

Adjective Syntax and (the absence of) noun raising in the DP¹


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1. Introduction

As is well known, the relative position of (attributive) adjectives with respect to the head noun these modify is subject to crosslinguistic variation. As shown in (1), in English or Dutch all adjectives precede the noun, while in Italian some adjectives precede, but certain others follow the head noun.

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|-----|----|---------|------------------|---------------|------------|--------------|
| (1) | a. | English | beautiful | big | red | ball |
| | b. | Italian | bella | granda | palla | rossa |
| | c. | Dutch | mooie | grote | rode | bal |

In the recent literature, see Cinque (1993) and subsequent work, the paradigm in (1) has been analyzed as follows. The APs are located in the specifier of various functional projections DP internally in all languages; in Italian the head noun moves from its base position through the head that hosts the first adjective in (1b) to a higher head in the functional domain above that adjective, see (2). What explains the word order variation in (1) is the lack vs. presence of noun raising across languages:

- (2) [DP D [FP N [FP Adj t [NP t]]]
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Another approach, recently revived in Kayne (1994), assumes that all adjectives are generated in a predicative position inside a (reduced) relative clause (3). On such a view, the word order difference observed in (1) is the result of various XP movements. Specifically, the order AN involves raising of the adjectival phrase to Spec,CP (3c), while the order NA involves raising of the noun phrase to Spec, CP (3b).

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|-----|----|---|--------------------------|
| (3) | a. | [DP D [CP [IP NP AP]]] | |
| | b. | [DP D [CP NP _j [IP t _j AP]]] | <i>head-raising</i> |
| | | the ball red | |
| | c. | [DP D [CP AP _j [IP NP t _j]]] | <i>predicate-raising</i> |
| | | the red ball | |

In this paper, I show that both (a version of) (3) and (a version of) (2) are necessary to fully capture adjectival placement facts across languages. Building on and refining the analysis given in Alexiadou (2001), I demonstrate that the type of mechanism involved

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in introducing adjectival modification correlates with the (semantic) type of the adjective. On the proposal advanced here, depending on their type, adjectives are predicates or are generated in specifier positions directly. This distinction does not directly correlate with the distinction between predicative and attributive adjectives as will become evident from the discussion of the facts (but cf. Cinque 1999: 29f.). Moreover, one adjective can enter both patterns resulting in a difference in meaning. This conclusion will be reached by taking into account a phenomenon characteristic of the Greek DP, namely *Determiner Spreading* (DS), and the restrictions it is subject to.

As will become clear from my discussion, head raising within the DP is not immediately relevant for the word order patterns observed in (1), thus arguing against the view that the role of head movement in determining such crosslinguistic variation is instrumental. For instance, the well known asymmetries in the relative order of the finite verb and a ‘low’ adverb, which is taken to mark the left edge of the VP, were attributed to head movement. The relevant contrast is given in (4). As known, in French, the finite verb in a subordinate clause obligatorily precedes VP adverbs, while in English, the finite verb obligatorily follows these adverbs. Under the assumption that in both languages the adverb is attached at the same site, this pattern suggests that in French the verb has undergone head movement to (at least) Infl, while in English the verb remains in VP (Emonds 1976, Travis 1984, and Pollock 1989 among many others).

- (4) a. John often kisses Mary
b. Jean embrasse souvent Marie
Jean kiss-3sg often Marie

Cinque's analysis of the patterns in (1) is within this spirit. However, in the recent literature head movement in the verbal clause has been dispensed with in favor of XP movement of lower (and larger) parts of the clause to higher positions (see e.g. Mahajan 2000, Koopman & Szabolcsi 2000). In a similar vein, recent work by e.g. Alexiadou (2001), Laenzlinger (2000), Shlonsky (2000), Sichel (2002) attempts to dispense with head movement in the noun phrase.

The paper is structured as follows. Section 2.1 introduces the basic classes of adjectives that constitute the factual core of the paper. Section 2.2 summarizes in greater detail the X^o and the XP movement approaches to word order variation within the DP. Section 3 briefly discusses problems for both approaches. Sections 4.1, 5.1, and 5.2 draw from Alexiadou (2001) and contain a discussion of Greek DS and its relevance for a re-analysis of the word order variation in the Romance DP. Section 4.2 introduces refinements to Alexiadou & Wilder (1998) and Alexiadou (2001). Section 5.3. discusses certain issues that arise from the analysis of postnominal adjectives in Romance as involving raising of XPs. Section 6 discusses phenomena found in other languages, which at first sight seem similar to DS. However, I show that double definiteness in e.g. Hebrew, Scandinavian or other Balkan languages constitutes a different type of phenomenon from Greek DS, thus making a distinction between determiners that introduce CPs (Greek) and those that are merely morphological/agreement markers (Hebrew, Scandinavian, Albanian).

2. Attributive vs. predicative adjectives and DP internal movements

2.1 Adjectival classes

Traditionally, adjectives are distinguished into two classes: attributive APs vs. predicative APs (Bolinger 1967, Kamp 1975, Siegel 1976, Sproat & Shih 1988, Cinque 1993). Attributive adjectives appear as noun modifiers inside the DP, while predicative adjectives are those that are likely to occur in the copular construction. Most attributive adjectives have predicative uses (5a-5b):

- (5) a. a happy person
b. they are happy

The class of [+predicative] As contains adjectives of size, quality, shape, color and nationality. The class of [-predicative] As contains nominal/relational adjectives (*polar bear*, *atomic scientist*), manner adjectives (*poor liar*), temporal, emotive and modals, i.e. all adjectives that are related to adverbs (6c).

- (6) a. the former king
b. *the king is former
c. the person who was formerly king

Two further semantic distinctions have been made in the literature. One dimension concerns the intersective vs. non-intersective property of the modifiers. The denotation of an intersective adjective and a noun corresponds to the intersection of the individuals denoted by the noun and those denoted by the adjective (7b). Shape, color, and nationality adjectives are [+intersective].

- (7) a. That is a yellow car
b. that is yellow, and that is a car

On the other hand, nominal/relational adjectives (*polar bear*, *atomic scientist*), manner adjectives (*poor liar*), temporal, emotive and modals, i.e. again all adjectives that are related to adverbs, are [-intersective] As, see (8).

- (8) a. Mary is a former dancer
b. #Mary is former, and Mary is a dancer
c. Mary was formerly a dancer

In English, as in other languages, several adjectives are ambiguous between the two interpretations, see (9) (see Larson 2001 for a recent discussion):

- (9) a. Olga is a beautiful dancer
b. Olga is a dancer and Olga is beautiful *intersective*
c. Olga is beautiful as a dancer/Olga dances beautifully *non-intersective*

In (9b) *beautiful* applies to Olga; she herself is beautiful even if her dancing is not. In (9c), *beautiful* applies to Olga qua dancer. Olga's dancing is beautiful even if she herself is unattractive.

The sort of ambiguity found in (9) arises with many other adjectives in English. These include *old, good, intelligent, difficult, diligent, true*. On their non-intersective reading these adjectives tend to have an adverbial paraphrase. Generally, non-intersective adjectives do not have predicative uses.

A second dimension concerns the subjective vs. objective (or non-absolute vs. absolute) nature of the modification provided by the adjective, see Sproat & Shih (1988), Stavrou (1999), Laenzlinger (2000) and references therein. Absolute modifiers are typically adjacent to the noun (nationality, color, form, shape).² As Stavrou (1999) points out, subjective adjectives can be modified by degree words/adverbs (like *much, relatively*, etc.) and form a comparative and a superlative; object oriented adjectives do not normally seem to allow for any kind of modification.

- (10) a. a French car
 b. *a very French car
 c. a wonderful French car
 d. the most wonderful French car

(10a) denotes a particular kind of cars, or, else, a **natural class**. But this is much less true of evaluative/speaker oriented adjectives: *a wonderful car* does not constitute a natural class of cars.

Table 1 summarizes the various adjectival classes discussed in this section:

Table 1

<i>Adjective</i>	<i>Predicative</i>	<i>Intersective</i>	<i>Objective</i>
temporal	-	-	+
epistemic	-	-	-
quality	+	-	-
form/color	+	+	+

2.2 Adjective placement in the DP

It is a(n) (old) question in syntactic theory whether the two types of adjectives, attributive vs. predicative ones, are transformationally related or not. According to e.g. Sproat & Shih (1988), Cinque (1993), the two types are not related. The ‘attributive’ vs. ‘predicative’ distinction among DP-internal APs correlates broadly with the distinction between prenominal and postnominal APs in English (11):

- (11) a. a very kind person *attributive A*
 b. a person kind to her neighbors *predicative A*

² Temporal adjectives are an exception. In some accounts absolute adjectives have been argued to form a compound with the head noun they modify; see Bosque & Picallo (1996) for arguments against this view.

The aforementioned authors recognize that attributive and predicative modification are characterized by a set of distinct properties summarized in (12) and (13) from Alexiadou & Wilder (1998: 309):³

Properties of attributive modification

- (12) a. is subject to ordering restrictions
 b. permits intersective and non-intersective modifiers

Properties of predicative modification

- (13) a. is not subject to ordering restrictions
 b. permits intersective (predicative) modifiers only

Attributive adjectives are placed before the noun in strict order in English/Germanic, and Greek (and also in Mandarin Chinese, Finnish, Hungarian etc), see Sproat & Shih (1988). Examples of this restriction are given in (14) for object nouns and in (15) event nominals.

(14) subjective comment > size > age > shape > color > nationality/origin > material

- | | | | | | |
|----|-------------------|------------------|---------------|---------------|--------------|
| a. | English | beautiful | big | red | ball |
| b. | Dutch | mooi | grote | rode | bal |
| c. | Greek | omorfi | megali | kokini | balla |
| d. | Italian | bella | granda | <u>palla</u> | rossa |
| e. | *the red big ball | | | | |

(15) Adj speaker oriented > Adj subject oriented > Adj manner > Adj thematic

- a. the probable clumsy immediate American reaction to the offence
 b. la stupida aggressione brutale/italiana all'Albania (from Cinque 1993:3)
 the stupid attack brutal/of-Italy to-the Albania

As already mentioned, in Romance languages certain of these modifiers appear post-nominally, e.g. 'brutal' in (15b) and 'red' in (14d).

If we compare (14) and (15) with table 1, it is evident that non-predicative adjectives appear higher than predicative ones. Similarly subjective adjectives appear higher than objective ones (see Laenzlinger 2000 for further discussion).

As mentioned in the introduction, Cinque (1993) proposes that attributive adjectives are generated as specifiers of designated functional projections in the extended projection of the noun.⁴ The order NA in e.g. Romance is obtained via raising of the head noun to a functional head preceding the adjective:

³ In Alexiadou & Wilder (op.cit.) the two types are referred to direct and indirect modification, following Sproat & Shih.

⁴ Bernstein (1993), Valois (1991) also assume N-raising without sharing the analysis of adjectives as specifiers of functional projections.

- (16) [DP D [FP N [FP Adj t [NP t]]]]
-

Predicative adjectives, which occur in postnominal position, are analyzed in terms of reduced relative clauses:

- (17) a. father proud of his son
 b. the [NP [NP father] [SC PRO_j proud of his son]]

According to an alternative view, recently revived in Kayne (1994), adjectives derive from a predicative position within a relative clause (see Jacobs & Rosenbaum 1968). Different word order patterns obtain via NP or AP raising see (18) repeated here:

- (18) a. [DP D [CP [IP DP AP]]]
 b. [DP D [CP DP_j [IP t_j AP]]] *head-raising*
 c. [DP D [CP AP_j [IP DP t_j]]] *predicate-raising*

Thus the structure for a DP modified by a predicative AP is replaced by (18a). An example with an attributive adjective, e.g. *the yellow book*, starts from an original structure *the book yellow*; AP-fronting to Spec,CP yields the surface structure (19b):

- (19) a. [DP the [CP [DP mother]_j C° [IP t_j ... [AP proud of her son]]]]
 b. [DP the [CP [AP yellow]_j C° [IP [DP book] ... t_j]]]

However, both these views face problems, which I briefly summarize in the next section.

3. The limitations of head and XP movement

3.1 A problem for the predicative source

Bolinger (1967) and Levi (1978) have already pointed out that not all adjectives can be reduced to a predicative source, e.g. temporal, epistemic, modal, adverbial, and thematic adjectives (see also section 4). As was discussed in section 2.1, in general non-intersective adjectives do not have predicative uses.

- (20) a. *the president is former
 b. *the murderer is alleged

Hence such adjectives cannot be derived as Kayne suggests. One could imagine that these adjectives, given that they mostly have adverbial sources, are derived from

predicative positions in clauses other than relative ones (see Levi 1978).⁵ I will not discuss this option here.

3.2 Problems for N-raising

Problems for the head raising analysis have been extensively discussed in the recent literature, see Lamarche (1991), Bouchard (1998), Vulchanova & Giusti (1998), Demonte (2001), Alexiadou (2001), Laenzlinger (2000), Shlonsky (2000) among others. I mention only two of these problems here by focusing on Romance.

(i) Semantic differences between the prenominal and postnominal position of the adjective in Romance are not immediately accounted for under the noun movement analysis, see Lamarche (1991) and Bouchard (1998). Thus while the prenominal adjective in the English example (21) is ambiguous between the interpretation *impoverished* and the interpretation *pitiable*, Spanish and French use a different word order to express the meaning difference: the adjective means *impoverished* in postnominal position, while it means *pitiable* in prenominal position.

(21) the poor boy

(22) a. el chico pobre *Spanish*
the poor (impoverished) boy

b. el pobre chico
the poor (pitiable) boy

c. la française pauvre *French*
the impoverished French woman

d. la pauvre française
the pitiable French woman

⁵ A possible such derivation for (20a) would be to assume that the base construction is a sequence like *the (that) (person) (was) formerly president*; raising of *formerly* to Spec,CP or to a projection between DP and CP would give the order *the former president*. Several questions arise. First, why do we have *formerly* in the base position, but *former* in the derived position? If we were to assume that adjectives and adverbs belong to the same class, then we could suggest that what we would have in both cases is a root such as $\sqrt{\text{FORMER}}$. When this root appears in a verbal domain, i.e. within the CP, it comes out as an adverb, but when it appears in a nominal domain, i.e. in the complement domain of D, and above CP, it comes out as an adjective. A related question is the nature of the reduced clause, i.e. how reduced it really is, since it can accept certain types of adverbial modification, in fact evaluative and temporal modifiers which are related to higher verbal functional heads (Alexiadou 1997, Cinque 1999).

Note that this speculative analysis does not extend to thematic adjectives such as *Italian* in *the Italian invasion*, which seem to be related to noun phrases (Postal 1969) and not adverbs. Potentially one could suggest an analysis of these adjectives, according to which these are NPs in their *Merge* position, where they are subjects of the noun phrase, but they become adjectives via derivations that take place in the syntax, see de Wit & Schoorlemmer (1996) for such a proposal for Russian possessive adjectives.

If the reason for the AN vs. NA order is head movement, then it is not immediately clear how this difference in meaning can be accounted for.

(ii) It is not clear what the triggers for this movement are. One might conceive of the hypothesis that word order variation is due to parametric variation in the base structure, and that French and Italian differ from English in German with respect to the direction of adjunction of AP to NP: AP left-adjoins in the Germanic languages and right-adjoins in the Romance languages. However, arguments against this view were presented in e.g. Cinque (1993) among others.

In the same way that V-movement was related to the relative strength of verbal agreement, it might be tempting to relate N-movement to agreement in the nominal system. As shown in the paradigms in (23), both Italian and French show gender variation in N, A and D, while gender has no effect on the N, A and D in English (Bernstein 1993):

(23)	<u>Italian</u>		<u>French</u>
a.	il primo capitolo the first chapter	masculine singular	le premier chapitre
b.	la prima descrizione the first description	feminine singular	la première description
c.	i primi capitoli the first chapters	masculine plural	les premiers chapitres
d.	le prime descrizioni the first descriptions	feminine plural	les premières descriptions

Moreover, as shown in (24), in Spanish the word-marker *-o* correlates with masculine, the word marker *-a* with feminine. The only other affix that can follow the word marker is the plural morpheme *-s*. Thus Spanish nouns inflect for number and gender, as opposed to their English counterparts:

(24)	a.	hijo-s	sons
	b.	hija-s	daughters

Hence one could suggest that the presence of agreement or number and gender inflection in the nominal system is a trigger for head movement (Picallo 1991).

But, the Greek nominal system suggests that morphological properties cannot be a sufficient trigger for movement. As in English, the head noun always follows the adjectives that modify it, independently of the adjective type involved (25).

(25)	a.	*to spiti meghalo/paljo/oreo the house big/old/nice
	b.	to meghalo/paljo/oreo spiti the big/old/nice house

(1987) have argued. They have shown that raising to Spec,DP in Greek has properties of A'-movement and that this position serves as an escape hatch for movement of the fronted element to higher positions.

The analysis given in Alexiadou & Wilder (1998) can be summarized as follows: Kayne's analysis predicts that each adjective requires its own determiner. If in addition, the subject of IP is a DP, then we expect $n+1$ determiners in a DP modified by n APs. This prediction is correct for Greek. The analysis further correctly predicts that those adjectives that cannot occur in predicative position cannot occur in DS, e.g. non-intersective adjectives like *ipotithemenos* ('alleged') and thematic adjectives such as *italiki* 'Italian':

- (29) a. o ipotithemenos (*o) dolofonos
 the alleged (*the) murderer
- b. * o dolofonos itan ipotithemenos
 the murderer was alleged
- c. *i isvoli itan italiki
 the invasion was Italian
- d. *i italiki i isvoli
 the Italian the invasion

We further suggested that alternative mechanisms are necessary in order to introduce certain adjective classes, giving a number of options, as shown in (30):

- (30) a. D° [.. AP ... N°] *AP in DP-internal specifier*
 b. D° [_{AP} A° NP] *NP as complement of A*
 c. D° .. [N° A N] *compounding*

(30c) is necessary for cases involving noun-adjective compounds such as *North Pole* etc.

Here I adopt the basics of this analysis. However, in the next section I introduce certain refinements to it. These seem necessary, as further restrictions exist with respect to the types of adjectives that can participate in DS, which we did not consider in that paper.

4.2 Refining Alexiadou & Wilder (1998)

What has been pointed in the literature on Greek DS is that there does not seem to exist a one to one mapping between the availability of DS for a given adjective and its licensing in predicative position. While at first sight this seems to undermine the approach in Alexiadou & Wilder, it turns out that the restrictions observed are very relevant once we compare Romance to Greek. The nature of these restrictions is significant as they present a finer grained typology of adjectives which seems consistent in both language groups. Let us examine these restrictions in some detail.

Manolessou (2000) points out that there are cases of adjectives which can apparently appear in predicative constructions, but do not participate in DS. These include numerals, and subjective adjectives:

- (31) a. *i somatofilakes i tris
the musketeers the three
b. *i gigandiea i gafa
the gigantic the blunder Manolessou (2000)

While our analysis would predict that the data in (31) should be grammatical, this is not the case.

Another important feature of DS, which has been initially pointed out in Stavrou (1995) and is discussed in Manolessou (2000), is the fact it establishes a distinguishing, contrastive interpretation (Alexiadou & Wilder 1998: 300, fn. 16). Similarly to Greek clitic-doubling ((32) Anagnostopoulou 1994), it leads to a referential interpretation of the DP, suppressing the attributive reading:⁶

- (32) spania (ti) haidevo ti mikroteri gata
seldom cl pet the smallest cat

As Alexopoulou & Kolliakou (2001) observe, DS environments require their referential index to be anchored to an entity that forms a proper subset of some previously introduced set. Hence an example such as (28) signifies that there are big and small books, but the speaker refers to the big one. Thus if it were possible to create a context where a distinction between different kinds of blunder was significant the definite sentence in (31a-b) would become accessible.

This means that all adjectives that block the special reading associated with DS are ungrammatical in this construction. This group contains non-predicative, non-intersective, thematic, quantificational and subjective adjectives. For all the cases for which DS is blocked the predicative source is not or cannot be available. Thus both a predicative and a non-predicative source are needed to fully account for adjectival distribution in DS.

Compare now the classes of adjectives that are licit in DS to the hierarchy discussed in section 2, repeated here in (33), and the table in 1. Adjectives that appear in DS and arguably have a source à la Kayne seem to occur low in the hierarchy. On the other hand, adjectives that are banned from DS seem to appear high in the hierarchy, such as numerals and subjective adjectives. In other words the availability of a predicative vs. non-predicative source correlates with the semantic type of the adjective.

⁶ Androutsopoulou (1995, 2001) does not acknowledge that such a semantic effect exists. Moreover, it should be pointed out here that for Androutsopoulou temporal adjectives are licit in DS. Furthermore, Androutsopoulou points out that sequences such as *o kaimenos o babas* 'the poor the daddy, lit. poor daddy', are also possible. It could be that these differences are due to dialectal variation among Greek speakers. However, as Manolessou (2000) correctly observes, such sequences instantiate different type of structures, namely constructions where the adjective has a more or less substantivised status. For instance, as Manolessou writes, such adjectives can stand alone without any sense of gapping, and when used in a DS pattern they have a negative meaning, corresponding to examples such as 'that idiot of a doctor', discussed in the recent literature. This applies both to the temporal and the emotive adjectives.

(33) numeral > subjective comment > size > age > shape > color > nationality/origin > material

Interestingly, the situation we find here is similar to what we find with adverbs in verbal clauses. Next to the adverbs in specifier Hypothesis (see Alexiadou 1997, Cinque 1999), it has been proposed that certain types of adverbs behave like V complements. On such a view, adverbs are distinguished into *truly* specifier adverbs, which appear only VP externally, and *complement* adverbs, which appear VP internally (Alexiadou 1997 building on Lonzi & Luzzatti 1993, cf. Larson 1988). Specifier-type adverbs are directly merged as specifiers of functional projections. This group comprises the set of sentence modifiers and so called verb-group modifiers. That is: *evaluative adverbs, speaker oriented adverbs, modal adverbs, domain adverbs, subject-oriented adverbs, frequency adverbs, aspectual adverbs, degree adverbs*, and so on.

On the other hand, complement-type adverbs are merged VP internally. These can undergo movement to specifiers of functional projections or incorporate into the verb. This group comprises the set of *verb-modifiers*, i.e. *manner/instrumental* and certain *aspectual* adverbs (the adverbial class referred to e.g. Cinque 1999 as *circumstantial adjuncts*).

As has been noticed, the type of ordering restrictions that we find are similar in both domains (Valois 1991, Cinque 1993). Crucially for my purposes, specifier adverbs appear higher than complement adverbs, much like subjective adjectives appear higher than objective ones. In fact adjective and adverbs are ordered with respect to their type in a very similar manner: quantificational adjectives and adverbs appear higher than non-quantificational ones, epistemic ones appear higher than objective/manner ones (34):

(34) a. Adjectives: quantificational > epistemic > size > form
 b. Adverbs: speaker oriented > subject oriented > frequency > completion > manner

The adjectives and adverbs that appear low in (34) are those that could be argued to be merged to the right of the noun and verb, i.e. to be derived from a predicative source in the nominal domain or a complement source in the verbal domain.

To summarize, in this section I discussed Greek DS. I argued that DS provides an environment which is sensitive to the semantic type of adjective that can participate in it and to the position, high vs. low, of the adjective. In the next section I show that non-predicative, non-intersective, quantificational and subjective adjectives, i.e. those adjectives that do not participate in Greek DS are those that not only occur high in the hierarchy but are always prenominal in Romance. This behavior suggests a unification of the two phenomena, which I proposed in Alexiadou (2001). I devoted particular attention to the Romance data, as these have been extensively discussed in the literature and were instrumental in the formulation of the noun-raising analysis. In the next section I summarize certain aspects of my analysis and address certain problems that arise from it. In section 6 I show how Greek DS differs from double definiteness as manifested in other languages and hence is the relevant phenomenon in order to re-analyze the Romance data.

5. Adjective classes and mechanisms for introducing APs

In this section, taking Greek DS as a diagnostic, I compare the behavior of adjectives in DS with those in Romance with respect to the position they occupy: post-nominal adjectives in Romance are those that occur in DS in Greek; I view this as an argument in favor of a predicative source. Prenominal adjectives in both languages are those that are excluded from DS in Greek, which I view as an argument in favor of DP (or CP) internal position. (35) illustrates the two possible structures and how they combine with each other:

- (35) a. [DP [CP car [IP t red]]]
 b. [DP [FP wonderful [CP car [IP t red]]]]

5.1 Greek DS and Romance adjectives

Observation I: Those adjectives that cannot appear in Greek DS (37), i.e. temporal, quantificational ones occur strictly prenominally in Romance (37), (36d-c) from Vulchanova & Giusti (1998):

- (36) a. un mero accidente (*un accidente mero) *Italian*
 a mere accident
 b. un secondo ragazzo
 a second boy
 c. * un ragazzo secondo
 a boy second
- (37) a. o proin prothipurgos
 the former prime minister
 b. *o proin o prothipurgos
 c. i tris mathites
 the three students
 d. *i mathites i tris
 the students the three

Observation II: In Greek DS is impossible relative to that special reading of certain adjectives such as "poor", see Alexiadou & Wilder (1998).

- (38) a. the poor man ('impoverished' / 'pitiable')
 b. the man is poor ('impoverished' / *'pitiable')
- (39) a. o anthropos o ftohos ('impoverished' / *'pitiable')
 the man the poor
 b. o ftohos o anthropos ('impoverished' / *'pitiable')

the poor the man

- c. o ftohos anthropos ('impoverished' / 'pitiable')
the poor man

Recall the interpretation of such adjectives in Romance, e.g. Spanish and French. In this language the meaning difference is reflected in the pre- vs. post-nominal position of the adjective:

- (40) a. el chico pobre
the poor (impoverished) boy
b. el pobre chico
the poor (pitiable) boy
c. la francesa pobre
the impoverished French woman
d. la pauvre française
the pitiable French woman

If we now compare (39) to (40), we observe that the exact interpretation which is blocked from DS in Greek cannot appear in postnominal position in Romance.

Similar effects are found with adjectives such as *ancient* 'old' and *grand* 'tall' receive two types of interpretation when they occur prenominal. For instance, *ancient* in (41b) it indicates the age of the church (from Lamarche 1991: 225).

- (41) a. une ancienne église *French*
an old church
'former church'/'old, ancient church'
b. une église ancienne
an old church
(42) a. un grand homme
a tall man
'great man'/'tall man'
b. un homme grand
a tall man

Only the Romance post-nominal interpretation is available to DS in Greek, given that the narrow scope reading is not available in a predicative position:

- (43) a. i eklisia i palia
the church the old (old, *former)
b. o anthropos o megalos
the man the tall (tall/big, *great)

In support of this, consider the following data from Romanian. Bouchard (1998) points out that in Romanian, there is a meaning difference in the following examples, as can be seen in the translations:

- (44) a. feme-i-a
 woman-the-FEM-NOM
 b. poetul mare
 poet/def tall
 'the tall poet'
 c. marele poet
 tall-def poet
 'the great poet'

When the adjective occurs in post-nominal position, in which case the affixal article surfaces on the noun (N-to-D raising), it means *tall*. When the adjective occurs pre-nominal, in which case the affixal article surfaces on the adjective, it means *great*. This pattern suggests that the adjective in (44c) is generated in a position not related to the one in (44b). The head raising analysis could not account for the meaning difference. If, however, we assume that in (44b) the adjective is in a predicative position, while in (44c) the adjective is generated in a different place, as it belongs to a different semantic class, we can account for this distribution.

Observation III: According to Cinque (1993) and Laenzlinger (2000), certain adjectives can occur both pre-nominally and post-nominally; strong subjective readings are detected when these occur in prenominal position:

- (45) a. une voiture splendide *French*
 a car splendid
 b. une splendide voiture
 (46) a. la loro aggressione brutale *Italian*
 the their aggression brutal
 b. la loro brutale aggressione

DS in Greek is blocked with subjective adjectives:

- (47) *to oreotato to aftokinito
 the wonderful-superlative the car

Interestingly, the pattern in (45-46) is similar to examples with adverbs such as *carefully* that are ambiguous between a sentential (48a) and a VP reading (48b):

- (48) a. Pat carefully folded the tablecloth
 It was careful of Pat to fold the tablecloth
 b. Pat folded the tablecloth carefully

Generally, the two adverbial positions here are not considered to be related via movement. Rather the adverbs are taken to be base generated in the position where they are interpreted. The adjectival patterns could be re-analyzed similarly, as involving merging of the subjective adjective in higher position, while the 'low' adjective remains in its base position (where by high reference is made here to positions between DP and CP, and by low reference is made to positions within the CP).

Observation IV: postnominal position for the adjective in Romance leads to contrast, as is the case in DS. Postnominal position of the adjective denotes contrast, the establishment of a difference, whereas prenominal order merely provides a characterization without providing a contrast:

- (49) a. i pietre preziose *Italian*
 the stones precious
 b. i preziosi gioielli
 the precious jewels

In (49a), the stones are contrasted to ordinary ones. In (49b), however, the value is taken for granted.

To conclude, in this section I have shown the following (i) Romance postnominal adjectives are possible when Greek DS is also possible. (ii) Romance prenominal adjectives are obligatory when Greek DS is impossible. (iii) One and the same adjective can appear in both patterns, depending on its type. This supports the view that both patterns of adjectival modification are necessary.

In the next section I turn to a discussion of certain Romance word order patterns.

5.2 Deriving certain word order patterns

In order to derive the word order in (50a) from a predicative source, I must assume that the noun raises to Spec,CP as in (50b):

- (50) a. la voiture rouge
 a car red
 b. [D la [CP voiture [t rouge]]]

On the other hand, the example in (51) is analyzed by assuming that the adjective is located in the specifier position of a projection between DP and CP.⁷ The Romanian data discussed in the previous section seem to speak against AN compounding, as the adjective cliticizes on the determiner and this would not be possible under structure (51c):

⁷ Note here that the adjective could be viewed as being on the specifier of e.g. NumberPhrase, hence internal to the extended projection of the noun. For languages such as Romanian, it is not clear that one necessarily needs to assume that the affixal article is external introducing a CP. It could be analyzed as being generated low, i.e. together with its noun complement. In that case the movement to the external DP projection would be movement of the lower DP (see sections 5.3 and 6.4).

- (51) a. L' ancienne eglise
the old church
b. [DP l' [FPancienne [CP eglise]]]
c. [DP l' [NP ancienne eglise]]

Combinations of both patterns also exist (52):

- (52) a. la magnifique voiture rouge
the magnificent car red
b. [DP la [FP magnifique [CP voiture [IP t rouge]]]]

When a NP is accompanied by its complements, and hence they both noun precede the adjective, we must assume that the structure contains its internal argument as well, and what raises to Spec,CP is a complex NP (53b):

- (53) a. le producteur de pétrole indépendant
the independent oil producer
b. [DP le [CP producteur de pétrole [IP t indépendant]]]

Note that in Romance, e.g. French, the prenominal position is associated sometimes with the weak form of adjectives, as Lamarche & Laenzlinger point out:

- (54) de gros _avions
big airplanes

(54) could involve merging of the adjective as head within the DP, or could involve raising of the adjective to Spec,CP typical of weak elements (Cardinaletti & Starke 1999).

5.3 Differences between Greek DS and Romance DPs

Although the word order patterns in the Romance DP could be analyzed in terms of the Greek DS by assuming a predicative source, differences between the two exist. One important difference has to do with the fact that multiple determiners are not present in Romance, but they are in Greek. In Alexiadou (2001) I suggested that this is presumably related to the fact that in Romance N-to-D movement takes place (Longobardi 1994), but in Greek even proper names are preceded by a definite determiners, hence not permitting N-to-D movement. This peculiarity of Greek is related to the fact that the determiner is being interpreted as an inflectional element (Karanassios 1992, Stavrou 1996). In Romance proper names are preceded by determiners only when the noun is modified by an adjective e.g. *la petite Marie* 'the little Mary'. As a result, Romance nouns can occur in argument positions without being preceded by an overt determiner.

Another option that comes to mind is to propose that the determiner in Romance is always generated low i.e. in the argument position of the 'head' noun, and what raises

in e.g. (50b) is the whole lower DP from inside the CP to Spec,DP. Note here that multiple determiners do occur in e.g. French in certain contexts. When the adjective modifying the head noun appears in the superlative, the occurrence of two determiners in the same DP is licit (55):

- (55) la fille la plus grande
the girl the most big

Although the details of this pattern will not concern me here, several potential analyses come to mind. For instance, if we were to assume a derivation similar to the one in (28) for Greek DS, (55) could be analyzed as in (56). The DP *la fille* then raises to the Spec,DP of *la*,

- (56) [DP la [CP plus grande [IP la fille t]]]
the most big the girl

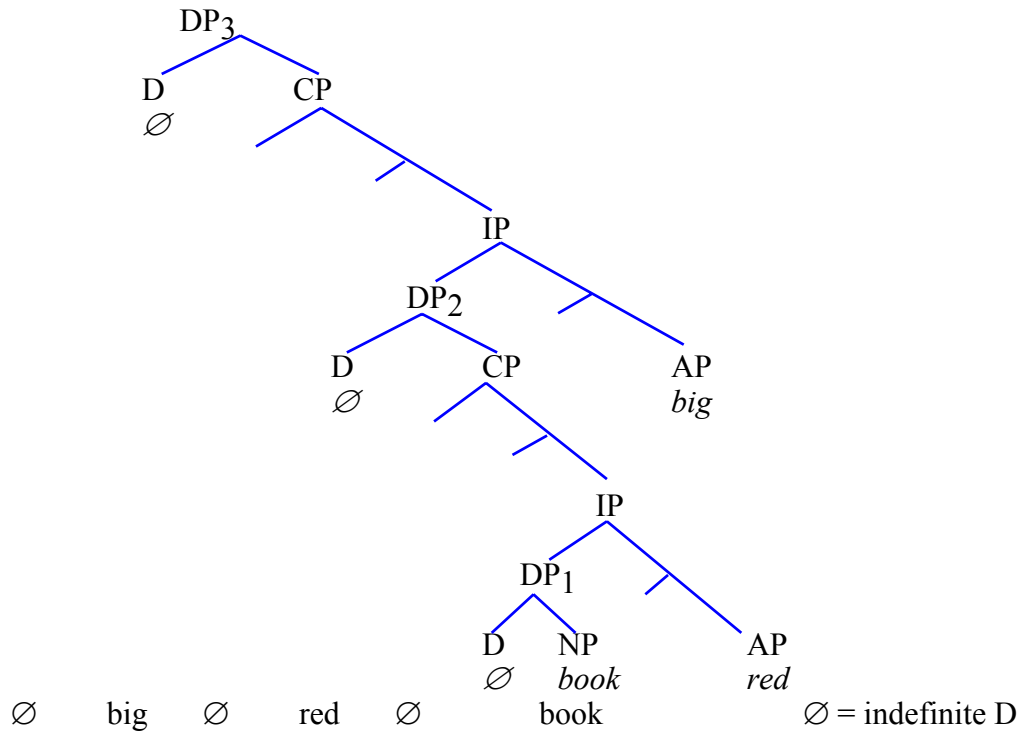
Hence the correct generalization is that multiple determiners appear only in certain contexts in Romance.

A second problem is the fact that not all permutations that exist in Greek can be found in Romance. As Laenzlinger (2000: 71) notes, in French indefinite NPs when two adjectives modify the same noun phrase, they can appear in an order as the one in (57c), and in order that is the mirror image of the English example. But they can also appear in an order that matches that of English (57a). Both orders are possible in Italian as well (58). These examples are similar to those with Greek indefinite DPs, discussed in Alexiadou & Wilder (58a-b), although French and Italian do not exhibit all of the orders of (59):

- (57) a. une voiture rouge grande
a car red big
b. une voiture grande rouge
a car big red
c. une grande voiture rouge
- (58) a. un libro rosso grande
a book red big
b. un libro grande rosso
- (59) a. a book red big *ena vivlio kokkino megalo*
b. a book big red *ena vivlio megalo kokkino*
c. a big red book *ena megalo kokkino vivlio*
d. a big book red *ena megalo vivlio kokkino*
e. a red book big *ena kokkino vivlio megalo*

In Alexiadou & Wilder's analysis reordering results from the possibility for DP-raising to DP-specifiers in D-CP structures. The same structure is available for indefinites:

(60)



(57-8a) could be derived on the basis of the structure in (60) by raising DP1 containing *voiture* to Spec,DP2, after raising the adjectives to their respective CPs, and DP2 to Spec, DP3. (57-8b) could be derived by raising the adjectives to the respective Spec,CPs and then DP1 to Spec,DP3 via Spec, DP2, see (61).

(61) [DP3 [DP1 **une voiture**] grande [DP2 _ rouge _]]

Given that quantification expressed via the indefinite article can only be expressed once in the same DP, only one instance of the indefinite article is found.

Alternatively, one could assume that *ena* or *une* appear as specifiers of a projection lower than DP1, NumberP (see Borer 2001), hence being generated only once together with the head noun; the whole complex moves then as suggested above. In this case, we would not need to assume a semantic filter for the lack of occurrence of multiple indefinite determiners. Simply, the higher D heads remain empty.⁸ However, this analysis would face a problem with the derivation of pattern (57c), where the adjective follows the indefinite determiner.

⁸ Multiple indefinite determiners are possible in some languages. For instance, in Swiss German, as shown in (i), from Leu (2001: 63):

(i) ä ganz ä schönä Baum
a totally a beautiful tree

Note, however, that in the German dialects where this is possible, it is only permitted with degree/quantificational adverbs, i.e. *ganz* 'totally', *echt* 'really' or *voll* 'fully' (Florian Schaeffer, Gisbert Fanselow, and Helmut Weiß personal communication). In this case the degree modifier actually modifies the adjective, and not the head noun. When two adjectives are present, the indefinite determiner is not doubled. The conditions on this type of doubling await further research.

But why are the other orders not possible in French, both for definite and indefinite DPs? Let us consider the data and the relevant structures again in some detail. The various possibilities for re-ordering the Greek base structure in (62a) (itself the output of AP-raising starting from a base structure as the one in (60), where \emptyset is replaced by the definite determiner) by DP-raising are given in (62b-e), Alexiadou & Wilder's (47):

- (62) a. [DP3 the big [DP2 the red [DP1 the book]]]
 b. [DP3 the big [DP2 [DP1 **the book**] the red _]]
 c. [DP3 [DP2 **the red** [DP1 **the book**]] the big _]
 d. [DP3 [DP2 [DP1 **the book**] **the red** _] the big _]
 e. [DP3 [DP1 **the book**] the big [DP2 _ the red _]]

French and Italian exhibit patterns (62b), (62d) and (62e) only, minus the multiple determiners. Obviously, in an approach like the one taken here the variation is not due to variation in lexical properties or in properties of the inflectional system. According to native speakers' intuitions, the re-orderings observed in French and Italian (62d) and (62e) lead to an emphatic interpretation of the adjectives and they are marked with definite noun phrases. For instance, *il libro rosso grande* 'the book red big' can mean that there are two red books, and the speaker wants to refer to the big one; in this case *grande* is focussed.⁹

Recall that above I made the assumption that the D head in Romance could be empty or could be filled with the overt article. On the basis of this, we could offer a speculative analysis of the above patterns along the following lines. Let us assume, following work by many researchers in recent years, that functional projections in general must be identified by some mechanism which crucially minimally requires either the head or the specifier of the projection to be filled. In the case in point, the licensing of a D projection can be done either by the presence of an element in its Spec, the presence of an overt determiner in D°, or N-to-D movement.¹⁰ Under this assumption, (62b) is required as if DP1 did not move to Spec,DP2, DP2, both in Italian and French, would not be licensed. What about (62d-e)? The derivation of these patterns cannot be identical to that of Greek at least for definite noun phrases. Taking into account the observations made about licensing D projections, (62d) involves movement of DP1 to Spec,DP2, and subsequent raising of DP2 to Spec,DP3 with raising of *red* and *big* to their respective Spec,CPs. This derives the order *le livre rouge grand*, under the assumption that the determiner is generated in DP1.¹¹ To derive the order *le livre grand rouge*, we could again assume that the determiner is optionally generated low, within DP1, and hence, DP1 must raise to Spec,DP3 in order to license this projection by moving through Spec,DP2. Alternatively, DP1 would move to Spec,DP2 and then move to a projection above CP, since *grand* has moved to the Spec,CP which follows DP3. (62a-c) would be out as DP2 could not be licensed.

⁹ Thanks to Roberta d'Alessandro for the Italian judgements.

¹⁰ For a proposal on the nature of N-to-D movement along those lines see Ritter (1991: 40).

¹¹ Note that for this pattern we could assume that what raises to Spec,CP of the higher clause, is actually DP2. In that case the determiner would be generated in D°3.

- c. *i italiki i isvoli
the Italian the invasion

Delsing (1993) suggests that the noun in Scandinavian is marked for definiteness in the lexicon. When no doubling occurs, the noun moves to D. Alternatively a determiner is inserted in D. Svenonius (1992) and Börjars (1998) also propose analyses that permit the noun in Swedish and Norwegian to optionally get associated with definiteness inflection in the lexicon, although their proposals differ very much in the details. In particular Svenonius capitalizes on Haider's (1988) idea of matching projections. When an overt determiner is present, D cannot be collapsed with its complement. When no overt determiner is present, D can be collapsed with its complement. For Börjars, on the other hand, nouns can be both definite and indefinite in the lexicon, and depending on their environment one or the other form will surface.

Embick & Noyer (2001) claim that the difference is one that is relevant at the morphological level, while the structure is identical in both cases. Specifically, the following requirement is imposed on PF in Swedish and Norwegian:

- (67) a. The head N must be marked with definiteness when D is [def]
b. D[def] must have a host

When the head noun moves to D both these requirements are satisfied. When, however, movement is blocked, i.e. in the case of adjectival modification, assuming that adjectives are heads, nouns occupy head positions DP internally, the two requirements are not met. In that case a determiner is inserted under D to support the definiteness feature. The authors, following Santelmann (1993), regard this as an instance of *do*-support. The head noun stays in situ. In Swedish, but not in Danish, it is a morphological requirement that the article and the noun must agree in definiteness. Thus, the two languages share the same syntactic structure, but differ at the level of morphology. The Greek facts, on the other hand, point to a structural difference, since DS is not obligatory, and it has a clear semantic effect.

6.2 Hebrew

In Hebrew, adjectives appear in post-nominal position, with the exception of certain numeral adjectives which appear pre-nominally (see Borer 2001, Shlonsky 2000). They are preceded by determiners obligatorily:

- (68) he smalot ha yapot ha elle
the dresses the nice the these

In (68) the noun is modified by a descriptive adjective, and a demonstrative. All of these adjectives agree in definiteness with the noun. Thematic adjectives are preceded by determiners as well (Siloni 1997):

- (69) ha-hafcaca ha-yisre'elit 'et levanon
the-bombing the -Israeli acc Lebanon

Moreover, as Sichel (2002) points out in Hebrew the determiner can precede non-

intersective adjectives as well:

- (70) ha-xaver ha-kodem / ha-yaxid Sel rina
the-friend the-former / the-single of rina
the former / only friend of Rina

As was the case with Scandinavian, the orders given in the examples are the only orders possible, i.e. further permutations of the construction are not possible.

Borer (1999) argues that definiteness in Hebrew and Semitic in general is a feature base generated on the head noun, whose value can percolate up. In fact the definiteness concord on adjectives is taken as evidence for this view. (71) below is a particularly striking case of this phenomenon.

- (71) ha-yeled me Subac ha-xulca
the boy plaid the shirt
the plaid shirted boy

The reason this example is striking is because the agreeing adjective is itself a construct, containing a nominal which carries the definite specification. And yet, in sharp contrast with definite nominals, it is not referential, nor does it have any of the properties typically associated with DPs. Hence the definite article on ‚shirt‘ is clearly an agreeing feature.

Another interesting example is given in (72):

- (72) a. yalda zot tikra et ha-Sir
girl this will read acc the poem
This girl will read the poem
- b. ha-yalda ha-zot tikra et ha-Sir
the girl the this will read acc poem

The examples in (72a) and (72b) are synonymous. The presence of an article on the demonstrative is clearly semantically vacuous. There is absolutely no difference in meaning between the two examples. This further suggests that the definite article is merely a feature base generated on the stem. According to Borer, D in Semitic is unspecified for definiteness. It inherits this feature from the head noun. As a result, the presence of a second determiner is merely an agreement in definiteness.

A somehow different analysis is put forth in Sichel (2002). However, Sichel also recognizes that in Hebrew the adjectival determiner cannot be analyzed as introducing a CP but rather as an agreement marker.¹³

¹³ Sichel (2002) reports that it is possible in Hebrew for material to intervene between the determiner preceding the adjective and the adjective (ia-ib). Such facts provide support for an analysis of the determiner preceding the adjective as heading a D head.

- (i) a. [ha-miS'ada ha-**lo** kSera ha-yexida be-bnei brak] nizgera ha-Savu'a
the-restaurant the-**neg** kosher the-sole in-bnei brak closed this-week
'The only non-kosher restaurant in Bnei Brak closed this week'
- b. ze kvar [ha-pakid ha-**legamrey** mebulbal ha-revi'i] Se-dibarti ito hayom
this already the-clerk the-**completely** confused the-forth that-talked.I with-him today

6.3 Albanian

(73) is an Albanian example which has been recently analyzed by Androutsopoulou (2001) as being very similar to Greek DS:

- (73) a. djali i mirë
boy the the good
- b. i miri djalë
the good boy

In (73a) a determiner precedes the adjective when it is in postnominal position. In that case both the noun and the adjective are marked for definiteness. In (73b), where the adjective precedes the noun, the latter is in the indefinite form. This is already different from the Greek pattern, where the noun may be preceded by a determiner.

It seems that the determiner that surfaces with adjectives is part of the adjectival root, a fact which is supported by the observation that occurs even in indefinite noun phrases and across the copula (see below). Newmark & al. (1982), where the data discussed here are taken from, in fact suggest that the determiner has lost its independence and it has simply become a definite Case ending. Let us consider the paradigm in some detail.

In Albanian adjectives are accompanied by determiners even when they appear in predicative position (74a) This is not possible in Greek as the ungrammaticality of (74b) shows:

- (74) a. mësuesei ishte i lumtur
teacher-def was det happy
the teacher was happy
- b. *o daskalos itan o kalos
the teacher was the good

Furthermore, determiners precede genitive phrases in Albanian, while this is not possible in Modern Greek, while it was possible in Classical Greek:

- (75) drejtori i shkollës
directer-def det school
the school's principal'
- (76) *o dieftindis o tu sholiu
the principle the of the school

In Albanian, the determiner can also surface after adverbials modifying the adjective as shown in (77).

'This is already the forth completely confused clerk I've talked to today'

- (77) domethënie jashtëzakonisht të madhe
 significance unusually det great
 unusually great significance

The adjectival determiner appears in indefinite noun phrases. Again this is not possible in Greek:¹⁴

- (78) nje djalë i mirë
 a boy the good
 a good boy

- (79) *ena agori to kalo
 a boy the good

As Giusti (1999) notes, there are no restrictions on the type of adjectives that the definiteness suffix can appear on. Moreover, when there is a second adjective present, a determiner precedes it, but the two adjectives are conjoined, unlike what happens in Greek:

- (80) djali i mirë e i urtë
 boy-the the good and the-quiet

In comparison constructions the determiner precedes the adjective and the degree modifier precedes the whole complex (81):

- (81) më i ëmbël
 more the sweet
 sweeter

In Greek the determiner always precedes the degree modifier:

- (82) to pio kalo pedi
 the most nice boy
 the nicest boy

As was the case in Hebrew and Scandinavian, further permutations of word order are not possible in Albanian.

Finally, the pre-adjectival determiner in Albanian shows allomorphy which depends not only on the features present in the matrix DP but also on its surface consistency (Trommer 2001). To see this consider the following table that contains the forms of the article for all occurring feature combinations and positions (from Trommer 2001: 5-6):

¹⁴ Both (77) and (78) are reminiscent of the patterns found in Swiss German and southern German dialects (see note 6), though a second determiner is absent from Albanian, and (78) contains a second but definite determiner. However, (78) crucially differs from the German data, in that in the dialects of German where this is possible the indefinite article precedes an adverb modifying the adjective.

Table 2

a.	Prenominal position		
	Singular	Plural	
	m f n		
Nom	i e tē	tē	
Acc	tē tē tē	tē	
Obl	tē sē tē	tē	
b.	Postnominal position without intervening material		
	Singular	Plural	
	m f n		
Nom	i e e	e	
Acc	e e e	e	
Obl	tē sē tē	tē	
c.	Postnominal position with intervening material		
	Singular	Plural	
	m f n		
Nom	i e tē	tē	
Acc	tē tē tē	tē	
Obl	tē tē tē	tē	

For instance, in (83) *e* is neutralized to *tē* as *më* intervenes, but *i* is not (cf. 81):

- (83) a. vajz-at më tē shkret-a
girl-pl-def more def poor-pl-def
the poorest girls
- b. djal-i më i mirë
boy-def more art good
the best boy

These data point to a morphological analysis of the definiteness agreement pattern in Albanian, as suggested in Newmark & al. Such an analysis is given in Trommer (2001) within the model of Distributed Morphology. The reader is referred to his work for details.

6.4 Romanian

As pointed in section 5.1, in Romanian, adjectives may be inflected for definiteness, as in (84) below. In this case the affix article cliticizes on the adjective, which has been argued to move to D:

- (84) frumosul baiat
nice-the boy

When the adjective is postnominal, a demonstrative determiner may optionally precede it and the noun itself carries the affixal determiner, as shown in (85):

- (85) baiatul (cel) frumos
 boy-the the good

The Romanian case crucially differs from the ones discussed so far, but also from Greek in that the second determiner is a demonstrative.

Thematic adjectives cannot be preceded by the determiner. In this respect the phenomenon is similar to DS.

The demonstrative article adds contrast to the adjective it precedes, much like the cases of postnominal adjectives in the other Romance languages. In this case the presence of the article has a semantic effect. In (86) the horse is contrasted to other non-white ones:

- (86) calul cel alb
 horse-det dem white
 the white horse

As was the case in Greek, but not in Albanian, the demonstrative article cannot appear in an indefinite noun phrase (Dobrovie-Sorin 1987: 529):

- (87) *o fatà cea mare
 a girl dem big

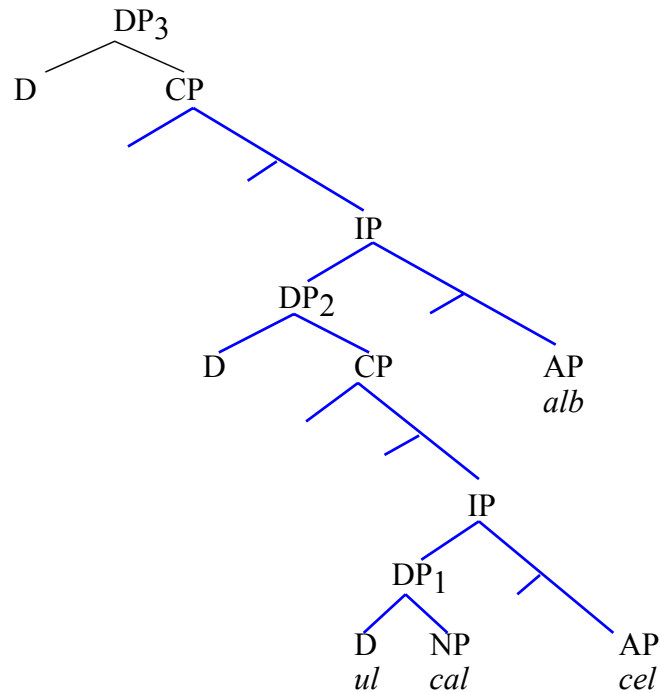
According to Dobrovie-Sorin (1987), *cel* and *cea* are the Romanian equivalents of the French *celui* and *celle*. Kayne (1994: 101) points out that *celui* is not an N°. Rather it is an XP composed of *ce+lui*. The Romanian demonstrative article can be presumably also decomposed to a demonstrative part and a definite part. There are two possibilities on how to structurally analyze the construction in (86). On the one hand, we could assume that *cel* is an article and the determiner associated with *horse* is base generated together with the noun and raises to Spec,DP1:

- (88) [DP1 cel [CP alb [IP calul t]]]
 the white horse-the

On the other hand, we could assume, following Kayne (1994) on *celui*, and Brugè (1996) on demonstratives, that these are adjectival in nature. On this view, the structure in (90) could be thought of as the input structure to example (86). Here the assumption is that demonstratives generally appear closer to head noun than other adjectives, as is manifested in (89) with an example from Spanish:

- (89) el cuadro redondo este
 the painting round this

(90)



In (90) *cel* and *alb* raise to their respective Spec,CP, DP1 raises to Spec,DP2 and DP2 raises to Spec,DP3.

7. Conclusions

In this paper I presented arguments that APs should be both analyzed as specifiers of FPs and as having predicative source. The difference in word order patterns found within the DP are accounted for if we assume that they involve XP raising, thus dispensing with X° raising.

I have also shown that the type of modification is sensitive to the semantic type of the adjective. Taking Greek DS as a diagnostic I claimed that adjectives that are not found in DS do not have a predicative source, but are generated in higher specifiers. I further discussed certain differences between Greek DS and the word order within the Romance DPs. Finally, I compared Greek DS to other instances of poly-definiteness found across languages. While in most cases the patterns can be analyzed as a reflex of agreement, and hence have a morphological explanation, the restrictions found in Greek are syntactic nature, providing us thus with a clear comparison with the Romance data. Thus we can make a distinction across languages between determiners that introduce CPs (Greek) and those that are merely morphological/agreement markers (Hebrew, Scandinavian, Albanian).

References

- Alexiadou, A. 1997. *Adverb Placement: a case study in antisymmetric syntax*. John Benjamins.
- Alexiadou, A. 2001. Adjective Syntax and Noun Raising: Word Order Asymmetries in the DP as the result of Adjective Distribution. *Studia Linguistica* 55, 217-248.

- Alexiadou, A. & C. Wilder. 1998. Adjectival modification and multiple determiners. In A. Alexiadou & C. Wilder (eds) *Possessors, Predicates and Movement in the DP*. Amsterdam: John Benjamins, pp. 303-332.
- Alexopoulou, T. & D. Kolliakou. 2001. On linkhood, topicalization and clitic left dislocation. To appear in *Journal of Linguistics*.
- Anagnostopoulou, E. 1994. *Clitic dependencies in Modern Greek*. Ph.D. dissertation, Universität Salzburg.
- Androutsopoulou, A. 1995. The licensing of adjectival modification. *Proceedings of WCCFL 13*.
- Androutsopoulou, T. 2001. Adjectival determiners in Albanian and Greek. In *Comparative syntax of the Balkan languages* edited by M.L. Rivero & A. Ralli, 161-199. Oxford University Press.
- Androutsopoulou, T & M. Español-Echevarria. 2001. French indefinite determiners in indefinite contexts and asymmetric agreement. Paper presented at the conference on Asymmetry, Montreal.
- Bernstein, J. 1993. Topics in the syntax of nominal structure across Romance. Ph.D. Dissertation, CUNY.
- Börjars, K. 1998. Feature distribution in Swedish noun phrases. Publications of the Philological Society. Oxford.
- Bolinger, D. 1967. Adjectives in English: attribution and predication. *Lingua* 18: 1-34.
- Borer, H. 1999. Deconstructing the construct. In K. Johnson & I. Roberts (eds.) *Beyond Principles and Parameters*. Dordrecht: Kluwer.
- Borer, H. 2001. One is the loneliest number. Manuscript, University of Southern California.
- Bosque, I. & M.C. Picallo. 1996. Postnominal adjectives in Spanish indefinites DPs. *Journal of Linguistics* 32.
- Bouchard, D. 1998. The distribution and interpretation of adjectives in French: a consequence of bare phrase structure. *Probus* 10, 139-183.
- Brugè, L. 1996. El movimiento del demostrativo en español. Paper presented at the VI Colloquium of Generative Grammar, Valencia.
- Cardinaletti, A. & Starke M. 1999. The typology of structural deficiency: a case study of the three grammatical classes. *Clitics in the languages of Europe*, ed. H. van Riemsdijk, 145-233. Berlin: Mouton de Gruyter.
- Cinque, G. 1993. On the evidence for partial N-movement in the Romance DP. *University of Venice Working Papers in Linguistics* 3.2: 21-40.
- Cinque, G. 1999. *Adverbs and the universal hierarchy of functional projections*. Oxford University Press.
- Delsing, L.-O. 1993. The internal structure of noun phrases in the Scandinavian languages. Doctoral dissertation, University of Lund.
- Demonte, V. 2001. Merging and agreement of adjectives in DP: a feature based analysis. MS., University of Utrecht & Universidad Autonoma de Madrid.
- Dobrovie-Sorin. C. 1987. *Syntaxe du roumain*. Doctoral dissertation, Université de Paris 7.
- Emonds, J. 1976. *A transformational approach to English syntax*. Academic Press.
- Giusti, G. 1999. The functional structure of noun phrases: a bare phrase structure approach. *University of Venice Working Papers in Linguistics* Vol. 9, 1-2, 105-160.
- Haider, H. 1988. Matching Projections. In A. Cardinaletti, G. Cinque and G. Giusti (eds.), *Constituent Structure*, Foris, Dordrecht, pp. 101-123.

- Jacobs, R. & P. Rosenbaum. 1968. *English transformational grammar*. Waltham, Mass: Ginn and Company.
- Kamp, H. 1975. Two theories about adjectives. In E. Keenan (ed.) *Formal Semantics of Natural Language*, 123-155. Cambridge University Press.
- Karanassios, G. 1992. *Syntaxe Comparée du Groupe Nominal en Grec et dans d'autres Langues*. Doctorat d'état, Université VIII. Paris, Vincennes.
- Kayne, R. 1994. *The antisymmetry of Syntax*. Linguistic Monograph series. MIT Press. MIT.
- Kayne, R. 2000. *Parameters and Universals*, New York, OUP.
- Koopman, H. & A. Szabolcsi. 2000. *Verbal Complexes*. Cambridge, MA.: MIT Press.
- Laenzlinger, C. 2000. French adjective ordering: perspectives on DP internal movement types. *GGG* 1: 55-104
- Lamarche, J. 1991. Problems for N-movement to NumP. *Probus* 3.2, 215-316.
- Larson, R. 1988. On the double object construction. *Linguistic Inquiry* 19:335-391.
- Leu, T. 2001. A sketchy note on the article-modifier relation. *GGP* 2, 55-69.
- Levi, J. 1978. *The syntax and semantics of complex nominals*. Academic Press.
- Longobardi, G. 1994. Reference and proper names: a theory of N-movement in syntax and logical form. *Linguistic Inquiry* 25: 609-665.
- Lonzi, L. & C. Luzzatti. 1993. Relevance of adverb distribution for the analysis of sentence representation in agrammatic patients. *Brain and Language* 45, 306-317.
- Mahajan, A. 2000. Eliminating head movement. *GLOW Newsletter* 44, 44-45.
- Manolessou, I. 2000. *Greek Noun Phrase structure: a study in syntactic evolution*. Ph.D. diss. University of Cambridge.
- Newmark, Leonard, Hubbard Philip, Peter Prifti. 1982. *Standard Albanian: a reference grammar for students*. Stanford University Press.
- Pollock, Jean-Yves. 1989. Verb Movement, Universal Grammar and the Structure of IP. *Linguistic Inquiry* 20: 365-424.
- Postal, P. 1969. Anaphoric islands. Papers from the fifth regional meeting Chicago Linguistic Society. University of Chicago. 205-239.
- Ritter, E. 1991. Two functional categories in noun phrases: evidence from Hebrew. In S. Rothstein (ed.) *Perspectives on Phrase Structure: heads and licensing*. *Syntax and Semantics* 25, 37-62.
- Rivero, M.L. 1992. Adverb Incorporation and the Syntax of Adverbs in Modern Greek. *Linguistics and Philosophy* 15: 289-331.
- Santelmann, L. 1993. The distribution of double determiners in Swedish: *den* support in D°. *Studia Linguistica* 47: 154-176.
- Shlonsky, U. 2000. The form of the Semitic noun phrase: an antisymmetric, non N-movement account. Manuscript, University of Geneva.
- Sichel, I. 2002. Phrasal movement in Hebrew adjectives and possessives. In *Dimensions of movement: from remnants to features*. A. Alexiadou, E. Anagnostopoulou, S. Barbiers & H.-M. Gaertner. John Benjamins.
- Siegel, M. 1976. *Capturing the adjective*. Ph.D. dissertation, Univ. of Massachusetts, Amherst.
- Siloni, T. 1997. *Noun phrases and nominalizations: the syntax of DPs*. Dordrecht: Kluwer.
- Sproat, R. & C. Shih. 1988. Prenominal adjectival ordering in English and Mandarin. *Proceeding of NELS* 12: 465-489.
- Stavrou, M. 1995. Epexegesis vs. Apposition. *Scientific Yearbook of the Classics Dept.*

Aristotle University of Thessaloniki.

- Stavrou, M. 1996. Adjectives in Modern Greek. an instance of predication, or an old issue revisited. *Journal of Linguistics* 32, 79-111.
- Stavrou, M. 1999. The position and serialization of APs in the DP: evidence from Greek. In A. Alexiadou, G. Horrocks & M. Stavrou (eds) *Studies in Greek Syntax*, 201-220. Dordrecht: Kluwer.
- Svenonius, P. 1992. The distribution of definite marking. In A. Holmberg (ed) *Papers from the Workshop on the Scandinavian Noun Phrase*. University of Umeå, 135-164.
- Travis, L. 1984. *Parameters and Effects of Word Order Variation*. Ph.D. Diss. MIT.
- Trommer, J. 2001. The post-syntactic morphology of the Albanian pre-posed article: evidence for Distributed Morphology. Manuscript, University of Osnabrück.
- Valois, D. 1991. The internal structure of DP and adjective placement in French and English'. *Proceedings of NELS* 21: 367-382.
- Vulchanova, M. & Giusti, G. 1998. Fragments of Balkan nominal structure. In *Possessors, predicates and movement in the DP*, ed. A. Alexiadou & C. Wilder, 333-356. Amsterdam: John Benjamins.
- de Wit, P. & M. Schoorlemmer. 1996. Prenominal arguments in Russian, German and Dutch. In *ZAS Papers in Linguistics* 5: 184-202.