31.58	33.33	64.29	75	100	32.59

Additionally, according to the data in tables 18 and 19, the lowest overall saturation value belongs to *yüksek* ‘high’ from the semantic subcategory POSITION with a saturation value of 1.48%. It is followed by *belli* ‘definite’ from the semantic subcategory QUALIFICATION and it has 2.22% saturation value. The third lowest overall saturation value is 3.7% and it belongs to *benzer* ‘similar’ from SIMILARITY. The highest overall saturation value belongs to *iki* ‘two’, which has a saturation value of 37.04%. *İki* ‘two’ comes from the semantic subcategory CARDINAL NUMBERS. The second highest overall saturation value is 32.59% which belongs to *son* ‘last’ from the semantic subcategory CARDINAL NUMBERS, as well. Finally, *düz* ‘straight’ from the semantic subcategory PHYSICAL PROPERTY has the third highest overall saturation value, which is 30.37%.

Table 20 shows the average saturation values of the base adjectives in their semantic subcategories per derivational order. In addition, the last row of the table gives the average saturation values of base adjectives per each derivational order.

Table 20. Average Saturation Values for the Subcategories of Adjectives

Semantic Subcategory	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	6 th Order	All Orders
DIMENSION	12.94	15.27	23.7	24.29	10	0	16.74
PHYSICAL PROPERTY	12.94	17.89	19.26	15.71	10	0	15.7
COLOR	18.43	19.48	18.52	12.86	10	0	17.78
HUMAN PROPENSITY	10.19	11.05	8.89	5.71	0	0	9.33
AGE	12.16	8.94	7.41	7.14	15	0	9.78
VALUE	13.33	14.73	13.33	20	20	0	14.52
SPEED	8.23	6.31	6.66	2.86	0	0	6.52
DIFFICULTY	9.80	11.58	14.07	12.86	15	0	11.56
QUALIFICATION	10.98	11.05	11.11	10	5	0	10.66
SIMILARITY	5.88	7.89	9.62	5.71	0	0	6.96
QUANTIFICATION	13.72	22.63	22.22	17.14	15	0	18.22
POSITION	8.23	7.89	6.66	1.43	0	0	6.81
CARDINAL NUMBERS	15.68	26.84	22.22	21.43	20	20	20.89
Average	11.73	13.97	14.13	12.09	9.23	1.54	12.73

According to the table 20, base adjectives have 12.73% saturation value on average.

The highest average of overall saturation value goes to the adjectives in the

subcategory CARDINAL NUMBERS with 20.89%. The adjectives in the semantic subcategory SPEED has the lowest average of overall saturation value with 6.52%. Table 20 is also used in the comparison of nouns and adjectives in section 5.4 similar to the previous tables in this chapter. In the following section, I discuss the relationship between the derivations originating from the base adjectives and their semantic categories.

5.3.5 The distribution of semantic categories among base adjectives

In the first derivational order, there are a total of 389 derivations and these derivations are from 29 different semantic categories. Among them STATE has the most derivations with 65 derivations DERIVED from 61 different base adjectives. The most common derivational suffix to derive lexical items into the semantic category STATE is *-lik*. The second highest number of derivations in a semantic category is 48 from the category PROCESS. The derivational suffix *-laş* is used for deriving verbs into the PROCESS category in addition to the suffix *-(A)l* as in *incel-* ‘to become thin’ and *-(A)r* as in *karar-* ‘to become dark’. The semantic category AUGMENTATIVE has the third highest number of derivations in the first order with 43 derivations originating from 37 base adjectives. Lexical items are derived into the AUGMENTATIVE category with partial reduplication such as *bem-beyaz* ‘extremely white’ or with the suffix *-cik* when it is added to an already small notion such as *ince-cik* ‘extremely thin’.

In the second derivational order, lexical items derive into 18 different semantic categories. 105 out of 345 derivations come from the semantic category ACTION. Following ACTION in having the highest number of derivations, the semantic categories STATE has 51 and CAUSATIVE has 49 derivations each in this order. Lexical

items are derived into the semantic category CAUSATIVE from 43 different base adjectives and into the STATE category from 27 different ones.

In the third derivational order, there are 13 different semantic categories used in the derivation of 248 lexical items. Almost half of these derivations, 120 to be exact, is from the semantic category ACTION. The closest number of derivations to the semantic category ACTION comes from UNDERGOER, which contains 29 derivations originating from 28 base adjectives. Next highest number of derivations in a semantic category is 31 derivations in the semantic category CAUSATIVE.

In the fourth derivational order, there are 110 derivations from nine semantic categories. Again, the semantic category ACTION has the majority of these derivations, with 70 lexical items derived into it. The second highest one is the category UNDERGOER with 17 derivations. The third highest one is STATE with nine derived lexical items under this category.

In the fifth derivational order, there are only three different semantic categories that function as the labels of 24 derivations. The semantic category ACTION has the majority again with 20 derivations. Three lexical items are derived into the semantic category STATE. Finally, the category UNDERGOER has only one derivation in the fifth order.

Finally, in the sixth derivational order, there is only one derivation. The derived lexical item belongs to the semantic category ACTION.

In sum, all base adjectives derive a total of 1117 lexical items into 31 different semantic categories. Many of them are in the semantic category ACTION, which has 333 derivations when all derivational orders are combined. STATE has the second highest number of derivations under a semantic category with 146 derivations. The third highest one comes from the semantic category CAUSATIVE with

89 derivations. The semantic categories with the lowest number of derivations are DIRECTIONAL, DWELLER and ORNATIVE with one derivation each. Unlike base nouns, there are no instances of base adjectives and their further derivations deriving into the semantic categories COMITATIVE, PURPOSIVE, RECIPROCAL, and SINGULATIVE. However, there are some semantic categories that base adjectives derive into, but the base nouns and their further derivations do not. These semantic categories are DISTRIBUTIVE, DWELLER, and ORDINAL.

In the rest of this section, I comment on the occurrences of semantic categories with the subcategories of adjectives in all orders of derivation. The tables D1 to D6 in the appendix section display the number of base adjectives from 13 subcategories that derive into each semantic category.

As explained above in this section, ACTION has the highest number of derivations under its label. In all orders, this semantic category creates 333 derivations in all orders of the derivational networks of the base adjectives. In the first order of derivation, there are lexical items whose bases are in nine different subcategories of adjectives, with the exceptions of PHYSICAL PROPERTY, HUMAN PROPENSITY, AGE, and SIMILARITY. The verbs that are derived from these subcategories are usually derived into the semantic categories CAUSATIVE, PROCESS, and REFLEXIVE. In the second, the third and the fourth orders of derivation, all subcategories of adjectives have at least one base adjective, which derives into the ACTION category. The number of base adjectives that derive into the ACTION category is 61 out of 65 base adjectives in the second order. In the fifth order, nine out of 13 subcategories of adjectives have base adjectives that derive into ACTION. Finally, in the sixth order of derivation, ACTION has only one derivation from the CARDINAL NUMBERS subcategory.

The semantic category with the second highest number of derivations is STATE in the derivational networks of base adjectives. It has 146 derivations in all orders of derivation. The most important points to be made about the STATE category are as follows. In the first order of derivation, 61 out of 65 base adjectives derive into STATE. Three of those base adjectives that do not derive into the STATE category come from the subcategory CARDINAL NUMBERS. In the following orders of derivation, lexical items that derive into the semantic category STATE gradually decrease in number, from 61 in the first order of derivation to three derivations in the fifth order. In the second order of derivation, no base adjectives from the subcategory DIMENSION derives into a STATE. whereas all other subcategories of adjectives do so. In addition, the subcategories of adjectives with the highest number of base words that derive into ACTION are QUANTIFICATION and CARDINAL NUMBERS in the second order. In the fifth order of derivation, there are three lexical items that are derived into a STATE and these lexical items originate from the subcategories AGE, VALUE and DIFFICULTY.

The semantic category CAUSATIVE has the third highest number of derivations with 89 lexical items derived under its label. Compared to base nouns, there are six base nouns with derivations in the first order of derivation even though it is still less occupied than the second and the third orders. In the first order of derivation, the base adjectives that derive into CAUSATIVE come from DIMENSION, PHYSICAL PROPERTY, COLOR, AGE and DIFFICULTY. In the second order of derivation, all subcategories of adjectives have derivations in the CAUSATIVE category with COLOR and HUMAN PROPENSITY having the highest number of base adjectives deriving into it. In the third order of derivation, the number of base adjectives that derive into CAUSATIVE decreases and three of 13 subcategories of adjectives have no derivations

into this semantic category. Finally, in the third order of derivation, there are only three lexical items that are derived into CAUSATIVE and these lexical items originate from the subcategories AGE, QUANTIFICATION and CARDINAL NUMBERS.

The next semantic category is PROCESS with 81 derivations in all orders of the derivational network tables of base adjectives. The first and the second orders of derivation have more noticeable numbers of base adjectives that derive into the semantic category PROCESS. In the first order of derivation, 12 out of 13 subcategories of adjectives can derive into process and the exception comes from the subcategory CARDINAL NUMBERS. The subcategory whose all base adjectives can derive into PROCESS is HUMAN PROPENSITY in the first order. In the second order of derivation, bases that originate from 11 out of 13 subcategories of adjectives derive into PROCESS and the two subcategories that do not are HUMAN PROPENSITY and POSITION. In this order, the highest number of lexical items created under the PROCESS label comes from the CARDINAL NUMBERS subcategory. There is only one derivation into PROCESS in each of the third and the fourth orders of derivation. These derivations originate from QUANTIFICATION and DIMENSION, respectively.

The semantic category that has the fifth highest number of derivations is QUALITY. There are 79 lexical items that are derived into the QUALITY category. The majority of these derivations are in the first order. However, not all subcategories of adjectives derive into QUALITY in this order. Five of the subcategories do not derive into QUALITY and four subcategories have only one base adjective that derives into this category. The subcategories with the highest number of derivations under the QUALITY label are COLOR, QUANTIFICATION and CARDINAL NUMBERS. In the second and the third orders; however, more diverse subcategories can be observed to be deriving into QUALITY. Lastly, in the fourth order of derivation, there are only four

subcategories of adjectives that can derive into QUALITY and these subcategories are DIFFICULTY, QUALIFICATION, QUANTIFICATION, and CARDINAL NUMBERS.

Next, the semantic category UNDERGOER has 67 derivations in all orders in the derivational networks of the base adjectives. Similar to the derivations of the base nouns, the derivations into the UNDERGOER category are more prevalent in the second, the third, and the fourth order of derivation. In the first order, there is no base adjective that derives into this semantic category. The reason for this difference between the first order and other orders is that in order for a base adjective to derive into the UNDERGOER category, it needs to be derived into a verb first. In the context of derivational networks, it could be said that a lexical item needs to be derived into either of the ACTION, CAUSATIVE, PROCESS, REFLEXIVE, or RECIPROCAL categories. However, if the intermediary level is non-existent in terms of its usability in the language, then it might be listed under the UNDERGOER category. The highest number of base adjectives that are derived into the UNDERGOER category is in the third order of derivation. Twenty-eight base adjectives derive into UNDERGOER in this order.

There are 43 derivations under the semantic category label AUGMENTATIVE, which is a part of evaluative morphology. All of these derivations are found in the first order of derivation. The subcategory of adjectives with the highest number of AUGMENTATIVE derivations is DIMENSION with seven derivations originating from five base nouns. The subcategories that lack derivations into the AUGMENTATIVE category are DIFFICULTY and CARDINAL NUMBERS. The AUGMENTATIVE derivations of the DIFFICULTY category are not listed in the Comprehensive Dictionary of the Turkish language. There are few instances of them being used in Google searches such as *kap-karmaşık* ‘extremely complicated’ or *bam-basit* ‘extremely simple’ but these instances come from unreliable sources or from users on the internet.

The semantic category DIMINUTIVE, another part of evaluative morphology, has 39 derivations under its label. Compared to the AUGMENTATIVE category, not all of the derivations in DIMINUTIVE are in the first order. Nevertheless, there are only four derivations outside of the first order and all of them are in the second order of derivation. The highest number of derivations under this category is found in the first order originating from the subcategory DIMENSION. The subcategories of adjectives without derivations into the DIMINUTIVE category are SIMILARITY and CARDINAL NUMBERS.

The semantic category MANNER has 36 derivations and the majority of these derivations are in the first order. The highest number of derivations under this semantic category originating from a single subcategory of adjectives comes from DIFFICULTY in the first order of derivation. COLOR and CARDINAL NUMBERS are the only subcategories that do not derive into the MANNER category in the first order of derivation.

AGENT has 34 derivations in all orders of the derivational networks of the selected base adjectives. The majority of these derivations are observed to be in the first order of derivation. The only subcategories of adjectives without a derivation into the AGENT category are DIMENSION and PHYSICAL PROPERTY in the first order of derivation. The highest number of AGENT derivations originating from a single subcategory of adjectives is from the CARDINAL NUMBERS in the second order of derivation. This is because there are some ABSTRACT concepts that are created in the first order of derivation of said subcategory.

In the semantic category PRIVATIVE, there are 30 derivations in total in the first, the second and the third order. In the following orders, there are no derivations into this semantic category. The number of lexical items derived into this category is

close in number in the first and the second order of derivation, which is 13 and 12, respectively. In the first order of derivation, only seven subcategories undergo a derivation into the PRIVATIVE category and the one with the highest number of derivations into PRIVATIVE comes from QUALIFICATION with six derivations.

The semantic category POSSESSIVE has a lower number of derivations in all orders of derivation than the PRIVATIVE category. There are 22 derivations under the POSSESSIVE category. The fact that the number of derivations with *-II* and *-sIz* suffixes does not match is explained in the relevant part of the discussion on derivations of the base nouns in section 5.2.5 of this chapter. In order for the derivations with *-II* to be considered as POSSESSIVE there has to be two entities. If there is only one entity in a lexical item, then the derivation usually goes under the semantic category label QUALITY.

In the semantic category SIMILATIVE, there are 22 derivations. Twenty-one of these derivations are in the first order and they originate from only six subcategories of adjectives. These subcategories are DIMENSION, PHYSICAL PROPERTY, COLOR, HUMAN PROPENSITY, AGE, and VALUE. The subcategory of adjectives with the highest number of derivations in the first order is color, which derives 10 lexical items into the SIMILATIVE category. The reason behind this is that there are several morphemes that can derive lexical items into the SIMILATIVE category such as *-sI*, *-ImSI*, and *-Imtrak* and *-Imtrak* is more selective in terms of its bases. It usually attaches to color and taste terms (Korkmaz, 2009).

The semantic category RESULTATIVE has 15 derivations in the first, the second and the third orders of the derivational networks of the base adjectives. There is only one derivation in the first order from the subcategory CARDINAL NUMBERS. In the second order, there are eight derivations from four different subcategories, which

are DIMENSION, PHYSICAL PROPERTY, COLOR, and SIMILARITY. Finally, in the third order, there are six derivations from the subcategories DIMENSION, COLOR, AGE and QUANTIFICATION.

In the first and the second orders of derivation, 12 lexical items are derived into the semantic category ABSTRACTION. The majority of these derivations come from the CARDINAL NUMBERS in the first order. The others are from the QUANTIFICATION subcategory in the first and the second order.

The semantic category PERCEPTIVE has 11 derivations, which are all in the first order of derivation. They originate from 10 base words from six subcategories of adjectives. The highest number of PERCEPTIVE derivations that originate from a subcategory comes from VALUE and QUANTIFICATION with three lexical items derived into this category.

There are only 10 derivations in the semantic category INSTRUMENT and these derivations are spread out to various orders. There are only two derivations in the first order, and they originate from the subcategory PHYSICAL PROPERTY. In the second order, there are two derivations again and they come from PHYSICAL PROPERTY and QUALIFICATION. The highest number of derivations into this category comes from the third order with five derivations from three subcategories, which are DIMENSION, COLOR and QUANTIFICATION. Lastly, INSTRUMENT has only one derivation in the fourth order and its base comes from the subcategory PHYSICAL PROPERTY.

In the semantic category REFLEXIVE, there are only eight derivations. Three of these derivations are in the first order and they originate from COLOR and HUMAN PROPENSITY. In the second order of derivation, REFLEXIVE has five derivations that

are created by the base adjectives from four subcategories. These are PHYSICAL PROPERTY, AGE, QUANTIFICATION, and CARDINAL NUMBERS.

The semantic category RELATIONAL has eight derivations, five of which are in the first order and the rest are in the second order in the derivational networks of the base adjectives. The highest number of derivations under this semantic category that originates from a single subcategory of adjectives is two. In the first order, the subcategory QUANTIFICATION and in the second order, the subcategory PHYSICAL PROPERTY derive two lexical items into the RELATIONAL category.

All of the lexical items that are derived into the semantic category LOCATION is in the first order of derivation in the derivational networks of the selected base adjectives. The subcategory of adjectives with the highest number of derivations into the LOCATION category is PHYSICAL PROPERTY.

In the semantic category COLLECTIVE, there is a total of four lexical items. They are derived from four different base adjectives and they originate from the subcategories QUANTIFICATION and CARDINAL NUMBERS.

The semantic category ORDINAL has four derivations, all of which come from the subcategory CARDINAL NUMBERS. In these derivations, the derivational morpheme *-Incl* as in *ikinci* ‘the second’ attaches to the base. The only base adjective from this subcategory that does not undergo such derivation is *ilk* ‘first’, which in itself has an ORDINAL meaning.

The semantic category TEMPORAL has four derivations and all of these derivations are in the first order. There are two subcategories of adjectives that derive into TEMPORAL and these subcategories of adjectives are AGE and CARDINAL NUMBERS.

The semantic category ENTITY has three derivations, whose bases are from the COLOR subcategory of adjectives. In addition, all of these derivations are in the first order.

In the DISTRIBUTIVE category, three lexical items are derived from the adjectives in the CARDINAL NUMBERS subcategory. In these derivations, the suffix – (*ş*)*Ar* attaches to the CARDINAL NUMBERS and derive them into the DISTRIBUTIVE category.

The semantic category DESIDERATIVE has two derivations in the first order of derivation, as well. These derivations come from two base adjectives which are both in the subcategory VALUE.

The semantic category ITERATIVE has two derivations, as well. One of these derivations is in the first derivational order and it is derived from an adjective in the DIMENSION category. The other derivation is in the second order and its base comes from the QUALIFICATION category.

The semantic category PEJORATIVE has two derivations, both of which are in the first order of derivation. The base of these derivations is *kart* ‘old’ and it comes from the AGE subcategory of adjectives.

Lastly, in the derivational networks of the selected base adjectives, the semantic categories with the least derivations are DIRECTIONAL, DWELLER and ORNATIVE as explained above in this section. There is only one derivation under each of these semantic category labels. Only in the third order of the *uzun* ‘long/tall’ from the DIMENSION subcategory, there is a derivation into the semantic category DIRECTIONAL. The only derivation into DWELLER is observed in the first order of derivation under the subcategory PHYSICAL PROPERTY. That derivation is *sıcak-çıl* ‘megathermic’, which refers to a plant that dwells in warm or hot habitats. The

derivation into the ORNATIVE category comes from the COLOR subcategory of adjectives in the first order of derivation.

In the following section of the chapter, I discuss the similarities and differences between the base nouns and base adjectives in the context of their derivational properties. The data presented in this section and in the previous section are the basis of discussion.

5.4 Similarities and differences between base nouns and base adjectives

As discussed in chapter 4, there is no exact definition that perfectly differentiates nouns from adjectives in Turkish (Uygun, 2009). Even though it is hard to draw a precise line between them, there are certain tendencies and certain features that occur more on noun-like or adjective-like nominals. For instance, in the structure “*substantive₁ + bir ‘one’ + substantive₂*”, in which the first substantive is the modifier of the second one, the first nominal is expected to be an adjective and the second one is expected to be a noun (Sebüktekin, 1971). Another tendency for nouns and adjectives is that Braun and Haig (2000) suggest that being able to attach to the derivational marker *-li* and *-siz* is a feature of noun-like nominals rather than adjective-like ones (e.g. *tuz-lu* ‘salty’ and *ev-siz* ‘homeless’). Keeping this discussion in mind, in this section, I discuss the similarities and differences of nouns and adjectives in the context of their derivational properties.

In section 5.4.1, I discuss the numerical data on the derivational properties of base nouns and base adjectives. In section 5.4.2, I discuss the typical occurrences of semantic categories among base nouns and base adjectives and compare their similarities and differences. In section 5.4.3, I comment on the recursiveness of semantic categories. Section 5.4.4 focuses on the blocking effects.

5.4.1 Comparison of the derivations of base nouns and base adjectives

As seen in figure 3, nouns and adjectives differ in the number of lexical items they derive in each order. On average, base nouns derive more lexical items than base adjectives. The total number of the derivations originating from the 65 base nouns is 1495 whereas the total number of derivations originating from 65 base adjectives is 1117. Thus, the selected noun bases derive 33% more lexical items than the selected base adjectives. In addition, there is also a difference in the number of derivations base nouns and base adjectives derive in each order of derivation. The derivations originating from the base nouns increase in number from the first order of derivation to the second and then gradually decrease in number as it can be seen in Figure 3. On the other hand, the total number of derivations originating from base adjectives gradually declines starting from the first order.

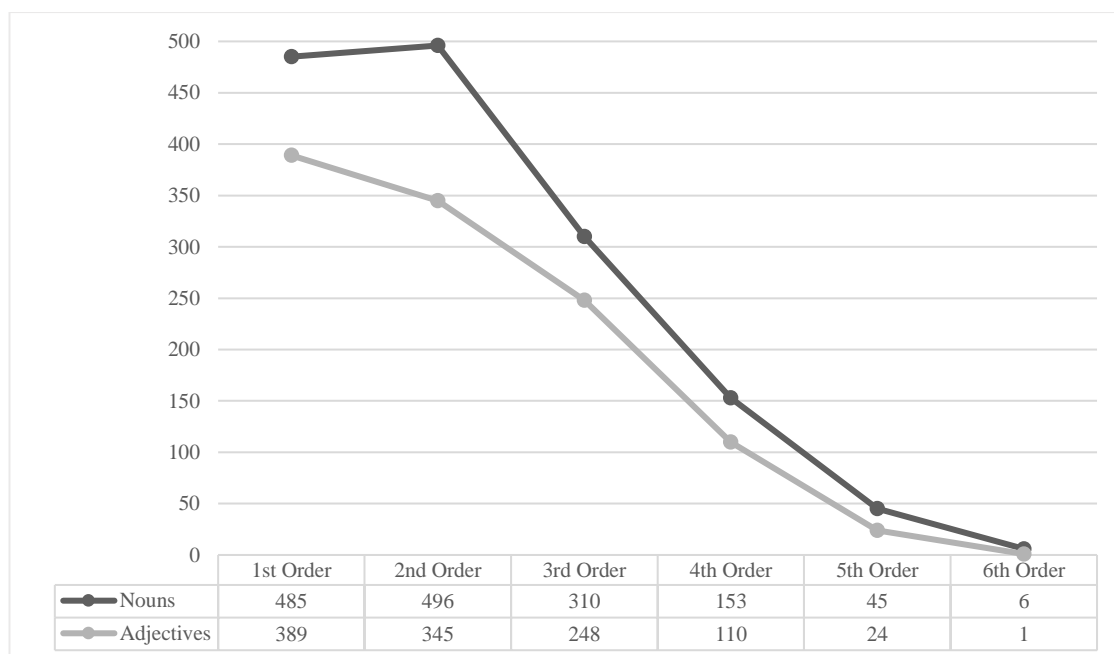


Figure 3. The total number of derivations of nouns and adjectives

Another comparison to be made about the numerical data on the derivations of the base nouns and adjectives is their maximum derivational networks. As explained in chapter 2 and mentioned in sections 5.2.2 and 5.3.2 of this chapter, it shows the number of lexical items a noun or an adjective can derive potentially. As it is explained earlier, it is calculated by comparing the number of derivatives found in all derivational networks of all base words for a lexical category. Maximum derivational network number of nouns is 194 for all orders meanwhile it is 135 for adjectives. Except for the first order of derivation, the number of maximum derivational network of nouns is higher than those of adjectives as seen in Figure 4. This suggests that nouns have a higher derivational potential than adjectives on average.

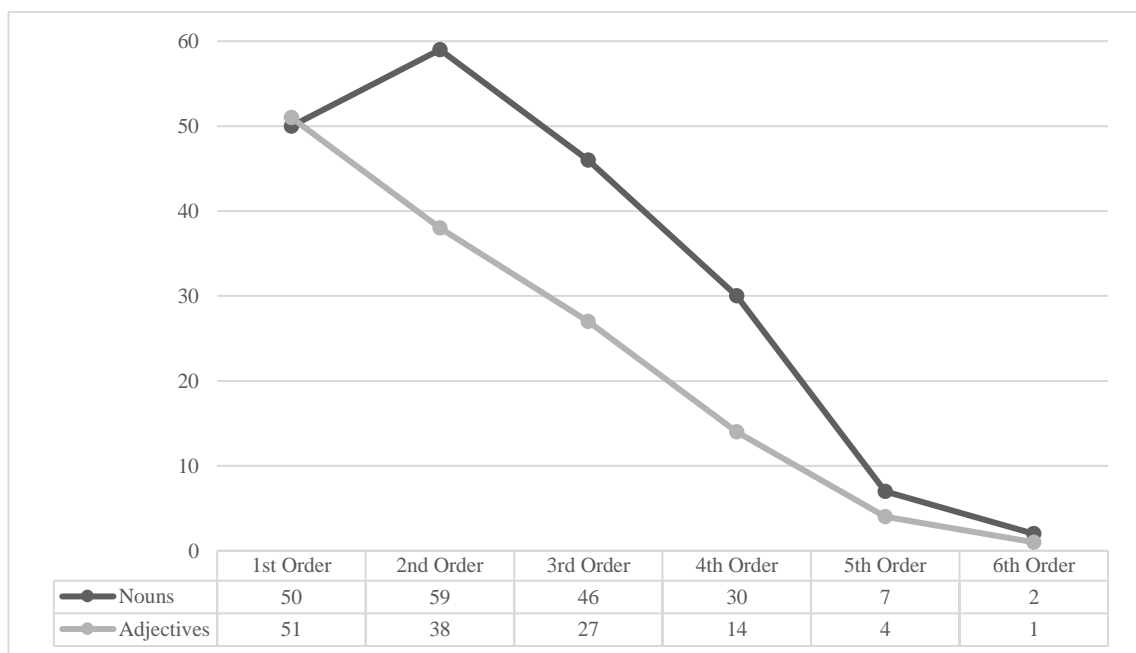


Figure 4. The maximum derivational networks of nouns and adjectives

This figure also shows the trend in the derivational patterns of nouns and adjectives.

The selected base nouns tend to derive the most in the second order whereas the

lexical items that are derived from the selected base adjectives show a continual decline in number starting from the first order.

Lastly, the saturation values of base nouns and base adjectives are shown in Figure 5. As explained in Chapter 2 and mentioned in sections 5.2.4 and 5.3.4 of this chapter, saturation values compare the number of actual derivations to the potential number of derivations proposed by the maximum derivational network number. As seen in Figure 5, despite the fact that the total number of derivations of base nouns is higher than the adjectives, base adjectives have a higher saturation value than base nouns. For all orders, nouns have a saturation value of 11.86% whereas adjectives have a saturation value of 12.73%.

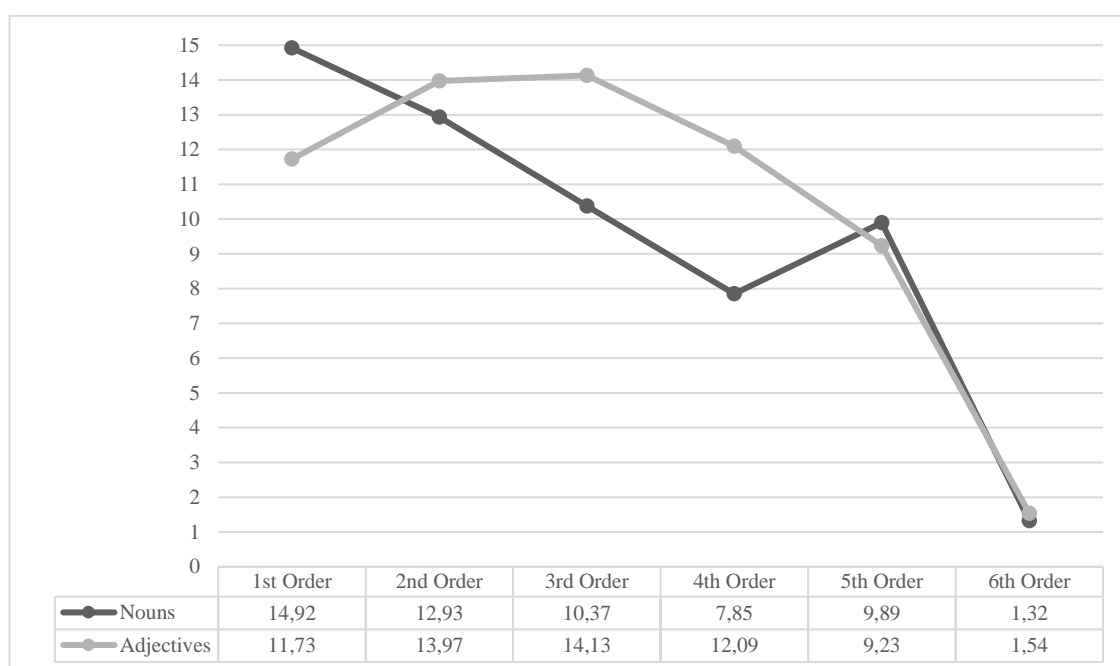


Figure 5. The average saturation values of nouns and adjectives

The selected base adjectives have a higher saturation value in the second, the third, the fourth and the sixth order of derivation and the selected base nouns have higher saturation values than the selected adjectives only in the first and the fifth order of

derivation. This suggests that even though adjectives have a lower number of derivatives than nouns, their derivations are less idiosyncratic than those of nouns. The selected base adjectives fulfill their potential more in four orders of derivation than the selected base nouns.

The average saturation values per order of derivation for all three word-classes from Göksel and Kapan (frth.) are given in table 21 below. The saturation values of all parts of speech categories in this data are higher than the one presented in Figure 5. This is because in the Derivational Networks Project, the idiosyncratic, or metaphorical derivations from the bases are not included in the derivational network tables (Bagasheva et al., frth.), making the derivations that exist in the derivational network tables more regular and fulfill their potential, i.e. the maximum derivational network number, more regularly.

Table 21. Average Saturation Values (adapted from Göksel and Kapan, frth.)

	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order
Nouns	28.5	32	29.37	13.75	10
Adjectives	30.52	34.37	42.85	26.66	15
Verbs	41.25	41.42	35.00	16	10

Regardless of the fact that the saturation values presented in table 21 from Göksel and Kapan (frth.) are higher than the one I have presented in Figure 5 in this chapter, it shows that the saturation values of adjectives are higher than those of nouns in all orders of derivation. This fact is consistent with the data I have presented in this chapter and suggest that even though the total number of deadjectival derivations is low, their saturation values suggest that the derivations of adjectives are more regular, and they fulfill their potential more than nouns.

To summarize, the total number of derivations originating from the selected base nouns are higher than the selected base adjectives. However, the sheer number

of derivations does not result in a higher saturation value for nouns. In fact, it is the base adjectives that have a higher overall saturation value. The fact that the saturation value of adjectives is higher suggests that adjectives have a more regular type of derivation. However, it should be noted that the difference in saturation values is quite small. The potential derivational slots of adjectives are more filled than those of nouns. In the next section, I comment on the typical occurrences and combinations of semantic categories in the derivations of the selected base nouns and adjectives.

5.4.2 Typical occurrences of semantic categories

Certain semantic categories occur predominantly with or avoid certain subcategories of nouns and adjectives. For instance, the selected base adjectives in the **CARDINAL NUMBER** subcategory have different derivational properties from other base adjectives from different subcategories. An example is from the **AUGMENTATIVE** semantic category. Almost all base adjectives derive into **AUGMENTATIVE** category in the first order of derivation except for the ones from **CARDINAL NUMBERS**. This pattern can also be observed in the semantic category **DIMINUTIVE**. Other semantic categories that have derivations from almost all other subcategories of adjectives but not from the **CARDINAL NUMBERS** are **MANNER** and **PROCESS** in the first order of derivation. In addition to this, the semantic categories **DISTRIBUTIVE** and **ORDINAL** have derivations originating from only the **CARDINAL NUMBERS** subcategory and not the others.

In the first order of derivation **ACTION** and **AGENT** categories are more frequently found in the derivations of the selected base nouns than adjectives. There is a total of 42 **ACTIONS** and 42 **AGENTS** in the first order of nouns whereas adjectives

derive 17 ACTIONS and 16 AGENTS. In addition, a derivation into the semantic category AGENT is almost always followed by a derivation into the semantic category STATE, which can be observed in the derivations of both the selected base nouns and adjectives.

The semantic category ACTION is closely related to the semantic categories CAUSATIVE, PROCESS, REFLEXIVE, RECIPROCAL, UNDERGOER, and ACTION again in its following orders when the lexical item that is derived into the first ACTION category is a verb. This is mostly because of the derivational patterns of verbs, which are not analyzed thoroughly in this thesis.

5.4.3 Recursiveness

Recursiveness refers to instances of derivation where there are more than two derivations into a semantic category in a single derivational degree of a base word in separate orders. For example, the semantic category CAUSATIVE is observed to be recursive in some base words such as *baş-la-t-* ‘to make (sth.) start’. *Baş-la-t-* ‘to make (sth.) start’ is in the semantic category CAUSATIVE and it is derived from *baş-la-* ‘to start’. It derives into CAUSATIVE once more in *baş-la-t-tır-* ‘to make (sb.) to make (sth.) start’ making it a double causative and recursive derivation.

5.4.4 Blocking effects

Blocking effects refer to the lack of derivations following certain semantic categories or refer to certain morphemes blocking other derivations into the same semantic category. An example can be given from the semantic category MANNER. The lexical items that derive into the MANNER category have no subsequent derivations. For

instance, *hayvan-ca* ‘(behaving) like an animal’ is in the MANNER category and have no further derivations.

There are also lack of blocking effects with certain morphemes that derive into the same semantic category. For instance, *-sI*, *-ImSI*, and *-Imtrak* do not block derivations when deriving adjectives COLOR into the SIMILATIVE category. An example can be given from *yeşil* ‘green’ with two derivations in the SIMILATIVE category which are *yeşil-imsi* ‘greenish’ and *yeşil-imtrak* ‘greenish’.

Another point to be made about blocking is that Turkish allows two derivations with the same meaning when the base word originates from another language and one of the derivations include a derivational morpheme that is non-Turkic. For instance, the base word *insan* ‘human’ originates from Arabic and it attaches to a non-Turkic suffix such as *-iyet* and derive into the STATE category as in *insan-iyet* ‘humanity’ as well as the Turkic suffix *-lik* as in *insan-lik* ‘humanity’. Another instance is *akl-i* ‘mental’ and *akıl-sal* ‘mental’ with two derivational morphemes originating from Arabic and Turkish, respectively. These derivations are both in the RELATIONAL category in the first derivational order of *akıl* ‘mind’, which is a loan word from Arabic.

5.4.5 Analyzing the derivational network tables

In this section, I will talk about the largest and the smallest derivational network tables that are created in this study. The biggest derivational network table belongs to the base noun *ön* ‘front’, which is a member of the semantic subcategory PLACE and derives up to the sixth order. Its derivational network table can be found in appendix Table A34 in appendix A. As we can see in this table, the biggest derivational networks include derivations into various lexical categories and also especially

derivations with a metaphorical meaning in the first order. This results in a spread in the following orders. As it can be seen in table A34, the first derivational order of *ön* ‘front’ has a smaller number of derivatives and different semantic categories than the second and the third order. The fourth, the fifth, and the sixth order of derivation of *ön* ‘front’ is relatively small in comparison to other orders.

The smallest derivational network table in this study belongs to *yüksek* ‘high’ in the semantic subcategory POSITION. Its derivational network table can be found in appendix Table B60 in appendix B. It only has two derivations in two different orders. This might be a result of the fact that the action that refers to ‘being or getting high’ is not directly derived from *yüksek* ‘high’ but it is another word *yüksel-* ‘to rise’. The only derivation in the first order is in the semantic category STATE, which is an almost regular derivation in the first order for base adjectives. According to the findings, 61 out of 65 base adjectives derive into STATE in the first order. In the second order of *yüksek* ‘high’, it derives into QUALITY.

5.5 Summary of the chapter

In this chapter, I have presented the selected base words in the derivational that are analyzed for this thesis and give information about them in section 5.1. There are 130 base words in total: 65 of them are nouns and 65 of them are adjectives. In section 5.2, I talk about the derivational properties of the selected base nouns with regards to the number of lexical items that they derive, their maximum derivational network and their saturation values in addition to the semantic categories that are formed through their derivations. The description of the derivational properties of the selected base adjectives are done in a similar fashion in section 5.3. The following

section compares the derivational properties of the selected base nouns and adjectives. The next chapter discusses the implications of these findings.

CHAPTER 6

DISCUSSION

In this chapter, I discuss the findings presented in the previous chapter and comment on the derivational properties of nouns and adjectives in Turkish in the light of these findings. To begin with, it is clear that the first derivational orders of both nouns and adjectives have more irregularities in terms of semantic categories and derivational morphemes than other orders of derivation. The number of different semantic categories in this order is higher than other derivational orders. In the first derivational order of the selected base nouns, there are derivations into 31 different semantic categories whereas the second highest number of different semantic categories created in other orders is 26 in the second order. As for the selected base adjectives, there are 29 different semantic categories that have derivations in the first order and in the following orders this number drops from 18 in the second order to one semantic category in the sixth order. Thus, it can be inferred that in the first derivational order, it is more probable to find semantic categories and derivational morphemes that are used infrequently in the derivational networks of both nouns and adjectives. In addition, the data on the semantic categories distributed among the subcategories of the selected base nouns and adjectives are also given in tables in the Appendix C and D of this thesis.

Another data on the semantic categories is given in table 22. Table 22 shows the number of derivatives in each semantic category that has been created in the derivational networks of the selected base nouns, base adjectives, and their total occurrences. For the entire lexical category of nominals, the semantic category ACTION has the highest number of derivatives with 748 derivations in this category

out of 2612 derivations that originate from 130 selected base words. It is followed by the semantic category STATE, which has 356 derivatives. The third highest number of derivatives in a semantic category comes from CAUSATIVE and 176 lexical items are derived into this semantic category in total. It is clear that two of the semantic categories with the highest number of derivatives, ACTION and CAUSATIVE, are linked with the lexical category verbs.

Table 22. Total Number of Derivatives in the Semantic Categories

Semantic Categories	Nouns	Adjectives	Total
ABSTRACTION	8	12	20
ACTION	415	333	748
AGENT	87	34	121
AUGMENTATIVE	2	43	45
CAUSATIVE	87	89	176
COLLECTIVE	8	4	12
COMITATIVE	11	0	11
DESIDERATIVE	3	2	5
DIMINUTIVE	33	39	72
DIRECTIONAL	3	1	4
DISTRIBUTIVE	0	3	3
DWELLER	0	1	1
ENTITY	13	3	16
INSTRUMENT	31	10	41
ITERATIVE	1	2	3
LOCATION	26	5	31
MANNER	26	36	62
ORDINAL	0	4	4
ORNATIVE	1	1	2
PEJORATIVE	3	2	5
PERCEPTIVE	4	11	15
POSSESSIVE	83	22	105
PRIVATIVE	80	30	110
PROCESS	61	81	142
PURPOSIVE	9	0	9
QUALITY	67	79	146
RECIPROCAL	3	0	3
REFLEXIVE	15	8	23
RELATIONAL	67	8	75
RESULTATIVE	20	15	35
SIMILATIVE	26	22	48
SINGULATIVE	1	0	1
STATE	210	146	356
TEMPORAL	10	4	14
UNDERGOER	81	67	148
Total	1495	1117	2612

In addition, in the semantic categories ACTION and STATE, the number of derivatives that originate from the selected base nouns is higher than the base adjectives by a noteworthy difference as seen in table 22. However, for the semantic category

CAUSATIVE, the number of derivatives that originate from the selected base nouns and base adjective are close in number. In fact, the number of derivatives that originate from the base adjectives is actually higher than base nouns.

In addition to the uncommon semantic categories, uncommon derivational morphemes in the derivational network tables are also observed in the first derivational order more frequently than other derivational orders. For instance, derivational morphemes such as *-arı* that derives a lexical item into the LOCATION category as in *dış-arı* ‘outside’, or *-se* and *-imse* which derive verbs into the PERCEPTIVE category as in *ön-em-se-* ‘to perceive as important’ are used in the first order of derivation. In contrast, certain derivational morphemes are more productive and can be observed in all levels. For example, the derivational morpheme *-lık*, which can derive lexical items into several semantic categories such as STATE, PURPOSIVE, and INSTRUMENT, occurs in the first five derivational orders of both nouns and adjectives. The derivational morpheme *-ma*, which derives lexical items into the ACTION category, can occur up to the sixth derivational order of both nouns and adjectives.

Another important point to look at in the derivational network tables is the common semantic category clusters. One of the most common ones in the derivational network tables of the selected base nouns and adjectives are the three semantic categories, INSTRUMENT, AGENT, and STATE that appear one after the other and they form a derivation such as *göz-lük-çü-lük* ‘opticianry’. Another common semantic category cluster is the PROCESS and CAUSATIVE sequence followed by either ACTION, QUALITY, or INSTRUMENT. *İyi-leş-tir-me* ‘to heal’ and *iyi-leş-tir-ici* ‘healing’ show this sequence.

Table 23 and 24 below show the total number of derivatives originating from the subcategories of nouns and adjectives, respectively. These tables show that even though the semantic subcategories of nouns and adjectives have similar meanings at a first glance, they can behave differently in terms of their derivational properties. For instance, the highest number of derivatives in a subcategory of nouns is found in PLACE and the lowest number of derivatives in a subcategory of adjectives is found in POSITION. Even though these subcategories share a similar meaning, their derivational behavior shows a striking difference.

Table 23. Number of Derivatives from the Subcategories of Nouns

Subcategories of Nouns	1st Order	2nd Order	3rd Order	4th Order	5th Order	6th Order	Total
HUMAN	49	29	18	8	2	0	106
ANIMAL	47	20	8	4	1	0	80
PARTS	43	60	40	17	4	1	165
INANIMATE	56	40	23	7	3	1	130
GENERAL ABSTRACT	33	36	15	7	2	0	93
TIME	41	41	22	13	4	0	121
PLACE	48	77	54	22	8	2	211
QUANTITY	29	39	35	19	6	2	130
VARIETY	34	35	25	13	4	0	111
LANGUAGE	29	24	15	10	2	0	80
STATES AND PROPERTIES	19	30	12	6	2	0	69
ACTIVITIES	29	38	28	16	3	0	114
SPEECH ACTS	28	27	15	11	4	0	85
Total	485	496	310	153	45	6	1495

Table 24. Number of Derivatives from the Subcategories of Adjectives

Subcategories of Adjectives	1st Order	2nd Order	3rd Order	4th Order	5th Order	6th Order	Total
DIMENSION	33	29	32	17	2	0	113
PHYSICAL PROPERTY	33	34	26	11	2	0	106
COLOR	47	37	25	9	2	0	120
HUMAN PROPENSITY	26	21	12	4	0	0	63
AGE	31	17	10	5	3	0	66
VALUE	34	28	18	14	4	0	98
SPEED	21	12	9	2	0	0	44
DIFFICULTY	25	22	19	9	3	0	78
QUALIFICATION	28	21	15	7	1	0	72
SIMILARITY	15	15	13	4	0	0	47
QUANTIFICATION	35	43	30	12	3	0	123
POSITION	21	15	9	1	0	0	46
CARDINAL NUMBERS	40	51	30	15	4	1	141
Total	389	345	248	110	24	1	1117

Another difference between the subcategories of nouns and adjectives can be given from AGE and TIME. These subcategories also share a similar meaning; however, TIME has 121 derivatives, which is almost double the size of the derivatives of the subcategory AGE.

In addition to the differences in semantic categories and derivational morphemes, nouns and adjectives have a difference in their saturation values. Considering the differences between the saturation values of the selected base nouns and adjectives, it can be inferred that the derivations of adjectives are more regular than nouns whereas the derivations of nouns can be more idiosyncratic on average. Overall, the average saturation value of the selected base nouns is 11.86% and the selected base adjectives have a saturation value of 12.73% for all orders. However, it should be noted that this is an insignificant difference. Considering that the number of total derivatives that originate from the base nouns is higher than base adjectives, the fact that adjectives have a higher saturation value points to the fact that the potential derivational slots of adjectives are filled slightly more than those of nouns.

In conclusion, keeping in mind that nouns and adjectives in Turkish are in a continuum under a broader category called nominals, the analysis of the derivational networks of the selected base nouns and adjectives in Turkish leads to the outcome that the derivational properties of nouns and adjectives show mostly similarities but differences as well. The most apparent similarity of these two lexical categories is that both nouns and adjectives derive into more diverse semantic categories with a more diverse selection of derivational morphemes in their first order than other derivational orders. The differences between these two lexical categories can only be generalizations. On average, nouns derive more lexical items than adjectives as evidenced by the tables 7 and 13 in Chapter 5. The derivational growth of nouns and

adjectives also show differences. Nouns have more derivations in the second order compared to other orders whereas as for adjectives, the first derivational order has more derivations. The data on the number of derivatives originated from these lexical categories is given in Figure 3 in the previous chapter. The saturation values of nouns and adjectives also show differences. Adjectives have a higher saturation value than nouns on average, which suggests that adjectives fulfill their potential more than nouns. However, the difference between the average saturation values only seem significant compared to the actual number of derivatives each lexical category derives. The selected base nouns derive more lexical items and the selected base adjectives are the ones that fulfill their potential more even though the difference is not quite substantial. Only the saturation value difference in the fourth order of derivation for nouns and adjectives could be considered significant. In the fourth order, nouns have a saturation value of 7.85% whereas adjectives have a saturation value of 12.09%.

CHAPTER 7

CONCLUSION

7.1 Summary

In this study, I have analyzed the derivations of nouns and adjectives in Turkish in the context of their derivational networks. The inspiration for this study comes from ‘Projekt Monika: Cross-linguistic research into derivational networks’ and the methodology used in this project also forms the basis for the methodology used in my thesis.

Chapter 2 of this thesis focuses on the notion and the creation of derivational networks as well as its constituents such as paradigmatic capacity and derivational degree (Bagasheva et. al., frth.). The paradigmatic capacity refers to the direct derivations that originate from a single base word and the derivational degree refers to the linear derivations (Bagasheva et. al., frth.). As explained in chapter 2, the combination of the two creates the derivational network of a base word. This chapter also explains the calculation of maximum derivational network number and the saturation values that are used in the analysis of the derivational networks. In addition, the methodology used in my thesis is also discussed in this chapter. I have also stated in this chapter that the data for the derivational networks used in this thesis comes from the Comprehensive Turkish Dictionary of the Turkish Language Association, TS Corpus, and Google searches.

In Chapter 3, I have described semantic categories such as ACTION, LOCATION, and STATE that results from the derivational processes in Turkish and I have explained how they are relevant for the derivational network tables. Each

section in chapter 3 focuses on the definition of one semantic category, its explanation, and examples from Turkish.

In Chapter 4, I have talked about the classification of the lexical categories as nouns and adjectives in general. In addition, I have mentioned that in Turkish the distinction between these two lexical categories is not easy to make since even the traditionally classified nouns or adjectives might behave similarly in most contexts. This is the reason why nouns and adjectives in Turkish are usually categorized under a broader lexical category, nominals (Uygun, 2009). Chapter 4 also includes the semantic classification of nouns and adjectives that is used in the selection of the base words for the derivational networks.

In Chapter 5, I have talked about the data, the findings, and the analysis of the derivational networks of 130 base words in total. These base words are split into two equal sections, which are nouns and adjectives. Each lexical category has 13 semantic subcategories containing 5 base words. According to the data gathered from the derivational networks of 130 base words, nouns derive a higher number of lexical items than adjectives, overall. The selected base nouns derive 1495 lexical items in total while the selected base adjectives derive 1117 lexical items. This means that nouns derive lexical items 33% more than adjectives on average. Another observation in this chapter is that the total number of semantic categories that appear in the derivational networks of the selected base nouns and adjectives are almost the same. In total, the selected base nouns derive into 32 different semantic categories whereas the selected base adjectives derive into 31 semantic categories. Finally, even though the total number of derivations that originate from the selected base nouns is nearly 33% higher than those of adjectives, the saturation value of the selected base adjectives and nouns are almost the same: On average, the saturation value of the

selected base adjectives is 12.73% while the selected base nouns have a saturation value of 11.86%. However, taken in comparison to the average saturation value of the two categories, the important point to gather from this data is that the saturation value of a base word or an average saturation value for lexical category is not dependent on the actual number of the derivatives. If it were the case, the saturation value of nouns would have been higher. Instead, the analysis of the derivational network tables in this study shows that the saturation value of adjectives is not lower than that of nouns, regardless of the fact that nouns derive more lexical items.

Finally, in Chapter 6, I have presented the discussion on the findings. In short, nouns and adjectives show similarities in their derivation as expected. However, on average, nouns derive more lexical items than adjectives and adjectives fulfill their derivational potential more than nouns. Semantic categories and derivational morphemes are more diverse in the first derivational order than other orders.

7.2 Future research

As this thesis only focuses on the derivational networks of nouns and adjectives, a study on the derivational networks of verbs can be carried out to see the full picture. As seen in Göksel and Kapan (frth.), nouns, adjectives and verbs have similarities and differences among them in Turkish. For instance, table 25 shows the maximum derivational networks of all three lexical categories in Turkish³². According to the data shown in table 25, verbs have a higher derivational potential than nouns and adjectives whereas nouns and adjectives are closer in number.

³² As explained earlier, there 10 nouns, 10 adjectives, and 10 verbs have been used as base words in Projekt Monika (Bagasheva et al., frth.).

Table 25. Maximum Derivational Networks from Göksel and Kapan (frth.)

	1 st Order	2 nd Order	3 rd Order	4 th Order	5 th Order	All Orders
Nouns	20	25	16	8	4	73
Verbs	24	35	22	10	2	93
Adjectives	19	16	14	9	2	60
TOTAL	63	76	52	27	8	226

In the previous fact nouns and adjectives behave differently than verbs. However, there are also instances where verbs and nouns are more alike. For instance, the maximum derivational network number of nouns and verbs shows a similarity in the sense that it increases from the first order to the second order and then it gradually decreases until the final order. On the other hand, the maximum derivational number of adjectives show a gradual decrease starting from the first order. This observation is also similar to the data presented in this thesis. Thus, a study on the derivational networks of verbs in Turkish will confirm whether verbs have a higher potential in deriving lexical items or not as suggested by the data in table 22 (Göksel and Kapan, frth.).

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APPENDIX A

DERIVATIONAL NETWORK TABLES OF NOUNS

Table A1. Derivational Network Table of *İnsan* ‘Human’ (continued on the next page)

1st Order											2nd Order						
Agent	Collective	Diminutive	Manner	Possessive	Privative	Process	Quality	Relational	Similative	State	Agent	Causative	Privative	Process	Quality	State	
insancı																	insancılık
	insangiller																
		insancağız															
		insancık															
			insanca														
				insanlı													insanlılık
					insansız									insansızlaş-			
																	insansızlık
						insanlaş-						insanlaştır-					
																	insanlaşma
							insancıl							insancıllaş-			
																	insancılık
							insanca										
							insani							insanileş-			
																	insanilik
								insansal									
									insansı								
									insanımsı								
										insaniyet	insaniyetçi						
													insaniyetsiz				
																insaniyetli	
										insanlık							

Table A2. Derivational Network Table of *Baba* ‘Father’

1st Order										2nd Order	
Action	Agent	Diminutive	Manner	Pejorative	Possessive	Privative	Quality	Relational	State	Action	State
babalan-										babalanma	
	babacı										babacılık
	babalık										
		babacık									
			babaca								
				babalık							
					babalı						babalılık
						babasız					babasızlık
							babacıl				babacılık
							babacı				babacılık
								babasal			
									babalık		

Table A3. Derivational Network Table of *Bey* ‘Governor/lord’

1st Order		2nd Order	3rd Order
Location	State	Agent	State
beylik			
	beylik	beylikçi	beylikçilik

Table A6. Derivational Network Table of *Hayvan* ‘Animal’

1st Order								2nd Order			3rd Order
Agent	Diminutive	Manner	Process	Quality	Relational	Similative	State	Action	Causative	State	State
hayvancı										hayvancılık	
	hayvancağız										
	hayvancık										
		hayvanca									
			hayvanlaş-					hayvanlaşma			
				hayvancıl					hayvanlaştır-		hayvanlaştırma
					hayvani						
					hayvansal						
						hayvanımsı					
						hayvansı					
						hayvani					
							hayvaniyet				
							hayvanlık				

Table A7. Derivational Network Table of *Balık* ‘Fish’

1st Order							2nd Order					3rd Order		4th Order		5th Order
Action	Agent	Collective	Desiderative	Diminutive	Possessive	Privative	Action	Collective	Manner	Reflexive	State	Action	Causative	Action	Undergoer	Action
balıkla-							balıklama									
								balıklama								
									balıklan-			balıklanma				
													balıklandır-	balıklandırma		
	balıkçı										balıkçılık				balıklandırıl-	balıklandırılma
		balıkçiller														
			balıkçıl					balıkçıl-giller								
				balıkcağız												
				balıkçık												
					balıklı						balıklılık					
						balıksız					balıksızlık					

Table A8. Derivational Network Table of *Bit* ‘Louse’

1st Order					2nd Order			3rd Order		4th Order
Action	Collective	Diminutive	Possessive	Privative	Action	Reflexive	State	Action	Causative	Action
bitle-					bitleme					
						bitlen-		bitlenme		
									bitlendir-	bitlendirme
	bitgiller									
		bitçik								
			bitli				bitlilik			
				bitsiz			bitsizlik			

Table A9. Derivational Network Table of *Köpek* ‘Dog’

1st Order							2nd Order			3rd Order		4th Order
Action	Collective	Diminutive	Possessive	Privative	Similative	State	Action	Manner	Process	Action	Causative	Action
köpekle-							köpekleme					
								köpekleme				
									köpekleş-	köpekleşme		
										köpekleşiş		
											köpekleştir-	köpekleştirme
	köpekgiller											
		köpüş										
		köpecik										
		köpekceğiz										
		köpekçik										
			köpekli									
				köpeksiz								
					köpeğimsi							
					köpeksi							
						köpeklik						

Table A10. Derivational Network Table of *Kuş* ‘Bird’

1st Order									2nd Order	
Action	Agent	Diminutive	Instrument	Possessive	Privative	Similative	State	Temporal	Action	State
kuşla-									kuşlama	
	kuşçu									kuşçuluk
		kuşcağız								
		kuşçuk								
			kuşluk							
				kuşlu						
					kuşsuz					kuşsuzluk
						kuşça				
							kuşluk			
								kuşluk		

Table A12. Derivational Network Table of *Diş* ‘Tooth’

1st Order								2nd Order				3rd Order
Action	Agent	Diminutive	Instrument	Pejorative	Possessive	Privative	Relational	Action	Causative	State	Undergoer	Action
dişle-								dişleme				
								dişleyiş				
									dişlet-			dişletme
											dişlen-	dişlenme
												dişleniş
	dişçi										dişçilik	
		dişçik										
			dişlik									
				dişlek								dişleklik
					dişli							dişlilik
						dişsiz						dişsizlik
							dişsel					

Table A13. Derivational Network Table of *Göz* ‘Eye’ (continued on the next page)

1st Order								2nd Order						
Action	Agent	Diminutive	Entity	Instrument	Possessive	Privative	Quality	Action	Agent	Causative	Possessive	Privative	State	Undergoer
gözle-								gözleme						
								gözleyiş						
								gözlem						
									gözleyici					
										gözlet-				
														gözlen-
gözümle-								gözümleme						
														gözümle-
	gözcü												gözcülük	
		gözenek									gözenekli			
			göze									gözeneksiz		
				gözlük					gözlükçü					
											gözlüklü			
												gözlüksüz		
					gözlü								gözlülük	
						gözsüz							gözsüzlük	
							gözde						gözdelik	

3rd Order						4th Order			5th Order		6th Order
Action	Agent	Possessive	Relational	State	Undergoer	Action	State	Undergoer	Action	Undergoer	Action
gözlemle-						gözlemleme					
								gözlemle-	gözlemleme		
	gözlemci						gözlemcilik			gözlemle-	gözlemleme
		gözlemli								gözlemle-	gözlemleme
			gözlemse								
				gözlemcilik							
gözletme											
gözlenme											
					gözlenil-	gözlenilme					
gözümleme											
				gözlenkilik							
				gözleneksizlik							
				gözlençülük							

Table A14. Derivational Network Table of *Kemik* ‘Bone’

1st Order							2nd Order				3rd Order
Diminutive	Possessive	Privative	Process	Relational	Similative	State	Action	Causative	Resultative	State	Action
kemikçik											
	kemikli										
		kemiksiz								kemiksizlik	
			kemikleş-				kemikleşme				
								kemikleştir-			kemikleştirme
									kemişleşim		
				kemiksel							
					kemiksi						
						kemiklik					

Table A15. Derivational Network Table of *Parça* ‘Piece’

1st Order						2nd Order						3rd Order						4th Order
Action	Agent	Diminutive	Possessive	Privative	Quality	Action	Causative	Instrument	Possessive	State	Undergoer	Action	Causative	Possessive	Resultative	Undergoer	Action	
parçala-						parçalama								parçalamalı				
						parçalayış												
							parçalat-					parçalatma						
													parçalattır-					parçalattırma
																parçalatıl-		parçalatılma
								parçalayıcı										
											parçalan-	parçalanma						
												parçalanış						
																	parçalanım	
	parçacı										parçacılık							
		parçacık																
			parçalı															
				parçasız														
					parçalık													

Table A16. Derivational Network Table of *Çiçek* ‘Flower’

1st Order									2nd Order				3rd Order		4th Order		5th Order
Agent	Diminutive	Instrument	Ornate	Possessive	Privative	Process	Relational	Similative	Action	Process	Reflexive	State	Action	Causative	Action	Undergoer	Action
çiçekçi												çiçekçilik					
	çiçekçik																
		çiçeklik															
			çiçekle-						çiçekleme								
										çiçekleş-			çiçekleşme				
											çiçeklen-		çiçekleniş				
													çiçeklenme				
														çiçeklendir-	çiçeklendirme		
																çiçeklendiril-	çiçeklendirilme
				çiçekli									çiçeklilik				
					çiçeksiz								çiçeksizlik				
						çiçeksi-			çiçeksime								
							çiçeksel										
								çiçeğimsi									
								çiçeksi									

Table A17. Derivational Network Table of *Yıldız* ‘Star’

1st Order							2nd Order			3rd Order
Action	Diminutive	Possessive	Privative	Relational	Similative	State	Action	Process	Undergoer	Action
yıldızla-							yıldızlama			
								yıldızlaş-		yıldızlaşma
									yıldızlan-	yıldızlanma
	yıldızcik									
		yıldızlı								
			yıldızsız							
				yıldızsal						
					yıldızsı					
					yıldızıl					
						yıldızlık				

Table A18. Derivational Network Table of *Buz* ‘Ice’

1st Order								2nd Order						3rd Order	
Action	Agent	Entity	Location	Possessive	Privative	Relational	Similitive	Action	Possessive	Privative	Process	Reflexive	State	Action	Resultative
buzla-								buzlama							
											buzlaş-			buzlaşma	
												buzlan-		buzlanma	
	buzcu												buzculuk		
		buzsul									buzsullaş-			buzsullaşma	
												buzsullan-		buzsullanma	
														buzsullaşım	
		buzul						buzullu							
									buzulsuz						
											buzullaş-			buzullaşma	
		buzla													
		buzluk													
			buzlu												
				buzsuz											
					buzcul										
					buzsal										
						buzsu									

Table A19. Derivational Network Table of *Taş* ‘Stone’

1st Order								2nd Order						3rd Order			4th Order	
Action	Agent	Diminutive	Location	Possessive	Privative	Quality	Similative	Action	Causative	Possessive	Process	State	Undergoer	Action	Agent	Causative	Action	State
taşla-								taşlama							taşlamacı			taşlamacılık
									taşlat-					taşlatma				
											taşlaş-			taşlaşma				
													taşlan-	taşlanma		taşlaştır-	taşlaştırma	
	taşçı											taşçılık						
		taşçık																
			taşlık							taşlıklı								
				taşlı														
					taşsız													
						taşçıl												
						taşıl					taşıllaş-			taşıllaşma				
							taşımsı											
							taşsı											

Table A20. Derivational Network Table of *Ev* ‘House’ (continued on the next page)

1st Order												
Agent	Causative	Collective	Comitative	Diminutive	Location	Manner	Perceptive	Possessive	Privative	Quality	Reflexive	Relational
evci												
evdeci												
	ever-											
		evcek										
			evdeş									
				evcik								
					evsin							
						evce						
							evimse-					
							evse-					
								evli				
									evsiz			
										evcil		
										evli		
										evlik		
											evlen-	
												evsel

2nd Order					3rd Order			4th Order		5th Order		6th Order
Action	Causative	Quality	State	Undergoer	Action	Process	Undergoer	Action	Causative	Action	Undergoer	Action
evcilik												
		evcimen										
everme												
			evdeşlik									
evimseme												
evseme												
			evsizlik									
evcille-					evcilleme							
						evcilleş-		evcilleşme				
									evcilleştir-	evcilleştirme		
											evcilleştiril-	evcilleştirilme
			evcillik									
			evlilik									
evlenme												
evleniş												
	evlendir-				evlendirme							
							evlendiril-	evlendirilme				
				evlenil-	evlenilme							

Table A21. Derivational Network Table of *Ad* ‘Name’

1st Order						2nd Order					3rd Order		4th Order			5th Order	
Action	Agent	Comitative	Possessive	Privative	State	Action	Agent	Process	State	Undergoer	Action	Causative	Action	Resultative	Undergoer	Action	
adla-						adlama											
							adlayıcı										
								adlaş-			adlaşma						
												adlaştır-	adlaştırma				
										adlan-	adlanma						
												adlandır-					
													adlandırma				
													adlandırış				
														adlandırım			
															adlandırıl-	adlandırılma	
																	adlandırılış
	aday									adaylık							
	adcı									adcılık							
		adaş								adaşlık							
			adh														
				adsız						adsızlık							
					adlık												

Table A22. Derivational Network Table of *Akıl* ‘Mind’

1st Order							2nd Order						3rd Order			4th Order
Agent	Location	Manner	Possessive	Privative	Process	Relational	Action	Agent	Causative	Manner	Process	State	Action	Causative	State	Action
akılcı											akılcılaş-		akılcılaşma			
	akliye							akliyeci				akılcılık				akliyecilik
		aklen														
			akıllı							akıllica						
											akıllılaş-		akıllılaşma			
												akıllılık				
				akılsız						akılsızca						
												akılsızlık				
					akıllan-		akıllanma									
							akıllanış									
									akıllandır-				akıllandırma			
						akli										
						akılsal					akılsallaş-			akılsallaştır-		akılsallaştırma

Table A23. Derivational Network Table of *Amaç* ‘Goal’

1st Order				2nd Order					3rd Order		4th Order
Action	Possessive	Privative	Quality	Action	Manner	Process	State	Undergoer	Action	Causative	Action
amaçla-				amaçlama							
						amaçlaş-			amaçlaşma		
										amaçlaştır-	amaçlaştırma
	amaçlı						amaçlılık				
		amaçsız			amaçsızca						
							amaçsızlık				
			amaçlı				amaçlılık				

Table A24. Derivational Network Table of *Fikir* ‘Idea’

1st Order								2nd Order			3rd Order
Agent	Comitative	Manner	Possessive	Privative	Process	Reciprocal	Relational	Action	Causative	State	Action
fikirci											
	fikirdeş										
		fikren									
			fikirli							fikirlilik	
				fikirsiz						fikirsizlik	
					fikirleş-			fikirleşme			
									fikirleştir-		fikirleştirme
						fikirleş-		fikirleşme			
									fikirleştir-		fikirleştirme
							fikri				
							fikinsel				

Table A25. Derivational Network Table of *Öğe* ‘Constituent’

1st Order					2nd Order			3rd Order
Entity	Possessive	Privative	Relational	State	Possessive	Process	Relational	Action
öğecik					öğecikli			
						öğecikleş-		öğecikleşme
	öğeli						öğeciksel	
		öğesiz						
			öğesel					
				öğelik				

Table A26. Derivational Network Table of *Zaman* ‘Time’

1st Order						2nd Order						3rd Order		4th Order
Action	Comitative	Privative	Quality	Relational	Temporal	Action	Instrument	Manner	Process	State	Undergoer	Action	Causative	Action
zamanla-						zamanlama								
							zamanlayıcı							
											zamanlan-	zamanlanma		
	zamandaş									zamandaşlık				
		zamansız						zamansızca						
									zamansızlaş-			zamansızlaşma		
													zamansızlaştır-	zamansızlaştırma
										zamansızlık				
			zamanlı					zamanlıca						
			zamanlık											
				zamansal										
				zamane										
					zamane									

Table A27. Derivational Network Table of *Gece* ‘Night’

1st Order							2nd Order			
Action	Agent	Desiderative	Manner	Purposive	Quality	Temporal	Action	Possessive	Privative	State
gecele-							geceleme			
	gececi									gececilik
		gececil								
			gecelerce							
				gecelik				gecelikli		
					gecelik				geceliksiz	
						geceleyin				

2 nd Order										
Action	Agent	Causative	Desiderative	Instrument	Privative	Process	Quality	Relational	State	Temporal
günleme						gündemleş-				
							güneyli			
	gündelikçi									
	gündelikli									
güneşle-										
	güneşçi									
			güneşçil							
				güneşlik						
					güneşsiz					
							güneşli			
								güneşsel		
				güncelik						
günlükle-										
	günlükçü									
		güncelle-								
						güncelleş-				
									güncellik	
	gündüzcü									
							gündüzlü			
							gündüzlük			
										gündüzün

3rd Order				
Action	Causative	Possessive	Reflexive	State
gündemleşme				
	gündemleştir-			
güneşleme				
	güneşlet-			
			güneşlen-	
				güneşçilik
		güneşlikli		
				güneşsizlik
günlükleme				
güncelleme				
	güncellet-			
güncelleşme				
	güncelleştir-			
				gündüzcülük

4th Order					5th Order
Action	Causative	Instrument	Quality	Undergoer	Action
gündemleştirme					
güneşletme					
		güneşletici			
güneşlenme					
	güneşlendir-				güneşlendirme
				güneşlenil-	güneşlenilme
			günlüklemeli		
güncelletme					
güncelleştirme					
				güncelleştiril-	güncelleştirilme

Table A29. Derivational Network Table of *Kış* ‘Winter’

1st Order				2nd Order		3rd Order
Action	Location	Purposive	Temporal	Action	Causative	Action
kışla-				kışlama		
					kışlat-	kışlatma
	kışla					
	kışlak					
	kışlık					
		kışlık				
			kışın			

Table A30. Derivational Network Table of *Yıl* ‘Year’

1st Order					2nd Order				3rd Order			4th Order		5th Order
Action	Instrument	Quality	Relational	Temporal	Action	Agent	Causative	Undergoer	Action	Causative	State	Action	Undergoer	Action
yılla-					yıllama									
							yıllat-		yıllatma					
								yıllan-	yıllanma					
										yıllandır-		yıllandırma		
													yıllandırıl-	yıllandırılma
	yıldalık													
	yıllık													
		yıllık					yıllıklı							
							yıllıkçı				yıllıkçılık			
			yılsal											
				yıllarca										

Table A31. Derivational Network Table of *Yer* ‘Place’ (continued on the next page)

1st Order								2nd Order							
Location	Manner	Possessive	Privative	Process	Quality	Relational	Singulative	Abstract	Action	Causative	Location	Process	Quality	State	Undergoer
yerey															
	yerinde													yerindelik	
		yerli													
			yersiz											yersizlik	
				yerleş-					yerleşme yerleşim						
										yerleştir-					
											yerleşme yerleşim yerleşke				
													yerleşik		
															yerleşil-
					yerel yerli			yerlice						yerçillik	
												yerlileş-			
														yerlilik yersizlik	
					yersiz										
						yerel						yerelleş-			
														yerellik	
						yersel									
							yerey								

3rd Order							4th Order				5th Order		6th Order
Action	Agent	Causative	Possessive	Process	State	Undergoer	Action	Causative	State	Undergoer	Action	Undergoer	Action
	yerleşmeci								yerleşmecilik				
yerleştirme						yerleştiril-	yerleştirilme						
	yerleşimci												
			yerleşkeli										
				yerleşikleş-			yerleşikleşme						
yerleşilme					yerleşiklik								
				yerliceleş-			yerliceleşme						
								yerliceleştir-			yerliceleştirme		
yerlileşme												yerliceleştiril-	yerliceleştirilme
		yerlileştir-					yerlileştirme						
yerelleşme		yerelleştir-					yerelleştirme						
										yerelleştiril-	yerelleştirilme		

Table A32. Derivational Network Table of *Arka* ‘Back’

1st Order					2nd Order						3rd Order
Action	Agent	Privative	Purposive	Quality	Action	Manner	Possessive	Privative	State	Undergoer	Action
arkala-					arkalama						
	arkadaş					arkadaşça				arkalan-	arkalanma
		arkasız							arkadaşlık		
			arkalık				arkalıklı		arkasızlık		
				arkalı			arkalıksız				

Table A33. Derivational Network Table of *Dış* ‘Exterior’ (continued on the next page)

1st Order							2nd Order								
Action	Directional	Location	Purposive	Quality	Relational	Resultative	Action	Agent	Location	Possessive	Process	Relational	Similitive	State	Undergoer
dışla-							dışlama								
							dışlayış								
											dışlaş-				
															dışlan-
	dışarı														
		dışarı								dışarılı					
		dışarılık													
		dışarılık													
			dışarılık												
				dışrak				dışrakçı							
				dıştan											
					dışsal						dışsallaş-				
						dışınsal								dışsallık	
							dışkı	dışkıla-							
									dışkılık						
												dışkısıl			
													dışkımsı		

3rd Order		4th Order		5th Order
Action	Causative	Action	Causative	Action
dışlaşma				
	dışlaştır-	dışlaştırma		
			dışlaştirt-	dışlaştirtma
dışlanma				
dışlanış				
dışsallaşma				
dışkılama				

3rd Order									
Action	Causative	Diminutive	Manner	Possessive	Process	Quality	Relational	State	Undergoer
önemseme									
önemseyiş									
	önemset-								
						önemsemez			
									önemsen-
		önemsizce							
			önemsizce						
					önemsizleş-				
								önemsizlik	
		önemlice						önemlilik	
				önerili					
								önerilik	
				önermeli					
							önermesel		
önerilme									
önlenme									
önleniş									
önceleme									
								öncecilik	
								öncelik	
								öncesizlik	
öncelle-									
				öncelli					
						öncelikli			
									önceliklen-

4th Order					5th Order		6th Order
Action	Causative	Manner	State	Undergoer	Action	Undergoer	Action
önemsetme		önemsemezce	önemsemezlik				
önemsenme							
önemseniş				önemsenil-	önemsenilme		
önemsizleşme	önemsizleştir-				önemsizleştirme	önemsizleştiril-	önemsizleştirilme
öncelleme							
önceliklenme	önceliklendir-				önceliklendirme		

Table A35. Derivational Network Table of *Üst* ‘Top’

1st Order								2nd Order						3rd Order			4th Order
Action	Iterative	Possessive	Privative	Purposive	Quality	Relational	State	Action	Agent	Perceptive	Process	State	Undergoer	Action	State	Undergoer	Action
üsten-								üstenme									
									üstenci						üstencilik		
													üstenil-	üstenilme			
üstlen-								üstlenme									
								üstlenim									
									üstlenici								
	üstele-							üsteleme									
													üstelen-	üstelenme			
														üstleniş			
														üstlenim			
																üstlenil-	üstlenilme
		üstlü															
			üstsüz										üstsüzlük				
				üstlük													
					üstel												
					üstün					üstünse-				üstünseme			
											üstünleş-			üstünleşme			
												üstünlük					
						üstsel											
							üstlük										

Table A36. Derivational Network Table of *Boy* ‘Length’ (continued on the next page)

1st Order							2nd Order								
Abstract	Action	Comitative	Privative	Quality	Relational	Temporal	Abstract	Action	Augmentative	Causative	Possessive	Privative	Reflexive	Relational	State
boyut								boyutla-							
											boyutlu				
												boyutsuz			
														boyutsal	
	boyla-						boylam								
								boylama							
										boylat-					
													boylan-		
		boydaş													boydaşlık
			boysuz												boysuzluk
				boylu					boyluca						
															boyluluk
					boyca										
						boyunca									

Table A38. Derivational Network Table of *Numara* ‘Number’

1st Order				2nd Order			3rd Order		4th Order		5th Order
Action	Agent	Possessive	Privative	Action	State	Undergoer	Action	Causative	Action	Undergoer	Action
numarala-				numaralama							
				numaralayış							
						numaralan-	numaralanma				
							numaralanış				
								numaralandır-	numaralandırma		
	numaracı				numaracılık					numaralandırıl-	numaralandırılma
		numaralı									
			numarasız								

Table A39. Derivational Network Table of *Sayı* ‘Number’

1st Order					2nd Order					3rd Order		4th Order			5th Order
Action	Possessive	Privative	Quality	Relational	Action	Instrument	Process	State	Undergoer	Action	Causative	Action	Instrument	Undergoer	Action
sayıla-					sayılama										
						sayılayıcı									
							sayılaş-			sayılaşma					
											sayılaştır-	sayılaştırma			
													sayılaştırıcı		
									sayılan-	sayılanma				sayılaştırıl-	sayılaştırılma
										sayılandır-	sayılandırma				
	sayılı												sayılandırıcı		
		sayısız						sayısızlık							
			sayıcı												
			sayıl												
			sayılı												
				sayıca											
				sayısal			sayısallaş-			sayısallaşma					
											sayısallaştır-	sayısallaştırma			
													sayısallaştırıcı		
														sayısallaştırıl-	sayısallaştırılma

Table A40. Derivational Network Table of *Yaş* ‘Age’

1st Order					2nd Order					
Action	Comitative	Process	Quality	Relational	Action	Causative	Diminutive	Resultative	State	Undergoer
yaşa-					yaşama					
					yaşayış					
					yaşat-					
								yaşam		
										yaşan-
	yaşıt								yaşıtlık	
		yaşlan-			yaşlanma					
					yaşlandır-					
			yaşlı				yaşlıca			
									yaşlılık	
				yaşça						

3rd Order								4th Order	
Action	Causative	Location	Possessive	Quality	Relational	Resultative	Undergoer	Action	State
yaşatma									
	yaşattır-							yaşattırma	
				yaşatkan					
							yaşatıl-	yaşatılma	
			yaşamlı						
					yaşamsal				yaşamsallık
yaşanma									
	yaşanak								
						yaşantı			
							yaşanıl-	yaşanılma	
yaşlandırma									
							yaşlandırıl-	yaşlandırılma	

Table A41. Derivational Network Table of *Biçim* ‘Form/shape’

1st Order						2nd Order				
Action	Agent	Comitative	Possessive	Privative	Relational	Action	Manner	Process	State	Undergoer
biçimle-						biçimleme				
								biçimleş-		
										biçimlen-
	biçimci								biçimcilik	
		biçimdeş							biçimdeşlik	
			biçimli						biçimlilik	
				biçimsiz			biçimsizce			
								biçimsizleş-		
									biçimsizlik	
					biçimce					
					biçimsel			biçimselleş-		
									biçimsellik	

3rd Order		4th Order		5th Order
Action	Causative	Action	Undergoer	Action
biçimleşme				
	biçimleştir-	biçimleştirme		
biçimlenme				
biçimleniş				
	biçimlendir-	biçimlendirme		
		biçimlendiriş		
			biçimlendiril-	biçimlendirilme
biçimsizleşme				
	biçimsizleştir-	biçimsizleştirme		
			biçimsizleştiril-	biçimsizleştirilme
biçimselleşme				
	biçimselleştir-	biçimselleştirme		

Table A42. Derivational Network Table of *Cins* ‘Type/kind’

1st Order				2nd Order				3rd Order	
Possessive	Privative	Relational	State	Agent	Possessive	Privative	State	State	
cinsli								cinslilik	
	cinsiz								
		cinsel						cinsellik	
		cinsi							
			cinsiyet	cinsiyetçi					cinsiyetçilik
					cinsiyetli				cinsiyetlilik
						cinsiyetsiz			cinsiyetsizlik
			cinslik			cinsliksiz			

Table A43. Derivational Network Table of *Çember* ‘Circle’

1st Order					2nd Order			3rd Order	
Action	Privative	Quality	Relational	Simulative	Action	Causative	Undergoer	Action	
çemberle-					çemberleme				
						çemberlet-		çemberletme	
							çemberlen-	çemberlenme	
	çembersiz								
		çemberli							
			çembersel						
				çemberimsi					
				çembersi					

Table A44. Derivational Network Table of *Halka* ‘Circle’

1st Order							2nd Order				3rd Order	
Action	Agent	Diminutive	Possessive	Privative	Relational	Simulative	Action	Process	State	Undergoer	Action	
halkala-							halkalama					
							halkalayış					
								halkalaş-				halkalaşma
										halkalan-	halkalanma	
											halkalanış	
	halkacı								halkacılık			
		halkacık										
			halkalı									
				halkasız								
					halkasal			halkasallaş-				halkasallaşma
						halkamsı						
						halkavi						

Table A45. Derivational Network Table of *Tür* ‘Type/kind/species’

1st Order						2nd Order				
Action	Agent	Comitative	Entity	Possessive	Privative	Process	Action	Causative	Resultative	State
türe-							türeme			
							türeyiş			
								türet-		
									türenti	
									türev	
	türcü									türcülük
		türdeş								türdeşlik
			türlü							
				türlü						türlülük
					türsüz					
						türleş-	türleşme			

3rd Order						4th Order				5th Order	
Action	Causative	Quality	Relational	Resultative	Undergoer	Action	Agent	Relational	Undergoer	Action	State
türetme											
türetiş											
	türettir-					türettirme					
		türetken									
				türetim			türetimci				türetimcilik
					türetil-	türetilme		türetimsel			
türevle-						türevleme					
									türevlen-	türevlenme	
		türevsel									

Table A48. Derivational Network Table of *Ses* 'Sound'

1st Order							2nd Order						
Action	Agent	Comitative	Location	Privative	Quality	Relational	Action	Agent	Causative	Manner	Process	Resultative	State
sesle-							sesleme						
							seslen-						
									seslet-				
												seslem	
	sesçi												sesçilik
		sesteş											sesteşlik
			seslik				seslikçi						
				sessiz					sessizce				
										sessizleş-			
													sessizlik
					sesçil								
					sesli								seslilik
					seslik								
						sesçe							

3rd Order			4th Order				5th Order	
Action	Causative	Undergoer	Action	Agent	Possessive	Undergoer	Action	State
seslenme					seslenmeli			
sesleniş								
	seslendir-		seslendirme					
			seslendiriş					
				seslendirici				seslendiricilik
		seslenil-	seslenilme			seslendiril-	seslendirilme	
sesletme								
sesletim								
sessizleşme								
	sessizleştir-		sessizleştirme					

Table A49. Derivational Network Table of *Sıfat* ‘Adjective’

1st Order				2nd Order		3rd Order
Possessive	Privative	Process	Undergoer	Action	Causative	Action
sıfatlı						
	sıfatsız					
		sıfatlaş-		sıfatlaşma		
					sıfatlaştır-	sıfatlaştırma
			sıfatlan-	sıfatlanma		
					sıfatlandır-	sıfatlandırma

Table A50. Derivational Network Table of *Tümce* ‘Clause/Sentence’

1st Order					2nd Order
Action	Diminutive	Possessive	Privative	Similative	Action
tümcele-					tümceleme
	tümcecik				
		tümceli			
			tümcesiz		
				tümcemsi	

Table A51. Derivational Network Table of *Ağrı* ‘Pain/Ache’

1st Order			2nd Order	
Possessive	Privative	Process	Action	State
ağrılı				ağrılılık
	ağrısız			ağrısızlık
		ağrılaş-	ağrılaşma	

Table A52. Derivational Network Table of *Erdem* ‘Merit/Virtue’

1st Order			2nd Order
Privative	Quality	Relational	State
erdemsiz			erdemsizlik
	erdemli		erdemlilik
		erdemsel	erdemsellik

Table A53. Derivational Network Table of *Güç* ‘Strength’

1st Order				2nd Order				3rd Order				4th Order			5th Order	
Agent	Privative	Quality	Reflexive	Action	Causative	Manner	Process	State	Action	Causative	Instrument	Undergoer	Action	Instrument	Undergoer	Action
güçlü								güççülük								
	güçsüz					güçsüzce										
							güçsüzleş-		güçsüzleşme							
										güçsüzleştir-			güçsüzleştirme			
														güçsüzleştirici		
								güçsüzlük								güçsüzleştiril-güçsüzleştirilme
			güçlen-	güçlenme												
				güçleniş												
					güçlendir-				güçlendirme							
												güçlendirici				
													güçlendiril-güçlendirilme			
	güçlü							güççülük								

Table A54. Derivational Network Table of *Öfke* ‘Anger’

1st Order				2nd Order			3rd Order
Possessive	Privative	Reflexive	Relational	Action	Causative	State	Action
öfkeli							
	öfkesiz					öfkesizlik	
		öfkelen-		öfkelenme			
				öfkeleniş			
					öfkelen-dir-		öfkelen-dirme
			öfkesel			öfkesellik	

Table A55. Derivational Network Table of *Tat* ‘Taste’

1st Order					2nd Order								3rd Order				4th Order		5th Order	
Entity	Privative	Process	Quality	Relational	Action	Agent	Augmentative	Causative	Possessive	Process	Similative	State	Action	Causative	Instrument	State	Action	Undergoer	Action	
tatlı						tatlıcı			tatlılı							tatlıcılık				
											tatlımsı									
												tatlılık								
	tatsız									tatsızlaş-			tatsızlaşma							
		tatlan-			tatlanma								tatsızlık							
								tatlandır-					tatlandırma							
															tatlandırıcı					
		tatlı				taptatlı														
										tatlılaş-			tatlılaşma							
														tatlılaştır-			tatlılaştırma			
																		tatlılaştırıl-	tatlılaştırılma	
												tatlılık								
			tatsız																	

Table A56. Derivational Network Table of *İş* ‘Work/Job’ (continued on the next page)

1st Order					2nd Order								
Action	Agent	Comitative	Location	Possessive	Privative	Action	Agent	Causative	Instrument	Quality	Resultative	State	Undergoer
işle-						işleme							
						işleyiş							
						işlem							
							işleyici						
							işlet-						
									işleç				
										işlek			
											işleme		
											işlev		
											işleyim		
													işlen-
	işçi												işçilik
		işteş											işteşlik
			işlik										
				işli									
					işsiz								işsizlik

3rd Order										4th Order					5th Order	
Action	Agent	Causative	Instrument	Location	Possessive	Privative	Process	Relational	State	Undergoer	Action	Agent	Instrument	Relational	State	State
işleme-											işleme					
			işlemci										işlemleyici			
						işlemsiz									işlemsizlik	
							işlemsel					işlemselci				işlemselcilik
işletme				işletme								işletmeci				işletmecilik
işletim													işletimsel			
işletiş										işletil-	işletilme					
	işletmen														işletmenlik	
		işlettir-									işlettirme					
								işleklik								
	işlemeci														işlemecilik	
					işlemeli											
						işlemesiz										
	işlevci														işlevcilik	
						işlevsiz									işlevsizlik	
							işlevsel					işlevselci				işlevselcilik
							işleyimleş-				işleyimleşme					
													işleyimsel			
			işlengeç													
işlenme																
işleniş																

Table A57. Derivational Network Table of *Kuşku* ‘Doubt’

1st Order				2nd Order				3rd Order	
Agent	Possessive	Privative	Reflexive	Action	Causative	State	Undergoer	Action	
kuşkucu						kuşkuculuk			
	kuşkulu					kuşkululuk			
		kuşkusuz				kuşkusuzluk			
			kuşkulan-	kuşkulanma					
				kuşkulamış					
					kuşkulandır-				kuşkulandırma
							kuşkulanı-		kuşkulanıma

Table A58. Derivational Network Table of *Oyun* ‘Game’

1st Order									2nd Order	
Agent	Instrument	Location	Pejorative	Possessive	Process	Purposive	Relational	Simulative	Action	
oyunbaz										
oyuncu										
	oyuncak									
		oyunluk								
			oyunbaz							
				oyunlu						
					oyunlaş-					oyunlaşma
						oyunluk				
							oyunsal			
								oyunsu		

2nd Order					3rd Order			4th Order	
Agent	Causative	Location	Possessive	Privative	State	Action	State	Undergoer	Action
					oyunbazlık				
			oyunculu						
				oyuncusuz					
					oyunculuk				
oyuncakçı								oyuncakçılık	
		oyuncakçı							
			oyuncaklı						
					oyunbazlık				
	oyunlaştır-					oyunlaştırma			
								oyunlaştırıl-	oyunlaştırılma
					oyunsallık				

Table A59. Derivational Network Table of *Savaş* ‘War’

1st Order				2nd Order
Agent	Possessive	Privative	Quality	State
savaşçı				savaşçılık
	savaşlı			
		savaşsız		savaşsızlık
			savaşkan	

Table A60. Derivational Network Table of *Yardım* ‘Help’

1st Order				2nd Order				3rd Order	4th Order	
Agent	Poss	Privative	Quality	Reciprocal	Action	Possessive	Privative	State	Agent	State
yardımcı						yardımcılı				
							yardımcısız			
								yardımcılık		
	yardımlı									
		yardımsız								
			yardımcı							
				yardımlaş-	yardımlaşma				yardımlaşmacı	yardımlaşmacılık

Table A61. Derivational Network Table of *Betim* ‘Description’

1st Order				2nd Order				3rd Order			4th Order
Action	Agent	Poss	Relation	Action	Agent	Quality	Undergoer	Action	Agent	Possessive	State
betimle-				betimleme						betimlemeci	betimlemecilik
										betimlemeli	
				betimleyiş							
							betimlen-	betimlenme			
								betimleniş			
					betimleyici						
						betimleyici					
	betimci										
		betimli									
			betimsel								

Table A62. Derivational Network Table of *Dilek* ‘Wish’

1st Order					2nd Order	
Action	Agent	Entity	Possessive	Privative	Action	State
dikle-					dikleleme	
	dilekçi					dilekçilik
		dilekçe				
			dilekli			
				dileksiz		

Table A63. Derivational Network Table of *Soru* ‘Question’

1st Order			2nd Order
Action	Possessive	Privative	Action
sorula-			sorulama
	sorulu		
		sorusuz	

Table A64. Derivational Network Table of *Söz* ‘Statement’ (continued on the next page)

1st Order								2nd Order										
Action	Agent	Diminutive	Instrument	Possessive	Privative	Quality	Relational	Resultative	Action	Agent	Possessive	Privative	Reciprocal	Reflexive	Relational	Resultative	State	Undergoer
sözle-									sözleme									
													sözleş-					
															sözlen-			
																sözlem		
																		sözlen-
	sözcü											sözcüsüz						
	sözen																	sözcülük
		sözcük																sözenlik
											sözcüklü							
												sözcüksüz						
			sözlük												sözcüksel			
				sözlü							sözlükçü							
					sözsüz													sözlülük
						sözde												
						sözlü												sözlülük
							sözce											
							söznel											
							sözsel											
								sözce	sözcele-									

3rd Order				4th Order						5th Order	
Action	Causative	Entity	State	Action	Agent	Possessive	Privative	Relational	Undergoer	Action	State
sözleşme											
sözleşim								sözleşimsel			
		sözleşme			sözleşmeci						sözleşmecilik
						sözleşmeli					
							sözleşmesiz				
sözlenme											
sözlenme											
	sözlendir-			sözlendirme							
					sözlendirici						sözlendiricilik
									sözlendiril-	sözlendirilme	
			sözlükçülük								
sözceleme											
sözceleme											

Table A65. Derivational Network Table of *Yanıt* ‘Answer’

1st Order			2nd Order				3rd Order		4th Order		5th Order
Action	Possessive	Privative	Action	Agent	Privative	Undergoer	Action	Causative	Action	Undergoer	Action
yanıtla-			yanıtlama								
						yanıtlan-	yanıtlanma				
								yanıtlandır-	yanıtlandırma		
										yanıtlandırıl-	yanıtlandırılma
				yanıtlayıcı							
	yanıtlı										
		yanıtsız			yanıtsız						

APPENDIX B

DERIVATIONAL NETWORK TABLES OF ADJECTIVES

Table B1. Derivational Network Table of *Dar* ‘Narrow’

1st Order				2nd Order			3rd Order				4th Order			
Augmentative	Diminutive	Process	Similative	State	Action	Causative	Resultative	Action	Causative	Instrument	Quality	Resultative	Undergoer	Action
dapdar														
	daracık													
	darca													
		daral-			daralma									
					daralış									
						daralt-		daraltma						
								daraltış						
									daralttır-					daralttırma
										daraltıcı				
											daraltıcı			
												daraltım		
													daraltıl-	daraltılma
														daraltılış
							daralm							
		darlaş-			darlaşma									
						darlaştır-		darlaştırma						
													darlaştırıl-	darlaştırılma
			darımsı											
				darlık										

Table B2. Derivational Network Table of *Ince* ‘Thin’

1st Order						2nd Order						3rd Order					4th Order			5th Order		
Aug.	Dim.	Iter.	Pro.	Qua.	State	Action	Agent	Caus.	Poss.	Pro.	Resul.	Under.	Action	Agent	Caus.	Inst.	Resul.	Action	State	Undergoer	Action	
incecik																						
ipince																						
	incerek																					
		incele-				inceleme								incelemeci					incelemecilik			
						inceleyiş																
							inceleyici													inceleyicilik		
								incelet-						inceletme								
															incelettir-				incelettirme			
																						incelettirilme
										inceleş-				inceleşme								
															inceleştir-				inceleştirme			
											incelem											
												incelen-	incelenme									
													inceleniş									
			incel-			incelme																
						inceliş																
								incelt-						inceltme								
														inceltiş								
																inceltici						
																	inceltim					
				inceden																		
				inceli																		
					incelik					incelikli												

Table B3. Derivational Network Table of *Kalın* ‘Thick’

1st Order							2nd Order			3rd Order			4th Order
Augmentative	Causative	Diminutive	Manner	Process	Similative	State	Action	Causative	Resultative	Action	Causative	Undergoer	Action
kapkalın													
	kalınlat-						kalınlatma						
		kalınca											
			kalınca										
				kalınlaş-			kalınlaşma						
								kalınlaştır-		kalınlaştırma			
											kalınlaştırt-		kalınlaştırtma
												kalınlaştırl-	kalınlaştırılma
									kalınlaşım				
						kalınımı							
						kalınlık							

Table B4. Derivational Network Table of *Kısa* ‘Short’

1st Order					2nd Order		3rd Order			4th Order		
Augmentative	Diminutive	Manner	Process	State	Action	Causative	Action	Causative	Instrument	Undergoer	Action	Possessive
kıpkısa												
kıscacık												
	kısaca											
		kısaca										
			kısal-		kısalma							
					kısalış							
					kısalım							
						kısalt-	kısaltma					kısaltmalı
							kısaltış					
							kısaltım					
								kısalttır-			kısalttırma	
									kısaltıcı			
										kısaltıl-	kısaltılma	
											kısaltılış	
				kısalık								

Table B5. Derivational Network Table of *Uzun* ‘Long/Tall’

1st Order					2nd Order				3rd Order			4th Order		5th Order
Action	Augmentative	Diminutive	Similative	State	Action	Diminutive	Possessive	Process	Action	Causative	Directional	Action	Undergoer	Action
uzunla-					uzunlama						uzunlamasına			
								uzunlaş-	uzunlaşma					
										uzunlaştır-		uzunlaştırma		
													uzunlaştırıl-	uzunlaştırılma
	upuzun													
		uzunca				uzuncacık								
			uzunumsu											
				uzunluk			uzunluklu							

Table B6. Derivational Network Table of *Ağır* ‘Heavy’

1st Order							2nd Order							
Aug.	Diminutive	Instrument	Perceptive	Privative	Process	State	Action	Causative	Possessive	Privative	Quality	Relational	State	Undergoer
apağır														
	ağırca													
		ağırlık							ağırlıklı					
										ağırlıksız				
		ağırşak												
			ağırsa-				ağırsama							
				ağırsız									ağırsızlık	
					ağırlaş-		ağırlaşma							
								ağırlaştır-						
						ağırlık					ağırlıklı			
														ağırlıklan-
													ağırlıksal	

3rd Order					4th Order		5th Order
Action	Causative	Quality	State	Undergoer	Action	Undergoer	Action
			ağırlıksızlık				
ağırlaştırma							
		ağırlaştırıcı					
				ağırlaştırıl-	ağırlaştırılma		
ağırlıklanma							
	ağırlıklandır-				ağırlıklandırma		
						ağırlıklandırıl-	ağırlıklandırılma

Table B7. Derivational Network Table of *Düz* ‘Straight’ (continued on the next page)

1st Order						2nd Order									
Augmentative	Causative	Diminutive	Location	Process	State	Action	Causative	Instrument	Possessive	Privative	Process	Quality	Relational	Resultative	Undergoer
dümdüz	düzle-					düzleme	düzlet-								
							düzleyici				düzleş-				
															düzlen-
	düzce														
			düzey							düzeysiz					
												düzeyle			
			düzlük												
			düzlem						düzlemlî						
										düzlemsiz					
													düzlemsel		
				düzel-		düzelme	düzelt-								
															düzelti
						düzlük									

3rd Order							4th Order				5th Order	
Action	Agent	Causative	Possessive	Privative	Quality	State	Undergoer	Action	Instrument	State	Undergoer	Action
düzletme												
düzleşme												
		düzeştir-						düzeştirme				
									düzeştirici			
düzlenme											düzeştiril-	düzeştirilme
						düzeysizlik						
						düzlemsellik						
düzelme												
	düzeltilici									düzeltilcilik		
	düzeltilmen									düzeltilmenlik		
					düzeltilici							
							düzeltil-	düzeltilme				
			düzeltili									
				düzeltilsiz								

Table B8. Derivational Network Table of *Kuru* ‘Dry’

1st Order		2nd Order			3rd Order	
Augmentative	Causative	State	Action	Process	Reflexive	Action
kupkuru						
	kurula-		kurulama			
			kurulayış			
				kurulaş-		kurulaşma
					kurulan-	kurulanma
		kuruluk				

Table B9. Derivational Network Table of *Sert* ‘Tough’

1st Order					2nd Order				3rd Order			4th Order
Augmentative	Diminutive	Manner	Process	State	Action	Causative	Quality	Resultative	Action	Quality	Undergoer	Action
semsert												
	sertçe											
		sertçe										
			sertel-		sertelme							
			sertlen-		sertlenme							
			sertleş-		sertleşme					sertleşmeli		
						sertleştir-			sertleştirme			
											sertleştiril-	sertleştirilme
							sertleştirici					
								sertleşim				
				sertlik								

Table B10. Derivational Network Table of *Sıcak* ‘Hot’

1st Order					2nd Order		3rd Order		4th Order
Augmentative	Diminutive	Dweller	Similative	State	Action	Process	Action	Causative	Action
sımsıcak									
sıcaıcık									
	sıcakça								
		sıcakçıl							
			sıcağimsı						
				sıcaklık					
				sıcakla-	sıcaklama				
						sıcaklaş-	sıcaklaşma		
								sıcaklaştır-	sıcaklaştırma

Table B11. Derivational Network Table of *Beyaz* ‘White’

1st Order						2nd Order			3rd Order				4th Order		5th Order
Agent	Augmentative	Process	Quality	Similitive	State	Action	Causative	Process	Action	Causative	Instrument	Undergoer	Action	Undergoer	Action
beyazcı															
	bembeyaz														
		beyazla-				beyazlama									
							beyazlat-		beyazlatma						
											beyazlatıcı				
												beyazlatıl-	beyazlatılma		
								beyazlaş-	beyazlaşma						
										beyazlaştır-			beyazlaştırma		
														beyazlaştırıl-	beyazlaştırılma
								beyazlan-	beyazlanma						
			beyazlı												
				beyazımsı											
				beyazımtırak											
					beyazlık										

Table B12. Derivational Network Table of *Kara* ‘Black’ (continued on the next page)

1st Order										2nd Order							
Augmentative	Causative	Diminutive	Entity	Ornative	Perceptive	Process	Quality	Similative	State	Action	Causative	Privative	Process	Quality	Resultative	State	Undergoer
kapkara	karalt-									karaltma							
															karaltı		
		karaca															
			karaca														
			karamuk														
				karala-						karalama							
													karalaş-				
														karalayıcı			
																	karalan-
					kamsar							kamsarsız					
																kamsarlık	
						karar-				kararma							
										kararış							
											karart-						
							karalı										
								kamsı								kamsılık	
								kamtırak									
									karalık								
									karalık								
													karalıklaş-				

Table B13. Derivational Network Table of *Sarı* ‘Yellow’

1st Order						2nd Order						3rd Order
Augmentative	Diminutive	Process	Quality	Similative	State	Action	Causative	Diminutive	Possessive	Resultative	State	Action
sapsarı												
	sarıca										sarıcalık	
		sarılaş-				sarılaşma						
							sarılaştır-					sarılaştırma
		sarar-				sararma						
						sararış						
						sararım						
							sarart-					sarartma
										sarartı		
			sarılı									
			sarışın					sarışınca				
											sarışınlık	
				sarımsı								
				sarımtırak								
					sarılık				sarılıklı			

Table B14. Derivational Network Table of *Siyah* ‘Black’

1st Order					2nd Order				3rd Order			4th Order		5th Order
Action	Augmentative	Quality	Similative	State	Action	Causative	Process	Undergoer	Action	Causative	Undergoer	Action	Undergoer	Action
siyahla-					siyahlama									
						siyahlat-			siyahlatma					
											siyahlatıl-	siyahlatılma		
							siyahlaş-		siyahlaşma					
										siyahlaştır-		siyahlaştırma		
													siyahlaştırıl-	siyahlaştırılma
								siyahlan-	siyahlanma					
	simsiyah													
		siyahlı												
		siyahi												
			siyahımsı											
			siyahımtırak											
				siyahlık										

Table B15. Derivational Network Table of *Yeşil* ‘Green’

1st Order										2nd Order			3rd Order		4th Order
Agent	Augmentative	Diminutive	Entity	Privative	Process	Quality	Reflexive	Similative	State	Action	Causative	Possessive	Action	Undergoer	Action
yeşilci															
	yemyeşil														
		yeşilce													
			yeşillik									yeşillikli			
				yeşilsiz											
					yeşilleş-					yeşilleşme					
						yeşilli					yeşilleştir-		yeşilleştirme		
							yeşillen-			yeşillenme					
											yeşillendir-		yeşillendirme		
														yeşillendiril-	yeşillendirilme
									yeşilimsi						
									yeşilimtirak						
										yeşillik					

Table B16. Derivational Network Table of *Aptal* ‘Foolish’

1st Order					2nd Order			3rd Order		4th Order
Diminutive	Manner	Process	Similative	State	Action	Causative	Manner	Action	Undergoer	Action
aptalca										
	aptalca						aptalcasına			
		aptallaş-			aptallaşma					
						aptallaştır-		aptallaştırma		
									aptallaştırıl-	aptallaştırılma
			aptalsı							
				aptallık						

Table B17. Derivational Network Table of *Delî* ‘Mad’

1st Order					2nd Order				3rd Order		4th Order	
Agent	Manner	Process	Reflexive	Simulative	State	Action	Causative	Manner	State	Action	Undergoer	Action
delişmen								delişmence				
									delişmenlik			
	delice											
		delir-				delirme						
						deliriş						
							delirt-			delirtme		
											delirtil-	delirtilme
			delilen-			delilenme						
							delilendir-			delilendirme		
				delice								
				delimsirek								
					delilik							

Table B18. Derivational Network Table of *Kibar* ‘Kind/Polite’

1st Order					2nd Order		3rd Order		4th Order
Augmentative	Diminutive	Manner	Process	State	Action	Causative	Action	Undergoer	Action
kipkibar									
	kibarca								
		kibarca							
			kibarlaş-		kibarlaşma				
						kibarlaştır-	kibarlaştırma		
								kibarlaştırıl-	kibarlaştırılma
				kibarlık					

Table B19. Derivational Network Table of *Mutlu* ‘Happy’

1st Order					2nd Order		3rd Order
Augmentative	Diminutive	Process	Reflexive	State	Action	Causative	Action
musmutlu							
	mutluca						
		mutlulaş-			mutlulaşma		
			mutlulan-		mutlulanma		
						mutlulandır-	mutlulandırma
				mutluluk			

Table B20. Derivational Network Table of *Şen* ‘Merry’

1st Order			2nd Order				3rd Order			4th Order
Location	Process	State	Action	Causative	Quality	Privative	Action	Quality	Undergoer	Action
şenlik					şenlikli					
						şenliksiz				
	şenel-		şenelme							
				şenelt-			şeneltme			
	şenlen-		şenlenme							
			şenleniş							
				şenlendir-			şenlendirme			
								şenlendirici		
									şenlendiril-	şenlendirilme
			şenlik							

Table B21. Derivational Network Table of *Ergen* ‘Adolescent’

1st Order				2nd Order	
Manner	Process	Relational	State	Action	State
ergence					
	ergenleş-			ergenleşme	
		ergensel			ergensellik
			ergenlik		

Table B22. Derivational Network Table of *Eski* ‘Old’

1st Order								2nd Order	
Agent	Augmentative	Diminutive	Process	Quality	Similative	State	Temporal	Action	State
eskici									eskicilik
	epeski								
		eskice							
			eskileş-					eskileşme	
				eskicil					
					eskimsi				
						eskilik			
							eskiden		

Table B23. Derivational Network Table of *Genç* ‘Young’

1st Order			2nd Order		3rd Order			4th Order
Augmentative	Process	State	Action	Causative	Action	Quality	Undergoer	Action
gencecik								
gepgenç								
gepegenç								
	gencel-		gencelme					
	gençleş-		gençleşme					
				gençleştir-	gençleştirme			
						gençleştirici		
							gençleştiril-	gençleştirilme
		gençlik						

Table B24. Derivational Network Table of *Kart* ‘Old’

1st Order					2nd Order
Augmentative	Diminutive	Pejorative	Process	State	Action
kapkart					
	kartça				
		kartaloş			
		kartaloş			
			kartal-		kartalma
			kartlaş-		kartlaşma
				kartlık	

Table B25. Derivational Network Table of *Yeni* ‘New’

1st Order						2nd Order							
Augmentative	Causative	Diminutive	Manner	Similative	State	Action	Agent	Causative	Instrument	Process	Quality	Reflexive	Undergoer
yepyeni	yenile-					yenileme		yenilet-					
								yenileyici					
								yenileş-					
											yenileyici		
												yenilen-	
		yenice											yenilen-
			yenice										
				yenimsi									
					yenilik		yenilikçi						

3rd Order				4th Order				5th Order	
Action	Causative	Resultative	State	Action	Agent	Causative	Undergoer	Action	State
yeniletme									
yenileşme									
	yenileştir-			yenileştirme					
						yenileştirt-		yenileştirtme	
							yenileştiril-	yenileştirilme	
		yenileşim			yenileşimci				yenileşimcilik
yenilenme									
yenilenme									
			yenilikçilik						

Table B26. Derivational Network Table of *Çirkin* ‘Ugly’

1st Order						2nd Order		3rd Order		4th Order
Augmentative	Diminutive	Manner	Perceptive	Process	State	Action	Causative	Action	Undergoer	Action
çipçirkin										
	çirkince									
		çirkince								
			çirkinse-			çirkinseme				
				çirkinleş-		çirkinleşme				
							çirkinleştir-	çirkinleştirme		
									çirkinleştiril-	çirkinleştirilme
					çirkinlik					

Table B27. Derivational Network Table of *Gerçek* ‘Real’

1st Order							2nd Order			3rd Order		4th Order		5th Order		
Action	Agent	Augmentative	Manner	Privative	Quality	Similitive	State	Action	Process	State	Undergoer	Action	Causative	Action	Undergoer	Action
gerçekle-								gerçekleme								
									gerçekleş-			gerçekleşme				
													gerçekleştir-	gerçekleştirme		
														gerçekleştiriş		
														gerçekleştirim		
															gerçekleştiril-	gerçekleştirilme
											gerçeklen-	gerçeklenme				
	gerçekçi									gerçekçilik						
	gepgerçek															
		gerçekçe														
			gerçeksiz							gerçeksizlik						
				gerçekçi						gerçekçilik						
					gerçeksi											
						gerçeklik										

Table B28. Derivational Network Table of *Güzel* ‘Beautiful’

1st Order						2nd Order		3rd Order		4th Order		5th Order
Action	Augmentative	Diminutive	Manner	Similative	State	Action	Process	Action	Causative	Action	Undergoer	Action
güzelle-						güzelleme						
							güzellen-	güzellenme				
							güzelleş-	güzelleşme				
									güzelleştir-	güzelleştirme		
	güpgüzel										güzelleştiril-	güzelleştirilme
		güzelce										
			güzelce									
				güzelimsi								
					güzellik							

Table B29. Derivational Network Table of *İyi* ‘Good’

1st Order								2nd Order				3rd Order			4th Order			5th Order	
Aug.	Desiderative	Diminutive	Manner	Perceptive	Process	Quality	State	Action	Agent	Causative	State	Action	Quality	State	Undergoer	Action	Agent	State	State
iyiyi																			
	iyicil										iyicillik								
		iyice																	
			iyice																
				iyimser							iyimserlik								
					iyile-			iyileme											
					iyileş-			iyileşme											
									iyileştir-		iyileştirme						iyileştirmeci		iyileştirmecilik
												iyileştirici							iyileştiricilik
														iyileştiril-	iyileştirilme				
						iyicil					iyicillik								
							iyilik		iyilikçi						iyilikçilik				

Table B30. Derivational Network Table of *Kötü* ‘Bad’

1st Order					2nd Order							3rd Order			4th Order		5th Order
Desiderative	Diminutive	Perceptive	Process	State	Action	Agent	Causative	Process	Quality	State	Undergoer	Action	Causative	State	Action	Undergoer	Action
kötücül										kötücüllük							
	kötüce																
		kötümser								kötümserlik							
			kötüle-		kötüleme												
					kötüleyiş												
							kötület-					kötületme					
								kötüleş-				kötüleşme					
													kötüleştir-		kötüleştirme		
															kötüleştiriş		
																kötüleştiril-	kötüleştirilme
									kötüleyici								
											kötülen-	kötülenme					
												kötüleniş					
				kötülük		kötülükçü										kötülükçülük	

Table B31. Derivational Network Table of *Acele* ‘Urgent’

1st Order				2nd Order			3rd Order
Agent	Manner	Privative	Process	Action	Causative	State	Action
aceleci						acelecilik	
	aceleten						
		acelesiz					
			aceleş-	aceleşme			
					aceleştir-		aceleştirme

Table B32. Derivational Network Table of *Çabuk* ‘Quick’

1st Order				2nd Order		3rd Order
Augmentative	Manner	Process	State	Action	Causative	Action
çarçabuk						
çabucak						
	çabukça					
		çabuklaş-		çabuklaşma		
					çabuklaştır-	çabuklaştırma
			çabukluk			

Table B33. Derivational Network Table of *Çevik* ‘Agile’

1st Order				2nd Order		3rd Order
Diminutive	Manner	Process	State	Action	Causative	Action
çevikçe						
	çevikçe					
		çevikleş-		çevikleşme		
					çevikleştir-	çevikleştirme
			çeviklik			

Table B34. Derivational Network Table of *Tez* ‘Rapid’

1st Order			2nd Order		3rd Order		4th Order
Causative	Manner	State	Action	Process	Action	Causative	Action
tezle-			tezleme				
				tezleş-	tezleşme		
						tezleştir-	tezleştirme
	tezce						
		tezlik					

Table B35. Derivational Network Table of *Yavaş* ‘Slow’

1st Order					2nd Order			3rd Order			4th Order
Action	Augmentative	Diminutive	Manner	State	Action	Causative	Manner	Action	Quality	Undergoer	Action
yavaşla-					yavaşlama						
	yapyavaş										
						yavaşlat-		yavaşlatma			
								yavaşlatım			
									yavaşlatıcı		
										yavaşlatıl-	yavaşlatılma
		yavaşça									
			yavaşça				yavaşçacık				
				yavaşlık							

Table B36. Derivational Network Table of *Basit* ‘Simple’

1st Order				2nd Order		3rd Order			4th Order
Diminutive	Manner	Process	State	Action	Causative	Action	Quality	Undergoer	Action
basitçe									
	basitçe								
		basitleş-		basitleşme					
					basitleştir-	basitleştirme			
							basitleştirici		
								basitleştiril-	basitleştirilme
			basitlik						

Table B37. Derivational Network Table of *Çetin* ‘Difficult/Tough’

1st Order				2nd Order		3rd Order
Diminutive	Manner	Process	State	Action	Causative	Action
çetince						
	çetince					
		çetinleş-		çetinleşme		
					çetinleştir-	çetinleştirme
			çetinlik			

Table B38. Derivational Network Table of *Karmaşık* ‘Complicated’

1st Order		2nd Order		3rd Order		4th Order
Process	State	Action	Causative	Action	Undergoer	Action
karmaşıklaş-		karmaşıklaşma				
			karmaşıklaştı-	karmaşıklaştırma		
					karmaşıklaştırıl-	karmaşıklaştırılma
	karmaşıklık					

Table B39. Derivational Network Table of *Kolay* ‘Easy’

1st Order				2nd Order				3rd Order			4th Order			5th Order		
Action	Agent	Diminutive	Manner	State	Action	Diminutive	Process	State	Undergoer	Action	Causative	Action	Quality	Undergoer	Action	State
kolayla-					kolaylama											
									kolaylan-	kolaylanma						
							kolaylaş-			kolaylaşma						
										kolaylaştır-	kolaylaştırma					
													kolaylaştırcı			kolaylaştırcılık
														kolaylaştırıl-	kolaylaştırılma	
	kolaycı							kolaycılık								
		kolayca														
			kolayca			kolaycaçık										
				kolaylık												

Table B42. Derivational Network Table of *Doğru* ‘True’

1st Order								2nd Order					3rd Order			4th Order
Action	Agent	Augmentative	Diminutive	Possessive	Privative	Relational	State	Action	Causative	Quality	State	Undergoer	Action	Possessive	Undergoer	Action
doğrula-								doğrulama						doğrulamalı		
									doğrulat-				doğrulatma			
															doğrulatıl-	doğrulatılma
										doğrulayıcı						
												doğrulan-	doğrulanma			
	doğrucu											doğruculuk				
		dosdoğru														
			doğruca													
				doğrulu												
					doğrusuz											
						doğrusal							doğrusallık			
							doğruluk									

Table B43. Derivational Network Table of *Kesin* ‘Certain’

1st Order				2nd Order				3rd Order			4th Order			5th Order
Action	Augmentative	Privative	State	Action	Process	State	Undergoer	Action	Causative	Possessive	Action	Quality	Undergoer	Action
kesinle-				kesinleme										
					kesinleş-			kesinleşme						
									kesinleştir-		kesinleştirme			
												kesinleştirici		
							kesinlen-	kesinlenme					kesinleştiril-	kesinleştirilme
	kesinles													
		kesinsiz				kesinsizlik								
			kesinlik							kesinlikli				

Table B44. Derivational Network Table of *Normal* ‘Normal’

1st Order					2nd Order				3rd Order			4th Order
Augmentative	Manner	Privative	Process	State	Action	Causative	Iterative	State	Action	Quality	Undergoer	Action
nosnormal												
	normalce											
		anormal						anormallik				
								anormalite				
		paranormal										
			normalize (et-)				renormalize (et-)					
								normalizasyon				
			normalleş-		normalleşme							
						normalleştir-			normalleştirme			
										normalleştirici		
											normalleştiril-	normalleştirilme
				normalite								
				normallik								

Table B45. Derivational Network Table of *Yanlış* ‘Wrong’

1st Order					2nd Order				3rd Order			4th Order	
Action	Augmentative	Manner	Privative	State	Action	Process	Quality	Undergoer	Action	Agent	Causative	Action	State
yanlışla-					yanlışlama					yanlışlamacı			yanlışlamacılık
					yanlışlam								
						yanlışlaş-			yanlışlaşma				
											yanlışlaştır-	yanlışlaştırma	
							yanlışlayıcı						
								yanlışlan-					
									yanlışlanma				
	yapyanlış												
		yanlışça											
			yanlışsız										
				yanlışlık									

Table B46. Derivational Network Table of *Aynı* ‘Same’

1st Order		2nd Order		3rd Order		4th Order
Process	State	Action	Causative	Action	Undergoer	Action
aynılaş-		aynılaşma				
			aynılaştır-	aynılaştırma		
					aynılaştırıl-	aynılaştırılma
	aynılık					

Table B47. Derivational Network Table of *Ayrı* ‘Different’

1st Order				2nd Order				3rd Order			4th Order	
Augmentative	Manner	Process	State	Action	Agent	Possessive	Privative	State	Possessive	Privative	State	State
apayrı												
	ayrıca					ayrıcalı						
							ayrıcasız					
								ayrıcalık	ayrıcalıklı			ayrıcalıklılık
										ayrıcalıksız		ayrıcalıksızlık
		ayrılaş-		ayrılaşma								
			ayrılık		ayrılıkçı						ayrılıkçılık	

Table B48. Derivational Network Table of *Başka* ‘Different’

1st Order			2nd Order			3rd Order		
Augmentative	Process	State	Action	Causative	Resultative	Action	Privative	Quality
bambaşka								
	başkalaş-		başkalaşma				başkalaşmasız	
				başkalaştır-		başkalaştırma		
								başkalaştırıcı
					başkalaşım		başkalaşımsız	
		başkalık						

Table B49. Derivational Network Table of *Benzer* ‘Similar’

1st Order		2nd Order		3rd Order
Privative	State	Process	State	Action
benzersiz			benzersizlik	
		benzersizleş-		benzersizleşme
	benzerlik			

Table B50. Derivational Network Table of *Öteki* ‘Other’

1st Order				2nd Order			3rd Order			4th Order
Agent	Privative	Process	State	Action	Causative	State	Action	Quality	Undergoer	Action
ötekici						ötekicilik				
	ötekisiz									
		ötekileş-		ötekileşme						
					ötekileştir-		ötekileştirme			
								ötekileştirici		
									ötekileştiril-	ötekileştirilme
			ötekilik							

Table B51. Derivational Network Table of *Az* ‘Little/Few’

1st Order					2nd Order			3rd Order				4th Order
Collective	Diminutive	Perceptive	Process	State	Action	Causative	Undergoer	Action	Causative	Quality	Undergoer	Action
azınlık												
	azıcık											
	azca											
		azımsa-			azımsama							
					azımsayış							
							azımsan-	azımsanma				
			azal-		azalma							
					azalış							
					azalım							
						azalt-		azaltma				
									azalttır-			azalttırma
										azaltıcı		
											azaltıl-	azaltılma
				azlık								

Table B52. Derivational Network Table of *Bütün* ‘Whole’

1st Order						2nd Order						3rd Order			4th Order		5th Order	
Action	Agent	Aug.	Manner	Quality	Relation	State	Action	Caus.	Process	Quality	Refl.	State	Action	Causative	Quality	Action	Undergoer	Action
bütünle-							bütünleme								bütünlemeli			
								bütünlet-					bütünletme					
									bütünleş-				bütünleşme					
														bütünleştir-		bütünleştirme		
															bütünleşik		bütünleştiril-	bütünleştirilme
										bütünleyici								
											bütünlen-		bütünlenme					
	bütüncü												bütüncülük					
		büsbütün																
			bütüncü															
				bütüncül												bütüncüllük		
					bütünsel											bütünsellik		
						bütünlük												

Table B54. Derivational Network Table of *Tek* ‘Only’

1st Order				2nd Order			3rd Order
Action	Agent	Quality	State	Action	Process	State	Action
tekle-				tekleme			
	tekçi				tekleş-		tekleşme
		tekcil					tekçilik
		tekil					tekillik
					tekilles-		tekillesme
		tekli					
			teklik				

Table B55. Derivational Network Table of *Tüm* ‘All’ (continued on the next page)

1st Order					2nd Order									
Abst.	Action	Quality	Relat.	State	Abstract	Action	Dim.	Poss.	Privative	Process	Quality	Similative	State	Undergoer
tümce						tümcele-								
							tümcecik							
								tümceli						
									tümcesiz					
												tümcemsi		
	tümle-					tümleç								
						tümlev								
							tümleme							
										tümleş-				
												tümleyici		
		tümel												tümle-
		tümcül												tümelik
			tümsel											tümcüllük
				tümlük										

3rd Order			4th Order				5th Order
Action	Causative	Quality	Action	Possessive	Quality	Undergoer	Action
tümceleme							
tümlevle-			tümlevleme				
				tümlevli			
					tümlevleyici		
tümleşme							
tümleşim							
	tümleştir-		tümleştirme				
		tümleşik				tümleştiril-	tümleştirilme
tümlenme							

Table B56. Derivational Network Table of *Alçak* ‘Low’

1st Order			2nd Order		3rd Order
Manner	Process	State	Action	Causative	Action
alçakça					
	alçaklaş-		alçaklaşma		
				alçaklaştır-	alçaklaştırma
		alçaklık			

Table B57. Derivational Network Table of *Sol* ‘Left’

1st Order				2nd Order	
Action	Agent	Quality	State	Action	State
solla-				sollama	
	solak				solaklık
	solcu				solculuk
		sollu			
			solluk		

Table B58. Derivational Network Table of *Uzak* ‘Far’

1st Order					2nd Order			3rd Order			4th Order
Dim.	Manner	Perceptive	Process	State	Action	Causative	Undergoer	Action	Quality	Undergoer	Action
uzakça											
	uzakça										
		uzaksa-			uzaksama						
			uzaklaş-		uzaklaşma						
						uzaklaştır-		uzaklaştırma			
									uzaklaştırıcı		
										uzaklaştırıl-	uzaklaştırılma
						uzaklaşıl-	uzaklaşılma				
				uzaklık							

Table B59. Derivational Network Table of *Yakın* ‘Near’

1st Order						2nd Order				3rd Order		
Augmentative	Diminutive	Manner	Perceptive	Process	State	Action	Causative	Quality	Undergoer	Action	Quality	State
yapyakın												
	yakınca											
		yakınca										
		yakinen										
			yakınsa-			yakınsama						
								yakınsak			yakınsaklı	
				yakınlaş-		yakınlaşma						yakınsaklık
									yakınlaşıl-	yakınlaşılma		
							yakınlaştır-			yakınlaştırma		
					yakınlık							

Table B60. Derivational Network Table of *Yüksek* ‘High’

1st Order	2nd Order
State	Quality
yükseklik	yükseklikli

Table B61. Derivational Network Table of *İki* ‘Two’ (continued on the next page)

1st Order									2nd Order								
Abst.	Act.	Agen.	Coll.	Distr.	Ord.	Qual.	State	Temp.	Action	Agent	Caus.	Poss.	Privative	Process	Quality	State	
ikilem										ikilemci							
												ikilemli					
													ikilemsiz				
ikigen																	
ikircik												ikircikli				ikirciklik	
ikircim												ikircimli				ikircimlik	
	ikile-								ikileme								
										ikilet-							
													ikileş-				
		ikici														ikicilik	
			ikiz									ikizli					
													ikizleş-				
														ikizcil			
																ikizlik	
			ikişer												ikişerli		
				ikinci											ikincil		
																ikincilik	
						ikil										ikillik	
						ikircil											
						ikili								ikilileş-			
							ikilik			ikilikçi							
													ikiliksiz				
								ikindi									

Table B64. Derivational Network Table of *ilk* ‘First’

1st Order					2nd Order								3rd Order			4th Order			5th Order		
Abstract	Action	Privative	Quality	Temporal	Action	Agent	Manner	Possessive	Privative	Process	Relational	State	Undergoer	Action	Causative	State	Action	Quality	Undergoer	Action	
	ilke					ilkeci										ilkecilik					
							ilkeli														
								ilkesiz													
									ilkeleş-					ilkeleşme							
	ikle-					ikleme									ikleştir-		ikleştirme				
													iklen-	iklenme					iklenmeli		
															iklendir-		iklendirme				
		ilksiz																		ikelendiril-	ikelendirilme
			ikel			ikelci										ikelcilik					
							ikelce														
									ikelleş-					ikelleşme							
															ikelleştir-		ikelleştirme				
											ikesel										
												ikellik									
				ilkin																	

Table B65. Derivational Network Table of *Son* ‘Last’ (continued on the next page)

1st Order								2nd Order							
Abstract	Action	Ordinal	Privative	Quality	Relational	Resultative	State	Temporal	Action	Agent	Possessive	Privative	Process	Reflexive	State
sonurgu															
sonsuz													sonsuzlaş-		
															sonsuzluk
	sonla-								sonlama						
														sonlan-	
		sonuncu													sonunculuk
				soncul											
				sonlu											
			sonsuz												
				sonsal											
					sonuç				sonuççu						
										sonuçlu					
											sonuçsuz				
									sonuçla-						
							sonluk								
							sonra		sonralı						
											sonrasız				
															sonralık

3rd Order					4th Order					5th Order		6th Order
Action	Causative	Manner	State	Undergoer	Action	Causative	Quality	State	Undergoer	Action	Undergoer	Action
sonsuzlaşma												
	sonsuzlaştır-				sonsuzlaştırma							
sonlanma												
	sonlandır-				sonlandırma							
					sonlandırış							
									sonlandırıl-	sonlandırılma		
								sonlandırıcı				
			sonuççuluk									
								sonuçsuzluk				
sonuçlama												
				sonuçlan-	sonuçlanma							
					sonuçlanış							
						sonuçlandır-				sonuçlandırma		
											sonuçlandırıl-	sonuçlandırılma
		sonrasızca										
			sonrasızlık									

APPENDIX C

DISTRIBUTION OF SEMANTIC CATEGORIES IN THE DERIVATIONAL NETWORKS OF BASE NOUNS

Table C1. The Number of Base Nouns that Derive into Each Semantic Category in the First Derivational Order

1 st Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER
HUMAN	0	1	3	0	0	2	0	0	3	0	0	0	0	2	3	0	1	0	4	4	3	0	3	0	1	3	0	2	0	5	0	0
ANIMAL	0	4	3	0	0	3	0	1	5	0	0	1	0	0	1	0	0	0	4	4	1	0	1	0	0	1	0	3	0	3	1	0
PARTS	0	4	4	0	0	0	0	0	5	0	2	3	0	0	0	0	1	0	5	5	1	1	3	0	0	3	0	1	0	2	0	0
INANIMATE	0	3	4	0	1	1	1	0	4	0	1	1	0	3	1	1	0	1	5	5	1	0	2	0	1	4	0	4	0	1	0	0
GENERAL ABSTRACT	0	2	3	0	0	0	2	0	0	0	1	0	0	1	2	0	0	0	5	5	2	0	1	1	0	3	0	0	0	2	0	0
TIME	0	5	1	0	0	1	2	1	0	1	1	2	0	1	2	0	0	0	0	2	0	2	4	0	0	2	0	0	0	0	5	0
PLACE	1	4	2	0	0	0	0	0	0	0	1	1	1	2	1	0	0	0	2	3	1	3	4	0	0	4	1	0	1	1	1	0
QUANTITY	1	5	1	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	2	4	1	0	4	0	0	3	0	0	0	0	1	0
VARIETY	0	4	3	0	0	0	2	0	1	0	1	0	0	0	0	0	0	0	4	5	1	0	1	0	0	4	0	2	0	1	0	0
LANGUAGE	0	2	2	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	4	5	3	0	1	0	0	2	0	1	0	0	0	2
STATES AND PROPERTIES	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	5	2	0	3	0	2	3	0	0	0	0	0	0
ACTIVITIES	0	1	5	0	0	0	1	0	0	0	0	1	0	2	0	0	1	0	5	4	1	1	2	1	1	1	0	1	0	0	0	0
SPEECH ACTS	1	4	3	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	5	4	0	0	1	0	0	2	1	0	0	0	0	0

Table C2. The Number of Base Nouns that Derive into Each Semantic Category in the Second Derivational Order

2 nd Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER
HUMAN	0	3	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	4	0	0
ANIMAL	0	5	0	0	1	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	2	0	0	0	0	4	0	0
PARTS	0	5	2	0	5	0	0	0	1	0	0	1	0	0	1	0	0	0	3	2	1	0	1	0	1	0	1	0	0	5	0	4
INANIMATE	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	4	0	1	0	2	0	0	0	0	4	0	3
GENERAL ABSTRACT	0	4	2	0	2	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0	0	0	0	1	0	0	0	4	0	2
TIME	0	5	2	0	3	0	0	1	0	0	0	2	0	0	1	0	0	0	1	2	2	0	1	0	0	1	0	0	0	3	1	2
PLACE	1	5	3	0	1	0	0	0	0	0	1	1	0	2	1	0	0	2	3	2	3	1	2	0	0	2	1	1	0	5	0	5
QUANTITY	2	5	0	1	2	0	0	0	2	0	0	1	0	0	0	0	0	0	1	1	2	0	0	0	1	1	1	0	0	5	0	3
VARIETY	0	4	1	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	2	0	0	0	0	0	1	0	0	4	0	3
LANGUAGE	0	4	1	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	3	0	0
STATES AND PROPERTIES	0	4	1	1	3	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0	0	0	0	0	0	1	0	5	0	0
ACTIVITIES	0	4	2	0	3	0	0	0	0	0	0	1	0	1	0	0	0	0	2	2	0	0	1	0	0	0	1	0	0	5	0	2
SPEECH ACTS	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	1	1	1	0	0	2	0	3

Table C3. The Number of Base Nouns that Derive into Each Semantic Category in the Third Derivational Order

3 rd Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER
HUMAN	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	2
ANIMAL	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
PARTS	1	5	1	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	3	0	0	0	0	0	0	1	2	0	0	2	0	3
INANIMATE	0	5	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1
GENERAL ABSTRACT	0	5	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
TIME	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0
PLACE	0	5	1	0	3	0	0	0	1	0	0	0	0	0	1	0	0	0	2	0	2	0	1	0	0	1	0	0	0	3	0	3
QUANTITY	0	5	0	0	4	0	0	0	0	0	0	0	0	1	2	0	0	0	1	0	0	0	1	0	1	3	1	0	0	1	0	1
VARIETY	0	4	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1
LANGUAGE	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
STATES AND PROPERTIES	0	3	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
ACTIVITIES	0	3	2	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	1	0	0	0	0	1	0	0	0	2	0	2
SPEECH ACTS	0	3	1	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0

Table C4. The Number of Base Nouns that Derive into Each Semantic Category in the Fourth Derivational Order

4 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER
HUMAN	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
ANIMAL	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
PARTS	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	1	0	1
INANIMATE	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
GENERAL ABSTRACT	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
TIME	0	3	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
PLACE	0	4	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
QUANTITY	0	4	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
VARIETY	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	
LANGUAGE	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
STATES AND PROPERTIES	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ACTIVITIES	0	2	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	0
SPEECH ACTS	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	2	

Table C5. The Number of Base Nouns that Derive into Each Semantic Category in the Fifth Derivational Order

5 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER			
HUMAN	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
ANIMAL	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PARTS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	
INANIMATE	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
GENERAL ABSTRACT	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLACE	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
QUANTITY	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
VARIETY	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
LANGUAGE	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
STATES AND PROPERTIES	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACTIVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
SPEECH ACTS	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0

Table C6. The Number of Base Nouns that Derive into Each Semantic Category in the Sixth Derivational Order

6 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	COMITATIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	PURPOSIVE	QUALITY	RECIPROCAL	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	SINGULATIVE	STATE	TEMPORAL	UNDERGOER					
HUMAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
ANIMAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PARTS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
INANIMATE	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
GENERAL ABSTRACT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
TIME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PLACE	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
QUANTITY	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
VARIETY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
LANGUAGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
STATES AND PROPERTIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ACTIVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPEECH ACTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX D

DISTRIBUTION OF SEMANTIC CATEGORIES IN THE DERIVATIONAL NETWORKS OF BASE ADJECTIVES

Table D1. The Number of Base Adjectives that Derive into Each Semantic Category in the First Derivational Order

1 st Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER
DIMENSION	0	1	0	5	1	0	0	5	0	0	0	0	0	1	0	2	0	0	0	0	0	0	4	1	0	0	0	3	5	0	0
PHYSICAL PROPERTY	0	0	0	5	2	0	0	4	0	0	1	0	1	0	1	1	0	0	0	1	0	1	3	0	0	0	0	1	5	0	0
COLOR	0	1	2	5	1	0	0	3	0	0	0	2	0	0	0	0	1	0	1	0	1	4	5	1	0	0	5	5	0	0	
HUMAN PROPENSITY	0	0	1	2	0	0	0	3	0	0	0	0	0	0	1	3	0	0	0	0	0	0	5	0	2	0	0	2	5	0	0
AGE	0	0	1	4	1	0	0	3	0	0	0	0	0	0	0	2	0	0	1	0	0	0	4	1	0	1	0	2	5	1	0
VALUE	0	2	1	4	0	0	2	4	0	0	0	0	0	0	0	4	0	0	0	3	0	1	3	2	0	0	0	2	5	0	0
SPEED	0	1	1	3	0	0	0	2	0	0	0	0	0	0	1	4	0	0	0	0	0	1	3	0	0	0	0	0	4	0	0
DIFFICULTY	0	1	2	0	1	0	0	4	0	0	0	0	0	0	0	4	0	0	0	1	0	0	3	1	0	0	0	0	5	0	0
QUALIFICATION	0	3	1	5	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	1	5	1	0	0	1	0	0	5	0	0
SIMILARITY	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	4	0	0	0	0	0	5	0	0
QUANTIFICATION	2	3	3	1	0	2	0	2	0	0	0	0	0	0	0	1	0	0	0	2	0	0	2	4	0	2	0	0	5	0	0
POSITION	0	1	1	1	0	0	0	2	0	0	0	0	0	0	0	3	0	0	0	2	0	0	3	1	0	0	0	0	5	0	0
CARDINAL NUMBERS	4	4	1	0	0	2	0	0	0	3	0	0	0	0	0	0	4	0	0	0	0	1	0	5	0	1	1	0	2	3	0

Table D2. The Number of Base Adjectives that Derive into Each Semantic Category in the Second Derivational Order

2 nd Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER
DIMENSION	0	5	1	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	3	0	0	0	1
PHYSICAL PROPERTY	0	5	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	2	3	3	1	2	2	0	1	0	2
COLOR	0	5	0	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	1	0	0	2	0	2	0	2
HUMAN PROPENSITY	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0
AGE	0	5	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	2	0	1
VALUE	0	5	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	0	3	0	2
SPEED	0	5	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
DIFFICULTY	0	5	0	0	4	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1	0	0	0	0	2	0	2
QUALIFICATION	0	4	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	3	0	3
SIMILARITY	0	4	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	3	0	0
QUANTIFICATION	1	5	1	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	2	1	0	0	1	4	0	3
POSITION	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	2
CARDINAL NUMBERS	0	4	3	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3	3	3	3	2	1	0	0	4	0	2

Table D3. The Number of Base Adjectives that Derive into Each Semantic Category in the Third Derivational Order

3 rd Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER
DIMENSION	0	5	1	0	5	0	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	3
PHYSICAL PROPERTY	0	5	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	0	2	0	3
COLOR	0	5	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	4
HUMAN PROPENSITY	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4
AGE	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1
VALUE	0	5	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	2
SPEED	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
DIFFICULTY	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	3
QUALIFICATION	0	4	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	2
SIMILARITY	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	0	0	0	0	1	0	2
QUANTIFICATION	0	5	1	0	4	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	3	0	0	1	0	1	0	1
POSITION	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	1
CARDINAL NUMBERS	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	3	0	1

Table D4. The Number of Base Adjectives that Derive into Each Semantic Category in the Fourth Derivational Order

4 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER	
DIMENSION	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	
PHYSICAL PROPERTY	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
COLOR	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
HUMAN PROPENSITY	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGE	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
VALUE	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	
SPEED	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIFFICULTY	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
QUALIFICATION	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	
SIMILARITY	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
QUANTIFICATION	0	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	
POSITION	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CARDINAL NUMBERS	0	3	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	2	

Table D5. The Number of Base Adjectives that Derive into Each Semantic Category in the Fifth Derivational Order

5 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER
DIMENSION	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHYSICAL PROPERTY	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLOR	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN PROPENSITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGE	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
VALUE	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
SPEED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIFFICULTY	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
QUALIFICATION	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SIMILARITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
QUANTIFICATION	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POSITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARDINAL NUMBERS	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Table D6. The Number of Base Adjectives that Derive into Each Semantic Category in the Sixth Derivational Order

6 th Order	ABSTRACTION	ACTION	AGENT	AUGMENTATIVE	CAUSATIVE	COLLECTIVE	DESIDERATIVE	DIMINUTIVE	DIRECTIONAL	DISTRIBUTIVE	DWELLER	ENTITY	INSTRUMENT	ITERATIVE	LOCATION	MANNER	ORDINAL	ORNATIVE	PEJORATIVE	PERCEPTIVE	POSSESSIVE	PRIVATIVE	PROCESS	QUALITY	REFLEXIVE	RELATIONAL	RESULTATIVE	SIMILATIVE	STATE	TEMPORAL	UNDERGOER
DIMENSION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHYSICAL PROPERTY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COLOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HUMAN PROPENSITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VALUE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPEED	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIFFICULTY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
QUALIFICATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SIMILARITY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
QUANTIFICATION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
POSITION	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CARDINAL NUMBERS	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0