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Titel: Adjective ordering in Turkish

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Adjective ordering in Turkish

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In many languages adjectives modifying a head noun come in a strict order that is regulated by the Adjective Hierarchy. In Turkish, on the other hand, adjectives may come in any order. This raises the possibility that Turkish is one of those languages that lack adjective ordering restrictions. In this paper, we claim that, despite appearances, Turkish does exhibit adjective ordering restrictions. We observe that adjectives preceding the indefinite article must be higher on the Adjective Hierarchy than adjectives following the indefinite article. In order to explain this observation, we offer various amendments to the theory of adjective ordering developed in Sproat & Shih 1991.

Keywords: adjectives, adjective ordering, Turkish, nominal syntax

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1. Introduction

Languages seem to differ as to whether they put restrictions on the order of adjectives modifying a head noun. In English, for instance, 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 & Shih, 1991, Cinque, 1994, 2010 among others)

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

In Japanese, on the other hand, adjectives preceding a noun can come in any order (Sproat & Shih 1991: 582).

- (2) a. *okokina akai inu*
large red dog
'a large red dog'
b. *akai okokina inu*

In this respect, the behavior of adjectives in Turkish is similar to what has been observed for Japanese. In Turkish, too, adjectives preceding a head noun may come in any order.

- (3) a. *güzel büyük gri kediler*
 beautiful big gray cats
 ‘beautiful big gray cats’
 b. *güzel gri büyük kediler*
 beautiful gray big cats
 c. *büyük güzel gri kediler*
 big beautiful gray cats
 d. *büyük gri güzel kediler*
 big gray beautiful cats
 e. *gri büyük güzel kediler*
 gray big beautiful cats
 f. *gri güzel büyük kediler*
 gray beautiful big cats

Sproat & 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 this conclusion is not supported by empirical evidence. To establish this, we focus on the interaction between adjectives and the indefinite article within a noun phrase.¹ First, observe that in a typical nominal expression with adjectives, the indefinite article immediately precedes the head noun (4).

- (4) *güzel gri bir kedi*
 beautiful gray a cat
 ‘a beautiful gray cat’

The indefinite article may also be positioned between adjectives as in (5).

- (5) a. *güzel bir gri kedi*
 beautiful a gray cat
 ‘a beautiful gray cat’
 b. *büyük bir kare masa*
 big a square table
 ‘a big square table’

1 We assume that the indefinite article is hosted by a low D head that we shall call D_{low}. See fn 8 for independent evidence for this claim. We suggest that adjectives preceding the indefinite are adjuncts on D_{low}P. The D_{low} head is distinct from the “regular” D head that hosts D-level elements like demonstratives. The question of whether Turkish has a D head is under debate (see Öztürk (2005) and Bošković & Şener (2014) for arguments against a D head in Turkish. See Arslan-Kechriotis (2009) for arguments in favor of a D head). We briefly discuss this issue in fn 9.

The crucial observation we make in this paper is that adjectives preceding the indefinite article must be higher on the Adjective Hierarchy than adjectives following it.^{2 3}

(6) QUALITY>SIZE>SHAPE>COLOR

- a. *?gri bir güzel kedi*
gray a beautiful cat
- b. *?kare bir büyük masa*
square a big table

In this paper we argue that (1) variable ordering of adjectives in Turkish is a consequence of coordination of nominal constituents and (2) strict ordering of adjectives is a reflex of asymmetric c-command relation between adjectives. This implies that, despite appearances, Turkish does have adjective ordering restrictions.

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

2. Types of adjectival modification

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 shown in (7) (repeated from (1)).

- 2 We will later provide a more detailed description of adjective ordering on either side of the indefinite article. Note that numerals behave similarly to the indefinite article in that adjectives preceding numerals must be higher on the Adjective Hierarchy than adjectives following numerals. Our account for the interaction between indefinite articles and adjectives directly applies to numerals.

- 1a. *güzel iki gri kedi* b. *?gri iki güzel kedi*
beautiful two gray cats gray two beautiful cats

- 3 Throughout this paper, we use the question mark (instead of the asterisk) to express the unacceptability of expressions in which the Adjective Hierarchy is not obeyed. The reason is that such expressions are not as unacceptable as some other expressions we discuss in this paper. For instance, an attributive adjective preceding a demonstrative is quite unacceptable. (We discuss this again in fn 9). We use the star to express this unacceptability.

- 1. **kırmızı bu araba*
red this car

One might then wonder about the nature of this distinction in acceptability between these two types of examples. In this paper, we offer no insight. We simply assume that different types of ungrammaticalities lead to different degrees of unacceptabilities.

(7) The Adjective Hierarchy

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

We can find examples of parts of this ordering in English (Sproat & 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 & Shih 1991 unless specified otherwise)

(11) SIZE, COLOR

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

(12) QUALITY, SHAPE

- a. *hǎo-de yuán-de pánzi*
good-DE round-DE plate
'a 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

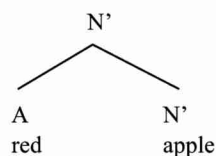
- a. *xiǎo lǜ huāping*
small green vase
'a small green vase'
- b. **lǜ xiǎo huāping*

(14) QUALITY > SHAPE

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

Sproat & Shih (1991) develop a theory of rigid and variable adjective ordering, that provides an explanation for the patterns described above. They argue that there are various types of modification and that they are relevant to the question of whether a construction shows hierarchy effects.⁴ The first type of modification is *direct modification*. In direct modification, adjectives are licensed under sisterhood with a noun projection.

(15)



Direct modification has two important properties: (1) Direct modifiers obey adjective ordering restrictions, and (2) direct modifiers are always closer to the head noun 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*

4 See Cinque (2010) for a cartographic interpretation of the observations in Sproat & Shih (1991). We will later discuss Cinque's analysis in the context of adjective ordering in Turkish.

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 the head noun than any D-level elements.

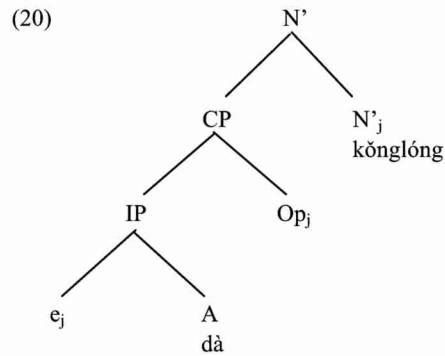
- (17) a. **hóng zhéige píngguǒ*
 red this apple
 b. **yuán měige zhuōzi*
 round each table

The second type of modification is *indirect modification*. Sproat & Shih (1991) motivate a syntax for this modification based on various properties of the *-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



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 of attribution). One important property of indirect modifiers is that they can come both before and after D-level elements.⁵

- (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 & Shih 1991: 579)
 Adjective Ordering Restrictions (AOR) obtain if and only if adjectives involved are direct modifiers.

Languages that lack direct modification do not impose strict ordering on adjectives. Moreover, in such languages, D-level elements (determiners, demonstratives, possessors) *can be* (but need not be) closer to the head 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 lacks direct modification. If this is the case, we predict that D-level elements in Japanese *can* come between adjectives and nouns. 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 possibility.⁶

5 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 & Shih 1991: 578).

1. *She loves all those Oriental, orange, wonderful ivories*

The syntactic representation of this type of modification is unclear. In the rest of this paper, we will ignore this type of modification.

3. Notes on adjective ordering in Turkish

We have already observed that any ordering of adjectives seems to be equally acceptable in Turkish; see (25) repeated from (3).

- (25) a. *güzel büyük gri kediler*
 beautiful big gray cats
 ‘beautiful big gray 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*

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

- (26) *güzel büyük gri bir kedi*
 beautiful big gray a cat
 ‘a beautiful big gray cat’

Adjectives preceding the indefinite article can come in any order.

- (27) a. *güzel gri büyük bir kedi*
 beautiful gray big a cat
 b. *büyük güzel gri bir kedi*
 c. *büyük gri güzel bir kedi*
 d. *gri büyük güzel bir kedi*
 e. *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 is indirect in Turkish. We now present two problems with such an analysis.

One property of languages that lack AOR is that D-level elements (determiners, demonstratives, possessors etc.) can precede or follow adjectives. As discussed in

6 For an overview of approaches to adjective ordering, see Valois (2006). Valois (1996) assumes that adjectives are NP-level adjuncts. Certain asymmetries between classes of adjectives are argued to follow from asymmetrical relations between such NP-level adjectival adjuncts. This makes Valois’ analysis of adjective ordering quite similar to the analysis developed by Sproat and Shih (1991), where adjective phrases are adjuncts on an N-bar level. It is to be noted that the amendments we offer for the analysis by Sproat & Shih (1991) are also relevant for Valois’ analysis (1996).

detail in Bošković & Şener (2014),⁷ this is not true for Turkish. D-level elements in Turkish always precede adjectives.

- (28) a. *şu pahalı bisiklet*
that expensive bike
b. **pahalı şu bisiklet*
expensive that bike
- (29) c. *Can'ın pahalı bisikleti*
Can-GEN expensive bike
'Can's expensive bike'
d. **pahalı Can'ın bisikleti*
expensive Can-GEN bike

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

- (30) *güzel bir büyük gri kedi*
beautiful a big gray cat

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

- (31) 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

⁷ 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.

1a. *güzel olan şu bisiklet*
beautiful be.REL this bike
'this bike which is nice'

- d. *?sarı bir geniş masa*
 yellow a wide table

That is, there are constructions within Turkish 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, there is variation in acceptability judgements. Speakers we have consulted seem to be 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.

(32) Type 1 (QUALITY>SIZE,SHAPE)

- a. *güzel bir kırmızı geniş masa*
 beautiful a red wide table
- b. *güzel bir geniş kırmızı masa*
 beautiful a wide red table

(33) Type 2 (QUALITY>SIZE>SHAPE)

- a. *?güzel bir kırmızı geniş masa*
 beautiful a red wide table
- b. *güzel bir geniş kırmızı masa*
 beautiful a wide red table

Both types of speakers agree that adjectives preceding the indefinite article may come in any order.

- (34) a. *geniş güzel bir kırmızı masa*
 wide beautiful a red table
- b. *güzel geniş bir kırmızı masa*

As we have already noted, any adjective preceding the indefinite article must be higher on the Adjective Hierarchy than any adjective following it. This is shown in (35)–(37) with adjectives preceding and following the indefinite article.

(35) 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

(36) QUALITY>SHAPE>COLOR

- a. *güzel kare bir turuncu masa*
 beautiful square an orange table
- b. *?kare bir güzel turuncu masa*
 square a beautiful orange table

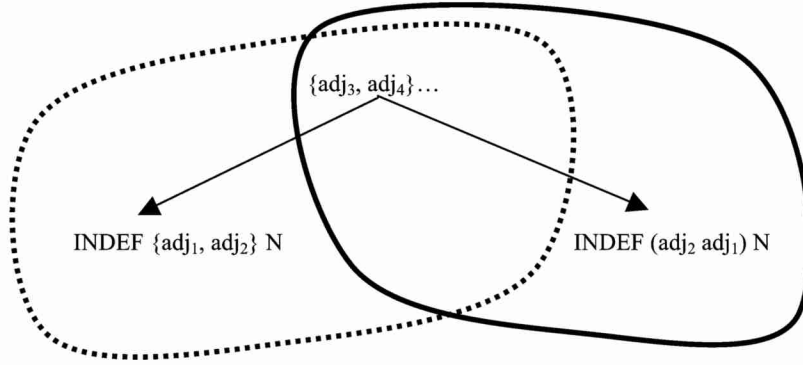
(37) QUALITY>SIZE>SHAPE>COLOR

- a. *geniş güzel bir turuncu kare masa*
 wide beautiful an 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

Below are the judgment patterns for the two types of speakers of Turkish. Parentheses represent strict ordering of adjectives while curly brackets represent variable ordering. Higher numerals are used for adjectives that are higher on the Adjective Hierarchy. The dotted line characterizes the speakers of Turkish who allow variable ordering of adjectives following the indefinite article (Type 1). The solid line, on the other hand, represents the speakers who impose a strict ordering of adjectives in the post-article domain (Type 2). It will be observed that all speakers allow variable ordering of adjectives preceding the indefinite article.

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? In what follows, we will provide answers for these questions.

(38)



4. An analysis for adjectives in Turkish

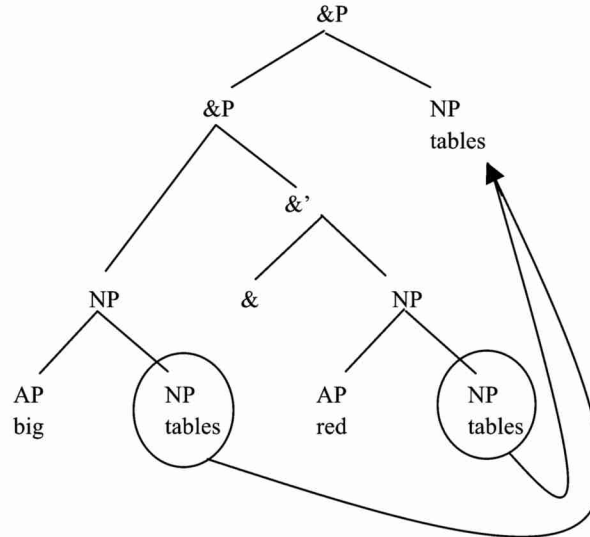
In this section, we develop an analysis for our observations about adjective ordering in Turkish. First we need to revise the theory of adjective ordering developed in Sproat and Shih (1991). For them, the Adjective Hierarchy is relevant for adjectives that are in a certain position in a syntactic representation (i.e. sisterhood to a noun projection). We claim, instead, that the Adjective Hierarchy is about relative c-command relations between adjectives. Our proposal is given in (39).

(39) Adjective Ordering Restrictions

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

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) of the minimal NP (Ross 1967, but see Ince 2009. Note that we adopt the ATB analysis for no other reason than explicitness). Given these assumptions, we see that in (40), no AP c-commands the other and, therefore, the adjectives are not subject to adjective ordering restrictions.

(40)



This is the theory of variable ordering we adopt in this work (see the next section for discussion of some alternatives). This analysis raises an immediate question. Why is it that the indefinite article introduces asymmetries between adjectives? We assume that, in addition to the D head that hosts demonstratives and licenses possessors, Turkish has a distinct, low D head that hosts the indefinite article (we call this head “D_{low}”). Moreover, we assume that adjectives can be merged with this low D head⁸

- 8 Supporting evidence for the presence of the D_{low} head (in addition to “regular” D heads like demonstratives) comes from the observation that the indefinite article in Turkish can follow possessors and adjectives. However, the indefinite article can never precede possessors. We assume that possessors in Turkish indicate the position of the D head.

- 1a. *Can'ın güzel bir arabası* b. **bir Can'ın güzel arabası*
 Can-GEN beautiful a car-POSS3 a Can-GEN beautiful car-POSS3
 ‘a beautiful car of Can’

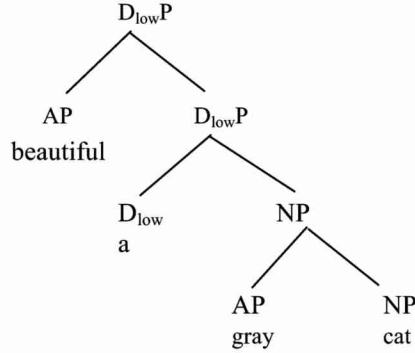
Note that it is also possible for the indefinite article to precede adjectives and follow possessors.

2. *Can'ın bir güzel arabası*
 Can-GEN a beautiful car-POSS3

Arslan-Kechriotis (2009) argues that the indefinite article *bir* in Turkish is licensed in the specifier of the D head. There are various problems with this assumption. Firstly, it is not clear how (1a) is to be analyzed under this assumption. Assuming that possessors are also specifiers of D head (and that each head has only one specifier), (1a) should lead to ungrammaticality. Secondly, the canonical position for the indefinite in Turkish is the immediately prenominal position:

but never with the “regular” D head.⁹ If so, adjectives that precede the indefinite article c-command adjectives that follow it. Given (39), adjectives that are in c-command relation are subject to ordering restrictions.

(41)



We now have a theory of both variable and strict ordering of adjectives in Turkish. We are ready to address the question of speaker variation. We have seen that some speakers allow any ordering of adjectives following the indefinite article as long as such adjectives are lower on the hierarchy than adjectives preceding the indefinite article (Type 1). For such speakers, we propose the structure in (42).

3. *kırmızı bir araba*
red a car

This implies that adjectives are introduced in a position higher than spec DP. This does not seem to be a plausible assumption given that adjectives in Turkish cannot precede a demonstrative (as discussed in Arslan-Kechriotis 2009 and Boškovic & Şener 2014):

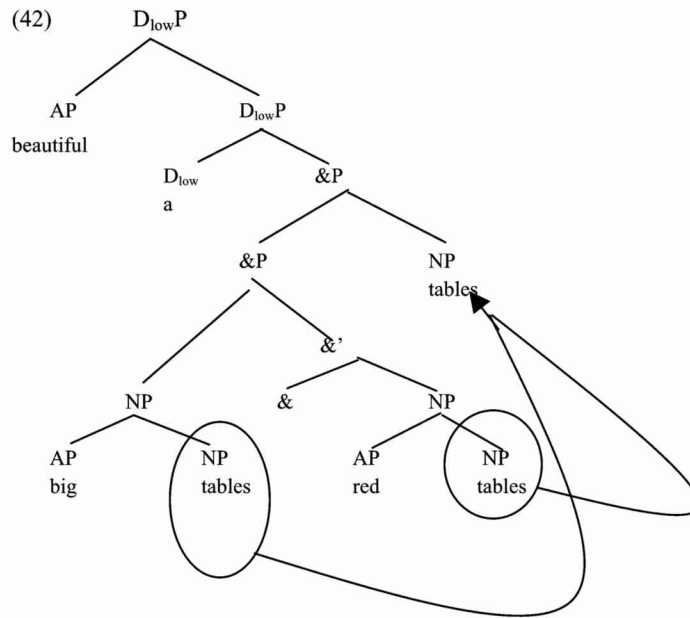
4. **kırmızı bu masa*
red this table

Given these observations, we do not adopt the analysis of *bir* developed in Arslan-Kechriotis (2009).

- 9 The fact that adjectives in Turkish cannot be adjoined to the “regular” D head explains why *Adj-Dem-Noun* order is unacceptable in Turkish:

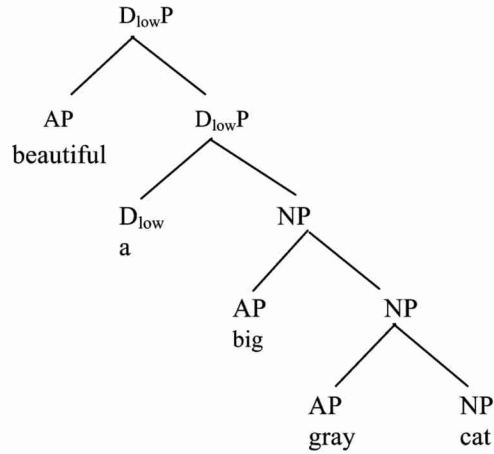
1. **kırmızı bu masa*
red this table

We assume here that Turkish has a D head. It must be noted that this is a controversial assumption. Öztürk (2005) argues against the presence of a D head in Turkish (see also Boškovic and Şener, 2014 for arguments against a D head in Turkish). Öztürk suggests that demonstratives in Turkish are prenominal modifiers and not D heads. On the basis of examples like (1), Arslan-Kechriotis (2009) argues that demonstratives in Turkish cannot be analyzed as prenominal modifiers. This paper is in alignment with Arslan-Kechriotis (2009).



Note that in (41) there is no c-command relation between the two adjectives that follow the indefinite article while the adjective preceding it c-commands both. Therefore, an adjective preceding the indefinite is always higher on the Adjective Hierarchy than adjectives following the indefinite. Moreover, adjectives following the indefinite are not ordered with respect to each other. Let us now consider our analysis for speakers who force a strict ordering in the post-indefinite domain. We claim that such speakers simply do not allow NP-coordination in the context of the D_{low} head. For these speakers, the Adjective Hierarchy is relevant even for adjectives following the indefinite article, as shown in (43).

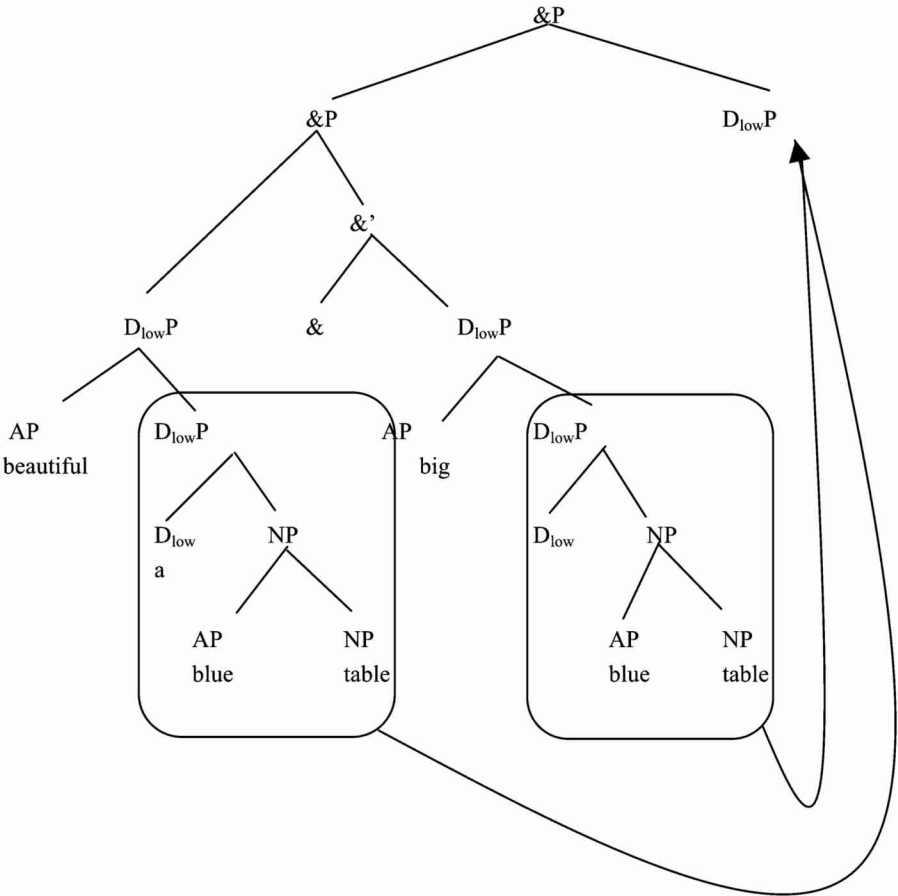
(43)



All speakers (who have been consulted) accept variable ordering preceding the indefinite article. However, these adjectives must be higher than adjectives that follow the article. This result is a consequence of a structure like (44). Note that in this construction, the adjectives preceding the indefinite article are not in c-command relation with respect to each other; however, they both c-command the adjective following the indefinite article.

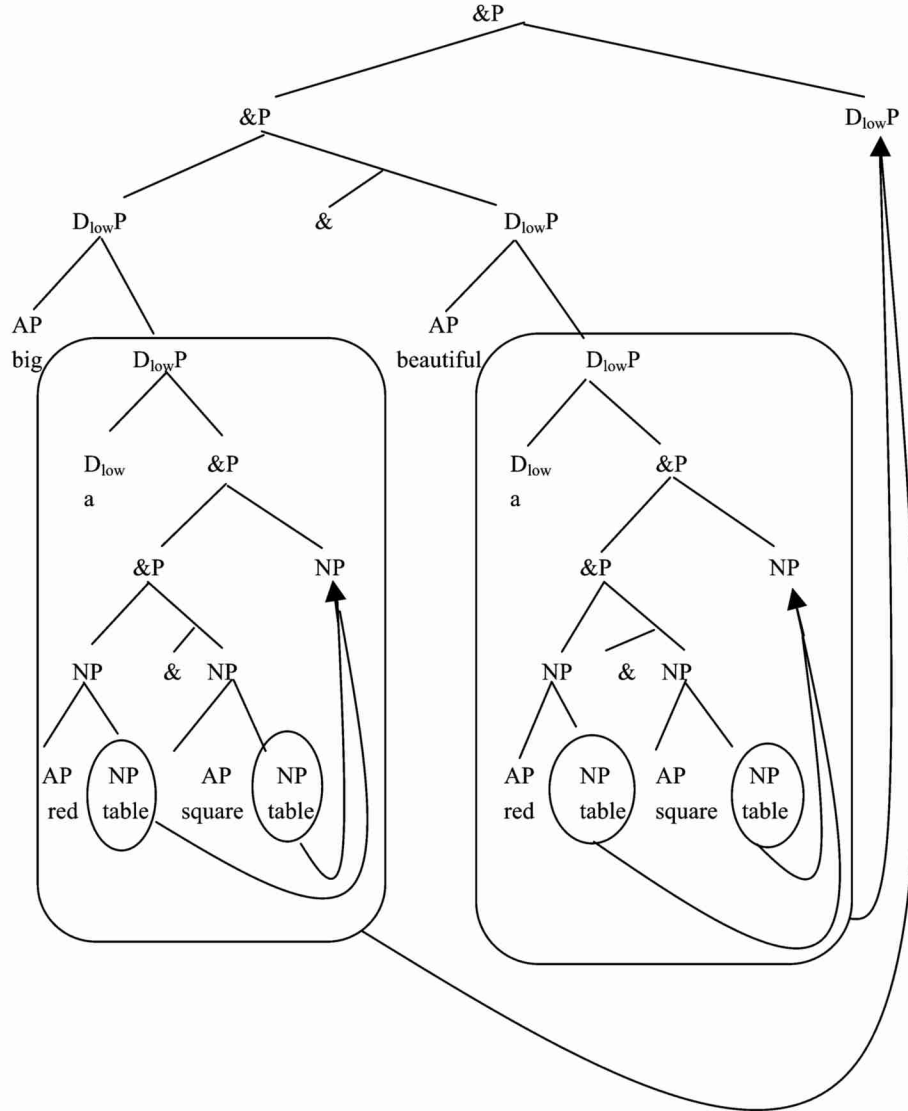
Finally, in (45) the adjectives preceding the indefinite article are higher on the Adjective Hierarchy than the adjectives following it. However, there is variable ordering between the adjectives that precede the indefinite article and between the adjectives that follow it. This means that it must have a syntactic representation in which each adjective preceding the indefinite article c-commands each adjective following the article. However, the adjectives following the indefinite article (as well as the adjectives preceding it) must not c-command each other. The syntactic representation of (45) given in (46) accounts for these observation.

(44)



(45) *büyük güzel bir kırmızı kare masa*
big beautiful a red square table

(46)



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

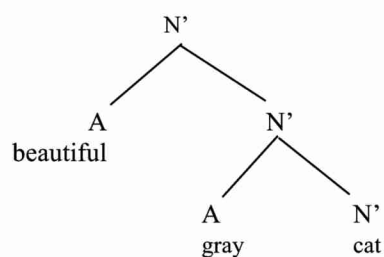
In this section, we have provided an analysis of variable and strict ordering in Turkish. We have argued that variable ordering is a function of coordination while strict ordering is a function of c-command. In this way, we can explain various observations about the interaction of the indefinite article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

5. An alternative analysis?

In the previous section, we have shown that a set of subtle observations about adjective ordering in Turkish can be explained if we assume that variable adjective ordering is a consequence of NP (or $D_{low}P$) coordination and that adjective hierarchy is defined over asymmetric c-command between adjectives. In this section, we discuss various alternative analyses for adjective ordering in Turkish and show that they seem to be inadequate.

We have already noted that for Sproat & Shih (1991) only direct modifiers are subject to adjective ordering and an adjective is a direct modifier if and only if it is sister to a noun projection. That is, only adjectives that are sisters to a noun projection are ordered with respect to each other, as shown in (47).

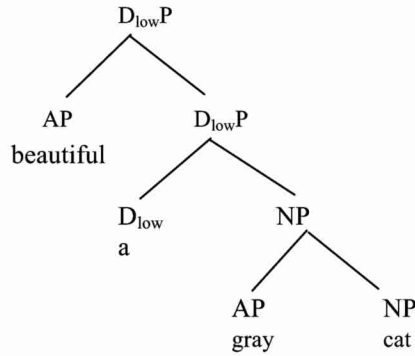
(47)



One problem with this analysis of strict adjective ordering is the observation that in Turkish adjectives preceding the indefinite article must be higher on the Adjective Hierarchy than adjectives following it. This is a problem if we assume (as we did) that adjectives preceding the indefinite article are sister to a D_{low} projection and not to a noun projection. Under this picture, it is not clear how we can explain strict ordering of these adjectives within the framework of Sproat & Shih (1991).

We might weaken the condition on adjective ordering. We might, for instance, assume that *any AP-adjunct in the extended projection of a noun is a direct modifier* and they are, therefore, strictly ordered with respect to each other. In (48), repeated from (41), the adjectives are ordered with respect to each other because they are direct modifiers (given that they are AP-adjuncts licensed in the extended projection of the same noun.) We might assume, following Sproat & Shih (1991), that languages that lack strict ordering have (reduced) relative clauses instead of AP adjuncts.

(48)



It is important to note that this extension of Sproat & Shih (1991) is not sufficient to explain the observations we have made in this paper. To see this, consider the examples in which there is variable ordering of adjectives preceding the indefinite while all adjectives preceding the indefinite must be higher than all adjectives following the indefinite (repeated from (34)).

- (49) a. *geniş güzel bir kırmızı masa*
 wide beautiful a red table
 b. *güzel geniş bir kırmızı masa*

In this example, we observe that the adjectives preceding the indefinite are not ordered with respect to each other. This leads to the conclusion that the preindefinite adjectives are *relative clauses* (and not direct modifiers). However, the adjectives preceding the indefinite are ordered with respect to the adjective following the indefinite. This leads to the conclusion that the pre-indefinite adjectives are *direct modifiers*. However, an adjective cannot both be a relative clause and a direct modifier.¹⁰ This implies that we need an alternative proposal to this extension of

10 Similar problems arise for the analysis of developed in Cinque (2010). For Cinque, adjectives with rigid order are specifiers of distinct heads on the extended projection of the NP. Adjectives that are not rigidly ordered are reduced relative clauses (see also Sproat & Shih, 1991). Now consider the following example in the context of Cinque's theory:

1. *geniş güzel bir kırmızı masa*
 wide beautiful a red table

In this example, *güzel* 'beautiful' and *kırmızı* 'red' are rigidly ordered with respect to each other. In the analysis of Cinque (2010), this means that they are both specifiers of dedicated functional heads. Note, however, that *güzel* and *geniş* are not rigidly ordered. This means that they are both reduced relative clauses. All this implies that *güzel* is both an AP

Sproat & Shih (1991) in order to explain the observations discussed in this paper. The proposal we have developed in section 4 is one such alternative.

6. 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 coordination (*plus ATB*)¹¹
- b. strict adjective ordering is a consequence of asymmetric 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.

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that is the specifier of a functional projection and a relative clause (that is, a CP). This does not seem to be a desirable conclusion.

- ¹¹ Note, again, that we have adopted the ATB analysis of Right Node Raising only for the sake of concreteness. Other approaches (for example, Ellipsis or Multidominance) would work equally well for the problems at hand.

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