

Does Turkish have adjective ordering restrictions?

Tu+2 Proceedings

0. Introduction

In English and many other languages, adjectives modifying a head noun come in a strict order that is regulated by the Adjective Hierarchy given in (1)

1)

The Adjective Hierarchy (Vendler, 1968, Sproat and Shih, 1991, Cinque, 1994, 2010 a.o)

ADJ_{QUALITY}>ADJ_{SIZE}>ADJ_{AGE}>ADJ_{SHAPE}> ADJ_{COLOR}>ADJ_{PROVENANCE}

In Turkish, on the other hand, adjectives preceding a noun can come in any order.

2)

a. güzel büyük gri kediler

beautiful big grey cats

“nice big grey cats”

b. güzel gri büyük kediler

beautiful grey big cats

c. büyük güzel gri kediler

big beautiful grey cats

d. büyük gri güzel kediler

big grey beautiful cats

e. gri büyük güzel kediler

grey big beautiful cats

f. gri güzel büyük kediler

grey beautiful big cats

In this respect, the behavior of adjectives in Turkish is similar to what has been observed for Japanese (Sproat and Shih, 1991: 582)

3)

a. okokina akai inu

large red dog

“large red dog”

b. akai okokina inu

Sproat and Shih (1991) have argued that Japanese lacks adjective ordering restrictions (for reasons to be explicated later in this paper). Given the similarity between (2) and (3), one might conclude that Turkish lacks such restrictions, too.

In this paper, we show that, despite appearances, Turkish does have adjective ordering restrictions. To establish this, we study the interaction between adjectives and the indefinite article. In a nominal expression with adjectives, the indefinite article usually comes right before the head noun (4).

4)

güzel gri bir kedi

beautiful grey a cat

“a beautiful grey cat”

It may also be positioned between adjectives as in (5).

5)

a. güzel bir gri kedi

beautiful a grey cat

“a beautiful grey cat”

b. büyük bir kare masa

big a square table

“a big square table”

The crucial observation is that adjectives preceding the indefinite article must be higher in the Adjective Hierarchy than adjectives following it.¹

6)

QUALITY>SIZE>SHAPE>COLOR

a. ??gri bir güzel kedi

grey a beautiful cat

b. ??kare bir büyük masa

square a big table

In what follows, we present the theory of adjective ordering restrictions (AOR) in Sproat and Shih (1991). We then propose various amendments to explain why the indefinite article in Turkish introduces the asymmetries that it does.

¹ We will later provide a more detailed description of adjective ordering in each side of the indefinite. Note also that numerals behave similar to the indefinite article in that adjectives preceding numerals must be higher on the Adjective Hierarchy than numerals. Our account for the interaction between indefinites and adjectives directly applies to numerals.

a. güzel iki gri kedi
beautiful two grey cats

b. *gri iki güzel kedi
grey two beautiful cats

1. A cross-linguistic theory of Adjective Ordering Restrictions (AOR)

Sproat and Shih (1991) and Cinque (1994), following Vendler (1968) among others, have observed that in many languages, adjectives modifying a head noun come in a strict order.

7)

The Adjective Hierarchy

$ADJ_{QUAL} > ADJ_{SIZE} > ADJ_{AGE} > ADJ_{SHAPE} > ADJ_{COLOR} > ADJ_{MATERIAL/PROVENANCE}$

We can find examples of pieces of this ordering in English (from Sproat and Shih, 1991: 565)

8)

$SIZE > COLOR > PROVENANCE$

- a. small green Chinese vase
- b. *green small Chinese vase
- c. *green Chinese small vase
- d. ??small Chinese green vase

9)

$QUALITY > SHAPE$

- a. nice round plate
- b. *round nice plate

10)

SIZE>SHAPE

- a. small square table
- b. *square small table

The presence or absence of adjective ordering restrictions (AORs) may also be sensitive to various constructions within the same language. In Chinese, adjectives introduced by the particle *-DE* do not show hierarchy effects (examples from Sproat and Shih, 1991 unless specified otherwise)

11)

SIZE, COLOR

- a. xiǎo-de lǜ-de huāping
small-DE green-DE vase
"small green vase"
- b. lǜ-de xiǎo-de huāping

12)

QUALITY, SHAPE

- a. hǎo-de yuán-de pánzi
good-DE round-DE plate
"nice round plate"
- b. yuán-de hǎo-de pánzi

Adjectives that modify the head noun directly (that is, without the particle -DE) exhibit asymmetries predicted by the Adjective Hierarchy.

13)

SIZE > COLOR

- a. xiǎo lǜ huāping
small green vase
"small green vase"
- b. *lǜ xiǎo huāping

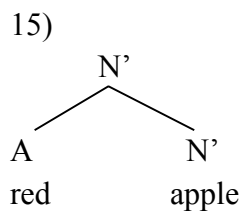
14)

QUALITY > SHAPE

- a. hǎo yuán pánzi
good round plate
"nice round plate"
- b. *yuán hǎo pánzi

What makes the ordering of adjectives strict when it is? Sproat and Shih (1991) develop a theory that provides an answer to this question. We now present this proposal. Later, we will offer various amendments to this proposal in order to explain our observations about Turkish.

Sproat and Shih (1991) argue that there are various types of modification and that they are relevant to the question of whether a construction shows hierarchy effects.² The first type of modification is *direct modification*. In direct modification, adjectives are licensed under sisterhood relation with a noun projection.



Direct modification has two important properties: (1) Direct modifiers obey adjective ordering restrictions and (2) direct modifiers are always closer to nouns than D-level elements (determiners, demonstratives, possessors). English adjectival modification is direct, which explains why English obeys the Adjective Hierarchy. This also explains why adjectives in English are closer to the head noun than any D-level element.

- 16)
- a. *good the boy
 - b. *round John's table
 - c. *brown this cat

² See Cinque (2010) for a cartographic interpretations of observations in Sproat and Shih (1991)

In Chinese, only particle-less adjectives are direct modifiers. We have already seen that they obey the Adjective Hierarchy. Moreover, they are always closer to head noun than any D-level elements.

17)

a. *hóng zhéige pingguǒ

red this apple

b. *yuán měige zhuōzi

round each table

The second type of modification is *indirect modification*. Sproat and Shih (1991) motivate a syntax for this modification based on various properties of *-DE* particle in Chinese. They observe that this particle is used in order to introduce relative clauses.

18)

a. wǒ mǎi-de huāpíng

I buy-DE vase

"the vase that I bought"

b. fēi-de niǎo

fly-DE bird

"the birds which are flying"

Adjectives that are introduced by this particle are assumed to be relative clauses with the structure in (20).

19)

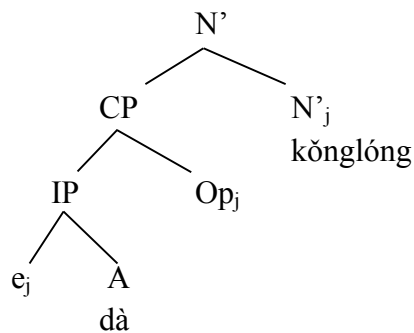
a. guì-de bǐ

expensive-DE pen

b. dà-de kǒnglóng

big-DE dinosaur

20)



This modification is *indirect* in the sense that the relation between the adjective and the noun in (20) is mediated via an Operator (Op) that is co-indexed with a variable inside IP. Note that the relation between the adjective and the variable is that of predication (and not that of attribution). One important property of indirect modifiers is that they can come both before and after D-level elements.³

³ There is a third type of modification, namely 'parallel modification'. This type is distinguished by the fact that "the adjectives each constitute a separate (minimally) intermediate phrase" (Sproat and Shih, 1991: 578)

She loves all those Oriental, orange, wonderful ivories.

In this rest of this paper, we ignore this type of modification.

21)

a. hóng-de zhèiběn shù
red-DE this book
"this red book"

b. zhèiběn hóng-de shù

Having made these distinctions, we are now ready to state the AOR generalization. This gives us a theory of adjective ordering, which we will later discuss in the context of Turkish.

22)

The AOR generalization (Sproat and Shih, 1991: 579)

Adjective Ordering Restrictions (AOR) obtain iff adjectives involved are direct modifiers

Languages that lack direct modification do not impose strict ordering on adjectives. Moreover, in such languages, D-level elements can be closer to the noun than adjectives. We have already seen that Japanese lacks adjective ordering restrictions.

23)

a. chiisana shikakui ie
small square house
b. shikakui chiisana ie

This means that Japanese does not have direct modification. If so, we predict that D-level elements in Japanese can follow adjectives. This prediction is borne out.

24)

ookina ano kuruma

big that car

“that big car”

We might hope to adopt a Japanese-type analysis for Turkish adjectives. In what follows, we report various problems with this move.⁴

2. Notes on adjective ordering in Turkish

In Turkish, every ordering of adjectives seems to be equally acceptable.

25)

a. güzel büyük gri kediler

beautiful big grey cats

“beautiful big grey cats”

b. güzel gri büyük kediler

c. büyük güzel gri kediler

d. büyük gri güzel kediler

e. gri büyük güzel kediler

f. gri güzel büyük kediler

⁴ For an overview of approaches to adjective ordering, see Valois (2006)

Turkish has an indefinite marker for which the most natural position is the immediately prenominal position.

26)

güzel büyük gri bir kedi

beautiful big grey a cat

“a beautiful big grey cat”

Adjectives preceding the indefinite article can come in any order.

27)

güzel gri büyük bir kedi

beautiful grey big a cat

büyük güzel gri bir kedi

büyük gri güzel bir kedi

gri büyük güzel bir kedi

gri güzel büyük bir kedi

These patterns suggest that Turkish, just like Japanese, lacks adjective ordering restrictions. One might hypothesize that Turkish lacks AOR because modification in Turkish is indirect. We now present two problems for such an analysis.

One property of languages that lack AOR is that D-level elements can come preceding or following adjectives. As discussed in detail in Boškovic and Şener (2014), this is not true for Turkish. D-level elements in Turkish always precede adjectives.⁵

28)

- | | | | |
|----|-------------------|---------|-----------|
| a. | şu | güzel | bisiklet |
| | that | nice | bike |
| b. | *güzel | şu | bisiklet |
| | nice | that | bike |
| c. | Can'ın | güzel | bisikleti |
| | Can-GEN | nice | bike |
| | “Can’s nice bike” | | |
| d. | *güzel | Can'ın | bisikleti |
| | nice | Can-GEN | bike |

⁵ One might imagine a response to this problem along these lines:

A-Dem/Det-N order is not a necessary condition for indirect modification.

This is a weakening of the diagnostics for AOR. It could be that this response is motivated on independent grounds. Assuming that Turkish, like Japanese, is an indirect modification language, we might be able to show that relative clauses in Turkish are always closer to the noun than D-level elements. As discussed at length in Kornfilt (2001, 2005) and Özçelik (2014) this expectation is not met. Relative clauses in Turkish can precede D-level elements.

güzel	olan	şu	bisiklet
nice	be.REL	this	bike
“this bike which is nice”			

There is a second (and bigger) problem with the analysis of adjectives in Turkish as indirect modifiers. Observe that the indefinite article in Turkish can come between adjectives.

29)

güzel bir büyük gri kedi

beautiful a big grey cat

The indefinite article in Turkish behaves as an antisymmetry introducer in that adjectives that precede it must be necessarily higher in the Adjective Hierarchy than adjectives that follow it.

30)

QUALITY>SIZE>SHAPE>COLOR

a. güzel bir kare masa

beautiful a square table

b. ??kare bir güzel masa

square a beautiful table

c. geniş bir sarı masa

wide a yellow table

d. ??sarı bir geniş masa

yellow a wide table

That is, there are constructions in which adjective ordering restrictions can be observed. Before we spell out an explanation for the presence and absence of adjective ordering restrictions in Turkish, let us make some observations about the indefinite article and adjectives. First, when there are more than one adjective following the indefinite article, speakers are divided into two

groups. Some speakers (Type 1) accept any ordering of adjectives that follow the indefinite article while others (Type 2) accept only the Adjective Hierarchy-obeying expressions.

31)

Type 1 (QUALITY>SIZE,SHAPE)

güzel	bir	kırmızı	geniş	masa
beautiful	a	red	wide	table
güzel	bir	geniş	kırmızı	masa
beautiful	a	wide	red	table

32)

Type 2 (QUALITY>SIZE>SHAPE)

??güzel	bir	kırmızı	geniş	masa
beautiful	a	red	wide	table
güzel	bir	geniş	kırmızı	masa
beautiful	a	wide	red	table

Adjectives preceding the indefinite may come in any order

33)

geniş	güzel	bir	kırmızı	masa
wide	beautiful	a	red	table
güzel	geniş	bir	kırmızı	masa

As we have already noted, adjectives preceding the indefinite must be higher in the Adjective Hierarchy than adjectives following the indefinite.

34)

QUALITY>SIZE>SHAPE

- | | | | | | |
|----|-----------|--------|-------|--------|-------|
| a. | güzel | bir | geniş | kare | masa |
| | beautiful | a | wide | square | table |
| b. | ??güzel | kare | bir | geniş | masa |
| | beautiful | square | a | wide | table |

Adjectives following the indefinite must be lower than adjectives preceding the indefinite.

35)

QUALITY>SHAPE>COLOR

- | | | | | | |
|----|--------|--------|-------|---------|-------|
| a. | güzel | kare | bir | turuncu | masa |
| | nice | square | a | orange | table |
| b. | ??kare | bir | güzel | turuncu | masa |
| | square | a | nice | orange | table |

Any adjective preceding the indefinite must be higher than any adjective following the indefinite.

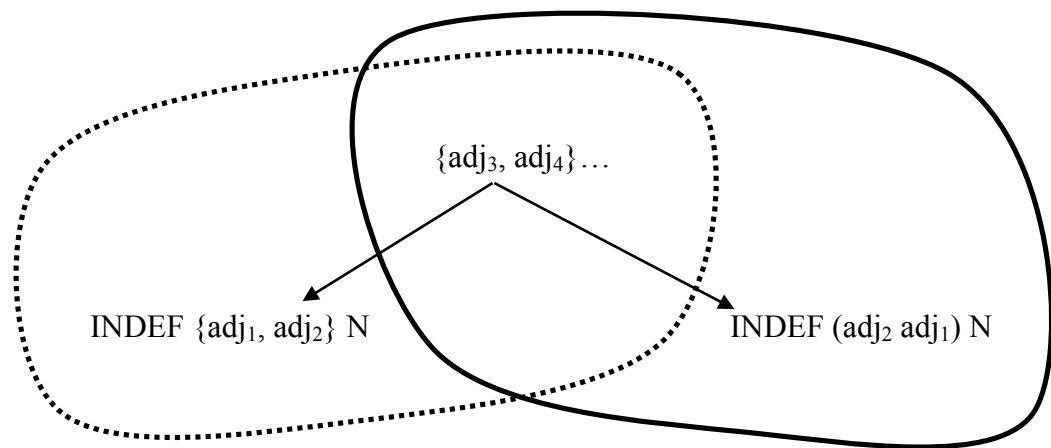
36)

QUALITY>SIZE>SHAPE>COLOR

a.	geniş	güzel	bir	turuncu	kare	masa
	wide	beautiful	a	orange	square	table
b.	??büyük	kare	bir	güzel	turuncu	masa
	big	square	a	beautiful	orange	table
c.	??güzel	turuncu	bir	geniş	kare	masa
	nice	orange	a	wide	square	table

Here are the judgment patterns for both types of speakers of Turkish. Parentheses imply strict ordering. Curly brackets imply variable ordering. Higher numerals are used for adjectives that are higher in the Adjective Hierarchy. The dotted line and the straight line each characterizes a group of speakers of Turkish.

37)



We have seen that Turkish adjectives cannot be analyzed as indirect modifiers. What, then, is the analysis of variable ordering of adjectives in Turkish? Moreover, why does the indefinite article introduce strict ordering?

3. An analysis for adjectives in Turkish

In Sproat and Shih (1991), the Adjective Hierarchy is relevant for adjectives that are in a certain position in a syntactic representation (i.e. sisterhood to a nominal projection). Suppose that the Adjective Hierarchy is about relative c-command relation between the adjectives.

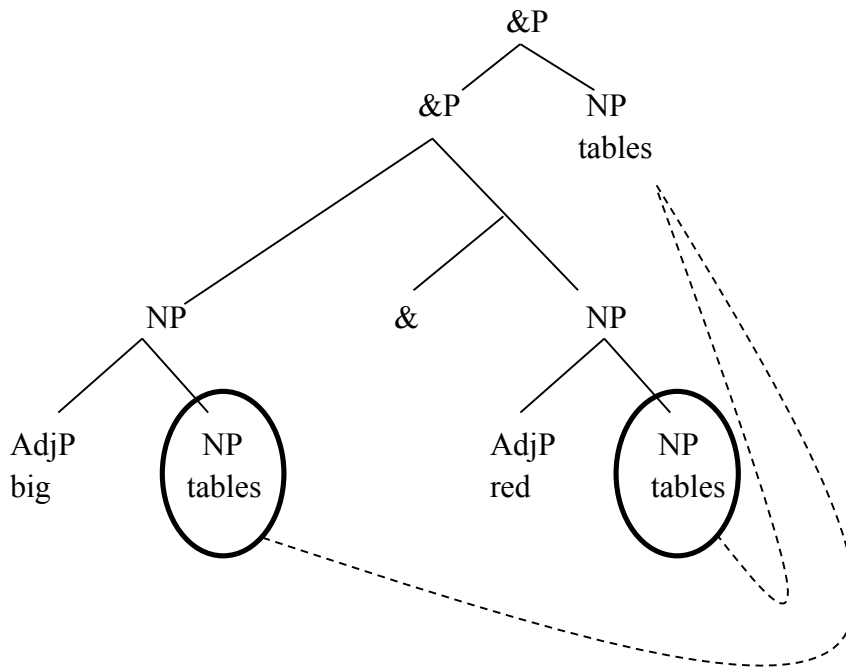
38)

Adjective Ordering Restrictions

Given any two adjectives, Adj_1 and Adj_2 , licensed in the same nominal spine,
if Adj_1 asymmetrically c-commands Adj_2 , then Adj_1 is higher in the hierarchy than Adj_2 .

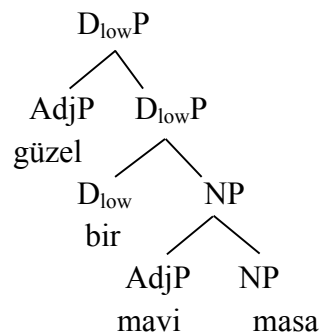
We analyze variable ordering in Turkish as coordination of NPs. In order to explain why there is a single noun in such an expression, we assume that there is an Across-the-Board Movement (ATB) movement of the minimal NP (Ross, 1967 but see İnce, 2009). Note that we adopt the ATB analysis for no reason other than explicitness. Note also that the no AdjP inside (39) c-commands the other and, therefore, the adjectives are not subject to adjective ordering restrictions.

39)



This raises an immediate question. Why is it that the indefinite article introduces asymmetries between adjectives? Suppose that the indefinite article is a low D head that can be inserted between adjectives.⁶ If so, adjectives that precede the indefinite c-command adjectives that follow it. Adjectives that are in a c-command relation are subject to ordering restrictions.

40)

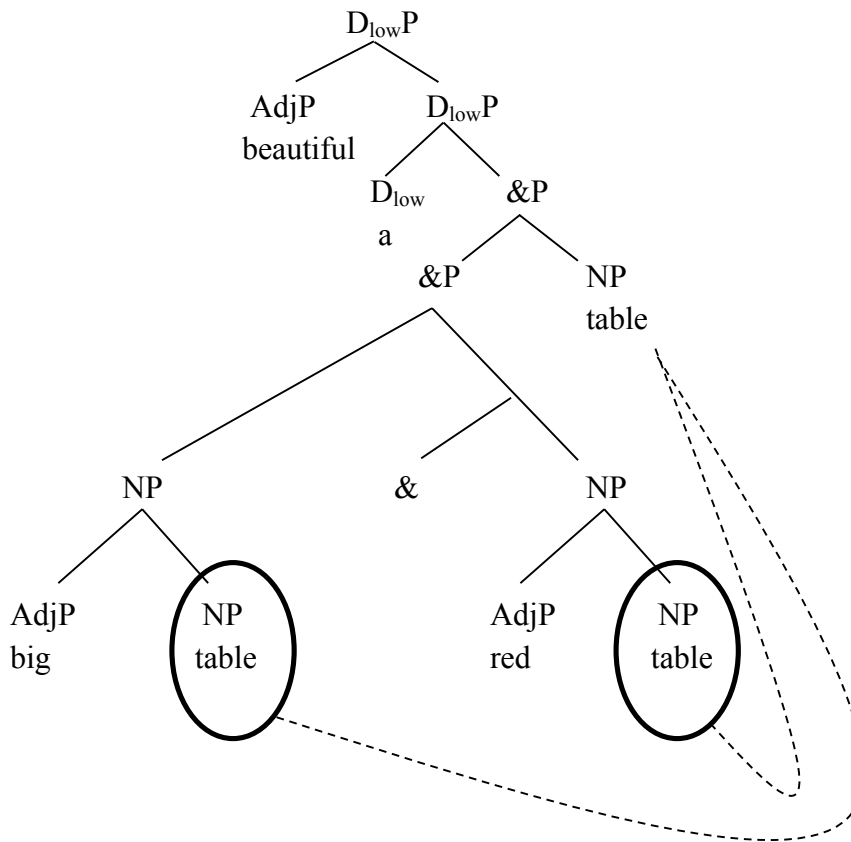


⁶ Supporting evidence for the presence of the D_{LOW} head comes from the observation that the indefinite follows the possessors and adjectives. We assume possessors in Turkish indicate the position of the D head.

Can'ın güzel bir arabası	*bir Can'ın güzel arabası
Can-GEN beautiful a car	a Can-GEN beautiful car
"a beautiful car of Can"	

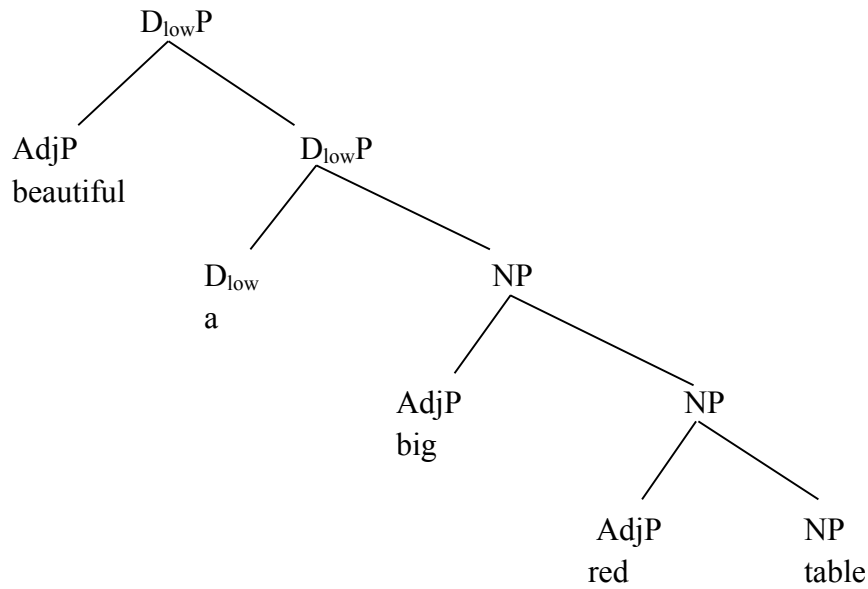
We now have a theory of both variable and strict ordering of adjectives in Turkish. We are now ready to address the question of inter-speaker variation. We have seen that some speakers allow any ordering of adjectives following the indefinite as long as these adjectives are lower in the hierarchy than the adjectives preceding the indefinite. For such speakers, we propose the structure in (41).

41)



Note that in (41) there is no c-command relation between the two adjectives that follow the indefinite while the adjective preceding the indefinite c-commands both. The speakers who force a strict ordering in the post-indefinite domain simply do not allow NP-coordination below the indefinite. For these speakers, the Adjective Hierarchy is relevant even for adjectives following the indefinite, as shown in (42)

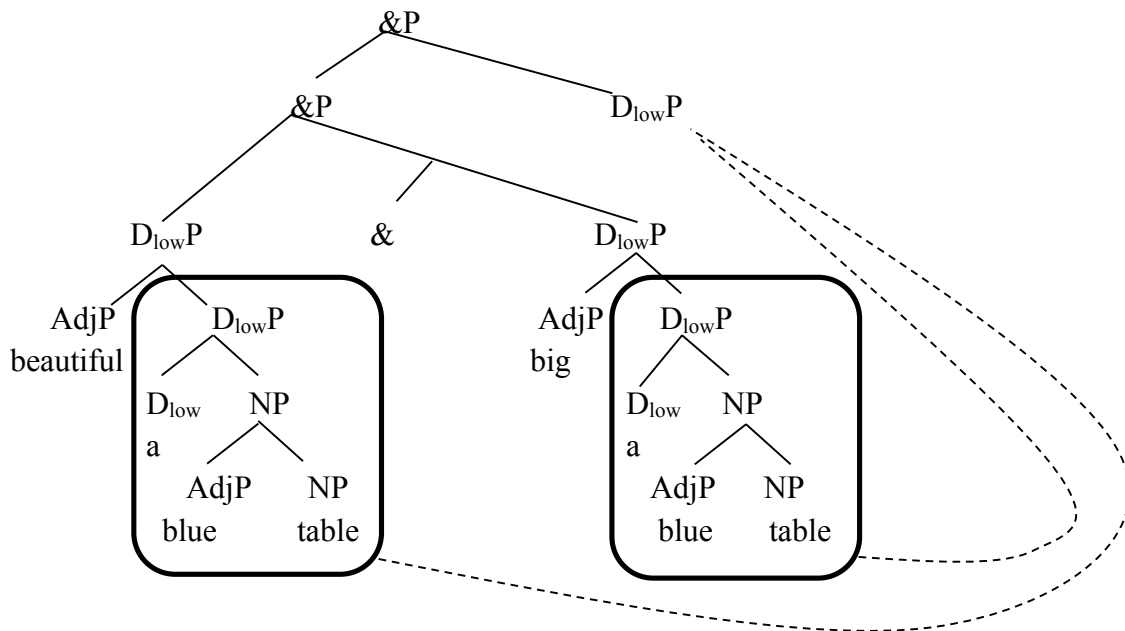
42)



All speakers (that have been consulted) accept variable ordering preceding the indefinite.

However, these adjectives must be higher than adjectives that follow the indefinite. This result is a consequence of a structure like (43)

43)

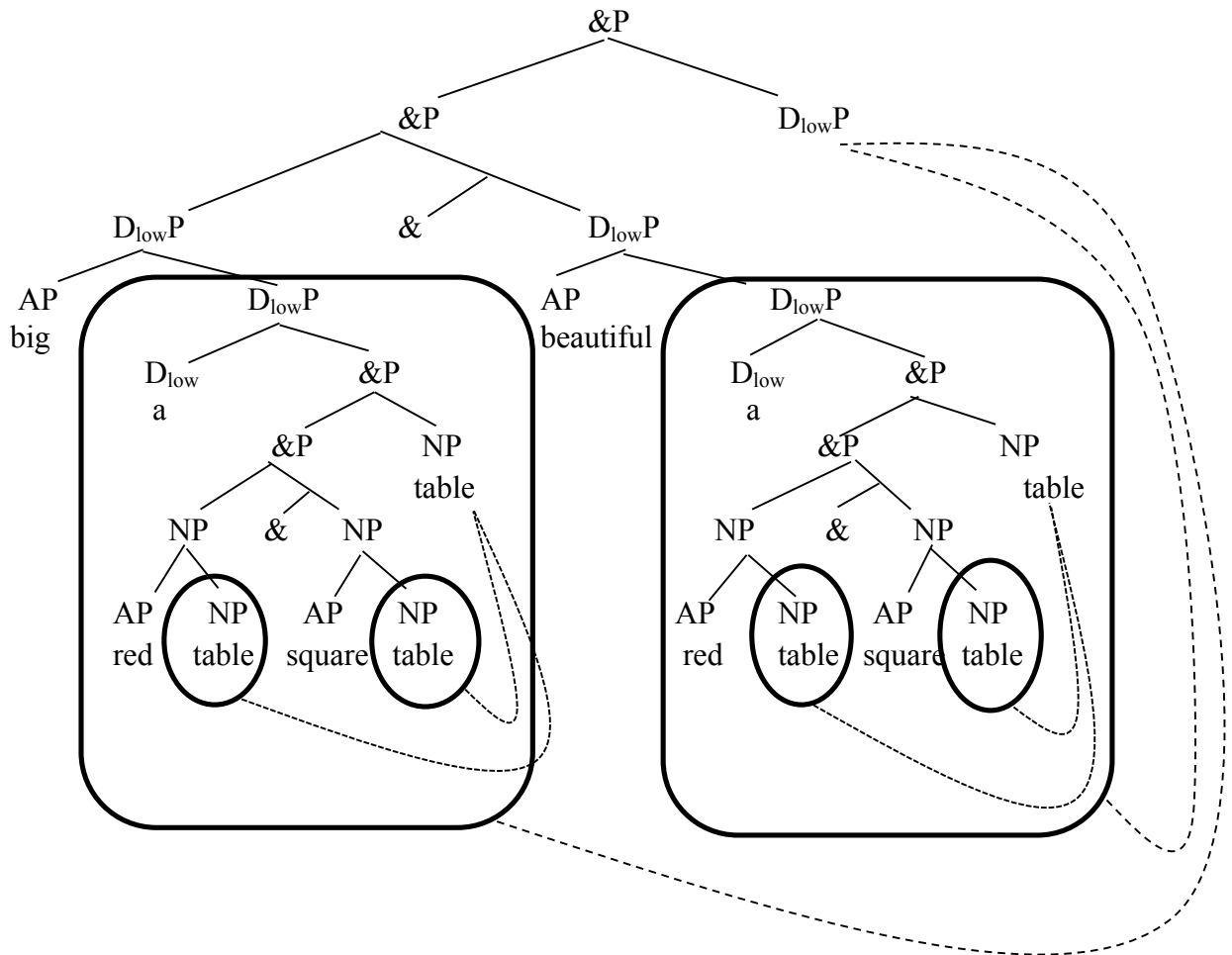


Note, finally, that in (44) the adjectives preceding the indefinite must be higher than the adjectives following it. However, there is variable ordering between the adjectives that precede the indefinite and between the adjectives that follow the indefinite. The analysis of (44) is given in (45).

44)

büyük güzel bir kırmızı kare masa
big beautiful a red square table

45)



Note that no adjective preceding the indefinite c-commands the other adjective preceding the indefinite. The same is true with the adjectives following the indefinite. However, each adjective preceding the indefinite c-commands each adjective following the indefinite. Therefore, there is fixed ordering between the adjectives preceding the indefinite and the adjectives following the indefinite.

In this section, we have provided an analysis of variable and strict ordering in Turkish. We have argued that variable ordering is a function of coordination while strict ordering is a function of c-command. In this way, we can explain various observations about the interaction of the indefinite article with adjectives in Turkish.

4. Conclusion

We have seen that Turkish cannot be analyzed as a language with indirect modification. Instead, a set of subtle judgments about adjective ordering in Turkish can be explained if we assume that

- a. variable adjective ordering is a consequence of NP coordination (*plus ATB*⁷)
- b. strict adjective ordering is a consequence of c-command relation between adjectives.

If this approach to adjective ordering in Turkish is on the right track, one would like to see its cross-linguistic consequences. We leave this task to future work.

⁷ Note, again, that we have adopted the ATB analysis of Right Node Raising only for concreteness. Other approaches (for example, Ellipsis or Multidominance) would work equally well for the problems at hand.

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