

# APs AS REDUCED RELATIVES: THE CASE OF *BİR* IN (SOME) VARIETIES OF TURKIC<sup>1</sup>

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## 1. Introduction

The present paper deals with the A-D-N order in Turkish that also occurs in some other varieties of Turkic languages. Turkish has an indefinite article that, unlike the cardinal "one" from which it has derived, has to immediately precede the head noun. It is suggested in this work that this observation can be accounted for by Kayne's (1994) analysis of APs as reduced relatives, with a small-scale modification in his theory. In his framework, APs are analyzed as having a clausal structure with a DP/NP subject and an AP predicate. Although he does not necessarily show whether this clausal subject must be an NP or a DP, I claim that it is a DP fully specified for both definiteness and specificity. I also show that Turkish intersective adjectives are only permitted by indirect modification –which explains the flexible adjective ordering in Turkish– although they can be permitted by both direct and indirect modification crosslinguistically (e.g. Mandarin, Sproat and Shih 1988; Greek, Alexiadou and Shih 1998).

There are no rigid adjective ordering restrictions in Turkish, and the adjectives always surface prenominaly. Another property of Turkish that is crucial for the purposes of the present paper is that, despite the lack of a definite article, Turkish has an indefinite article *bir*. When *bir* immediately precedes the head noun in an AP construction, it can only be interpreted as an indefinite article. If it has a scope over the whole phrase, it typically has a numeral interpretation (except for non-intersective adjectives, which I discuss in section 4). The distinction is exemplified below:

(1) *bir kırmızı elma*  
 one red apple  
 'one red apple'

(2) *kırmızı bir elma*  
 red an apple  
 'a red apple'

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The above distinction is also found in several other Turkic languages like Azerbaijani, Tatar, Uzbek and Turkmen. In this paper, I show that AP constructions are clausal in these languages, and should be analyzed as reduced relatives. This has several implications. First, we need to re-analyze Kayne's (1994) treatment of APs as reduced relatives starting out with a clausal derivation that has a fully specified DP as its subject. Second, we should be able to show why non-clausal analyses of AP constructions fall short, especially in the analysis of constructions with the indefinite article *bir*. Third, we need to look at languages such as Greek that allow multiple determiners and show *Determiner Spreading* (DS) (Androutsopoulou 1995) to see if we can draw some parallelisms. These issues are within the scope of this paper, and those related to post-nominal adjectival modification are deliberately left out.

The organization of this paper is as follows: In section 2, I present the framework. In section 3, I provide my analysis of Turkic AP constructions as reduced relatives. In section 4, I lay out the predictions of an analysis of Turkic APs as clauses. In section 5, I summarize my conclusions.

## 2. Theoretical Background: The LCA

### 2.1 Kayne's (1994) analysis of relatives in English

Kayne (1994) claims, "if two phrases differ in linear order, they must differ in hierarchical order" (p.3). Since the linearization of terminal nodes in a derivation is the direct result of hierarchical order in his framework, only binary branching is allowed. Kayne further argues that this hierarchy of terminal nodes is right-branching and is maintained by asymmetric c-command, which presupposes an underlying word order for all languages. Kayne claims that this order is Specifier-Head-Complement, and if any given language deviates from this surface order, then it must have undergone some movement operations to derive a new word order. These movement operations are always leftward. He suggests that headedness therefore should no longer be a parameter. He represents linear order that is determined by hierarchical structure based on asymmetric c-command as follows:

- (3) LCA (Linear Correspondence Axiom)  
 $d(A)$  is a linear ordering of  $T$ .

So, for any given phrase or sentence, where  $T$  is the set of all terminal nodes and  $A$  is a set of all pairs of non-terminals such that the first one asymmetrically c-commands the second ( $d$ ), the set of terminals that  $A$  dominates must be a linear ordering of  $T$  (Kayne 1994, p.6). In other words, for any given two non-terminals, where the first one asymmetrically c-commands the second, then all the terminals of the first one must precede all the terminals of the second one.

Kayne's (1994) claim about a universal underlying Specifier-Head-Complement structure requires several extra movements for languages with different word orders, which has been, not surprisingly, very controversial. Despite this controversy, the LCA has been widely used to explain the formation of relative clauses and adjectives as reduced relatives (e.g. Karimi 2001 for Persian; Kornfilt 2005 for Turkic; Mahajan 2000 for Hindi; Murasugi 2000 for Japanese; and Alexiadou and Wilder 1998 for Greek). With respect to relativization, Kayne (1994) proposes the derivation listed below. (4) represents the derivation of English object relativization with *that*, which involves the movement of the object to the specifier of the CP headed by *that*:

- (4)a. [<sub>DP</sub> the [<sub>CP</sub> that John made [claim]]]

- b. [DP the [CP [claim]<sub>i</sub> that John made t<sub>j</sub>]]

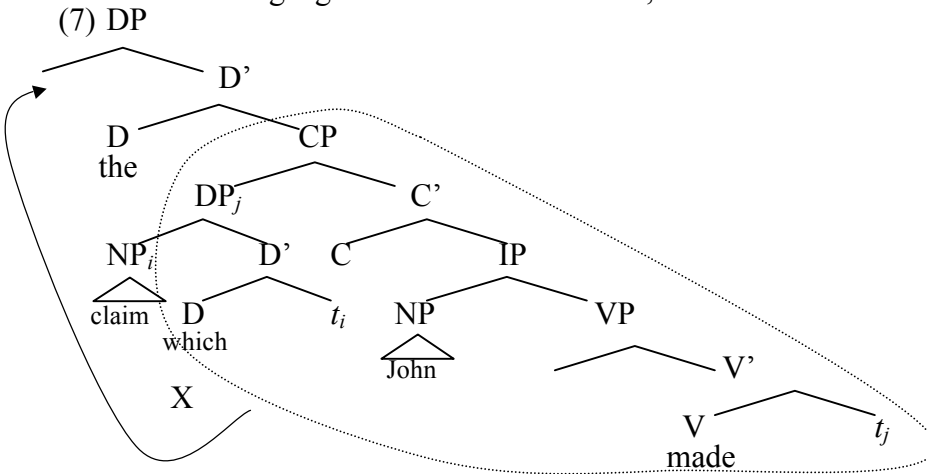
For N-final relatives found in languages like Japanese (or Turkish), Kayne (1994) proposes an additional step: the IP complement of c moves to the specifier of the higher DP, which then yields a prenominal structure as shown in (5):

- (5) [DP [IP John made t<sub>i</sub>]<sub>j</sub> the [CP [NP claim]<sub>i</sub> [C' that t<sub>j</sub>]]]

(6) shows the derivation of English object relativization with a *Wh*- word in its base position. First, the relativized object moves to the specifier of which; then, the whole DP headed by *which* moves to the specifier of CP.

- (6) a. [DP the [CP C John made [DP which [CP claim ]]]]  
 b. [DP the [CP C John made [DP [NP<sub>j</sub> claim] which t<sub>j</sub>]]  
 c. [DP the [CP [DP<sub>k</sub> [DP<sub>j</sub> claim] which t<sub>j</sub>] C John made t<sub>k</sub>]]

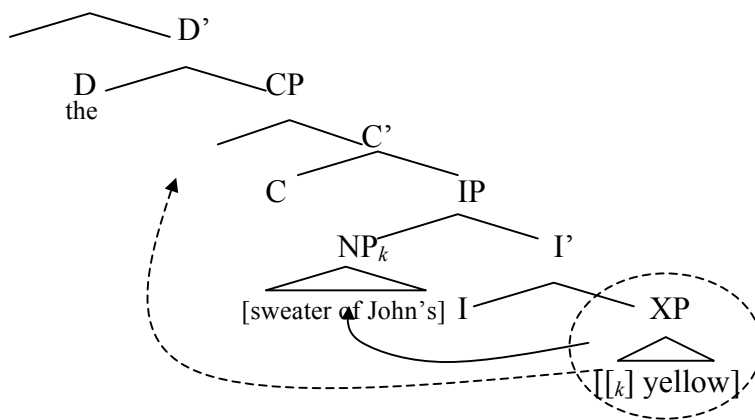
In addition, Kayne (1994) claims that head-final languages do not typically have overt complementizers because these cannot be stranded. Kayne accounts for this by claiming that the *wh*- word and the modified NP are not compatible with having a final N. In other words, the NP and the *wh*- word do not form a constituent and thus cannot move to the specifier of the highest DP. Therefore, it must be the movement of the IP instead of the CP to the specifier of the highest DP in head-final languages. For better illustration, let us consider the following derivation:



Since the movement of the CP into the specifier of the DP cannot leave the modified noun stranded as illustrated in (7), Kayne (1994) suggests that it is the IP that moves in head-final languages. So, in order to have a head-final relative, the IP in (7) should move to the specifier of the DP, not the CP. Kayne (1994) analyzes AP constructions in the same fashion: APs are derived through predicate raising for prenominal adjectives and head-raising for post-nominal adjectives. In (8), the NP *sweater of John's* is underlyingly the subject of the XP while the adjective *yellow* is the predicate. First, the subject NP moves to the specifier position of the IP as indicated by a straight line. Then, the XP, along with the trace of the subject NP, moves to the

specifier position of the CP as shown by the dotted lines. Finally, the determiner *the* is "complemented."<sup>2</sup>

(8) DP



Kayne (1994) represents the subject of the clausal base as either an NP or a DP and does not necessarily specify whether it has to be an NP that is morphologically specified for either specificity or definiteness depending on the language at hand. He claims that the determiner is attached above this whole construction, as illustrated in (8), and that the head noun moves to the specifier of the CP: this is how we get determiner complementation. I will claim that this nominal subject must be a fully specified DP morphologically specified for either specificity or definiteness depending on the morphological structure of the language at hand. There are at least two reasons to assume this: (i) On one hand, we could argue that – if we take Principle of Compositionality as a given – any given statement, let us say, *The sweater is yellow* has a truth-value and if we decompose the truth-value such that it must be true in some real or imaginary world that there exist a sweater and it is yellow, we would have to argue that the modified noun *sweater* must already be specified as definite or specific before it enters into a modification relation with the adjective *yellow*.

(ii) On the other hand, if we consider some other theories such as Distributed Morphology (Halle and Marantz 1994), we will see that nouns are claimed to be fully specified as they are represented in the numeration before they enter the derivation: each root has a bundle of features, which would in this case include +definite, and –plural for the noun *sweater*. In other words, even if the noun *sweater* lacks its phonological content at this point, it comes along with these features. Furthermore, under the Checking Theory of Chomsky (1995), the noun and its determiner check their features in a local domain. In (8), it appears that the determiner and the head noun are too far from each other to check this feature. We can therefore say that an analysis of APs as reduced relatives, where the subject of the underlying clausal structure lacks a DP projection, has several theoretical problems. I return to this issue in section 3, and claim that we need to have a fully specified DP in the subject position of this underlying clause in AP constructions.

Looking at Turkic languages, which are head-final (Karaim and Gagauz being exceptions), Kornfilt (2005) notices three patterns for relative clauses whose targets are non-subjects. These three patterns are all N-final but differ in whether there is overt person and number agreement, and in the case of overt agreement, where this agreement is placed. She states that it is difficult to

<sup>2</sup> APs are analyzed as reduced relatives also in Chomsky (1957, 1965), Smith (1961), Jacobs and Rosenbaum (1968) and Demonte (1999) among others.

find an economical account that can explain all three of them, and it is Kayne's (1994) approach that provides such an account. If Kayne's theory (1994) can account for non-subjects relatives in Turkic, it should, by default, account for subject relatives too. Since APs as reduced relatives are in fact reduced subject relatives, I will assume a Kaynean model of relatives in the rest of this paper.

## 2.2 Alexiadou and Wilder's (1998) analysis of Greek DS

Alexiadou and Wilder (1998) look at the distribution of determiners and adjectival modification in Greek and claim that (i) Determiner Complementation (DC) is the correct analysis for definite DPs in Greek only with Determiner Spreading (DS); (ii) indefinite DPs have underlying DS structure but a PF deletion rule deletes the multiple occurrences of the determiner (except the highest one); (iii) direct modification does not involve DC. They base their arguments on the distinction between direct and indirect modification initially made by Sproat and Shih (1988) and claim that Kayne's (1994) analysis of AP constructions as reduced relatives is correct only for indirect modification, unlike Kayne himself, who claims that all kinds of AP constructions have an underlying clausal source

Sproat and Shih (1988) note that the difference between English and Mandarin is that the former always has strict ordering restrictions for adjectives while the latter has this only in certain cases. In English, when there is no special emphasis on a particular adjective is intended, there is a strict ordering restriction, while in Mandarin Chinese, it is possible to have all the possible adjective orderings as shown below. (The particle *de* is also used to mark relative clauses and possessives.)

- |  |  |
|--|--|
| (9) a. <i>xiao-de lu-de hua-ping</i><br>small-DE green-DE vase<br>'small green vase'<br>b. <i>lu-de xiao-de hua-ping</i> | (10) a. <i>hao-de yuan-de pan-zi</i><br>good-DE round-DE table'<br>'nice round table'<br>b. <i>yuan-de hao-de pan-zi</i> |
|--|--|

In Mandarin, monosyllabic adjectives can occur without *de*. In this case, we have the same kind of ordering restrictions that hold for English.

- |   |   |
|---|---|
| (11) a. <i>xiao lu hua-ping</i><br>small green vase<br>'small green vase'<br>b. * <i>lu xiao hua-ping</i> | (12) a. <i>hao yuan pan-zi</i><br>good round table<br>'nice round table'<br>b. * <i>yuan hao pan-zi</i> |
|---|---|

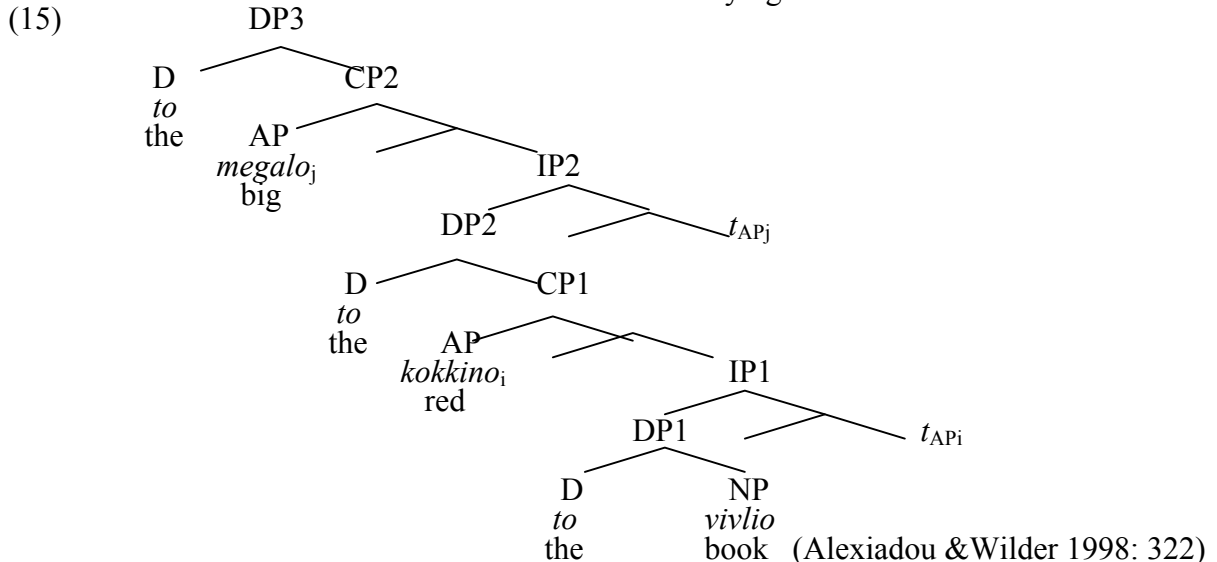
Drawing conclusions from the English and Chinese data as well as looking at several other languages, Sproat and Shih (1988) argue that adjectival modification across languages are of two types: (i) direct and (ii) indirect. (i) involves the formation of common nouns from common nouns and has strict ordering restrictions. They suggest that there is a cognitive basis for such ordering restrictions such that the more apparent adjectives are chosen first and thus are closer to the head noun while the less apparent ones are chosen later in the derivation. This implies that, for example, in the case of (11a), *green* is more apparent than *small*: a set of green vases is cognitively easier to represent in the mind than a set of small vases because *green* is more apparent than *small*, which involves comparisons with other small items in the world. (ii), on the

other hand, is derived from an underlying relative clause. So, unlike Kayne (1994), for whom all kinds of adjectival modification have underlying relative clauses, Sproat and Shih (1988) claims that it only the indirect type that does so.

Greek is similar to Chinese in the sense that both direct and indirect modification is allowed. And as in Chinese, direct modification in Greek results in ordering restrictions on the adjectives while indirect modification does not. In Greek, the element that appears in multiple positions - in a similar fashion to the Chinese relativizer *de* - is the definite article. This is known as Determiner Spreading (DS) in the literature (e.g. Alexiadou and Wilder 1998; Kolliakou 2004). Compare the following examples from Alexiadou and Wilder (1998: 303):

- (13) a. *to megalo kokkino vivlio*  
           the big red book  
       b. \**to vivlio kokkino vivlio*  
           the red big book
- (14) a. *to megalo to kokkino to vivlio*  
           the big the red the book  
       b. *to vivlio to kokkino to vivlio*  
           the red the big the book

In (13), the ordering restrictions of the adjectives *megalo* and *kokkino* are the same as the English (as well as Chinese *de*-less adjectives). The adjective of color has to be closer to the head noun than the adjective of size. (13b) is thus ungrammatical. In (14), such an ordering restriction does not hold in the case of DS. Alexiadou and Wilder (1998) assume the distinction between direct and indirect modification made by Sproat and Shih (1988), and explain the indirect modification in (14) with a Kaynean approach. Alexiadou and Wilder (1998) propose that the prenominal APs in DPs with DS are derived from an underlying clausal structure:



In (15), the derivation starts out with a clausal structure where *to vivlio* is in the subject position and the adjective *kokkino* is the predicate. This predicate is then raised to the specifier of CP1, which is complemented by the head of DP2. This whole structure is in the specifier of IP2

where the predicate is the AP *megalo*. The predicate of IP2 undergoes the same kind of predicate raising. This whole derivation is recursive and does not have any ordering restrictions.

There are two things we need to consider: (i) whether the subject DP *to vivlio* should always be a fully specified DP, and (ii) how the definite articles that are not in a local domain can still agree with the head noun. With respect to (i), in his original proposal, Kayne (1994) does not discuss whether this should be an NP or a fully specified DP. As it was mentioned above, he uses both; however, he does show that in cases like (5), the subject noun is the complement of a D head, *which*. In other cases, this subject is an NP that lacks a DP projection. Alexiadou and Wilder (1998), on the other hand, take it for granted that the subject of the underlying clausal structure is always a DP in Greek DS constructions. This is the only way to account for DS constructions where the modified NP has a definite article.

As for (ii), Alexiadou and Wilder (1998) briefly discuss that a successive  $N \rightarrow D$  raising might be the reason why all the multiple copies of the Ds agree in gender and number: in a simple DP, N raises to D covertly and thus can check Case with an external Case-licensor. In a complex DP such as a DS construction, since the N can only raise to the most local D at any stage, it has to stop at every possible D position where it agrees with this D. The successive raising of the N continues until it reaches the highest D where it can check Case. The same rule applies for indefinites in Greek and the multiple occurrences of the indefinite article except the highest one are deleted by means of a PF rule (Alexiadou and Wilder 1998).

### 3. The analysis

#### 3.1 The two structures of *bir* constructions

Turkish does not have the ordering restrictions for adjectives found in many other languages of the world. For example, the Turkish equivalents of (13) are both grammatical, and this fact does not bear on the presence or absence of *bir*:

(16) *kırmızı büyük (bir) kitap*  
red big (a) book

(17) *büyük kırmızı (bir) kitap*  
big red (a) book  
without *bir*: 'the big red book'  
with *bir*: 'a big red book'

We therefore have our first piece of evidence that adjectival modification in Turkish is indirect and thus must have an underlying clausal structure. Note that both direct and indirect modification can be available in a given language. We saw that Mandarin Chinese and Greek are two examples of that. Based on (16) and (17), we might claim that Turkish only has indirect adjectival modification, as the adjectives *kırmızı* and *büyük* can be either close or distant from the noun they modify.

If - as Sproat and Shih (1988) suggest - there are cognitive reasons for favoring one order over another in direct modification, these should hold for Turkish too if Turkish has direct modification. I therefore claim, in the rest of the paper, that Turkish only has indirect modification and will then show why non-clausal analyses of AP constructions do not account for the Turkish facts. (However, we will look at a small set of non-predicative adjectives that do

not behave in the same way and explain their behavior using Larson and Takahashi's (2002) distinction between DP-modifying adjectives and NP-modifying adjectives.)

As mentioned in section 1, adjectives in Turkish are invariably pre-nominal; they never surface post-nominally. Although Turkish does not have a definite article, it does have an indefinite article that historically originated from the numeral *one*. The indefinite article must immediately precede the head noun in an AP construction, while the numeral must have wide scope over the whole AP, as we saw in (1) and (2). I repeat those examples here for ease of reference:

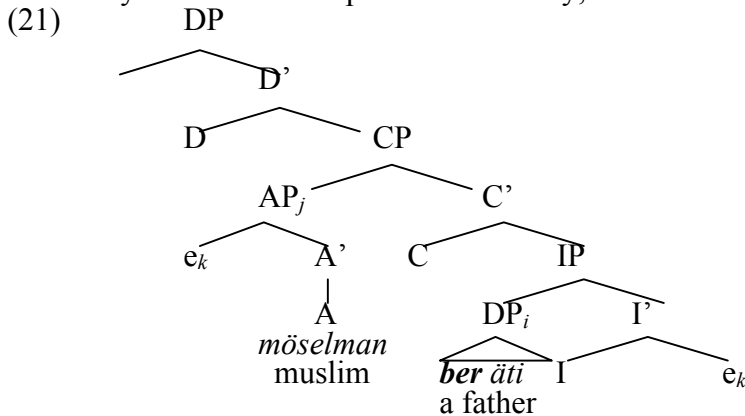
(18) *bir kırmızı elma*  
 one red apple  
 'one red apple'

(19) *kırmızı bir elma*  
 red an apple  
 'a red apple'

(18) is the unmarked structure for a numeral reading, where *bir* can be replaced by "two," "three," etc. (19) on the other hand is an unmarked order for an indefinite article reading, where *bir* must immediately precede the head noun referring to an indefinite or a non-specific noun. These two forms have phonological differences too. The latter typically occurs with a final [r] deletion while the former never does so. A-D-N is an unexpected word order considering the word order in similar structures cross-linguistically where the determiner head must have scope over the whole NP. Such a word order seems to be a general property of various other Turkic languages such as Azeri, Tatar, Uzbek and Turkmen. Below is an example from Tatar:

(20) *möselman ber äti*  
 muslim a father  
 'a muslim father'

With Kayne's (1994) theory of adjectives as having underlying clausal structures, we might claim that the adjective in (20) raise to spec, CP through predicate raising. Let us consider one of the examples closely. In (21), the DP *ber äti* is in the specifier position of the AP. It then moves to the specifier of the IP. Then, this AP, along with the trace of *äti*, moves to the specifier of the CP. First, to account for AP constructions in Turkic as in (21), we will need to assume that the subject of the underlying IP must be a fully specified DP. There would be no other way to account for (21) without such an assumption, as otherwise the indefinite article *ber* would be introduced by determiner complementation only, which would not give the right word order.



We would predict a D-A-N order similar to AP constructions in English. But this is not the end of the story, as there are at least two problems that require explanation for (21). First, why



does a null DP complement the CP? And, second, if we assume that this D is not null but actually deleted by a PF deletion rule, why is the higher one deleted instead of the lower one, while the opposite seems to be the case in Greek as suggested by Alexiadou and Wilder (1998)? The first question is easily explained by Azeri structures like the following, which appears to have an indefinite DS on the surface:

- (22) *bir uyğun bir tercih*  
 one suitable one choice  
 ‘a/one suitable choice’

In (22), both the higher and the lower Ds are overt. This structure can be found in some dialects of Turkish as well even though the multiple occurrences of *bir* sound redundant in Modern Turkish. (For a split DP analysis of these, see Giusti 2006). Based on the Azeri example in (22), let us for now claim that the underlying structure for all similar Turkic constructions has multiple Ds but a PF rule requires us to delete some of them. One solution to this problem is to assume that both of these DPs are available for interpretation but only one of them is spelled-out because of Economy restrictions. We might therefore take a stance that calls for a minimal spell-out. Siddiqi (2006) has already proposed a similar account:

- (23) MINIMIZE EXPONENCE  
 The most economical derivation will be the one that maximally realizes all the formal features of the derivation with the fewest morphemes. (Siddiqi 2006: 14)

If we consider that the underlying structure for all prenominal languages is D-A-D-N, then we would have two functional categories of the same type modifying the same head noun. This is not economical in the sense that two morphemes (or words) bearing the same features are spelled-out. This is where we need a requirement like Minimize Exponence, which requires that only one of these is spelled-out. In English, German and Greek this is the higher one as the determiner is specified for Number. (In English, this is at least historically correct). In Turkic, the lower one is spelled-out because it is the one that realizes specificity. When *bir* in Turkish has wide scope over the AP, it can only have a numeral interpretation meaning “one,” as we saw in (18) and (19)<sup>3</sup>. We then need to show that the lower *bir* is a determiner. In the examples below, the demonstrative *bu* ‘this’ can co-occur with the higher *bir* while it cannot with the lower *bir*:

- (24) *bu bir/iki güzel ev ben-im*  
 this one/two pretty house I-1SG.GEN  
 ‘This one/these two pretty house(s) is/are mine.’

- (25) \* *bu güzel bir ev ben-im*  
 this pretty a house I-1SG.GEN  
 Intended: ‘This a pretty house is mine.’

<sup>3</sup> There is a piece of evidence that *bir* is not specified for number. In the examples like the following *bir* can modify some super-generic plural nouns. However, these are limited to the examples given and are not productively used with other plural nouns.

- (1) *güzel bir yer-ler*  
 nice a place-PL  
 ‘some nice places’
- (2) *güzel bir şey-ler*  
 nice a thing-PL  
 ‘some nice things’

The above distinction suggests that *bir* in (25) and *bu* ‘this’ are of the same grammatical category. And possibly it further suggests that a covert movement of the determiner *bir* is blocked because its landing site is already occupied by another element of the same category.

In the Turkic languages at hand here, the more local determiner is spelled-out because it is not specified for Number but instead for +/-Specificity, a more local requirement (the Nuclear Scope of Diesing, 1992). In other words, Number is an optional feature chosen through numeration while +/-Specificity is an intrinsic feature that is an inherent feature of the NP (Chomsky 1995; Alexiadou, Haegeman and Stavrou 2007). I would therefore claim that the lower *bir* is phonologically visible because it augments the referential meaning of the noun it modifies. In other words, by means of *bir*, the noun it modified becomes a predicate. In Turkish, bare nouns always have a kind level reading. By mean of *bir*, the modified nouns are no longer kinds, but instead, individuals in the real world or some imaginary world.

Because indirect adjectival modification is underlyingly clausal and such a derivation results in multiple copies of the same determiner, languages choose the simplest form that has the richest meaning possible along the lines of Siddiqi (2006). There are similar cases in other languages where the seemingly optional DS is not actually optional. For example in Greek, DS of definites is in fact not optional. When there is a restrictive meaning, DS is required. The following pair of sentences are known as the “life is tough reading” and the “insane reading” respectively (Kolliakou 2004, Leu 2008). The former is due to the fact that the director had to fire some researchers who happened to be effective, hence “life is tough.” The latter, on the other hand, has a restrictive reading on the noun “researchers” and therefore means that the director fired the efficient researchers when he could in fact have fired the inefficient ones:

## (26) LIFE IS TOUGH:

*O diefthindis dilose oti i ikani erevrites tha*  
 the director declared.3SG that **the** efficient researchers will  
*apolithun.*

fire.PST.3PL.PASS

‘The director declared that the efficient researchers will be fired.’

## (27) INSANE:

*O diefthindis dilose oti i ikani i erevrites tha*  
 the director declared.3SG that **the** efficient **the** researchers will  
*apolithun.*

fire.PST.3PL.PASS

‘The director declared that the efficient researchers will be fired.’

Norwegian shows definite DS too. In this language, the higher D is a free morpheme that marks definiteness while the lower one appears as a bound morpheme on the modified noun. The second one is phonologically visible as long as the modified noun is specific. The below examples from Julien (2005) show the difference: In (28), “brutes” does not refer to a specific group of people that the speaker and the listener are aware of while in (29) the interlocutors know exactly who those “brutes” are:

(28) *Dei oppfører seg som dei verst-e bøll-ar*  
 they behave 3REF as DEF.PL worst-w brute-PL

‘They behave like the worst brutes [whoever they are]’

- (29) *Dei oppfører seg som dei verst-e bøll-a-ne*  
 they behave 3REF as DEF.PL worst-w brute-PL-DEF  
 'They behave like the worst brutes [and we know who those are]'

We have seen that the seemingly optional DS constructions in Greek and Norwegian are not in fact based on a random choice between a single D construction and a DS construction, but in fact a deliberate choice between two different readings. The use of multiple determiners modifying the same head noun provides us with a restrictive reading in Greek while it establishes a presupposition between the speaker and the hearer as to what specific entity is being referred to in Norwegian.

### 3.2 Cross-linguistic support for multiple determiners

The Greek and Norwegian examples in (26-29) are all based on the multiple copies of definites. There are, however, cases where we have multiple copies of indefinites in some languages too. For example, in Northern Swedish indefinite DS is quite commonly attested and it seems that it is even obligatory in some dialects (Delsing 1993):

- (30) *en stor en ful en kar* Northern Swedish  
 a big an ugly a man  
 'a big ugly man' (Delsing 1993: 143)

In most southern and eastern dialects of German, “Determiner Doubling” (Kallulli and Rothmayr 2008) is the unmarked form. This is different from the indefinite DS seen in Northern Swedish in that only two copies of the indefinite are allowed (hence Determiner Doubling) only when there is a degree adverbial like “so,” “such” or “insanely,” etc. The following example from Bavarian German is thus the unmarked word order:

- (31) *?(a) so a groÙa Bua* Bavarian German  
 a so/such a big boy  
 '(a) such a big boy', '(a) so big a boy' (Kallulli & Rothmayr 2008: 97)

The typology of indefinite spreading may be summarized as in (32):

(32)

Turkish-type languages	Azeri-type languages	Greek-type languages	Northern-Swedish-type languages	Bavarian-German-type languages
Visible lower D	Optional cardinal	Visible higher D, lower ones deleted by a PF rule	Obligatory indefinite spreading	Indefinite spreading with degree adverbials
red an apple	one red an apple	a red apple	a red an apple	a such a big boy

We have seen that in Turkish, we have a visible lower *bir* which augments the meaning of the noun it modifies by turning it into a predicate. The higher position is not visible, but evidence from the behavior of *bir* with demonstratives shows that this higher position must be occupied by

a covert copy of the determiner *bir*. In standard dialects, this construction usually does not occur with a cardinal number *bir*. However, in languages like Azeri, such cooccurrence is quite common, especially in *Loru Dili* (vernacular dialects). Based on Alexiadou and Wilder (1998), we can talk about a third category of languages, namely Greek-type languages, which have indirect modification leading to multiple copies of the indefinite where only the highest one is phonologically realized, whereas in languages like Northern Swedish all of these multiple copies are pronounced. However, I do not have any knowledge as to how this augments the meaning. And we also have a group of languages that only allows two copies of the indefinite when the structure is modified by a degree adverb. I suspect that English constructions like *too general a model* are residues of this Germanic property.

## 4. Predictions

### 4.1 Constituency

We have claimed that we could easily account for Turkish A-D-N word order if we assume that Turkish APs are always formed indirectly in Sproat and Shih's (1988) terms and that these are derived from a clausal base like Kayne (1994) proposes. We have further claimed that the subject of this underlying clausal structure must have a DP already specified for Specificity because Specificity is an intrinsic feature. If this is correct, then the subject DP and the predicate AP must both be independent constituents. The example below with ellipsis indicates that these DPs do in fact form a constituent independent of the modifying adjective:

- (33) *Hasan'in yeşil, Fatma'nın ise kırmızı bir elma-sı var.*  
 Hasan-GEN green Fatma-GEN as.for red a apple-3SG.AGR EXIST  
 'Hasan has (a) green (apple); as for Fatma she has a red apple.' (Fatma has a red apple while Hasan has (a) green (one)).

In (33), we see a case of ellipsis where the determiner and the noun are deleted and the adjective *yeşil* "green" is left alone, indicating that it forms a constituent. There are other ways to verify that D-N in AP constructions is a constituent. Consider the following sentence, where the D-N combination is a constituent in an answer fragment: the answer fragment in B to the question in A contains a determiner and a noun. This further suggests that the A and the D-N portions of an AP construction in Turkish are independent constituents and are thus clausal:

- (34) A: *Bugün pazar-dan taze ne al-dı-n?*  
 Today bazaar-ABL fresh what buy-PST-2SG  
 'What fresh (thing) did you buy from the bazaar today?'  
 B: *bir kavun*  
 a melon  
 'a (fresh) melon'

### 4.2 Non-predicative adjectives

In this section, I discuss the use of a small set of adjectives in Turkic that do not behave like the AP constructions I have discussed so far. These adjectives do not have similar word orders; because they can never be base-generated predicatively, they cannot derive from a clausal origin. In discussing why this small set of adjectives behaves differently from the rest, I will maintain

that there is such a distinction between these two because the former set of adjectives modifies the NPs while latter modifies the DPs, following Larson and Takahashi (2002). Let us first establish that adjective *eski* “former” cannot be used predicatively:

- (35) \* *Bu bakan eski*  
 this minister former

I adopt Larson and Takahashi’s (2002) NP-modifying/DP-modifying distinction to explain such adjectives, which show different word orderings in Turkic. Larson and Takahashi (2002) look at data from Korean, Japanese and Turkish and find several contrasts between two sets of adjectives similar to Bolinger’s earlier distinction (1967): (i) The first set of adjectives includes adjectives of temporary properties, deictic adjectives and intersective adjectives. They express stage-level predication. (ii) The second set of adjectives includes ones that denote enduring properties, generic adjectives and non-intersective adjectives. These are individual level predicates. Larson and Takahashi (2002) show that the former modify the DP while the latter modify the NP. They therefore call the DP-modifying ones outer adjectives and the NP-modifying ones inner adjectives. Below,  $\alpha$  refers to the position for NP-modifiers;  $\beta$  refers to DP-modifiers.

- (36)  $[_{DP} D \beta [_{NP} \alpha N ] \beta ]$  (Larson and Takahashi 2002: 13)

Assuming the structure in (36), we can claim that the adjective *eski* meaning “former” is an NP-modifying adjective<sup>4</sup>. The following pair of constructions indicate how deeply the adjective *eski* is embedded, as both of the alternatives are possible<sup>5</sup>.

- (37) *eski devlet bakan-ı* (38) *devlet eski bakan-ı*  
 former state minister-3SG state former minister-3SG  
 ‘former state minister’ ‘former state minister’

Now that we have determined that *eski* is a non-predicative and NP-modifying adjective, let us now look at how it behaves in a context where we have both a predicative adjective and *bir* as a cardinal or a determiner:

- (39) *bir sosyalist eski dışişleri bakan-ı* **Cardinal *bir***  
 one socialist former foreign.affairs minister-3SG  
 ‘one socialist former foreign affairs minister’
- (40) *sosyalist bir eski dışişleri bakan-ı* **Specific *bir***  
 socialist a former foreign.affairs minister-3SG  
 ‘a socialist former foreign affairs minister’
- (41) \* *sosyalist eski bir dışişleri bakan-ı*  
 socialist former a foreign.affairs minister-3SG
- (42) \**sosyalist eski dışişleri bir bakan-ı*  
 socialist former foreign.affairs a minister-3SG

<sup>4</sup> Note that *eski* also means “old” in the sense of “old” in *old furniture*. This use of *eski* obviously is predicative.

<sup>5</sup> The structure in (51) is actually quite common and better than (50) but prescriptivist grammarians in Turkey have insisted that (50) is correct.

- (43) *sosyalist bir dışişleri eski bakan-ı*      **Specific bir**  
 socialist a foreign.affairs former minister-3SG  
 'a socialist former foreign affairs minister'

In (39), when *bir* has scope over the whole phrase, we can only get a meaning where we are talking about *one foreign affairs minister* as opposed to let's say *two*. (40) is the unmarked word order for a specific reading of *bir* where we are talking about *a foreign affairs minister*. (41) is ungrammatical. Even though *sosyalist* can precede *bir* as in (40), *eski* cannot because it is a non-predicative adjective. (42) is also ruled out, suggesting the specific *bir* is not as deeply embedded as a non-predicative adjective as in (43). We can thus summarize the Turkish word order as follows:

- (44) TURKISH AP STRUCTURE:  
 Cardinal *bir* > pred. adj > Specific *bir* > Non-pred. adj > head noun

The structure given in (44) corresponds to the AP structure I proposed in (21). *Bir* with wide scope over the whole AP has a numeral interpretation because this is the position for cardinals. Predicative adjectives precede the specific *bir* based on the claims outlined in section 3. Non-predicative adjectives, on the other hand, are not always predictable, but since they are deeply embedded in the NP, they behave differently compared to the predicative ones.

Based on the reasons I summarized above, I have shown that non-clausal hypotheses of AP constructions cannot account for the Turkish A-D-N word order. This was correctly predicted with the analysis in this paper in that except for non-predicative adjectives, Turkish APs are always formed indirectly from an underlying reduced relative.

## 5. Conclusions

In this paper, I have shown that except for a small set of non-predicative adjectives, Turkish APs are always formed by indirect adjectival modification that has an underlying clausal structure. This could easily be accounted for by Kayne (1994) as long as we assume that the subject of the underlying clause is specified for referentiality/specificity as this is an intrinsic feature. One of the natural outcomes of analysing APs as reduced relatives is that APs derived in this manner lead to multiple determiners. It seems that languages with indirect modification have different ways of benefiting from these multiple copies of both definites and indefinites: They choose to phonologically realize these copies as long as this augments the meaning by realizing the maximum number of features.

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