

Italian adjectives: why fully ordering them in the syntax does not quite work

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Abstract. I provide some empirical evidence against models of adjectival modification involving functional sequences built on semantic classes (color, size, shape, etc.) and unrestricted (i.e. unprobed) movement. I argue that semantic constructs such as predicative/non predicative (or intersective/subsective, restrictive/non-restrictive, etc.) cannot be mapped uniformly (i.e. one-to-one) to specific adjectival structures. I argue in favour of using independently motivated syntactic structures to order adjectives (or modifiers). Specifically, I suggest that gradable adjectives are merged at the edge of the n phase and non-gradable adjectives in the complement of the n phase, yielding a gradable > non-gradable order. Some adjectives are freely ordered, because their complex internal structure renders them opaque to ordering principles.

Keywords. adjectives, order, phases, cartography, degrees

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1 Basic data and main issues

This contribution centers around two issues.¹ One is the internal order of sequences of adjectives modifying a Noun – and is often taken to be a matter of UG. The other issue is clearly a matter of parametrization, and concerns the position of Adjectives relative to the Noun: N can be followed by As (NAA), or preceded by them (AAN) or can be in medial position (ANA). My contribution is based on Italian (Cinque 1994 and subsequent works), but the data are similar to those described for other standardized Romance languages (e.g. Bouchard 2002 for French, Bosque & Demonte 1999 for Spanish). Languages like Italian display all three logically possible linear orders AAN, NAA, ANA, as illustrated in (2). By contrast, English adjectives are essentially restricted to the prenominal position, as illustrated (1). There are also languages where adjectives are restricted to postnominal position, e.g. the Semitic languages (Arabic, Fassi Fehri 1999, Hebrew, Shlonsky 2004).

(1) a big black box

- (2) a. un grosso vecchio cane
 a big old dog
 b. un cane nero grosso
 a dog black big
 c. un grosso cane nero
 a big dog black

The variation in linear order interacts with the question of the internal order of adjectival sequences. There is considerable agreement among authors of very different backgrounds that adjectives are not randomly ordered with respect to one another. Unfortunately, what their order might be is the subject of considerable controversy. The conclusion that adjectival hierarchies based on semantic classes are syntactically encoded by means of functional sequences (Cinque 1994) is rejected here. I endorse Truswell’s (2009: 532) conclusion that “not only do the specific instantiations [...] of this class of theory undergenerate with respect to attested orders of multiple adjectives, but in fact the whole project—reducing adjective ordering restrictions and nominal morphosyntax and

1. This contribution presents additional context for the analysis of adjective order developed in Manzini (2025) and sketched here in section 3.

(3)	a.	a big black dog	size > color
	b.	# a black big dog	#color > size
(4)	a.	wooden red clogs	material > color
	b.	red wooden clogs	color > material
(5)	a.	new big cuts	age > size
	b.	big new cuts	size > age

(6) a. un grosso cane nero size > N > color
 a big dog black

 b. *un nero cane grosso *color > N > size
 a black dog big

(7) a. un cane nero grosso N > color > size
 a dog black big

 b. un cane grosso nero N > size > color
 a dog big black

3

from this. Though the possibility of variation in the internal shape of APs cannot be discounted (especially given the overt morphological contrast between presence and absence of *de* in Chinese), I will argue against Cinque's implementation of the idea.

Going back to theoretical matters, in LCA models (Kayne (1994), Cinque (1994, 2010) variations in linear order are determined by syntactic movement. In minimalist models, they are a matter of linearization as part of the EXT (Externalization) procedure, as summarized in (8). Embracing the Chomskyan (minimalist) option in (8b), as I do here, means elaborating a model of adjectival linear order in Italian different from Cinque's – though some of his insights can of course be reworked into a different analysis.

(8) *Syntactic vs phonological linearization*

- a. Linear order is syntactic and its variation depends on syntactic movement (Kayne 1994).
- b. Linear order and its variation are determined by a Linearization algorithm as part of the Externalization procedure (EXT) (Chomsky 2013).

In addition, in recent discussion, Chomsky (2024) suggests that (internally unordered) n-ary sets of adjuncts can be generated in the syntax, merged as a single syntactic object. This implies that the syntax is not entirely ordered by dominance, as in (9). If the order of adjectives is only partially determined in the syntax, then explanations as to the full order imposed by precedence could in principle include interface considerations or even performance (processing) factors.²

(9) *Complete vs. partial syntactic order*

- a. syntax is completely ordered by dominance and the linearization procedure simply computes dominance order as linear order (whether in the syntax or at the interface)
- b. syntax is partially ordered by dominance and linearization is partially dependent on syntax (Chomsky 2024)

As for specific issues pertaining to adnominal adjectival modification, they include at least those in (10), as illustrated by the examples above.

2. There is an intermediate solution, namely to assume that where syntactic categories are freely ordered with respect to one another, the syntax picks an arbitrary order nevertheless (see in particular Larson 2021, on which more below).

(10) *Issues in the analysis of adjectives, and Adjective, Noun combinations*

- a. *Internal order of adjectives*: are adjectives ordered with respect to one another and if so, which notions order them?
- b. *Order of adjectives with respect to N*: What parameters determine NAA, AAN, ANA, specifically Italian vs. English?
- c. *Internal constituency of Adjectives*: are adjectives differently structured internally, e.g. APs vs reduced RCs?

The main aim of this work is to review previous analyses, especially the cartographic account by (Cinque 1994 and subsequent works). I conclude that these analyses are empirically inadequate, since they both under- and over-generate. As a secondary aim, I sketch an alternative approach, relying on a theoretical tool that to my knowledge has hardly been used in accounting for adjectives, namely phase structure.

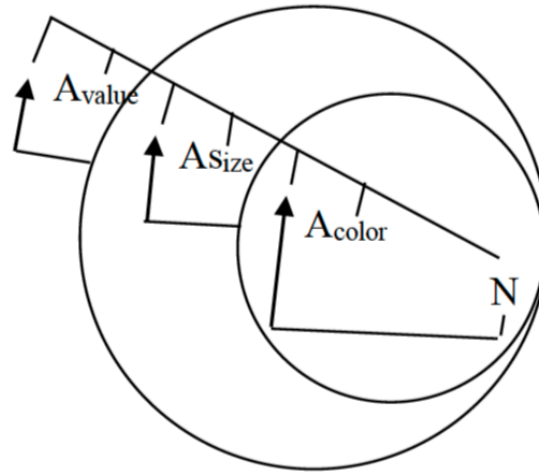
2 Previous accounts

2.1 Functional sequences and movement parameters: potential under- and over-generation

Cinque (1994, 2010, 2023a) represents the single most important body of work on Italian adjectives. I will briefly outline it, then argue that it presents some empirical problems. Cinque adopts the framework of Kayne (1994), where linear order is determined syntax-internally by the Linear Correspondence Axiom (LCA). Since order is syntactic, the parameter between different orders is also syntactic: differences in word order are a consequence of movement. Because of the LCA, furthermore, multiple specifiers/modifiers are severely limited, leading to typical cartographic functional sequences (fseqs), where each functional head supports a phrase specialized for the property denoted by the head.

Recently, Cinque (2023a) studies orders of three adjectives corresponding to the fseq in (11). He argues that “if the noun moves in the *whose-pictures* pied piping mode. [...] the order that is obtained is $N A_{color} A_{size} A_{value}$ ”, namely the mirror-image of the order in (11a), as illustrated in (11b), from Cinque (2023a: example (11)). In order to derive the ANA pattern, it is sufficient to assume that the derivation in (11b) stop at the first step. Hence A_{value} and A_{size} will still be prenominal while A_{color} will be postnominal.

- (11) a. [A_{value} [A_{size} [A_{color} [NP]]]]
 b.



The pattern predicted by Cinque (2023a) for the three adjectives in (11) in Italian postnominal position is exemplified in (12a). The other logically possible orders generated by the grammar of Cinque (2023a) are listed in (12b)-(12f). According to (Cinque 2023a, p.c.) the orders in (12b)-(12e) are attested in various other languages, while the order in (12f) is the sole order predicted to be impossible. In reality, there is evidence that all of the orders in (12) are acceptable in Italian. This means that a pattern which is supposed to be impossible, is in fact more or less as acceptable as the pattern which is supposed to be unmarked in the language.

- | | | |
|---------|----------------------------|---------|
| (12) a. | un cane nero grosso brutto | N-1-2-3 |
| | a dog black big ugly | |
| b. | un cane brutto grosso nero | N-3-2-1 |
| | a dog ugly big black | |
| c. | un cane grosso nero brutto | N-2-1-3 |
| | a dog big black ugly | |
| d. | un cane nero brutto grosso | N-1-3-2 |
| | a dog black ugly big | |
| e. | un cane brutto nero grosso | N-3-1-2 |
| | a dog ugly black big | |
| f. | un cane grosso brutto nero | N-2-3-1 |
| | a dog big ugly black | |

Evidence supporting native speaker intuitions along the lines of (12), i.e. no clear grammaticality scale, is provided by Scontras, Mazzaggio

& Manzini (2025) who run the experiment of Scontras, Degen & Goodman (2017, 2019) on Italian adjectival sequences in the three conditions AAN, ANA and NAA. The experiment simply consists in eliciting native speakers preference for one of the two possible orders of any given pair of adjectives. Scontras et al. find that in English the resulting ranking is predicted by subjectivity, measured as the likelihood of faultless disagreement. The results of the experiment on Italian are taken not to be significant in the AAN condition, because a number of randomly generated adjectival pairs are illformed (due to the obligatorily postnominal position of some adjectives). On the other hand, subjectivity is as good a predictor of order in Italian ANA, as in English AAN. Crucially, in the NAA condition, the experiment yields a flattened scale. This study is consistent with the native judgements in (12) – namely, whatever causes the intuitions about order to hold in English, say subjectivity, breaks down postnominally – though the same language upholds it in a different configuration.

Similarly, in their corpus-based survey of several languages, Dyer et al. (2023) find that prenominal adjectives respond to subjectivity – but postnominal adjectives do not, whereas both prosodic length and frequency prove better predictors. Trainin & Shetreet (2021) provide experimental evidence both in production and in comprehension with postnominal sequences involving A_{size} , A_{color} and $A_{pattern}$. In English they find the preferred order to be Size > Color > Pattern (SCP) in keeping with the prediction of adjectival hierarchies. In Hebrew, they find that two orders, are above chance in production, namely N-Size-Color-Pattern and N-Color-Size-Pattern. Neither of them mirrors the English order. On the contrary, the mirror order (N-PCS) is merely at chance level, on a par with the N-CPS order. The remaining orders are below chance.

In short, postnominal adjective data in Italian and in other languages do not conform to Cinque’s predictions. The problem is not so much that the predicted hierarchy is not the correct one – it is that no hierarchy seems to hold. In other words, data from NAA configurations strengthen the criticism already advanced by Truswell 2009 that cartographic models undergenerate. Cinque (2010) addresses this specific problem; I return to it in the next section.

The converse potential problem with the model is overgeneration. Implicitly, Cinque’s (2023b) aims at showing that a rich model like the one he proposes does not have an overgeneration issue. The model predicts that different movements can yield practically any linear order starting from a universal fseq – e.g. the five orders in (12a)-(12e) starting from the fseq (11). Indeed, Cinque is able to find languages that match each of the predictions. On the other hand, the number of possible languages is multiplied, if instead of the simplified hierarchy in (11), we

consider a more realistic one, e.g. (13) from Cinque (1994), with the additional ‘age’ category interpolated from Scott 2002 (Scott has several additional categories).

- (13) quality > size > age > shape > color > nationality/origin

The point I address here is another – namely, what the predictions are for ANA orders. In order to simplify matters let me restrict to languages, like Italian, where the derivation proceeds as in (11b), yielding a mirror postnominal order. As pointed out in introducing (11), though in Italian roll-up movement can proceed to the top of the adjectival hierarchy, it can also stop at some given point of it, yielding an ANA order. We therefore expect there to be as many possible languages as are the obligatory height reached by movement – i.e. six possible languages given the hierarchy in (13). One language is Italian (where the three last adjectival categories are normally postnominal). Another language is of course Hebrew where all adjectives are obligatorily postnominal. Are the remaining four languages attested?

Some evidence is provided in the early study by Bernstein (1993). Specifically, she documents Walloon (a Romance language in contact with Flemish) where practically all adjectival classes appear prenominal, including color ones, e.g. (14a). In fact, the only adjectives that resist prenominal placement are nationality ones, as in (14b). It is therefore natural to conclude that obligatory NP movement in Walloon stops immediately ‘nationality/origin’ in the hierarchy in (13), as indeed suggested by Bernstein.

- (14) a. on neûr txchapê
a black hat
b. lu peûpe italyin
the people Italian

The existence of another possible cut in the hierarchy is suggested by Bernstein to be attested by Sardinian. As discussed by Jones (1993: §2.14) most adjectives are obligatorily postnominal in Sardinian, including age and size adjectives that normally appear prenominal in Italian, cf. (15).

- (15) a. una makkina nova/*nova makkina
a car new/ new car
b. un omine vetzu/*vetz omine
a man old/ old man

- c. una tassa manna/*manna tassa
a cup big/ big cup
- d. una domo minore/*minore domo
a house small/ small house

Jones provides a very restricted list of adjectives that can appear in prenominal position at all: *bellu* ‘nice, beautiful’, *bonu* ‘good’, *bravu* ‘good’, *bruttu* ‘ugly’, *poveru* ‘poor/unfortunate’, *santu* ‘holy’, cf. (16b). In the words of Jones, these adjectives “convey an affective attitude of appreciation or deprecation rather than describing an inherent property of the referent” – in other words, they are evaluative. Thus ‘poor’ is obligatorily postnominal when it denotes lack of riches, as opposed to commiseration on the part of the speaker. A few functional adjectives are obligatorily prenominal, cf. (16c).

- (16) a.
- b. una bella femina/ femina bella
a beautiful woman/ woman beautiful
- c. s attera manu/ *manu attera
the other hand/ hand other

Though Romance microvariation is a burgeoning field of study, as far as I can tell, there is no survey of adjectival order per se in the standard corpora of Italian varieties. However Manzini & Savoia (2005: vol III, 575-660), cf. Savoia et al. (2025), exemplify adjectives in their survey of nominal inflections in around eighty Italian varieties. In all varieties, adjectives corresponding to Italian *bello* (‘beautiful’), *bravo* (‘good’), *buono* (‘good’), *brutto* (‘ugly’) are found only prenominally. Other adjectives are found only postnominally, including those corresponding to Italian *vecchio* (‘old’), *nuovo* (‘new’), *grosso/grande* (‘big’), *giovane* (‘young’). The emerging picture is consistent with that of Sardinian, subject of course to confirmation by dedicated finer grained data research.

Let us then conclude on the basis of the data that precede that Sardinian and Italo-Romance provide evidence that obligatory NP movement can stop immediately below the highest category in the hierarchy in (13), ‘evaluative’. Recall that we took Wallon to attest a language where obligatory movement must stop immediately above the lowest category (‘nationality/origin’). In order to prove that Cinque’s (1994, 2023b) model does not overgenerate, it would be necessary to show that there are languages attesting all intermediate stops, e.g. ‘color’ is obligatorily postnominal but not ‘shape’ – or ‘size’ can be prenominal, but not ‘age’. As far as I can tell, this claim has never been made for Romance or other languages. We cannot of course exclude that evidence to this

effect can be found. But until, and unless it is, the model in (11) must be concluded to face an issue of overgeneration. A different question is whether the Walloon and Sardinian evidence strengthens the case for some members of the hierarchy in (13), namely the ‘nationality/origin’ class and the ‘evaluative’ class. As for nationality/origin adjectives, they form part of a larger class of relational adjectives. Like all relational adjectives, they alternate with ‘of’ phrases in the Romance languages and with compounds in Germanic languages, e.g. English *a Rome/Roman girl* vs. Italian *una ragazza romana/ di Roma* ‘a girl Roman/ of Rome’. Marchis Moreno (2018), Fábregas (2020) adopt Harley’s (2009) account of compounding, in terms of complementation or modification of a root, followed by incorporation. For these theorists, then, the deployment of adjectival morphology or the merger of an ‘of’ head are essentially means of avoiding incorporation. If their discussion is on the right track, the origin/relational class may not at all be individuated by notional content – but rather by the structural property of root modification.

The issue of evaluatives is more complex. The restricted set of Sardinian/Italian prenominal adjectives is reminiscent of other severely restricted (sub)systems of adjectival modification described by Dixon 1977: 20-23. Dixon points out that “languages that have only a limited class of adjectives show considerable similarity in the concepts that are expressed through adjectives”. Furthermore, “in some languages that have a major class Adjective, a few members of the class are set off from the rest by virtue of a certain morphological property”. In the small sample of languages collected by Dixon, the following adjectives were most like to be included (in decreasing order of frequency): large, small, short, long, new, old, bad, good, white, black.

As for adjectives set off by morphological properties, a good example comes from Italian. A small group of adjectives have a different inflection in prenominal and in postnominal position. A salient example is *bello* ‘beautiful, nice’ which is never found in its quotation form in prenominal position, while prenominal forms are excluded in postnominal position (Cardinaletti & Giusti 2015, Giusti 2015: 202ff.). Similar data hold of *grande* ‘big, great’ and of *buono* ‘good’, see the examples in (17)-(18).

- (17) a. Vedrai una gran/grande chiesa vuota.
 you.will.see a big church empty
 ‘You will see a big empty church.’
 b. ... una chiesa grande/*gran vuota
 ... a church big empty

- (18) a. Cerco un buon/*buono vino locale
 I.look.for a good wine local
 ‘I am looking for a good local wine.’
 b. ... un vino buono/*buon locale
 ... a wine good local

The conclusion would seem inescapable that the dozen properties that are most likely to appear as adjectives or as adjectives with special morphological properties according to Dixon (1977) are a lexically defined set. The same must hold for the handful of adjectives occurring prenominal with special morphology in Italian is lexically determined. The conclusion that the subset of adjectives appearing in prenominal position in Sardinian does not coincide with a semantic class, but is lexically determined would therefore be far from isolated. More to the point, it is rather striking that the set mentioned by Jones (1993) does not contain the antonym of ‘good’, i.e. ‘bad’; Manzini (2025) presents some evidence that ‘bad’ is indeed excluded from prenominal position in Italo-Romance varieties. This undermines the idea that the notion of valuation is sufficient to define the prenominal set. Furthermore, in the Emilian variety studied by Manzini (2025), ‘big’ is excluded from prenominal position when normally inflected, but it is not when associated with special inflectional morphology, similar to (17a). This would show that the prenominal set is not necessarily evaluative, since ‘big’ retains its size meaning.

2.2 Reduced relative clause APs: under- and over-generation

Let us then go back to the potential undergeneration problem raised for cartographic approached by the apparently free (or freer) order of postnominal adjectives in Italian (12), cf. (19) below. Cinque (2010) takes “the unmarked order of [19a] to reveal the (derived) rigid order of direct modification adjectives in Italian (which is the mirror image of the English one)”. He then proposes to “interpret the more special order of [19b] as the result of merging the rightmost adjective higher up as a reduced relative clause (which eventually ends up postnominally after the direct modification adjective)” (Cinque 2010: 74).

- (19) a. un cane nero grosso
 a dog black big
 b. un cane grosso nero
 a dog big black

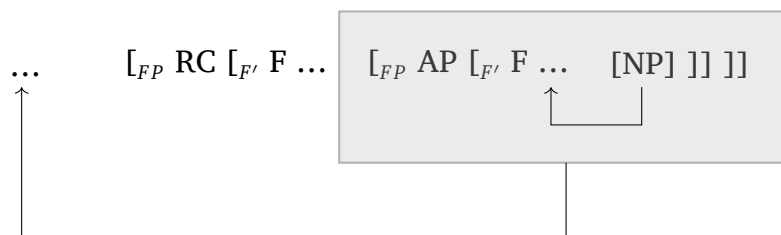
In other words, Cinque's proposal is that to the extent that arbitrary orders are observed this is because we are in reality not dealing with AP modifiers, but with reduced relative clauses (RCs), which are not ordered in a hierarchy. For English, for instance, Larson (2021) argues that "a head H will have strictly local access to A and its syntactic and semantic features" in AP modification structures but not "where AP is embedded within a larger CP", as in (20).

- (20) a. the big red barn
b. *the red big barn
c. the barn that is red that is big
d. the barn that is big that is red

The proposal that lack of order depends on the presence of RC structure goes back at least to Sproat & Shih (1991). They individuate two criteria for relative clause status – either morphological or interpretive. A language which meets the morphological criterion is Chinese. According to Sproat and Shih, adjectives embedded under the *de* particle are freely ordered; adjectives not embedded under *de* are rigidly ordered. They take *de* to be a relative clause introducer without further discussion. However, it is not a foregone conclusion that reduced relatives is the correct syntactic characterization of *de* phrases. So-called linkers like *de* may very well introduce a predication (Dikken 2006). However some formal treatments deal with linkers as agreement constructs (AgrP for Philip 2013, or DP for Lekakou & Szendrői 2012, Franco, Manzini & Savoia 2015).

I return to this matter later. What is relevant here is that following Sproat and Shih, Cinque (2010) proposes that in Italian as well, there are both direct modification adjectives and adjectives corresponding to reduced RCs, ordered as in (21a) at External Merge. NP and whatever direct APs it pied-pipes obligatorily move left of reduced RCs, as schematized in (21b). This latter movement explains why reduced RCs are found only to the right of N, and why therefore their reordering effect is felt only to the right of N.

- (21) a. ... [_{FP} RC [_{F'} F ... [_{FP} AP [_{F'} F ... [NP]]]]]
 b.



The next step in Cinque's argument is that in the absence of morphological markers, reduced RCs are detectable from interpretation. Direct modification APs are non-predicative (non-intersective, non-restrictive, individual level, etc.), while reduced RCs are predicative (intersective, restrictive, stage level, etc.). Cinque accounts in these terms for the intuitively perceived interpretive asymmetry between prenominal and postnominal adjectives (Bouchard 2002 for an alternative analysis, based on largely compatible evidence). Prenominal modifiers are always APs (non-predicative) while postnominal modifiers may be APs or reduced RCs (predicative or non-predicative).

This further elaboration of the analysis ends up undergenerating as well. Consider Italian prenominal adjectives. For many of the more general tests proposed by Cinque (i.e. those involving not just some single adjective or small adjective cluster) systematic counterexamples can be found. Cinque argues that prenominal adjectives are non-restrictive. But plenty of adjectives which normally occur in prenominal position in Italian clearly restrict the meaning of the noun they modify, e.g. (22).³

- (22) a. Ho smarrito un piccolo/grande cane nero.
 I-have lost a small/big dog black
 'I lost a small/big black dog.'
 b. I grandi patrimoni vanno tassati, quelli piccoli no.
 the big holdings must be taxed, those small
 'the big holdings must be taxed, not the small ones.'

3. In recent work, Delfitto (2024) attempts a different way to account for the elusive interpretive contrast between examples like (i)-(ii), which Cinque (2010) treats in terms of the postnominal adjective being restrictive in (i) and non-restrictive in (ii). Delfitto agrees that the restrictive/non-restrictive contrast cannot be generally enforced. In the treatment by Delfitto, the prenominal adjective is treated as a trope (e.g. Moltmann 2009), so that the reading of (ii) is something like "those boring things that are the lectures of Rossi".

- (i) le lezioni noiose di Rossi
 the lectures boring of Rossi
 (ii) le noiose lezioni di Rossi
 the boring lectures of Rossi

Cinque also argues that prenominal adjectives in Italian are restricted to the individual level reading. But several participial adjectives, which are obviously stage-level, can occur prenominally, as in (23).

- (23) a. la sorridente signora alla tua destra
 ‘the smiling woman on your right’
 b. lo smarrito testimone della difesa
 ‘the confused witness of the defence’

Cinque’s (2010) claim that the prenominal position in Italian can only host non-intersective adjectives (see Kamp & Partee 1995) does not seem to be correct either. For instance, *stupendo ballerino* ‘beautiful dancer’ in (18) is ambiguous exactly as its English counterpart, meaning that I saw somebody who is beautiful besides being a dancer in (24a) – or somebody who dances beautifully in (24b).

- (24) a. Ho visto uno stupendo ballerino, biondo, alto,
 I have seen a beautiful dancer, blond, tall,
 muscoloso (anche se non bravo)
 muscular (though not good)
 ‘I saw a beautiful dancer: blond, tall, muscular (though not good).’
 b. Ho visto uno stupendo ballerino, tecnicamente
 I have seen a beautiful dancer, technically
 perfetto (anche se non bello)
 perfect (though not good)
 ‘I saw a beautiful dancer: technically perfect (though not good looking).’

In short, the analysis proposed by Cinque (2010) predicts that prenominal adjectives are semantically restricted in a number of unverified ways – which means that it undergenerates. Interestingly, if we now consider the predictions of Cinque’s analysis for English, we see that it overgenerates as well. The various possible adjectival interpretations just highlighted for Italian are attested in English, for which in many cases they have been described first. In Cinque’s terms, this means that in English, prenominal adjectives can be either APs or reduced RCs. Schematically, then, English has the same structure of External Merge as Italian, namely (21a). Now, if postnominal adjectives in Italian are easily reordered using the reduced RC strategy, we predict a similar ease of reordering in prenominal English examples, given that English also has reduced RCs. Take for instance *a big black dog*. We should be able to construct the color adjective as a reduced RC, exactly as we do by hypothesis in Italian (19). At this point, based on the structure in (21a) we

would predict that the color adjective, *qua* reduced RC, comes to the left of the size adjective. This is not possible in English, except under special conditions of Focus, while no such conditions attach to Italian (19). In short, I see no way of predicting order flexibility in NAA but not in AAN since ultimately these reduce to the same structure (via movement or lack thereof).

2.3 Some alternative analyses

Critical discussions of Cinque’s approach to DP structure address not only adjectival modification but more generally his proposals regarding Greenberg’s Universal 20 (Cinque 2005, 2023b). Abels & Neeleman (2012), discussing Universal 20, observe that most word orders generated for the categories (Dem, Num, A, N) by Cinque can be obtained by simply allowing categories to flip right or left with respect to the N head. Additional orders can be generated by NP projection movement to the left (no rightward movement). Abels & Neeleman (2012) further assume that APs are adjoined to NP (or more precisely undergo Pair Merge with it). They then suggest that the grammar contains instructions as to whether an adjective should be turned right or left of N, depending on its semantic class. This proposal presupposes that adjectival classes are visible to linearization processes. This in turn means that they must be encoded by formal features of syntax. If these formal features are taken to recreate the cartographic fseqs, then AAN and ANA configurations can be accounted for in terms of the classical hierarchy – but NAA orders remains an open problem, since they display no sensitivity to semantic class. Therefore, Abels and Neeleman take an important step in the direction of a minimalist grammar of DP, specifically in endorsing linearization at the interface. At the same time, their discussion of adjectives is too schematic to provide a full alternative to Cinque, specifically in a crosslinguistic perspective.

Larson (2021) focusses on adjectives. He aims “to retain the features identified by cartographers, but instead of projecting them as independent heads”, he proposes “to organize them as ordered feature sets borne by a single head”. Such ordered sets of features “must undergo agreement in order from lowest ranked to highest ranked” (Larson 2021: 256-257). Larson further argues that the order of features can be determined by a single ordering relation, namely SUBJECTIVITY ($\leq_{\text{SUBJ}}$), which he takes from Scontras, Degen & Goodman (2017, 2019). Unfortunately, the fact that properties such as [color] or [shape] or [size] are stored as Formal Features leads us expect that they may behave like other well-known FFs. But there is no systematic Minimality effect on movement based on [color], no EPP effect whereby [color] is obligatorily spelled-

out, say, at the edge of nP – and so on. Therefore encoding semantic classes into FFs does not seem to be quite the right idea either. What is more, having a structured probe as opposed to a pre-expressed hierarchy does not make any difference to issues pertaining to prenominal vs. postnominal order asymmetries – which Larson does not consider.

On the other hand, it is important to note that Larson (2021: 257) runs an explicit critique of the rigidity of cartographic order. He proposes to remedy by assuming that ordering of features by $\leq_{\text{SUBJ}}$ may result not in two, but in “three situations for adjectives A1 and A2: A1 is ordered before A2, A2 is ordered before A1, and A1 and A2 are unordered”. In the last case, the syntax arbitrarily picks an order in which the feature is projected by Agree with a phrasal modifier (AP). In this respect, Larson (2021) prospects a solution close to Truswell (2009) or Svenonius (2008), as reviewed in section 1.⁴

3 A phase-based analysis of adjectives

The main goal of this contribution is to provide a review of cartographic work on adjectival modification, based on Italian data, namely those considered by Cinque (1994) and subsequent works, as well as of various work critical of cartography, putting forth various alternative proposals. As indicated at the end of the previous section, all works reviewed contain important insights into the matter. It is less obvious how best to re-compose a comprehensive minimalist picture of adjectival modification from these various insights. In what follows I propose that the notion of phase, not mentioned so far in the discussion, may crucially contribute to organize adnominal modification. I will outline two respects in which this proposal holds, providing the answers to the questions in (10) (see Manzini 2025 for a full presentation).

3.1 Ordered adjectives

Consider question (10a) above, namely what determines the order of adjectives in contexts where it is observed. Based on section 2, I assume that traditional semantic classes cannot be made to work. Nor can other more general semantic notions such as the contrast intersective/subjective. The latter is evoked by much syntactic literature, not just by Cinque (2010)). Truswell (2009) offers the conclusion that where an order among two adjectives is strongly preferred, the higher adjective is subjective, while the lower one is intersective. Svenonius (2008: 38),

4. In the same respect, he also distances himself from psycholinguistic work by Scontras, Degen & Goodman (2017, 2019).

on the basis of a structure of NP, including a lower nominal class head (*n*) and a higher count head (Sort), concludes that “modification of *nP* is essentially intersective”. Vice versa, “SortP modification occurs in a different way from *nP* modification: it is crucially subsective”.⁵

Another semantic notion also mentioned by Svenonius as providing adjective order, namely scalarity, has a rather different status. Consider the fact that ‘a small elephant’ is certainly larger in size than ‘a big butterfly’. This is because ‘small’ and ‘big’ individuate degrees (low, high) on a size scale, and the scale is fixed in relation to a standard of comparison, by default the average size of elephants or butterflies (cf. especially Kennedy 1999, 2007). Scalarity is different from other interpretive notions evoked so far because there is independent evidence that it is overtly instantiated in the syntax – namely, by comparative constructions and by structures with degree modifiers (*very*, etc.) or with measure phrase modifiers (e.g. *one meter tall*, etc.). For the sake of concreteness, I adopt Kennedy’s (1999, 2007) formalization, under which scalar adjectives are modified by DegP (Corver 1990), whose content is conventionally notated *pos* in the positive form. In (25), *pos* introduces a relation between the degree *x* at which the referent of the DP (‘the butterfly’) has the AP property and the degree *y* at which the standard comparison group (‘butterflies’) has the property.

- (25) a. the big butterfly
 b.
-
- ```

graph TD
 DP --> D[D
the]
 DP --> nP1[nP]
 nP1 --> APDegP[AP/DegP]
 nP1 --> nP2[nP
butterfly]
 APDegP --> Deg[Deg
pos]
 APDegP --> AP[AP
big]

```

Adjectives high in the adjectival hierarchies (evaluative, size, age) are scalar. Adjectives lower in the hierarchy (relational, shape) are non-scalar, as shown by their incompatibility with comparative syntax in (26).

- (26) a. \*That is a more chemical/atomic reaction than this one.  
 b. \*That is a more octagonal table than this one.

5. Recall that for Cinque (2010) subsective adjectives are lower than intersective ones. If all these various authors are correct in their observations, this means that evidence is inconclusive, going either way.

What is missing at this point is why scalar adjectives appear higher than non-scalar adjectives. In order to answer this question, it is useful to go back to the parallelism between AAN orders in English and ANA orders in Italian. Following an important insight of Cinque (1994), we can model both the parallelism and the differences between Italian and English by assuming that N is externalized in two different positions in the two languages. Assuming that the position of the noun in English reflects the position of EM of the noun in N, one may assume that the Italian noun is lexicalized in a higher position, corresponding for instance to the *n* phase head, along the lines of (27).

$$(27) \quad [_{nP} \text{ AP } [_{nP} \text{ N} + n [_{NP} \text{ AP } [_{NP} \text{ N}]]]]$$

Based on the Italian structure in (27), the observation that scalar adjectives are relatively higher than non-scalar ones, can be reformulated as an observation about absolute positions – namely, scalar adjectives are at the *n* phase edge, while non-scalar adjectives are in the complement of the *n* phase. Technically, an AP with a Deg modifier merged at the *nP* phase edge yields the structure in (28a). This parallels the structure obtained when a DP with a wh-determiner merges at the CP edge, as in (28b). The wh-determiner is at the edge of DP, but various routine mechanisms insure that the [wh] feature is visible at the edge of CP. The most frequently used device is that wh-determiner labels the entire nominal constituent as DP constituent. This would amount to saying that in (28a) the whole constituent is DegP, not AP, insuring that the Deg feature is visible at the edge of *nP*.

$$(28) \quad \begin{array}{ll} \text{a.} & [_{nP} [_{AP/DegP} \text{ Deg } [_{AP} \text{ big}]] [_{nP} n [_{NP} \text{ butterfly}]]] \\ \text{b.} & [_{CP} [_{DP} \text{ wh } nP] [_{CP} \text{ C } \dots] \end{array}$$

Assuming gradable adjectives are higher because they are at edge of *nP*, the question is again why. The key observation is that, as stated above in presenting structure (25), Deg introduces a relation between two variables, stating roughly for instance, that the degree of bigness of *x* ('the butterfly') is greater than (or equal to) the degree of bigness of *y* ('butterflies' or other). Therefore it seems natural to connect the positioning of scalar adjectives at the *n* phase edge to the fact that operators introducing variables generally are at the phase edge (in syntax or in LF). Here the operator is Deg (*pos*) and its variables it ranges are *x*, i.e. the referent of the DP and *y*, i.e. the comparison set, normally defined by the NP. Assuming that DegPs/gradable adjectives can be forced to the phase edge, we still need a reason why non-gradable adjectives cannot be at the phase edge, but are forced to merge in the complement of *n*,

yielding the required gradable > non-gradable hierarchy. Since by hypothesis non-gradable adjectives do not have a Deg modifier, they are of course allowed in the complement of *n*. I assume that they are forced to do so simply by Economy, this being the default option.

The analysis I am suggesting is much weaker than those I reject – yet it is far from empirically void, giving rise to various issues and predictions. Consider nationality adjectives, that have been taken above as a core example of non-gradable adjectives. As pointed out by Svenonius (2008: 38) it is of course possible to say a very French attitude. In the same vein, Manzini (2025) discusses contrasts like (29), where the nationality adjective can appear in the superlative and correspondingly is acceptable in prenominal position, as in (29b).

- (29) a. \*un italiano vizio  
           ‘an Italian vice’  
       b. un italianissimo vizio  
           ‘a very Italian vice’

According to Svenonius, in examples like *a very French attitude* the nationality adjective means “typical of *France*” rather than “from *France*”. In essence it is coerced into a gradable meaning (cf. more typical) by the presence of a Deg modifier. If coerced into the gradable class the adjective behaves exactly as gradable syntactically, showing up in prenominal position in Italian.<sup>6</sup>

In short, there is a Deg syntax and non-Deg syntax. Adjectives fall under one or the other by default, but may be coerced into the alternative syntax under appropriate circumstances. The same general situation is known in the mass-count domain – cf. *three wines*, meaning “types of wine”, or vice versa, the Universal Grinder effect (e.g. *There was rabbit all over the floor*). A widely held conclusion is that mass/count meaning is not inherent in a given lexical root, rather it depends on how its syntax is constructed. According to Borer (2005), for instance, count interpretation is built into the syntax in terms of a Div (Divisor) category. Roots merged with a count syntax can be interpreted even if they normally denote stuff via the addition of an appropriate classifier (*wine* → *type*

6. For English, Svenonius (2008) mentions the expectation that *very French* may be merged in a higher position than *French*. As pointed out by a reviewer, assuming that the gradable and non-gradable adjectives in (i)-(ii) are rigidly ordered in English as in (i)-(ii), we expect that adding a Deg modifier to the nationality adjective should allow flexible order, hence in particular (iii).

(i) this is an expensive French wine  
 (ii) #... a French expensive wine  
 (iii) ... a very French expensive wine

of wine). Something similar happens in examples like (29b). A content that by default is non scalar (origin) is merged with a Deg syntax and the result is interpreted via the addition of a classifier (of Italy  $\rightarrow$  of Italian type). Within a syntax of adjectives based on notional classes a possible alternative is construing *Italian*, *French* as belonging to the ‘origin’ class or to the ‘evaluative’ class (Svenonius 2008: 39). I believe the solution proposed here to be less stipulative – though of course this (as many others) is a point open to empirical debate.

The discussion of origin/nationality adjectives extends to other adjectival classes. For instance, it is possible for a color adjective to appear in prenominal position, for instance in examples like (30b). Correspondingly, it is possible to find Deg modifiers associated with color adjectives (independently of their position).

- (30) a.   Ho    comprato un cappotto verde/#un verde cappotto  
           I.have bought   a coat       green/a       green coat  
           ‘I bought a green coat.’  
       b.   Ho    visitato le verdi/verdisime colline della Toscana  
           I.have visited   the green/very green   hills   of   Tuscany  
           ‘I visited the green/very green hills of Tuscany.’

In present terms, an adjective in prenominal position in Italian is coerced into gradable meaning. In the case of color adjectives, the intuition of native speakers is that tropes are involved. Thus hills are not green, rather their grass is green, so ‘green hills’ are truly ‘green grass hills’, or ‘grassy hills’ – configuring a sort of part-for-whole trope (a metonymy). Even more than with nationality adjectives, these matters are made explicit here for the sake of falsifiability and require further research. Note that Cinque (2010: 72) simply states that the prenominal position of color and other adjectives remains to be understood.<sup>7</sup>

7. The discussion was inserted at the request of both reviewers. One of them also mentions shape adjectives, which are amenable to similar considerations to those in the text. On the other hand, one fairly well defined avenue of research which seems to me underexplored has to do with what Kennedy & McNally (2005) call open and closed scales. A property scale can be open (e.g. *big*, *small*) or closed (e.g. *full*, *empty*). Properties on a closed scale do admit some Deg modification (e.g. *completely/partially full/empty*), but importantly for present purposes, they are treated by the syntax of Italian as non-scalar, i.e. constrained to postnominal position (*una bottiglia piena*/\**piena bottiglia* ‘a full bottle’). I refer to Kennedy and McNally for further complexity introduced by scales closed only on one end.

### 3.2 Unordered adjectives

The question that remains open from section 1 concerns the instances where adjectives yield grammatical results under any linear order, as in Italian NAA configurations. As we saw, in the literature one finds various proposals that some syntactic orders may be arbitrary (see especially Larson 2021 as discussed in section 2.3) – but hardly any proposals that certain categories are simply unordered in the syntax. Nevertheless, a theory along these lines is suggested by Chomsky (2024), for what he calls Unbounded Unstructured Sequences (UUS), typically of sentential PP modifiers<sup>8</sup> – see Chomsky (2019) for earlier, related discussion of adjectival modification. Chomsky (2024) proposes that apart from Merge, “the only other permissible relation is unbounded set, with the SBO [Structure Building Operation] FormSet (FS)”, namely (31). Note that “binary FS is distinct from Merge in lacking its special theta-related properties”.<sup>9</sup>

- (31) *FormSet* (Chomsky 2021: 31-32)  
 Select  $X_1, \dots, X_m$  from  $W[ork]S[pace]$  and form  $Y = \{X_1, \dots, X_m\}$ .

Once FormSet has applied, “sets formed by FS are introduced into derivations in the position of single XP’s”. Interpretively they are conjunctions; as for linear order “it is imposed in Externalization” – which implies that Linearization can work with syntactic structures that are not pre-ordered by dominance. Let us then consider examples of free order of adjectival modifiers, reproduced in (32) for ease of reference. Both of the examples in (32a), (32c) present an unordered two-member set of adjectives which is Externally Merged as a single syntactic object, as in (32b), (32d). The only difference between (32b) and (32d) is the position where the adjective set is merged, in accordance with the conclusion that the edge of phase hosts the gradable adjectives in (32c) and the complement of the phase head hosts the non-gradable adjectives in (32a).

- (32) a. wooden red/red wooden clogs  
 b.  $[_{nP} \ n \ [_{NP} \ \{_{AP} \ \text{wooden, red}\} \ [_{NP} \ \text{clogs}]]]$   
 c. new big cuts/big new cuts  
 d.  $[_{nP} \ \{_{DegP} \ \text{new, big}\} \ [_{nP} \ n \ [_{NP} \ \text{cuts}]]]$

8. See Adger (2013), Cecchetto & Donati (2019) for adnominal PP modifiers and the relative order of PP and AP modifiers.

9. See also Hornstein (2009) for the idea that modification is basic and complementation presets added complexity (i.e. theta-relations).

The order between the two adjectives in either set is determined by EXT. It may therefore be sensitive to phonological properties (e.g. shorter vs. longer adjective) or to usage-based considerations (e.g. frequency of occurrence of A with N) – or it may in fact respond to notional classes/subjectivity ranking, but construed now in terms of communicative pressures (Scontras, Degen & Goodman 2017, 2019) do not necessarily think of subjectivity as a principle of syntactic order).<sup>10</sup>

According to section 3.1, in the Italian ANA the prenominal and postnominal A must belong to the edge of *n* and to the complement of *n* respectively. Therefore, two adjectives in prenominal position must both belong to the *nP* edge and form a two member set merged with *nP* as single object, cf. (33b). As predicted, their relative order is free, cf. (33a).

- (33) a.    dei    grossi nuovi/ nuovi grossi tagli governativi  
           some big    new/    new    big    cuts governmental  
       b.    [<sub>nP</sub> {<sub>DegP</sub> nuovi, grossi} [<sub>nP</sub> tagli [<sub>NP</sub> governativi [<sub>NP</sub> tagli]]]]

The above discussion of adjectival modification has potential consequences for other domains of grammar. If the present approach to modification is on the right track we hardly expect the rigid adverbial hierarchy of Cinque (1999) to withstand empirical scrutiny. There is considerable independent evidence for a coarse distinction between *v*-phase adverbs and *C*-phase adverbs, very widely used as a diagnostic for verb positions in Romance (Cinque 1999, Ledgeway & Lombardi 2005 and many others). However, finer grained orders predicted by Cinque’s adverbial hierarchy are not necessarily enforced by the grammar. Manzini & Savoia (2005: III: 155-197) verify the predictions of Cinque (1999), Zanuttini (1997) in several dozen North-Italian varieties, targeting the order of sentential negation with respect to the adverbial hierarchy: [<sub>T<sub>Anterior</sub></sub> *already* [<sub>Asp<sub>Terminative</sub></sub> *no/any longer* [<sub>Asp<sub>Continuative</sub></sub> *still* [<sub>Asp<sub>Perfect</sub></sub> *always* ... [<sub>Voice</sub> *well* (Cinque 1999: 106). In a more manageable discussion of a handful of Piedmontese varieties, Manzini & Savoia (2012) show that in the variety of Montaldo the order Neg > ‘already’ combines with the orders ‘any longer’/‘still’ > Neg. This order cannot be predicted by the hierarchy of Cinque (1999), irrespective of the position of Neg. Similarly, in the variety of Pamparato, ‘already’/‘still’ > Neg combines with Neg > ‘any longer’. For the latter, Zanuttini (1997) proposes that the two elements (Neg and ‘any longer’) are incorporated –

10. For a number of proposals actually found in the literature, of various theoretical orientations, see Dyer et al. (2023), who verify their predictions on large corpora or a couple dozen languages.

but note that only in some dialects is there independent (morphological) evidence that incorporation has taken place. Once again, empirical work is needed in this domain. If the evidence favors a coarse grained, rather than a fine grained order (as I believe), then evidently adverbial modifiers, like adjectives, are candidates for FormSet.<sup>11</sup>

We finally get to the crucial NAA configuration in Italian. Recall that in Italian (nearly) all adjectives can be postnominal, and that in postnominal position no particular order prevails. In order to model the postnominal unordered adjectives of Italian we can of course use FormSet. However this does not address the truly difficult problem – namely, why gradable and non-gradable adjectives are freely intermixed in Italian NAA patterns, differing in this both from English AAN and from Italian ANA.

In his account of Italian NAA, Cinque (2010) takes up Sproat and Shih’s (1991) proposal that some adjectival structures are in reality concealed relative clauses. It is a fact that overt relative clauses stack freely without any sensitivity to the predicates they embed, as discussed for (20) above. On the other hand, since Sproat and Shih’s (1991) seminal contribution, much research has gone into establishing the structure of so-called linkers, like Chinese *de*. According to Dikken (2006), linker structures are predicative, and the linker is a sort of copula. However, some formal treatments deal with linkers simply as agreement heads, Agr (Philip 2013) or as expletive Ds (Lekakou & Szendrői 2012, Franco, Manzini & Savoia 2015). Therefore, it is far from a foregone conclusion that reduced relatives is the correct syntactic characterization of *de* phrases. In fact, quite independently of the discussion of linkers, Belk (2017: 34) provides arguments against the identification of adjectives and (reduced) RCs, arguing that “adnominal adjectives, reduced relatives and full relatives are derived from three separate sources”.

I conclude that it is not crucial for stacking (i.e. free order) that some adjectives are reduced RCs. What is crucial is that they have a complex enough structure of embedding. Following the linker literature mentioned above, this could a predication structure (perhaps more consonant with the reduced RC idea) or an agreement structure. Since the key notion of local domain in minimalist theory is that of phase, I will make the minimal assumption that the relevant contrast between ordered adjectives and unordered one concerns phasehood. Let me formalize this hypothesis. In the minimalist framework, it is standardly assumed that

11. These remarks are prompted by a reviewer. The reviewer wonders about adverbs formed from gradable predicates. These are also gradable, e.g. *very intelligently*, *very clumsily*. Presumably, the adverb forming suffix combines with the root and the Deg structure is merged on top. A further question, that I cannot answer at the moment, is whether and how gradability is relevant for adverb order.

there is a fixed set of phase heads, one for each major lexical category ( $v$ ,  $n$ ,  $a$ ,  $p$ ) and  $C$  (see recently Chomsky 2019). Face to this fixed list of phase heads, it is generally admitted that there is variation as to whether a phase head is or is not present, or as to whether it is an actual phase or a defective one etc.

Following standard practice, then, I assume that there is a phase head  $a$  associated with lexical APs. I further assume that this head can in principle be defective – either not present or present but not determining a phasal domain closed by the PIC. For maximum simplicity, I take the former option, contrasting non-phasal APs with phasal aPs, as in (34). It is possible that linker morphology is simply the morphological hallmark of APs with a phasal structure, hence aPs.

- (34) a.  $[_{aP} a [AP]]$   
 b.  $[_{aP} A]$

Suppose that English adjectives have the non-phasal structure in (34b). Their derivation proceeds as already detailed in previous sections, where I assumed the presence of no adjectival phase head. Thus DegPs are merged at the  $n$  phase heads and APs in the complement of the  $n$  phase. Similarly recall that we have accounted for ANA Italian patterns along the same lines as English AAN orders. DegP adjectives, being merged at the  $n$  phase edge, yield AN – while non-gradable adjectives are merged lower yielding NA.

Suppose on the other hand that in addition to what described in section 3.1, Italian has phasal adjectives (34a).<sup>12</sup> One can try to enforce the idea that as indicated in (35), DegP is embedded under  $a$  (i.e.  $aP$ ) and not part of the label of the merged adjectival phrase.

- (35)  $[_{aP} a [_{DegP} Deg [AP]]]$

Therefore if only DegPs are allowed at the  $n$  phase edge, this position cannot host structures like (35). This means that aPs are forced to the complement of the  $n$  phase and surface postnominally irrespective of their semantic class.

Many questions arise at this point. In a cross-linguistic perspective, since there are languages with (predominantly) non-phasal adjectives like English and languages with phasal and non-phasal adjectives

12. One may enquire why a language like Italian would have a redundant adjectival system. In fact, redundancy is not an uncommon situation in normated languages, where usual external pressures (e.g. history) are compounded by those of grammatical norm. For instance, practically all Romance languages have various ways of passive (periphrastic, *se*), some languages have several ways of asking questions (wh- movement, wh- in situ, e.g. French), etc.



(Italian, Chinese), we expect that there should be languages that only have phasal adjectives. A case in point may be the Semitic languages (Fassi Fehri 1999 on Arabic, Shlonsky 2004 on Hebrew), whose adjectives agree in definiteness and Case (i.e. involve a linker structure) and are unordered by semantic classes (cf. Dyer et al. 2023). More importantly, the present construal of transparent (hence ordered) adjectives vs. opaque (hence unordered) adjectives in terms of the presence or absence of an *a* phase head has the status of a mere hypothesis. On the other hand, the leading alternative proposal, namely that some adjectives are reduced RCs does not seem to receive support from the actual comparison of adjectival and reduced RC structures (Belk 2017). Either way, the issue requires further research.

## 4 Conclusions

The cartographic analysis of adjectives pioneered by Cinque (1994, 2010) for Italian faces both theoretical and empirical issues. Theoretical issues diagnosed in the literature include rigid functional hierarchies, rich movement operations, reduced modularity (compression of semantic constraints and of linear order in the syntactic module). In the first part of this contribution, I showed that this theoretical issues result in both under- and over-generation. In the final part of the contribution, I outlined some alternative directions of analysis. First, adjectives are only partially ordered by syntax. Specifically, the gradable > non-gradable order is syntactically represented, but not necessarily finer grained hierarchies. Furthermore, this order is mapped not to dedicated functional positions but directly to phase structure: gradable adjectives are at the edge of *n* and non-gradable ones in its complement. Second, heavier adjectival structures, i.e. phasal *a*Ps in present terms, do not need to obey this constraint, i.e. there is no requirement that gradable phasal adjectives should be at the edge of *n*P. Therefore languages with phasal *a*Ps do not necessarily display even gradable > non-gradable order.

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