

# LINEARIZATION OF ATTRIBUTIVE ADJECTIVES IN ROMANIAN

ALEXANDRA CORNILESCU<sup>1</sup>, RUXANDRA COSMA<sup>2</sup>

**Abstract.** The paper discusses patterns of adjectival linearization in Romanian, against the background of some existent analyses on Romanian adjectives, correlating them to data collected in CoRoLa. Empirical evidence has been examined with respect to known properties of adjectival classes, identifying predicted models and explaining combined effects. The observations made confirm previous studies on types of adjectival modification, endorsing knowledge of complex semantic structures.

**Keywords:** attributive adjectives, linearization, ordering patterns.

## 1. INTRODUCTION

### 1.1. The challenge

The linearization of attributive adjectives (=As) inside the nominal phrase once again became a hot topic in linguistics with the publication of Sproat and Shih (1988). They put forth what we would now call a cartographic approach, proposing that As which directly combine with the noun (=N) are strictly ordered, according to a sequence of strictly ordered functional projections which are in fact cognitive categories, as illustrated in (1). The ordering in (1) was found to be valid for languages as diverse as Mandarin, English, or Italian, so cartographers proposed that a hierarchy of this type held in UG.

- (1)    *quality*>    *size* >    *shape*>    *color*>    *provenance*    *N*  
         various                      round                      black                      Egyptian                      masks  
         wonderful big                      red                      American                      cars

This claim was puzzling for languages like Romanian or Greek (e.g. Stavrou 1998), where As seem to be freely ordered and such cognitive categories appear to play no role. Stavrou (1998) advances the claim that directly modifying As are not so rigidly ordered, yet their hierarchy is principled; specifically Stavrou's proposal is that As which reflect a contextual speaker-dependent evaluation precede As which objectively classify the head (e.g. *exceptional Romanian actor*/ \**Romanian exceptional actor*).

---

<sup>1,2</sup> University of Bucharest, alexandracornilescu@yahoo.com, ruxandra.cosma@lils.unibuc.ro

An additional difficulty in the case of Romance languages is that uncomplemented direct modifiers occur on both sides of the head, and it was unclear in which position it was that cognitive hierarchies are relevant (*exceptional actor român* ‘exceptional Romanian actor’).

Along the years we have directly or indirectly addressed the problem of adjectival linearization (Cornilescu 2004, 2006, 2009, Cornilescu and Nicolae 2011, Cornilescu and Dinu 2014). Our results are also convergent with Molea (2006). In a nutshell, we have argued for a *principled solution* and claimed that the order of Romanian As follows from more abstract properties reflected in the variety of adjectival classes. In the first part of the paper we briefly present the criteria for classifying As, leading to a presentation of the relevant adjectival classes. We also present the model of linearization for Romanian proposed, for instance, in Cornilescu and Nicolae (2011), which sums up our claims regarding Romanian adjectival linearization.

## 1.2. Goals of the study

The major aim of this corpus study is to establish whether the linearization model proposed is correct when confronted with the rich linguistic data found in CoRoLa. Essentially, this means establishing whether the patterns found in the corpus are predicted to exist by the linearization model. A secondary goal was to make quantitative remarks on the patterns found, observing which patterns are relatively more frequent.

A second, corpus-related aim of this study was to work with CoRoLa and KorAP, testing existing queries, identifying further harmonization needs and showing that, though at this moment not yet syntactically annotated, CoRoLa can be used as an empirical basis for syntactic studies.

In the present paper we have examined only, or mostly non-coordinated adjectives and no “comma-stackings”. This does not mean that Romanian does not display syndetic and asyndetic situations (*oameni simpli, cinștiți și onești* ‘people simple, honest and sincere’). But that *stacking within the same intonation phrase* is theoretically more relevant and empirically more constrained. At the same time, we have not discussed complemented As. Another important aspect which was ignored, basically for lack of space, is the length of the AP; it is known that there is a tendency to place heavy constituents in final position and this may produce word order changes. Research on these problems will be undertaken in further studies.

As is known, discussing the linearization of attributive As presupposes the examination of: i. the position of the A with respect to the N; ii. the relative positions of As with respect to each other.

## 2. CLASSIFICATION CRITERIA

In our classification of As, we have combined the three criteria described below:

(i) **The syntactic criterion** refers to the level of modification and distinguishes between NP-As and DP-As. NP-As combine with NPs as adjuncts or as specifiers. Adjectives which combine by *adjunction* are *postnominal* in Romance. As which combine by *specification* remain *prenominal* in Romance. DP-As typically occur as predicative adjectives in clausal constructions, but they may also occupy the highest positions (to the

left of intensional adjectives), within the DP (e.g. un [**simpatic** [*viitor parlamentar*]] ‘a nice future member of parliament’).

(ii) **The ontological criterion** distinguishes between *object-level adjectives* (which denote properties of objects and have  $\langle e, t \rangle$  denotations; as in (2a)) and *kind-level adjectives* (cf. McNally and Boleda 2004), denoting *properties of kinds* (k) with denotations of type  $\langle k, t \rangle$ , as in (2c). The prototypical group of kind-level or sortal As is that of relative As (= RelA). The hallmark of object-level As is the possibility of a proper name subject (2a). In contrast, kind-level As do not accept proper name subjects, as apparent in (2b). This semantic fact is valid cross-linguistically. Kind-level As accept as subjects only DPs that denote kinds (2c) or at least DPs that may supply kind-level information (2d).

- (2) a. Ion<sub><e></sub> este înalt<sub><e,t></sub>.  
 ‘John is tall.’  
 b. \*România<sub><e></sub> este națională<sub><k,t></sub>  
 \*Romania is national.f.  
 c. Conflictele<sub><k></sub> între țări pot fi teritoriale<sub><k,t></sub>.  
 ‘Conflicts between countries may be territorial.’  
 d. [Acest conflict]<sub><k></sub> este strict teritorial<sub><k,t></sub>.  
 ‘This conflict is strictly territorial.’

(iii) **The mode of semantic combination** is the third criterion employed. It represents the semantic rule by means of which As combine with the NP or DP constituent which is in their scope (Cornilescu 2006, 2009). It is generally accepted that there are two modes of semantic combination for As, namely Functional Application and Predicate Modification, defined below:

- **Functional Application** (Heim and Kratzer 1998: 44)

For  $\alpha \in D$ ,  $\sigma, \beta \in D$ ,  $\langle \sigma, \tau \rangle$  and  $\gamma$  such that  $\gamma$  immediately dominates both  $\alpha$  and  $\beta$ ,  $[[\gamma]] = [[\beta]] ([[ \alpha ]])$

- **Predicate Modification** (Heim and Kratzer 1998: 65)

For  $\alpha \in D \langle e, \sigma \rangle$ ,  $\beta \in D \langle e, \sigma \rangle$  and  $\gamma$  such that  $\gamma$  immediately dominates both  $\alpha$  and  $\beta$ ,  $[[\gamma]] = \lambda x [[\alpha]](x) \wedge [[\beta]](x)$ .

**Predicate Modification** combines predicates of the same level, i.e. having the same type of denotation, by means of *set intersection* (the conjunction of predicates). Adjectives that may combine with NPs by predicate modification are thus *intersective*. For intersective As, a sentence of type ‘This is an AN’, endorses the inferences ‘This is A’ and ‘This is N’, as illustrated below for the intersective *red ball*, in contrast with the intensional *former king*:

- (3) a. red ball:  $\lambda x [[\text{red}]](x)$  and  $[[\text{ball}]](x)$   
 b. former king:  $*\lambda x [[\text{former}]](x)$  and  $[[\text{king}]](x)$

Not all As are intersective (e.g. Bolinger 1967). Following Kamp (1975), non-intersective adjectives fall into two classes: intensional As and subsective As (see below).

**Functional Application** combines constituents that have denotations of different types, such that one of them, the function, takes the second for its argument. Thus in (4),

the predicative object-level A *tall* combines with its e-type subject *John* by Functional Application. More generally, DP-adjectives always combine with their argument by Functional Application.

- (4) John<sub><e></sub> is tall<sub><e,t></sub>.

Similarly, adjectives like *former*, *alleged* (i.e. intensional As) are second order functions (functions that map properties onto properties, i.e. functions of type  $\langle\langle e,t \rangle \langle e,t \rangle\rangle$ ). Therefore, they combine with NPs by Functional Application, as illustrated in (5):

- (5) [[former]<sub><<e,t> <e,t>></sub>] [king<sub><e,t></sub>]  $\lambda x[[\text{former}][\text{king}]](x)$

It is important that intensional As are neither intersective nor subsective. Their inferential properties are such that a sentence of type ‘x is A(N)’ endorses neither the inference to ‘x is A’, nor the inference to ‘x is N’. Thus, a *former king* is not a king, etc. The inference from ‘x is an A(N)’ to ‘x is an N’ does not hold (‘He is a presumed genius’  $\neq$  ‘He is a genius’). Subsective As are functions that map sets onto subsets. Therefore, putting it informally, they allow the inference from ‘x is an AN’ (6a) to ‘This is an N’ (6b), without also endorsing the inference from ‘x is an AN’ (6a) to ‘x is A’ (6c).

- (6) a. He is a rural policeman. /b. He is a policeman. /c. \*He is rural.

Since intersective As and subsective As denote subsets of the set denoted by the noun, these classes of As are known as *restrictive As*, and in Romanian they are *always* postnominal.

### 3. RELEVANT ADJECTIVAL CLASSES

The three criteria allow the characterization of three types of As with distinct syntactic and semantic properties: i. qualifying adjectives (Qual-As), ii. relative adjectives (or taxonomic) (Rel-As), iii. intensional adjectives (I-As). Some of these As combine occurrence in prenominal and postnominal position. This is the case of Qual-As, which appear to the right, as well as to the left of the noun. Rel-As are strictly postnominal, while I-As are strictly prenominal. There are other relevant distinctions between these groups of adjectives.

#### 3.1. Properties of qualifying adjectives and relative adjectives

The prototypical adjectival class is that of Qual-As: *mare*, *frumos*, *greu*, *bun* (‘big’, ‘beautiful’, ‘heavy/difficult’, ‘good’), etc. Two properties distinguish them from the other adjectival classes, namely, they are *gradable* and they are *intersective*, combining with the N by *predicate modification*. This means that they permit two inferences from ‘x is AN’, namely, both ‘x is N’, and ‘x is A’. Another characteristic is their “flexibility”; through recategorization they develop taxonomic, as well as intensional readings. As a result, they occur on both sides of the N, and they are freely used attributively, as well as predicatively.

Rel-As also have several identifying properties. Most Rel-As are derived from nominal bases: *național* (< *națiune*), *animalic* (< *animal*) and their meaning is related to the meaning of the N. In more technical terms, they are NP-As, part of kind-level constructions. Used as predicates, they denote properties of kinds, not of objects, hence their predicative use is restricted to sentences where the subject denotes a kind or is kind related (examples in (2)). Regarding their inferential properties, Rel-As are *subsective* and the N+A combinations denote sub-kinds. Consequently, Rel-As endorse the inference ‘from ‘x is AN’ to ‘x is N’, but not to ‘x is A’ (the latter being possible only Qual-As).

From a narrowly grammatical perspective, two properties single them out: Rel-As are *ungradable*. Secondly, Rel-As occur only in *postnominal position*. Knittel (2009) first notices that a considerable number of Qual-As develop relative interpretations when they combine with particular Ns, as in *vin roșu* ‘red wine’ (but: \**vin mai roșu*). She proposes to include Rel-As and Qual-As with taxonomic interpretations in the larger class of *taxonomic As* (= Tax A). We follow this suggestion in the discussion of the corpus.

### 3.2. Pre-nominal intensional adjectives

The central group of intensional As is represented by the small class of *inherently I-As*, like *fost*, *viitor*, *presupus* ‘former’, ‘future’, ‘alleged’, which have modal, temporal, quantificational meanings, etc. Their semantic properties have already been described. Ontologically, they have *kind-level* denotations, expressing *properties of kinds*. Syntactically they are NP-As and combine with the N by functional application. Therefore their semantic type is  $\langle\langle k, t \rangle \langle k, t \rangle\rangle$ . i.e. they map kinds onto kinds.

Inherently I-As have sometimes (e.g. Bolinger 1967) been grouped together with Rel-As on the basis of the important semantic fact that both have *kind-level* readings. In Bolinger’s terms, both *former president* and *chemical engineer* express *reference modification*, not *referent modification*. However, beyond the important similarity pointed out by Bolinger (1967), there are striking dissimilarities between the two classes. One difference regards the predicative use. Rel-As *may* be predicative, even if their predicative use is constrained (examples in (2)). In contrast, the ban on the predicative use of inherently I-As is exceptionless. A second difference regards scope of co-occurring As. Rel-As lack scope. If two Rel-As modify the same noun (7), the set denoted by them is the same, irrespective of their order. In contrast, for I-As, As stack and word order matters for identifying the referent (8 a, b).

- |     |  |  |
|-----|--|--|
| (7) | a. literatura romantică engleză<br>literature romantic English | b. literatură engleză romantică<br>literature English romantic |
| (8) | a. un fost viitor președinte<br>‘a former future president’    | b. un viitor fost președinte<br>‘a future former president’    |

Neither I-As, nor Rel-As allow the inference from ‘This is an AN’ to ‘This is A’. However, Rel-As allow the inference from ‘This is AN’ to ‘This is N’, while inherently I-As do not allow this second inference either. The most clear-cut difference remains their position: I-As are *strictly prenominal*, while *Rel-As are strictly postnominal*.

#### 4. A MODEL OF LINEARIZATION FOR ROMANIAN ATTRIBUTIVE ADJECTIVES

As to linearization, the adjectival classes described above are, indeed, ordered, leading to the following generally observed pattern (Cornilescu and Nicolae 2011):

(9)

<i>DP</i> -adjectives	<i>NP</i> -adjectives (int.)	<b>N</b>	taxonomic A	qualifying A	
DP	AP	[AP	<b>N</b>	AP <sub>1</sub>	AP <sub>2</sub>
	<e, e>	<<k,t>, <k,t>>	<k,t>	<k,t>	<e,t>
<i>un</i>	<i>simpatic</i>	<i>înalt</i>	<i>demnitar român</i>	<i>foarte bogat</i>	
<i>a</i>	<i>nice</i>	<i>high</i>	<i>official Romanian</i>	<i>very rich</i>	
	<i>non-restrictive modification</i>		<i>restrictive modification</i>		

Within each of these categories, the relative position of As is free, so if there are two As of the same type in a DP, both orders are possible and corpus-attested except for I-As, which stack. As to the postnominal field, (9) shows that taxonomic As (including Rel-As) precede Qual-As. It follows that the Romanian postnominal order is the mirror image English or German, except that in these languages As are mainly prenominal.

(10) mașină americană roșie      red American car, ein rotes amerikanisches Auto

Thus, in different ways, these languages follow the same semantic principle, that adjectives which express objective (kind-level) properties stay closer to the head than adjectives which express gradable, therefore subjective properties. The original insight of this proposal is that adjectival order does not follow from detailed conceptual categories as in (1), but it is determined by more abstract properties, such as the semantic type of an A, the nature of the constituent it combines with (NP or DP) and the mode of semantic combination. Specific syntactic parameters of the language determine other properties of the nominal phrase, such whether the As are all postnominal, or prenominal, or both prenominal and post nominal.

#### 5. QUERIES FOR DATA ANALYSIS

We hereby list only some of the queries we have used for observing and verifying the position and linearization of adjectives and adjectival classes at different stages of building CoRoLa and developing KorAP.

- [drukola/m=pos:noun][drukola/m=pos:adjective]
- (11) catalogul      autorilor      pentru    *o listă completă*    a autorilor  
 catalogue.the    authors.GEN.    for      a list complete.f    A authors.GEN
- [drukola/m=pos:adjective][drukola/m=pos:noun]
- (12) Îți      mulțumim anticipat      pentru această    *importantă contribuție*.  
 We      thank      in advance      for      this      important contribution
- [drukola/m=pos:noun][drukola/m=pos:adjective][drukola/m=pos:adjective]

- (13) o zonă vulcanică neadormită  
a zone vulcanic not.sleeping
- [drukola/m=case:direct][drukola/m=ctag:an][drukola/m=ctag:nsrn][drukola/m=ctag:nsry]
- (14) o viitoare mare poetă  
a future.f big poet.f.
- [drukola/m="msd:a.\*"&drukola/m="gender:feminine"&drukola/m="number:singular"]{3}[drukola/m="msd:n.\*"&drukola/m="gender:feminine"&drukola/m="number:singular"]
- (15) spiritualitatea creștină ortodoxă românească  
spirituality.the Christian.f. orthodox.f. Romanian.f.

## 6. ROMANIAN ATTRIBUTIVE ADJECTIVES IN COROLA

The aim of this corpus study is to verify whether the model of linearization proposed in (9) correctly predict the distribution of Romanian As, when confronted with the larger body of data offered by CoRoLa. At this point, the analysis remains qualitative rather than quantitative, since, in the absence of syntactic annotation, there are problems of parsing which prevent a reliable study of the frequency of the several patterns found.

However, an encouraging finding is that all the word order patterns predicted to be available according to (9) have been found in the corpus. Secondly, the adjectival classes and their properties as sketched above are helpful in organizing and interpreting the corpus data. Moreover, combinations that have not been predicted to be possible have not been found either, at least, so far. A very general observation is that the corpus confirms that Romanian prefers the postnominal position of an A, when it is available. Thus, specific prenominal interpretations of an A may occur postnominally, but the reverse has not been attested. In the two sections of this second part of the paper we examine the corpus (and Google) with respect to the postnominal and the prenominal field of attributive As.

### 6.1. Postnominal linearization of adjectives

#### 6.1.1. General properties of the post-nominal field

Syntactically, the postnominal field is homogeneous, including only *NP-As* projected as *adjuncts*. Semantically, postnominal As are *extensional*, since all the N+A combinations denote *subsets of the set denoted* by the nominal head. So, for all postnominal As, the inference from ‘x is NA’ sentences to ‘x is N’ holds. Additionally, Qual-As also endorse the inference from ‘x is NA’ to ‘x is A’, since Qual-A combine with the N by predicate modification (i.e. they are intersective). The main problems to address in the corpus study for postnominal As, were a. to check whether Tax-As indeed precede Qual-As, and b. to check whether word order was free for As of the same class.

#### 6.1.2. Presentation of the postnominal patterns

In this section we examine the patterns identified in the queries with respect to the problems mentioned above. The patterns have been numbered for ease of reference.

### 1. N + A1 taxonomic + A2 qualifying

The easiest test to apply, to differentiate between the two types of postnominal As, is gradability: the (second) Qual-A in (16) is gradable (16a), the Tax-A is ungradable (16b). Secondly, if the A is noun-based, it is likely to be taxonomic-relative (see *instrumental*, *suedez*, *politic* below). The word-order is the mirror-image of English, as apparent in the glosses and as expected. Tax-As fulfill a variety of conceptual roles in the qualia of the head noun: there are ethnic As (18), thematic As (19), where *american* ‘American’ has an Agentive interpretation, etc. All the examples show that such phrases come from specialized domains (literary criticism, political science, sociology, medical science, economy, etc.), therefore domains which often need reference to sub-kinds.

- |      |   |                                 |
|------|---|---------------------------------|
| (16) | critic literar <sub>T</sub> avizat <sub>Q</sub> | ‘well-informed literary critic’ |
|      | critic literary well-informed                   |                                 |
|      | a. critic <i>foarte</i> avizat <sub>Q</sub>     | critic very well-informed       |
|      | b. *critic foarte literar <sub>T</sub>          | *critic very literary           |
| (17) | gen instrumental <sub>T</sub> pur <sub>Q</sub>  | ‘pure instrumental genre’       |
| (18) | domni suedezi <sub>T</sub> chipeși <sub>Q</sub> | ‘handsome Swedish gentlemen’    |
| (19) | al doilea atac american chiar mai masiv         | (Google)                        |
|      | second attack American even more massive        |                                 |

### 2. N+ A1 taxonomic + A2 taxonomic

In this pattern, both As are ungradable, possibly noun-based and they are freely ordered because they represent the same type of A.

- |      |                              |                              |
|------|------------------------------|------------------------------|
| (20) | a. personaje feminine mitice | b. personaje mitice feminine |
|      | characters feminine mythical | characters mythical feminine |

Word order is nevertheless constrained by the tendency to form conceptual compounds (21), with relatively rigid order (particularly in specialized languages):

- |      |                              |                         |
|------|------------------------------|-------------------------|
| (21) | a. produs intern brut        | b. ?*produs brut intern |
|      | product domestic gross       |                         |
|      | ‘gross domestic product GDP’ |                         |

If compound formation is not at stake, word order is reversible, as attested in (20). Pattern 2 is a frequent adjectival pattern, given the current development of specialized languages. The two As may be genuine taxonomic ones (20) in this pattern, but it is possible that one A may be a recategorized Qual-A, which has both gradable and ungradable interpretations, and may be qualifying, as well as taxonomic. This is the case of many *-esc* As and *-ic* As. Thus, consider the doublet *român* – *românesc* ‘Romanian’, which shows a great deal of variation. In principle, *român* is a taxonomic kind-level A (22), while *românesc* combines taxonomic (23a) and qualifying readings (23b). In some of the phrases, *românesc* is graded (*foarte românesc* in (23b)), while in others it has a categorial ungradable interpretation (23a). Similar dual behaviour is exhibited by other *-esc* As like

*studentesc, moldovenesc*, etc. The same point is made in (24) with the A *eclectic*, an *-ic* A. Interestingly, the unattested example (24e) is precisely that which is predicted to be infelicitous, because it exhibits the order Qual-A+Rel-A. Thus, it appears that the position before a taxonomic adjective encourages a taxonomic interpretation, given the model of linearization proposed. Consequently, *foarte eclectic*, which is a Qual-A, is fine after the taxonomic A *arhitectural*, but not before.

- (22) literatura română<sub>T</sub> ‘Romanian literature’  
 (23) a. în sistemul universitar<sub>T</sub> românesc<sub>T</sub>/\*foarte românesc  
     in system.the academic Romanian ‘in the Romanian academic system’  
 b. într-un stil **foarte românesc**<sub>Q</sub> ‘in a very Romanian style’  
     in-a style very Romanian  
 (24) a. stil arhitectural<sub>T</sub> eclectic<sub>T</sub> style architectural eclectic  
 b. stil eclectic<sub>T</sub> arhitectural<sub>T</sub> style eclectic architectural  
 c. stil foarte eclectic<sub>Q</sub> style very eclectic  
 d. stil arhitectural<sub>T</sub> foarte eclectic<sub>Q</sub> style architectural very eclectic  
 e. ?stil foarte eclectic arhitectural (unattested) style very eclectic architectural

Such facts show that Romanian is indeed sensitive to the distinction Qual-A/Tax-A, and that the possibility of interpreting an A as taxonomic or qualifying depends on its position as much as on its content.

### 3. N+ A1 qualifying + A2 qualifying

In this pattern, both As are gradable and free word order is expected (25). This confirms that both As are (interpreted as) qualifying. If the second A has two readings, i.e. taxonomic and qualifying, and the preceding (first) A is qualifying, then the second A prefers the qualifying reading or at least also activates the qualifying reading, too. This is apparent in the contrast between the corpus attested (26a) and our reformulation (26b). In the attested example, where *Goldfadenian* follows the unquestionably Qual-A *pitoresc* ‘picturesque’, *Goldfadenian* is interpretable not only as taxonomic ‘(plays) by Goldfaden’, but also qualifying, as ‘Goldfaden-like beginnings’. In the reverse order, only the taxonomic reading is present, in agreement with Pattern 1.

- (25) a. o pâine mare<sub>Q</sub> neagră<sub>Q</sub> ‘a big black loaf of bread’  
     a bread big black  
 b. o pâine neagră mare ‘a big black loaf of bread’  
     a bread black big  
 (26) a. începuturi pitorești<sub>Q</sub> goldfadeniene<sub>Q</sub> b. începuturi goldfadeniene<sub>T</sub> pitorești<sub>Q</sub>  
     beginnings picturesque Goldfadenian beginnings Goldfadenien pitoresque

The examination of the corpus reveals another interesting fact, namely, when the A is noun-derived (expectedly taxonomic) and the head noun is not compatible with a literal taxonomic reading, the A is interpreted as a Qual-A, morphology takes the upper hand, and the noun-derived A often occupies the first position, even with gradable interpretations. An example is *scheletic*, with the interpretations ‘skeletal’ (T) in (27a), or ‘skeleton-like’ (Q), in (27b, c), below.

- (27) a. suport scheletic<sub>T</sub> intern ‘internal skeletal support’  
 b. bătrân scheletic<sub>T/figQ</sub> neîngrijit ‘old man as thin as a skeleton/unkempt man’  
 c. un sumar scheletic<sub>Q</sub> inutil ‘a useless skeleton-like summary’

Thus, the semantics of the head play a crucial role in discriminating between qualifying and taxonomic readings.

An important quantitative remark is that Patterns 1 and 2 are by far more frequent than 3 in CoRoLa, because of the stylistic distribution of the material. A spoken corpus would surely have produced a different distribution of the three patterns above.

#### 4. N+ A1 taxonomic + A2 taxonomic (A3 + complement/adjunct)

Pattern 4 is one of those which show that within the same intonation phrase, Romanian avoids having more than two As. A third one tends to appear after a comma and tends to be complemented. The inclination to reduce the number of As in the same intonation phrase is also apparent in the tendency to form hyphenated compounds (28b), like *cultural-artistic*, *sanitar-veterinar*.

- (28) a. Autoritatea Națională Sanitară Veterinară  
 ‘The National Sanitary Veterinary Authority’  
 b. Autoritatea Națională *Sanitar-Veterinară*

Nevertheless, three As in the same intonation unit are not excluded (29). Further As can be listed after a comma, as in (30).

- (29) aspirație *nazală<sub>T</sub> profundă<sub>T</sub> zilnică<sub>T</sub>* ‘daily profound nasal aspiration’  
 aspiration nasal profound daily  
 (30) stat *național român suveran*, unitar și indivizibil<sup>3</sup>  
 state national Romanian sovereign, unitary and indivisible

A more complex syntax is identified in structures containing two adjectives + one free AP, possibly containing a head plus some complement, adjunct etc., as in the following examples. The third A is separated by comma:

- (31) a. scenă *muzicală<sub>T</sub> internațională<sub>T</sub>, prezentă* la festival  
 scene musical international, present at festival  
 b. opera *literară studiată, necitită* în prealabil  
 opus literary studied, NOT-read before hand

The corpus study confirms that the post-nominal field is occupied by qualifying and taxonomic As. The linearization model N + Tax-A + Qual-A is also confirmed, and it is also the case that As of the same type show free word-order. Moreover, corpus data confirm

<sup>3</sup> Variation: stat *național suveran român* ‘national sovereign state of Romania’  
 state national sovereign Romanian

the general hypothesis of linearization studies (a.o. Cinque 2010, Molea 2006) that the particular interpretation assigned to an A within a DP depends on i. its relative position with respect to other As, ii. the semantics of the head, iii. its lexicon meaning.

## 6.2. The prenominal field

### 6.2.1. General properties of the prenominal field

The prenominal field is non-homogeneous syntactically, accomodating both DP-modifiers and NP-modifiers; at the same time, NP-modifiers themselves are either intensional or qualifying, and, sometimes, even recategorized relative As. The unity of the prenominal field is nevertheless secured by their mode of semantic combination: they uniformly combine by *functional application* with the NP or DP in their scope. As a consequence, these As *stack* and truth conditions may change, if word order changes (32).

- (32) a. un *fost viitor* primar                    ‘a former future mayor’  
 b. un *viitor fost* ministru                    ‘a future former minister’

Combination by functional application also yields the general fact that prenominal As are always *non-intersective*, contrasting with the *subjective* or *intersective* readings in postnominal position. The net result of the different mode of combination is that the interpretation of prenominal As is systematically different from the interpretation of the same As in postnominal position. The prenominal space is also the space of subjective, emotional, modal, quantificational readings. Among others, this is shown by the fact that, apart from *inherently intensional* As, only *gradable* As can be prenominal. Cinque (2010) stresses that Romance prenominal As are all interpreted as *appositions* (non-restrictive modifiers), as information presupposed to be true by the speaker. From the point of view of information structure, prenominal As are part of the *topic* of the DP (unless they are contrastively stressed), while postnominal As are in focus.

The prenominal field is divided into an NP-zone, including *modifiers of kinds* (*beautiful dancer*, type <k, t>), and a higher DP-zone, including As which describe the referent of the DP as perceived by the speaker (or by some argument of the predicate) in context. Thus, As with DP-scope map individuals onto individuals (<e,e>). The DP-zone is characteristically separated from the NP-zone by inherently I-As like *former*, *future*, *alleged*, etc., or by numerals (both cardinal and ordinal).

### 6.2.2. The prenominal NP-domain

In the NP-, kind-level-domain, the highest As are the *inherently intensional* ones, illustrated in (32) above. The corpus confirms that inherently intensional As are restricted to prenominal position. No examples of type *\*președinte fost* (president former) have been found. Prenominal As below the inherently intensional ones are also intensional-like in prenominal position. Thus, they get *modal-quantificational readings*, expressing evaluative, emphatic, emotional, and thus *subjective* meanings. The claim has been made and is confirmed by the data, that As in the two positions (prenominal and postnominal) are never completely equivalent. In addition to the existence of As restricted to prenominal position, this claim is proved by another characteristic property of Romance and Romanian, namely

the development of specialized interpretations in prenominal position for a large number of adjectives (*înalt demnitar* 'high official' vs. *demnitar înalt* 'tall official'). Given this, it was important to check whether the assumed specialization of meanings in prenominal position is found in authentic examples, the more so as even dictionaries do not always attempt a correlation of position and interpretation. Here are some adjectives which we have checked in CoRoLA and on Google – *adevărat* 'real, true', *curat/pur* 'pure', *unic* 'unique', *singur* 'sole', *simplu* 'simple', etc. The prenominal position is associated with non-intersective, non-descriptive, modal quantificational interpretations. A characteristic prenominal reading with some specialized As is the category-hedge interpretation (available for the three As, illustrated below). In this case, the A is a function on the kind or conceptual category expressed by the N(P), focusing on a particular zone of the category, for instance the center of the category, for *adevărat* ('real, true'). The postnominal position of the same A is intersective, characterizing a subset of the set denoted by the category (an extensional reading). Since the post-nominal position is the default one, it is more permissive and sometimes it can accommodate both prenominal and postnominal readings, as seen in the analysis of *adevărat*, *simplu* below.

### ADEVĂRAT

#### I. Prenominal position

- i. category hedge: 'true, real, of the appropriate kind'
- (33) un adevărat calvar 'a real calvary'  
 un adevărat duhovnic/ geniu 'a real confessor/genius'  
 o adevărată mamă pentru mine 'a real mother to me'
- ii. 'genuine', as opposed to 'false, assumed'
- (34) adevăratul nepot al Împaratului Verde 'the true nephew of Emperor Green'

- II. Postnominal readings: 'genuine', real 'real, true', 'meeting all standards for'
- (35) pescar adevărat 'true (professional) fisherman' or  
 'good at fishing' (category hedge)  
 situație adevărată 'real situation'  
 măiestrie adevărată 'genuine craftsmanship'

### SIMPLU

#### I. Prenominal position

- i. 'mere', 'no more than' (category hedge)
- (36) un simplu papagal 'a simple parrot' ('no more than a parrot')
- ii. ambiguous between the intensional (hedge) interpretation and the qualifying reading 'not complex'
- (37) un (foarte) simplu calcul 'a (very) easy calculation'  
 simple cugetări 'simple/mere cogitations'

#### II. Postnominal position: 'easy, not complex'

- (38) un calcul simplu 'a simple calculation'  
 cugetări simple 'non-complex cogitations'  
 oameni simpli (simple people) 'ordinary people'

As expected, in principle, there may be more than one NP-A in a nominal phrase. If one of them is inherently intensional, it will be the leftmost, as confirmed by the following corpus examples, whereas the second may display an intensional-like-reading. Here is an instancing of the pattern discussed above

5.  $A_{NP\text{-inherently-intensional}} + A_{\text{intensional-like-reading}} + N + (A)$

- (39) a. despre actuala învechită stare de lucruri 'on the current aged state of things'  
 b. o singură meditativă călătorie 'a single meditative travel'  
 c. o singură uriașă cultură 'one huge culture'

In an important class of examples, one notices the occurrence of *qualifying* adjectives in prenominal position with a (quite unexpected) *taxonomic* interpretation (Knittel 2009, Cornilescu and Dinu 2014). The paradigm case is represented by the As *mare, mic* ('big/great', 'small'), which engender an enormous family of conceptual compounds, such as *marea burghezic* 'upper middle class', *marea literatură* 'great literature', *mica burghezic* 'lower middle class', *mica producție de mărfuri* 'petty commodity production', etc. Despite their taxonomic function, they remain gradable, as the authentic examples below confirm (41).

- (40) a. micile ranguri bisericești 'the lower church ranks'  
 small.the ranks churchly  
 b. reacția marii elite 'the reaction of the upper elite'  
 reaction.the upper elite  
 (41) a. foarte mica afacere imobiliară 'the very small real estate business'  
 very small.the business real estate  
 b. comentariile unor mari și foarte mari analiști politici  
 comments.the of big and very big analysts political  
 'the comments of important and very important political analysts'  
 (42) scheletice gândiri ne lasă cicatrici 'skeletal thoughts leave scars on us'  
 skeletal thoughts to us leave scars (= taxonomic, metaphoric)  
 (43) Sfântul Mare Mucenic Gheorghe 'The Holy Great Martyr Gheorghe'

The process of recategorizing qualifying As into prenominal taxonomic ones is recursive. Notice this in (43), where two Qual-As (*sfânt* 'saint', *mare* 'big') have been reanalyzed as taxonomic ones, forming a complex taxonomic compound (*Sfânt Mare Mucenic*).

In sum, the class of prenominal taxonomic As is very productive in contemporary Romanian. We suggest that their prenominal position is related to the formation of a *compound* in which the A develops an abstract intensional sense. The fact that, even in their new taxonomic sense, Qual-As *remain gradable*, allows them to occur pre-nominally. The importance of gradability for the prenominal field, is apparent in the fact that even *relative taxonomic As* may appear pre-nominally, provided that they are *graded*.

- (44) unul dintre *cei mai autodeclarați* experți  
 one.the of the most self-declared experts  
 'one of the most self-declared experts'

Through gradation, relative As acquire a quantificational dimension, becoming compatible with the prenominal position. Prenominal taxonomic As are lower than inherently intensional As, conforming to pattern (5).

- (45) a. o adevărată mare familie 'one true large family'  
 b. fosta mare jucătoare 'the former great player'

### 6.2.3 The DP domain

As their name shows, DP-As have a DP in their scope occupy the leftmost position in the DP and express a subjective contextual or even context-dependent evaluation by the speaker of the individual that is the *specific referent* of the DP. Typical examples are emotion-expressing As like *biet* 'poor', *sărac* 'poor' (46), but also evaluative As like *excelent* 'excellent', *cunoscut*, 'well-known', etc., which do not denote properties of the referent, but rather the speaker's emotional and epistemic state with respect to this referent. As to linearization, they may directly precede the N (46), or be separated from it by all the types of (intensional) prenominal As, in the NP-domain. Post-nominal modifiers also freely occur, so the extended characteristic pattern for prenominal As is pattern 7.

#### 6. A<sub>DP</sub> + ... N (+A...)

- (46) *biet* suflet căzut 'poor fallen soul'  
*săracul* popă 'poor priest'

#### 7. A<sub>DP</sub> + A<sub>NP</sub> + N (+A...)

- (47) a. un important fost înalt demnitar român  
 'an important former high official (Romanian)'  
 b. cunoașterea fascinantei vechi filosofii (indiene)  
 'knowledge of the fascinating old (Indian) philosophy'

The DP-domain distribution of these As is confirmed by their occurrence above high intensional As, as in the examples above, as well as above ordinal numerals, as in the following attested examples.

- (48) a. aceste ultime două ordonanțe 'these last two ordinances'  
 b. la acest important al VIII-lea Sinod  
 'at this important 8<sup>th</sup> Synod'

## 7. CONCLUSIONS

In this paper we have shown a different perspective on linearization for Romanian, by combining one of its 'principle' approaches, that proposed a linearization model (Cornilescu and Nicolae 2011), with empirical data found in CoRoLa. As this is one of the first studies performed with CoRoLa and with the analysis platform KorAP, we have also provided examples for queries, ranging from simple to complex, used not only for

extracting data, but also to test its tagging and combinations of tags. The examination of larger empirical data has enabled us to confirm several linearization combinations for the postnominal and prenominal field, to observe readings, synergies, recategorizations, etc., also to observe the limits of allowed adjectives within the same intonation phrase in the Romanian pre- and postnominal patterns.

## REFERENCES

- CoRoLa = Corpus computațional de referință pentru limba română, corola.racai.ro
- Bolinger, D., 1967, “Adjectives in English: Attribution, Predication”, *Lingua*, 18, 1–34.
- Cinque, G., 2010, *The Syntax of Adjectives. A Comparative Study*, Cambridge MA, The MIT Press.
- Cornilescu, A., 2004, “Romanian relative adjectives as intersective NP-modifiers”, *Bucharest Working Papers in Linguistics*, VI, 1, 103–115.
- Cornilescu, A., 2006, “Modes of Semantic Combination: NP/DP Adjectives and the Structure of the Romanian DP”, in: J. Doetjes, P. Gonzalez (eds), *Romance Languages and Linguistic Theory 2004*, Amsterdam, John Benjamins, 43–71.
- Cornilescu, A., 2009, “On the Linearization of Adjectives in Romanian”, in: D. Torck, L. Wetzels (eds), *Romance Languages and Linguistic Theory 2006: Selected Papers from ‘Going Romance’*, Amsterdam, 7–9 December 2006, Amsterdam, John Benjamins, 33–52.
- Cornilescu, A., A. Nicolae, 2011, “Nominal Peripheries and Phase Structure in the Romanian DP”, *Revue roumaine de linguistique*, LVI, 1, 35–68.
- Cornilescu, A., A. Dinu, 2014, “Adjectives and Specificity”, *Revue roumaine de linguistique*, LIX, 1, 103–128.
- Heim, I., A. Kratzer, 1998, *Semantics in Generative Grammar*, Malden and Oxford, Blackwell Publishing.
- Kamp, H., 1975, “Two theories about adjectives”, in: E. L. Keenen (ed), *Formal semantics of natural languages*, Cambridge MA, Cambridge University Press, 123–155.
- Knittel, M. L., 2009, “Taxonomic Adjectives in French: A syntactic Account”, available at <https://hal.archives-ouvertes.fr/hal-00418115/document>
- McNally, L., G. Boleda, 2004, “Relational Adjectives as Properties of Kinds”, in: O. Bonami, P. Cabredo-Hofherr (eds), *Empirical Issues in Formal Syntax and Semantics*, 5, 179–196. <http://www.cssp.cnrs.fr/eiss5/mcnally-boleda/mcnally-boleda-eiss5.pdf>
- Molea, A., 2006, *The adjectival phrase in English and Romanian*, Bucharest, Editura Academiei Tehnice Militare.
- Sproat, R., C. Shih, 1988, “Prenominal Adjectival Ordering in English and Mandarin”, in: J. Blevins, J. Carter (eds), *Proceedings of NELS 18*, Amherst, MA: GLSA, vol. 2, 465–489.
- Stavrou, M., 1998. “The Position and Serialization of APs in the DP: Evidence from Greek”, in: A. Alexiadou, G. Horrocks, M. Stavrou (eds), *Studies in Greek Syntax*, Dordrecht: Kluwer Academic Publisher, 201–226.

