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Left–right asymmetries in Italian adjectives: partial order and phases

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This article considers the adjective–noun–adjective and noun–adjective–adjective orders of Italian in comparison with the adjective–adjective–noun order of English. I propose that not all adjectives are ordered with respect to one another in the syntax, contrary to what is predicted by cartographic functional sequences. A partial order is enforced by the syntactic notion of phases, since adjectives can appear either nP-phase-internally or at the edge of the nP phase. Support for phase structure comes from so-called Romance lazy plurals, treated in terms of ellipsis (No Transfer) of plural inflections. Two points of variation relating to the internal structure of adjectives determine their position of merger. One is whether the adjective is modified by a DegP (is gradable) or not: gradable adjectives merge at the edge of nP and nongradable ones nP-internally (therefore, higher and lower respectively). The other relevant consideration is whether the AP itself is phasal or nonphasal; the edge-of-nP position is reserved for nonphasal APs. A number of residual issues, such as order variations within Romance and the position of adjectives with respect to other modifiers, are also acknowledged.

Keywords: adjectives; order; phases; degrees; plural

1 Outline of problems and proposals

Italian adjectives can be ordered before the noun (AN) or postnominally (NA) or with N in the middle (ANA). Though various attempts have been made to capture the different meanings of prenominal and postnominal adjectives, the fact remains that the two versions of (1b) are truth-conditionally equivalent. Some adjective classes, on the other hand, are hard or impossible to position prenominally, as (1a) illustrates.

(1) a. *il vestito blu* / **il blu vestito*
the dress blue the blue dress
'the blue dress'

b. *una vecchia macchina* / *una macchina vecchia*
an old car a car old
'an old car'

Cinque 1994, 2010, and 2023a provide an account of AN, NA, and ANA orders based on Kayne 1994's assumption that linear order is determined in the syntax; variations in word order derive from movement. Note however that movement taking place in the syntax is expected to display effects not only at the phonology interface, effects such as linear order, but also at the semantic interface; yet semantic effects are arguably absent from linear reordering, for example in (1b). Therefore, an opposing view holds that dominance order is syntactic but that linearization and hence variation in word order are part of the Externalization procedure (Chomsky 2013). This well-known issue, the relation of linear order to syntax, is summarized in the following.

(2) Theoretical issue 1: linear order in syntax or as part of Externalization
a. Linear order and its parameters are part of Externalization (Chomsky 2013).
b. Linear order is syntactic and its parameters are movement parameters in syntax (Kayne 1994).

The issue is addressed in the literature especially in relation to Greenberg's Universal 20, which concerns the order of determiners, numerals, adjectives, and Ns within the noun phrase. Universal 20 is modeled by Cinque 2005 and 2023b in terms of linear order determined by syntactic movement—and is argued by others to be as adequately and more simply explained in terms of linearization at the interface (Abels & Neeleman 2012).

My focus here will be on a more basic issue. Because of the physical constraints on spoken language, syntactic objects are necessarily ordered with respect to one another by precedence. Under theories entertaining (2b), that is, linear order in the syntax, syntactic objects are also characterized by locally total asymmetric c-command (Kayne 1994: 4); this constraint is stated in (3a). However, under the alternative picture in (2a), the fact that all categories must be ordered with respect to one another by linearization does not necessarily imply that they are ordered syntactically. The possibility of unordered constituents in the syntax, stated in (3b), is explicitly entertained by Chomsky 2024, which proposes that modifiers may be merged as unordered sets.

(3) Theoretical issue 2: syntactic objects characterized (or not) by locally total asymmetric c-command
   a. All syntactic objects are ordered with respect to one another (forced under (2b)).
   b. Some syntactic objects may not be ordered with respect to one another (cf. Chomsky 2024's FormSet).

Adjectival modifiers are directly relevant for the issue in (3). According to Cinque 1994, adjectival modifiers are necessarily ordered with respect to one another in the syntax according to the semantic class they belong to, as schematized in (4). In the cartographic implementation, classes like color, size, and shape are encoded as functional *F* heads, while APs belonging to that class are hosted in spec, *F*P.

(4) $[_{FP}\ AP_{quality}\ [_{FP}\ AP_{size}\ [_{FP}\ AP_{age}\ [_{FP}\ AP_{shape}\ [_{FP}\ AP_{color}\ [_{FP}\ AP_{origin}\ NP]]]]]]$

For instance, in English, size > color and not color > size, as (5a) illustrates, because of the hierarchy in (4). The ANA configuration of Romance mimics English in allowing the order size > color with size prenominal and color postnominal, but not the reverse, as (5b) illustrates.

(5) a. *a big blue box*/(*)*a blue big box*
   b. *un grosso cane nero* / **un nero cane grosso*
      a big dog black a black dog big
      'a big black dog'

The conclusion that cartographic hierarchies undergenerate is discussed by Truswell 2009: "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 semantics to a single linear functional sequence—is problematic" (532). In relation to the theoretical issue in (3), Truswell ultimately preserves assumption (3a), if necessary by imposing an arbitrary order. But the empirical evidence he presents is consistent with the alternative in (3b).[1]

Let us then tentatively conclude that adjectives are not necessarily ordered with respect to one another. What determines the strict relative order of a subset of them? I address this question in section 3. I propose that the main organizing structure is the phase, with the nominal phase head taken to be n. The fundamental ordering notion is **gradability,** yielding gradable > nongradable orders via mapping to the edge versus the complement of the n phase respectively:

(6) Proposal 1: adjectives are ordered by phase structure
Gradable adjectives are merged at the edge of the n phase; nongradable adjectives in its complement.

Therefore, at least part of the task is accomplished by relatively coarse syntactic notions, such as phase structure and DegP modification (gradability). An independent argument in favor of the relevance of phases for adjectival order involves so-called lazy plurals in Romance, accounted for in section 3 via Transfer operating at the phase level.

Italian NAA configurations pose a different problem, in that they display no order. For instance in (7), color > size and size > color are equally acceptable. In present terms, gradable and nongradable adjectives freely intermix.

(7) *un cane nero grosso* / *un cane grosso nero*
a dog black big a dog big black
'a big black dog'

In section 4, I address Cinque 2010's implementation of the idea that unordered adjectives are reduced relative clauses, which goes back at least to Sproat & Shih 1991. I outline a different analysis. I propose that the relevant opaque structures are phasal aPs—as opposed to transparent (and ordered) bare APs:

[1] Already in Dixon 1977: 38 there is awareness of counterexamples to what Dixon takes to be a universal semantic hierarchy: for instance *slow new* and *new slow* are equally acceptable in English, though only the former is predicted by his hierarchy.

(8) Proposal 2: APs versus aPs
Adjectives embedded under the adjectival phase head a are opaque to order constraints—only bare APs are ordered under (6).

Languages like English have bare APs and are forced to order them. Languages like Italian also have phasal aPs, and their phasal status leads them to occur unordered. Section 5 addresses variation among Romance languages.

2 The structure of nP

In this section, I outline the main assumption about the structure of the noun phrase that will be used in the discussion to follow—though some additional theoretical constructs will be made explicit in sections 3 and 4. I assume that the fundamental structure of the noun phrase consists of the lexical category N and its phase head n, as in (9a). Following standard assumptions, the phase head bears formal features, here ϕ features (gender and number). The nP phase (minus its edges) is closed when the next higher phase head is merged, let's say a v* head, as in (9b). At every level of the nP structure, there could in principle be one or more modifiers (XP, YP, etc.), as in (9c).

(9) a. $\{n, N^{min/max}\}$
b. v … $\{n, \{N^{min/max}\}\}$
c. v … $\{XP^*, \{n, \{YP^*, N^{min/max}\}\}\}$

Let me then consider more in detail the structure of modification (9c). In preminimalist frameworks, modification issues of the same structure-building operations as head–complement relations. Within minimalism, in Chomsky 1995 and 2004 modification structures are generated by a different Merge operation, namely Pair Merge. However, Chomsky 2024 excludes complex structure-building operations like Pair Merge, stating that "the only other permissible relation [besides standard Merge] is unbounded set, with the SBO [structure-building operation] FormSet" (more on FormSet in section 4). I therefore assume that standard Merge is responsible for modification, as implied by the notation in (9c).

What about labeling? Again, preminimalist frameworks are clear about the fact that merger of a modifier with a modified item returns a constituent bearing the same label as the modified item. However, the labeling algorithm LA of Chomsky

2013 takes into account head–complement configurations (labeled by the head) and head–specifier configurations (labeled by Agree) but not modification/adjunction structures. Here I propose taking advantage of the insight in Chomsky 2013: 43 that labeling is part of Transfer to reinstate the classical labeling of adjuncts as returning the same category as the constituent they modify. The key observation is that if labels are defined immediately following each application of Merge, only information pertaining to the internal structure of the constituent to be labeled is available. But if LA applies when a phase is shipped to the interface, then information pertaining to higher constituents may also be available. Specifically, it is possible for LA to see selectional relations between the constituent to be labeled and higher heads. I propose to use selection as a means to get out of the problem of how to label adjuncts.

Proceeding bottom up in (9c), if N is computed as a head, the NP label is assigned to the constituent {YP, N} by the head–complement clause of LA. The same clause of LA also determines the nP label for the constituent {n, NP}. The crucial step is the labeling of {XP, nP}. I propose that, as shown in (10), the constituent is an nP, not an AP or a PP, because of selectional restrictions imposed by D.

(10) $\{_{DP}\ D\ \{_{nP}\ XP, \{_{nP}\ n, \{_{NP}\ YP, N^{min/max}\}\}\}\}$

Informally, the traditional labeling of modification (the adjunction structure) is correct. If ‘man’ is an NP, then ‘old man’ is also an NP, and so on.

I adopt the view that syntax is ordered by dominance, as implicit in the set notation in (9) and (10), and that linearization is part of Externalization, per (2a), where parameters also apply. The main parameter that has been taken to govern linearization is the classical head–complement parameter, namely whether complements/modifiers are to the left or right of the head or projection they modify. In even more general terms, given any Merge pair {α, β}, linearization may in principle yield either logically possible precedence order. Everybody agrees that English adjectives are positioned to the left of the projection they modify, yielding the linear order AAN:

(11) English AAN
[AP [n [AP N]]]

The other main factor in word-order variation is movement. Of potential relevance for the nP structures at hand is movement of the N head. Cinque 1994 argues that English AAN orders and Italian ANA orders, illustrated in (5), can be accounted for by assuming the same structure of modifiers, including their uniform leftward orientation—except that the noun is in situ in English and raised (leftward) in Italian, say to n:

(12) Italian ANA
[AP [N-n [AP ~~N~~]]]

As is well known, Chomsky 2001 excludes head movement as a syntactic operation and confines it to Externalization, on the basis that it seems to have consequences only for linear order, without any (necessary) semantic relevance. Some guidelines as to how to execute this idea are provided by Chomsky 2021: "the first step in a derivation must select two items from the lexicon, presumably a root R and a categorizer CT, forming {CT, R}, which undergoes amalgamation under externalization, possibly inducing ordering effects that are excluded from I-language in the sense adopted here" (36). The categorizer in this case is the phase head n; N-n amalgamation is then a necessary step of Externalization, in English or in Italian. Following amalgamation, a linearization parameter instructs the speaker of a particular language as to which of the (two or more) nodes of an amalgam hosts the product of amalgamation.

Finally, I assume a simple semantics under which adjectival modification is coordination. Thus in structure (9c), I take the properties denoted by NP and YP to be coordinated—and the same holds for the properties denoted by nP and XP. Despite the emphasis laid by the literature on the subsective–intersective distinction (see section 3.1), Larson 1998 suggests that subsectivity can be reduced to intersectivity (i.e., coordination). For instance, in *a beautiful dancer*, *beautiful* may be predicated of the *x* argument of *dancer*, that is, it is the individual who dances that is beautiful—or it may predicated of the event argument *e* of *dancer*, that is, it is the dancing that is beautiful. Thus the second, subsective reading may actually be derived by an intersective semantics in event theory. This view is tentatively adopted here.[2]

[2] See also footnote 5.

3. Ordered adjectives

3.1 Previous approaches

As mentioned in section 1, the approach of Cinque 1994, 2010, and 2023a orders conceptual classes such as color, size, shape, value, origin, and age syntactically, as a sequence of functional heads taking APs as their specifier, as in (4). Evidence against this analysis is presented by Svenonius 2008 and Truswell 2009 for English. It is true that certain classes of adjectives are ordered with respect to one another—but other classes are not. In English, the adjective pair in (13) is rigidly ordered, but those in (14) and (15) are not (Truswell 2009: 527; see also Svenonius 2008: 39).[3]

(13) a. *a big black dog* size > color
b. #*a black big dog* #color > size

(14) a. *wooden red clogs* material > color
b. *red wooden clogs* color > material

(15) a. *new big cuts* age > size
b. *big new cuts* size > age

In other words, cartographic hierarchies like that in (4) end up undergenerating. This point is well understood from previous literature and need not be further elaborated. Let me just note that in Italian, as expected, multiple prenominal adjectives in ANA configurations, corresponding to the classes in (15), are also freely ordered:

(16) a. *dei grossi nuovi tagli governativi*
some big new cuts governmental
'some big new government cuts'

b. *dei nuovi grossi tagli governativi*
some new big cuts governmental
'some new big government cuts'

[3] One may also wonder what happens with sequences of three or more adjectives. In English, the prediction is that different orders are possible for classes such as those in (14) and (15) but that relative rankings like (13) remain constant. Some experimental evidence consistent with this prediction is provided by Trainin & Shetreet 2021, which examines sequences of size, color, and pattern. In production, in a naturalness-ranking task and in a forced-choice task, Trainin & Shetreet find a preference for size > color > pattern and a secondary preference for size > pattern > color. Other sequences are below chance or unattested.

Larson 2021 advocates retaining semantic classes as a basis for adjectival syntactic order, arguing that what is wrong with (4) is simply the cartographic structuring of the classes. Larson proposes that the features identified by cartographers are borne by a single head, for instance N, where they "undergo agreement in order from lowest ranked to highest ranked" (256–257), determining the surface order of the APs that they enter into Agree with. Since the order of features is not preencoded but rather determined by the **subjectivity** relation (Scontras et al. 2017, 2019), it follows that for any given pair of adjectives, the relation may be well defined or not—and if it is not, the order of the relevant adjectives is arbitrary. In this way, the empirical problem of undergeneration is addressed. At the same time, there are theoretical reasons why this proposal is problematic—which are shared with cartography. In Larson's account, properties such as [color] or [shape] or [size] are treated as formal features since they enter into Agree exactly like formal features such as ϕ features or Q features. However note that unlike what happens with ϕ features and Q features, there is no systematic Minimality effect based on [color], no EPP effect whereby [color] is obligatorily spelled out at some phase, and so on. Therefore encoding semantic classes into formal features makes the wrong syntactic predictions.[4]

I therefore turn to alternatives avoiding conceptual classes. Truswell offers the conclusion that where an ordering of two adjectives is strongly preferred, the higher adjective is subsective while the lower one is intersective; (13) is an example. Similarly, Svenonius 2008, on the basis of a structure of NP that includes a lower nominal class head (n) and a higher count head (Sort), concludes that "modification of *n*P is essentially intersective"; vice versa, "SortP modification occurs in a different way from *n*P modification: it is crucially subsective" (38).

[4] Larson argues that "the linguistic system digitizes this attribute space [i.e., "salient, objective, factual properties of things vs. subjective properties"] with features." He further invokes a parallel concerning "the familiar 'cartography of human vowels' … a space known to be determined by extralinguistic anatomical, perceptual, gestural, and acoustical factors. The linguistic system digitizes this space with features" (266). However, in proposing a "substance-free phonology," Hale & Reiss 2000 comments that "phonology is not and should not be grounded in phonetics since the facts that phonetic grounding is meant to explain can be derived without reference to phonology. Duplication of the principles of acoustics and acquisition inside the grammar violates Occam's razor and thus must be avoided. Only in this way will we be able to correctly characterize the universal aspects of phonological computation" (162). I would say that essentially the same is true of syntax and of the semantic grounding of it: a proper modeling of syntactic computation is best obtained by letting interpretive properties be dealt with directly by the semantics (or by the conceptual component). Duplicating them in the syntax may create a useless redundancy and may actually lead to lack of clarity as to the nature of the computation.

However, subsectivity versus intersectivity, despite its popularity among semanticists and syntacticians, does not seem the correct notion to employ. Take the example in (17). This is naturally interpreted with the first adjective ('beautiful') denoting an intersective property (i.e., beautiful as well as a linguist) and the second adjective a subsective one (i.e., 'good as a linguist').[5] Therefore the order is intersective > subsective, contrary to the order predicted by Svenonius.

(17) *It is not true that there are no beautiful good linguists.*

Another notion mentioned by Svenonius is scalarity. Scalarity is ultimately responsible for 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 but, in order to fix the scale, one needs to have a standard of comparison, by default the average size of elephants or butterflies (see especially Kennedy 1999, 2007).

In a strictly modular grammar, we do not expect syntax to encode semantic properties, any more than phonological ones. Intersectivity and subsectivity, which are defined by Kamp & Partee 1995 in terms of the inferences they license (see footnote 5), involve a semantic look-ahead of some sort when invoked as a principle of syntactic order. Scalarity is different, since it is overtly instantiated in the morphosyntax of comparative and superlative constructions and in structures with degree modifiers (*very*, etc.) or with measure-phrase modifiers (e.g., *one meter tall*, etc.). The analysis of adjectival order developed in the next section relies on scalarity and on phase structure.

3.2 Edge of n phase (gradable As) versus complement of n phase (nongradable As)

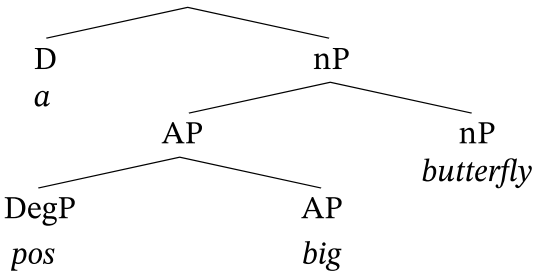
For the sake of concreteness, I adopt Kennedy 1999 and 2007's analysis of scalar adjectives, under which they are modified by a DegP (Corver 1990), whose content in the positive (noncomparative) form is conventionally designated as *pos*. In (18),

[5] The definition of the subsective–intersective contrast is worth making explicit here, precisely because its wide use in the literature may create unwanted ambiguity. I assume the entailment-based definition of Kamp & Partee 1995; see also McNally 2016. An example of a purely intersective adjective is *Canadian* in *John is a Canadian dancer*; this licenses the inferences that *John is a dancer* and *John is Canadian*. On the other hand, *Olga is a beautiful dancer* is ambiguous. Under one reading, the subsective reading, only the inference that *Olga is a dancer* is licensed; there is no entailment that *Olga is beautiful*—she could actually be quite plain. There is also an intersective reading. I briefly review Larson 1998's proposal for a reduction of subsective adjectives to intersective ones at the end of section 2. See footnote 7 for a possible source of terminological misunderstanding.

pos introduces a relation between the degree *x* at which the referent of the DP ('a butterfly') has the AP property and the degree *y* at which the standard-of-comparison group ('butterflies' as a default) has the property.[6]

(18) a. *a big butterfly*

b.



Adjectives high in the adjectival hierarchies (evaluative, size, age) are gradable. Adjectives lower in the hierarchies (relational, shape, color) are nongradable, as shown by their incompatibility with comparative syntax:[7]

(19) a. **That is a more chemical/atomic reaction than this one.*
b. **That is a more purple dress than this one.*
c. **That is a more octagonal table than this one.*

We now need to ask why gradable adjectives appear higher than nongradable adjectives (and therefore to their left), both in English AAN and in Italian ANA. In the kind of syntactic framework adopted here, it is natural to assume that the organizing principle may simply be phase structure. Gradable adjectives are merged at the edge of nP and nongradable ones in the complement of n, as schematized in (20a) for English and in (20b) for Italian.

(20) a. $[_{nP}$ *big* $[_{nP}$ n $[_{NP}$ *black* $[_{NP}$ *dog*]]]]
b. $[_{nP}$ *grosso* $[_{nP}$ *cane* $[_{NP}$ *nero* $[_{NP}$ N]]]]

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[6] I make no commitment as to whether *pos* is an abstract morpheme—or is an enrichment required by the Int procedure (see Neeleman et al. 2004).

[7] Subjectivity, defined by Scontras et al. 2017 and 2019 in terms of faultless disagreement, depends on the availability of different standards of comparison. Note also that size adjectives are sometimes taken to be subsective, because the denotation of 'big butterfly' is not at the intersection of the sets of 'big entities' and 'butterfly entities'—but rather at the intersection of the properties 'butterfly' and 'big on the butterfly scale' (hence, the 'big butterflies' subset of 'butterflies'). Following Kamp & Partee 1995, size adjectives are taken to be intersective here, since once the comparison class is fixed, they clearly respond to the entailment diagnostics in footnote 5; see also McNally 2016.

Before attempting to answer the further question of *why* gradability and phase structure would be matched as in (20), as opposed to any other logically possible way, I present some more evidence in favor of gradability as an order factor for adnominal adjectival modification. I use Italian examples, where, by hypothesis, the gradable class is easily isolated by its linear position to the left of N.

Relational adjectives, including nationality adjectives, are normally postnominal as in (21a, d). However, as noted by Svenonius 2008 they can be coerced into a meaning whereby 'Italian,' for example, does not mean 'from/of Italy' but rather 'Italian-like'—in which case they are gradable.[8] It is then expected that adding superlative morphology to a nationality adjective forces this second meaning and makes the adjective compatible with prenominal position, as is the case in (21c, f).

(21) a. *un vizio italiano*
a defect Italian
'an Italian defect'

b. **un italiano vizio*
an Italian defect
Intended: 'an Italian defect'

c. *un italianissimo vizio*
a very.Italian defect
'a very Italian defect'

d. *un genio italiano*
a genius Italian
'an Italian genius'

e. **un italiano genio*
an Italian genius
Intended: 'an Italian genius'

f. *un italianissimo genio*
a very.Italian genius
'a very Italian genius'

[8] See also section 5 for further discussion of nationality adjectives.

Another case in point is participial adjectives. It is often pointed out that these are generally postnominal in Romance (e.g., Abeillé & Godard 1999 for French, Demonte 1999: 189 and Bosque 1999: 299–300 for Spanish). However, some prenominal participial adjectives are possible, for instance in (22a). Bosque 1999 observes that the very same participial adjectives may be unacceptable in prenominal position in other types of examples, like (22b). Traditionally, the lexically identical modifiers in (22) are described as having an adjectival versus passive interpretation. The interpretive difference may be better understood as akin to that between causative and anticausative predicates (*smarrire* 'to lose' vs. *smarrir-si* 'to be lost,' as a psychological predicate).

(22) a. *uno smarrito testimone*
a confused witness
'a confused witness'

b. *un ombrello smarrito* / **uno smarrito ombrello*
an umbrella lost / a lost umbrella
'a lost umbrella'

What is relevant for present purposes is that the adjective in (22b) is nongradable; to be more precise, it belongs to a semantic class of (participial) adjectives such as *open* and *closed* that Kennedy 2007 describes as "absolute gradable": in essence they cannot enter comparatives, as in (23a), though they do admit some measure modification. By contrast, the adjective in (22a) can enter comparisons, as shown in (23b).

(23) a. **un ombrello più smarrito del mio*
an umbrella more lost than mine
Intended: 'an umbrella more lost than mine'

b. *un testimone più smarrito di me*
a witness more lost than me
'a witness more lost than me'

Taking the possibility of comparatives and superlatives to be the operational definition of gradability relevant for syntax, the correlation between gradability and edge-of-nP position (pre-N position in Italian) is confirmed.

Let us then return to the question of why gradable adjectives are at the edge of nP. We may observe that Deg introduces a second term of comparison in the form of a variable (the comparison standard) that is contextually set. Nothing much then needs to be said about the positioning of scalar adjectives at the phase edge, except that all operator–variable structures are at the phase edge. Specifically with DegP at the nP edge, the default standard of comparison for the Deg relation can be set by nP. Alternatively, recall that the edge of nP is in the Workspace at the next phase up, say v*, making the larger sentential context available for the setting of the comparison standard (see Heim & Kratzer 1998: 71 for some examples of nondefault comparison standards).[9]

In a nutshell, the question of the relative order of adjectives must be substantially reformulated. Multimembered adjectival scales, as reconstructed in syntax by cartographic hierarchies, have a problem of undergeneration. This problem could in principle be avoided by adopting more elementary scales based on macrocategories (subsectivity, subjectivity)—but the semantic nature of the latter seems to sit uneasily with a modular view of syntax. A syntactically viable categorization of adjectives is that opposing gradable and nongradable adjectives, which is also sufficient to capture the distinction between adjectives that can appear prenominally in Italian and those that must appear postnominally. I propose that the two macrocategories are matched to the phase structure of the nP without the postulation of any dedicated functional head besides the phase head n. These results are summarized as follows.

(24) Summary of conclusions 1
   a. The basic order of adjectives is dictated by whether they modify NP (complement of the n phase head) or nP (edge of the n phase head).
   b. Gradable adjectives have an open variable located at the Deg modifier that forces them to be merged at the edge of nP. Nongradable adjectives are merged in the default position in the complement of n.

There is in fact another class of adjectives that can be argued to require the same edge-of-nP positioning as gradable adjectives but for independent reasons. This is a

[9] Delfitto 2024 proposes a semantic characterization for Italian prenominal adjectives, based on the idea that they yield a "pragmatic enrichment through trope activation." Delfitto connects gradability to tropes via the property of groundedness (Moltmann 2009). In his words, "*Groundedness* not only requires that each trope be a unique object (or a unique property, depending on the theorist's philosophical preferences); it also requires that tropes be comparable to each other, and in all likelihood along some scale."

small class of adjectives that can only appear prenominally in Italian. An example is *mero* 'mere'; another is *semplice* 'simple,' which is a synonym of *mero* in prenominal position only. These facts are illustrated in (25). Prenominal *mero* and *semplice* are **focalizers,** like their adverbial counterpart *solo* 'only' in (26).

(25) a. *E' un mero/semplice errore di calcolo.*
is a mere/simple error of calculation
'It is a mere miscalculation.'

b. **E' un errore mero di calcolo.*
is an error mere of calculation
Intended: 'It is a mere miscalculation.'

c. #*E' un errore semplice di calcolo.*
is an error simple of calculation
'It is a simple/noncomplex miscalculation.'

(26) *E' solo/semplicemente un errore di calcolo.*
is only/simply an error of calculation
'It is only/simply a miscalculation.'

We know that focus operators sit at phase edges, as do *wh* operators and negative operators: that is, the operators that Chomsky 2013: 46 suggests unifying under an F (Force) feature. The connection between these operators and phase edges is provided by the postulate that phase heads host formal-feature probes, including [Q], [neg], and [F], which may trigger EPP effects. Overt realizations of operators (question particles/*wh* phrases, negative clitics/adverbs, etc.) are therefore hosted by phase edges. I suggest that this standardized picture is sufficient to force focalizer adjectives to be merged at the nP edge:

(27) a. … [$_{nP}$ *mero* [$_{nP}$ *errore* NP]]
b. [$_{nP}$ *errore* [$_{NP}$ *mero* N] → *

Recall from example (5) that reversing the gradable > nongradable adjective order in prenominal position in English does not necessarily yield ungrammaticality. A better description of the resulting pattern is in terms of markedness. Thus, a well-formed reading can be obtained if the leftmost adjective is focused:

(28) *a* black *big dog*

In present terms, focusing is construed at the edge of the phase headed by n, allowing the nongradable adjective (normally attached to NP) to surface in leftmost position.

Let us then return to the conclusions in (24). The one in (24b), as it now stands, does not take into account the fact that Italian also has NAA orders, mentioned in section 1 but not analyzed so far, where gradable and nongradable adjectives freely mix. I will come back to unordered adjectives in section 4. I will also come back, in section 5, to a different issue that arises if one considers variation among the Romance languages (Bernstein 1993), namely whether the gradable–nongradable distinction is in fact too coarse and ends up undergenerating, like cartographic hierarchies but for opposite reasons.

In the final subsection of section 3, I focus on (24a). Assuming that a coarse (or partial) hierarchical order of adjectives is empirically correct, is there evidence that the n phase head is effectively responsible for it? In principle, the relevant order could be determined by a reduced functional hierarchy, consisting for instance of SortP and nP, as posited by Svenonius 2008. In what follows, I provide evidence for (24a) from so-called lazy plurals in Romance, based on the assumption that phases are the structural chunks undergoing Transfer and Spellout.

3.3 Evidence for phases: lazy plurals at Transfer

A relatively well-known correlation between adjective positions and phonological rules concerns French liaison, where AN is a possible context of liaison but NA is disfavored if not impossible (e.g., Bouchard 1998: 150–151). Here I focus on so-called **lazy agreement** (Cinque 1994: n. 28): a differential realization of plural morphology on pre-N modifiers versus post-N modifiers, attested in Romance varieties, including Italo-Romance varieties and neighboring Rhaeto-Romance ones. The distribution is not lexically determined, in that the same adjective will or will not bear the relevant morphology depending on its prenominal or postnominal position. In dialects of Brazilian Portuguese, as illustrated in (29), the plural inflection *-s* surfaces only on determiners and prenominal modifiers. In Ladin, as (30) illustrates, the mirror distribution prevails, in that *-s* surfaces only on N and on postnominal adjectives.[10]

[10] In Northeastern Central Catalan (Bonet 2018) lazy agreement and phonosyntactic conditions can be seen to interact. In this language, in postnominal position the plural *-s* surfaces regardless of the phonological context, while prenominally it surfaces only if it is preceded or followed by a vowel.

(29) Brazilian Portuguese

a. *os* *primeiros* *livro*
the.PL first-PL book
'the first books'

b. *os* *livro* *bonito*
the.PL book nice
'the nice books'

(Costa & Figuereido Silva 2002)

(30) Ladin

a. *la* *picola* *cèses*
the small house.PL
'the small houses'

b. *la* *cèses* *picoles*
the house.PL small.PL
'the small houses'

(Rasom 2008)

Discounting morphological accounts (Distributed Morphology, Optimality Theory), two main types of explanation have been proposed in the literature: in terms of syntactic Agree and in terms of Spellout. Agree explanations include Rasom 2008 on Ladin as well as cross-linguistic accounts by Stark & Pomino 2009 and Cyrino & Espinal 2019. For instance, Cyrino & Espinal propose that in Ladin (30) the [plural] probe is in n and takes as goals only nP-internal constituents, so that nP serves as the top boundary for Agree. By contrast, in Spanish and Italian, the [plural] probe is in D, so that all terminals in DP check the relevant morphology. The lower boundary for pluralization observed in Brazilian Portuguese (29) is determined by an independent parameter concerning the overt realization of [plural]. In short, the patterns in (29) and (30) are not given a unified analysis. Rather, Ladin is accounted for as a core-syntax (Agree) phenomenon while Brazilian Portuguese is given a different explanation in terms of Spellout.

Savoia et al. 2020 and Manzini et al. 2021 propose to unify the two patterns in (29) and (30) under a single parameter at Externalization. Their idea is that [plural] is uniformly represented in the syntax of the languages under consideration but

undergoes differential Spellout. What is crucial for present purposes is that according to these works, the left–right asymmetries in the distribution of *-s* seen in (29) and (30) reflect phase boundaries, as expected under the minimalist assumption that Transfer takes place at the phase level.

Savoia et al. 2020 presents empirical evidence against syntactic Agree analyses of lazy plurals. In Friulian varieties, plural is spelled out on all members of the DP; however, on prenominal categories it is represented by a purely vocalic morpheme *-i*, while on N and postnominal modifiers it is spelled out as *-i-* followed by *-s* morphology:

(31) Friulian

a. *l**i*** *bjel**i*** *fɛmin**is***
the nice women

b. *l**i*** *fɛmin**is*** *vɛtʃ**is***
the women old

(Savoia et al. 2020)

Savoia et al. conclude that in Friulian, syntactic agreement in plural affects all nominal nodes. At the same time, left–right asymmetries are observed concerning the spellout of *-s* morphology, determined at Transfer.

In short, it is desirable to treat (29–31) as different outcomes of the same parameter. Savoia et al. 2020 and Manzini et al. 2021 suggest that such a result can be achieved if the whole set of lazy-agreement phenomena is taken to result from an Externalization parameter. Specifically, they argue that the left–right asymmetry, which remains constant in (29–31) (despite the contrasting distribution of *-s* morphemes), reflects the fact that the relevant nominal structures are sent to Spellout in two chunks, roughly corresponding to complement versus edge of phase. I simply update Savoia et al. and Manzini et al.'s analysis, showing its relevance for the conclusions in (24).

Under the Phase-Impenetrability Condition of Chomsky 2001: 14, upon merger of the phase head *Z* the complement of the next phase head down, *X*, becomes inaccessible to syntactic operations. This is because the relevant domain is assumed to undergo transfer to the interfaces. Recently Chomsky 2021 suggests a revision of the classical Phase-Impenetrability Condition under which "*v* need no longer be at the edge of the *v*P phase, but can be within the domains of [the Phase-Impenetrability Condition] and Transfer" (36). I adopt this definition here:

(32) Phase-Impenetrability Condition (Chomsky 2021's version)
The head *X* of a phase *X*P and its domain are not accessible to operations at *Z*P (*Z* the next phase head up); only the edge of *X*P is accessible to such operations.

What is relevant for present purposes is that upon merger of the phase head *Z* the immediately lower phase head *X* is transferred together with its complement. Thus, assuming that all ANA configurations in Romance have the same structure as in Italian (20), we predict that Transfer will chunk the DP exactly as required by the contrasts in (29–31). Upon merger of a superordinate phase head, n and its complement (including the noun in n and the modifiers of NP) undergo Transfer. By contrast, the edge of nP (including the modifiers of nP, as well as determiners, quantifiers, and higher functional categories) undergoes Transfer as part of the next phase up. As already indicated, I assume that the [plural] feature is represented on all nodes of the DP. At Transfer, a parametric choice active in some Romance languages determines whether the [plural] feature is in fact spelled out in a given phase or instead undergoes ellipsis, construed as No Transfer (Saab 2008). So, in principle [plural] could be spelled out as *-s* in the nP chunk but not in the chunk that includes the edge of nP or vice versa.

Concretely, consider the Brazilian Portuguese examples in (29), with the structure in (33). In (33a) the nP phase (shaded) is packed off to the interfaces on the basis of (32). A language like Brazilian Portuguese enforces a parametric choice to the effect that within nP, [plural] is elided, that is, simply not sent to Spellout. The prenominal adjective is at the edge of nP and therefore escapes the nontransfer of [plural]. In (33b), on the other hand, the adjective is postnominal. By present assumptions, since the adjective is merged with NP, it is predicted to be sensitive to the same parameter as the noun in n, that is, nontransfer of [plural], correctly.

(33) a. $[_{DP}$ *os* $[_{nP}$ *primeiros* $[_{nP}$ *livro*$_{\text{~~[plural]~~}}$ $[_{NP}$
b. $[_{DP}$ *os* $[_{nP}$ *livro*$_{\text{~~[plural]~~}}$ $[_{NP}$ *bonito*$_{\text{~~[plural]~~}}$ $[_{NP}$

Consider next Friulian (31), which presents the mirror distribution of *-s* in Brazilian Portuguese.[11] While both *-i* and *-s* instantiate [plural], I propose treating

[11] Friulian belongs to the same Romance subfamily as Ladin (30), namely Rhaeto-Romance.

them as exponents of two different word-internal categories. The vocalic morpheme *-i* externalizes plural as part of nominal class features (including gender); in other words, plural *-i* occupies the same slot as feminine singular *-a*. In contrast, *-s* is a pure exponent of plurality, arguably merged in a separate word-internal node insensitive to gender. We can call the two nodes Class and Number (Num) as in Picallo 2008. When they combine, they yield the following morphological structure.

(34) $[_{\text{Num}}\ [_{\text{Class}}\ [_{\text{N}}\ \textit{femin}]\ \textit{i}]\ \textit{s}]$

At Transfer, Friulian mirrors Brazilian Portuguese, as shown in the structures in (35). The shaded portion of the structure, namely nP, is transferred with the *-s* exponent of plurality duly spelled out. Transfer of the edge of nP and of higher material takes place at the next phase up. At that point, some parameter of Externalization requires nontransfer of the higher plural node. The postnominal adjective in (35b) undergoes Transfer as part of nP and therefore displays *-s* morphology. The higher adjective in (35a) is at the nP edge and reflects the different conditions that characterize Transfer at the higher phase (no *-s*).[12]

(35) a. $[_{\text{DP}}\ \textit{li}_{\text{[plural]}}\ [_{\text{nP}}\ \textit{bjeli}_{\text{[plural]}}$ $[_{\text{nP}}\ \textit{fɛminis}$ $[_{\text{NP}}$

b. $[_{\text{DP}}\ \textit{li}_{\text{[plural]}}$ $[_{\text{nP}}\ \textit{fɛminis}\ [_{\text{NP}}\ \textit{vɛtʃis}$ $[_{\text{NP}}$

One may surmise that uniform lexicalization of features across Spellout domains would be a simpler choice. On the other hand, note that there is a functional advantage to breaking uniformity at the phase boundary, namely that it makes the phase structure maximally transparent. This is in fact the standard "third-factor" explanation of phonosyntactic rules like French liaison (whether expressed in terms of phases or major constituents or something else).

In any event, there is a good match between the structure for adjectival modification motivated here and the evidence provided by partial spellout of plural morphology at the phonology interface. Specifically, the noun in n and lower adjectives belong to a different Spellout domain than higher adjectives (at the edge

[12] An account of lazy plural in terms of ellipsis/No Transfer raises the question of what licenses the operation, on the assumption that identity with some antecedent is needed to guarantee recoverability. For Brazilian Portuguese the condition is met to the extent that plural is not transferred in nP under identity with plural on higher DP categories. Similarly there would not seem to be any issue in languages like Friulian where what is at stake is a partial deletion of plural. What then about Ladin? In Ladin, only feminine allows lazy plurals. As observed in Savoia et al. 2020, *-a* feminine plurals are independently attested in (Italo-) Romance. Therefore Savoia et al. suggest that *-a* in Ladin is also a plural, making deletion of the *-s* plural recoverable.

of nP). This elementary structure is necessary. I return in section 5 to the question of whether it is sufficient.

4 Unordered APs

4.1 FormSet

In section 3, I have considered adjectives that are ordered with respect to one another—leaving out the various instances where adjectival modification yields grammatical results under any linear order. Two subcases of this are considered here. The first one is the English pattern illustrated in (14) and (15), reproduced in (36) for ease of reference. In present terms, two gradable adjectives, as in (36b), or two nongradable ones, as in (36a), are free to occur in any order.

(36) a. *wooden red*/*red wooden clogs*
b. *new big*/*big new cuts*

The second case of free order that I consider is the free intermixing of gradable and nongradable adjectives in Italian, which constitutes the main topic of this section (i.e., section 4).

Let me however begin by addressing the data in (36). Chomsky 2019 and 2021 introduce the descriptive problem of **unbounded unstructured sequences** of modifiers, including adjectives as well as PP modifiers. These sequences seem to be unbounded except for the obvious limitations imposed by memory; they are also unstructured in the sense that no discernible syntactic order prevails among them. Hence, their linear order is free. Chomsky 2024 proposes that unbounded unstructured sequences are generated by an operation FormSet along the following lines (cf. Chomsky 2021: 31–32).

(37) FormSet
Select $X_1, \dots, X_m$ from Workspace and form $Y = \{X_1, \dots, X_m\}$.

According to Chomsky 2024 "binary [FormSet] is distinct from Merge in lacking its special theta-related properties."[13] Furthermore, "within sentence grammar, sets formed by [FormSet] are introduced into derivations in the position of single XP's." In this context, Chomsky's statement that "order is imposed in Externalization"

[13] See also Hornstein 2009 for the idea that conjunction/modification is basic and that theta relations are an added complexity in Merge.

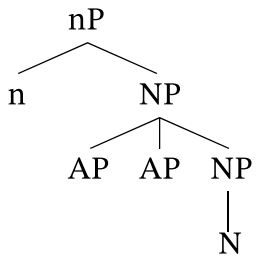
implies that linearization can work with syntactic structures that are not preordered by asymmetric c-command.

I propose adopting the theoretical constructs just reviewed and applying them to the cases in (36), without much modification. This means that the underlying syntax is the same for both surface orders observed in (36a) and (36b), namely an unordered two-member set merged as a single syntactic object. The only difference between (36a) and (36b) is that, in line with the discussion in the previous sections, the nongradable-adjective set is adjoined to NP, as in (38a), while the gradable-adjective set is adjoined to nP, as in (38b).

(38) a. $[_{nP}$ n $[_{NP}$ $\{_{AP}$ *wooden*, *red*$\}$ $[_{NP}$ *clogs*$]]]$
b. $[_{nP}$ $\{_{AP}$ *new*, *big*$\}$ $[_{nP}$ n $[_{NP}$ *cuts*$]]]$

The linear order of the two adjectives is determined by Externalization and therefore is expected to be insensitive to semantic classes, though it may be sensitive to phonological properties (e.g., shorter vs. longer; Bošković 2009: 191) or to usage-based considerations (e.g., frequency of occurrence with N; Dyer et al. 2023).[14] Once linear order is factored in, structures like (38) are equivalent to non-binary-branching (*n*-branching) trees, for instance (39) for (38a). This kind of structure is explicitly proposed and motivated by Neeleman et al. 2023 for coordinations, including (coordinated) adjectival modifiers.[15]

(39)



[14] In the same vein, it would seem desirable to embrace the conclusion of Bošković 2009: to "let the order of adjectives be free in the syntax, the illegitimate orders being filtered out in the semantics," in that "semantic composition … require[s] some adjectives to be composed before others" (191). However, under the present proposal adjectives are not freely ordered in the syntax but rather unordered. Therefore, the semantics cannot filter out undesired linear orders, which are only fixed after the point of Transfer.

[15] This equivalence was pointed out by Klaus Abels (personal communication). Neeleman at al. 2023 equally focuses on the contrast between *n*-ary coordinated/modifier structures and binary-branching selection/subordination structures. As far as I can tell, this converges with Chomsky 2024's distinction between binary Merge and FormSet in terms of theta relations, quoted above, as well as with Hornstein 2009 (see footnote 13).

Similarly, in the Italian ANA order, two gradable adjectives in prenominal position are unordered with respect to one another, as in (16), repeated in (40a) for ease of reference. In present terms, they form a two-member set merged with nP as a single object, as in (40b), and their precedence order is not fixed by syntax but only by Externalization.

(40) a. *dei grossi nuovi* / *nuovi grossi tagli governativi*
some big new new big cuts governmental
'some big new/new big government cuts'

b. $[_{nP} \{_{AP}$ *nuovi*, *grossi*$\}$ $[_{nP}$ *tagli* $[_{NP}$ N …

We then get to the NAA configuration in Italian. The basic facts about this configuration are that all adjectives (except functional ones) can be postnominal and that in postnominal position gradable and nongradable adjectives are freely intermixed, as exemplified in (7), repeated in (41a) for ease of reference. Suppose we apply the FormSet treatment to (41a). We obtain a structure like (41b) where a set containing the gradable adjective and the nongradable adjective is adjoined to NP as a single syntactic object. At Externalization, the set surfaces postnominally. Both precedence orders between the two adjectives are grammatical; criteria influencing the choice are to be found only in extragrammatical or extrasyntactic factors.

(41) a. *un cane grosso nero* / *nero grosso*
a dog big black black big
'a big black/black big dog'

b. $[_{nP}$ *cane* $[_{NP} \{_{AP}$ *grosso*, *nero*$\}]$ $[_{NP}$ N$]]]$

But if a structure like (41a) is possible in Italian, why wouldn't it be possible to have the same structure in English, leading to free order to the left of N?

4.2 Unordered NAA in Italian: previous accounts and problems

The key insight on unordered adjectives goes back to Sproat & Shih 1991. There it is observed that in Chinese (where adjectival modification is consistently prenominal) bare APs are ordered by semantic classes but adjectives embedded under the particle *de* are not. Sproat & Shih take the latter to be relative clauses. Following their lead, Cinque 2010 accounts for the fact that adjectival order is not observed in Italian NAA

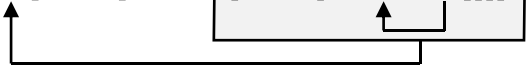
by assuming that postnominal adjectives can be reduced relative clauses, which are unordered. The rationale behind this kind of analysis emerges perhaps most clearly from Larson 2021. Larson observes that in English adjectival-modification structures, for example (42a, b), a head *H* to which the AP is attached "will have strictly local access to A and its syntactic and semantic features." However this access fails "where AP is embedded within a larger CP," that is, the relative clause in (42c, d). Relative clauses are therefore freely stacked, despite embedding the very same modifiers rigidly ordered in (42a, b).

(42) 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*

In other words, adjectives that are embedded under a complex enough structure (typically, a relative clause) may be opaque to the element they modify, hence impossible to order with respect to it and to one another.

Let us then focus on Cinque 2010's implementation of the reduced-relative-clause analysis for Italian. One key property of Cinque's account is that an NP projection always moves to the left of reduced-relative-clause adjectives (generated as specifiers of some functional category *F*), so that reduced relative clauses are always postnominal, as in the following derivational schema (RC = relative clause).

(43) a. ... [$_{FP}$ RC [$_{F'}$ *F* ... [$_{FP}$ AP [$_{F'}$ *F* ... NP]]]]
b. ... [$_{FP}$ RC [$_{F'}$ *F* ... [$_{FP}$ AP [$_{F'}$ *F* ... NP]]]]



The second key property of Cinque's implementation depends on a further cartographic postulate, Uniformity (in the sense of Culicover & Jackendoff 2005), to the effect that a given semantics necessarily corresponds to a fixed syntax. Therefore, different syntactic structures are expected to have different semantic reflexes. In the case at hand, reduced relative clauses are mapped to a predicative semantics (intersective, restrictive, stage-level interpretations of the adjectival modifiers) as opposed to the nonpredicative semantics of bare APs (subsective, nonrestrictive, individual-level). The prediction is thus that prenominal adjectives in Italian can

only have a nonpredicative semantics, since the structures that are responsible for predicative semantics, namely reduced relative clauses, are obligatorily postnominal. Manzini 2024 argues in some detail that the prediction is incorrect. In (44a) I reproduce just one example where the prenominal adjective is clearly restrictive; (44b), already mentioned in (22), shows a prenominal stage-level adjective; and finally (44c) is ambiguous between intersective and subsective readings of the prenominal evaluative adjective, essentially just like its English counterpart.[16]

(44) a. *I grandi patrimoni vanno tassati, quelli piccoli no.*
the big holdings go taxed those small no
'The big holdings must be taxed; the small ones not so.'

b. *Lo smarrito testimone della difesa si riprese durante il controinterrogatorio.*
the confused witness of.the defense rallied during the cross.examination
'The confused defense witness rallied during the cross-examination.'

c. *Ho visto uno stupendo ballerino.*
I.have seen a marvelous dancer
'I have seen a marvelous dancer.'

Therefore if we take prenominal APs to be direct-modification APs, we must conclude that direct-modification APs can have predicative interpretations.

Scontras et al. 2024 also argues that Cinque 2010 has a problem with respect to English. Recall Cinque's explanation for the free order of Italian postnominal adjectives: it is due to derivation (43b), under which only postnominal adjectives can be reduced relative clauses, which are freely ordered. At the same time, structure (43a) is universal, holding for English as well as for Italian; it is simply the case that in English no movement takes place. Now, since reduced relative clauses can produce free postnominal orders in Italian, we expect them to do so in English prenominal position. Take for instance *a big blue box*/*a blue big box* in (5). On the basis of (43a), we

[16] The restrictive–nonrestrictive distinction is the same one that holds for (full) relative clauses. The reading of the adjective in (44a) is restrictive because it is not all holdings (that are big) that must be taxed but, of course, only big holdings (as opposed to small ones). The distinction between stage and individual level is again the familiar one between permanent and transitory properties of an individual (such as the confusion of the witness in (44b)). The intersective–subsective distinction is defined in footnote 5.

should be able to construct both prenominal adjectives as reduced relative clauses. At this point, we would predict free order—incorrectly. Alternatively, one must abandon the idea that English has prenominal reduced relative clauses. If so, we must conclude all over again that direct-modification APs can have predicative interpretations.

Conversely, we may wonder whether an implication may hold to the effect that reduced relative clauses, when present in a language, must have predicative meanings. Here the counterargument is trivial: languages that overtly have functional embeddings of some sort for adjectives, such as Chinese *de*, typically embed core subsective and functional adjectives in the relevant structures (e.g., *former*; see Paul 2012: 193 for Chinese examples involving *de*). This means that syntactic properties of order (rigid vs. free) or structure (AP vs. reduced relative clause) are dissociated from semantic properties (predicative vs. nonpredicative) and are best discussed separately. This is what I will do in section 4.3.

In view of the recent work in Cinque 2023a, one may also wonder whether cartographic models have a different avenue of explanation open to them. Cinque discusses the well-known typological generalization according to which more nominal-modifier orders are attested postnominally than prenominally. In Cinque's analysis this follows from the fact that *XY*N sequences correspond to the base order while N-initial sequences are generated via movement. Depending on the different types of movement that apply, different postnominal orders can be derived. One may then wonder whether one may derive free adjectival order in the Italian NAA structure simply from the fact that different types of movements can apply to derive NAA from AAN. Cinque himself very clearly associates *each* language with *one single* sequence—for instance, Italian has mirror order and only mirror order. Indeed, if one admitted that movement could freely scramble postnominal adjectives within *one and the same* language, then one would expect the same of {Dem, Num, A} sequences—which is not the case. Therefore, as things now stand, this avenue of explanation is closed.

So far, I have not questioned the assumption that what appear to be simple adjectives (e.g., in Italian) are reduced relative clauses. However, Belk 2017, specifically addressing the possible reduced-relative-clause status of adjectives, states that "adnominal adjectives, reduced relatives and full relatives are derived from three separate sources" (34). For Den Dikken 2006 and Den Dikken & Singhapreecha 2004 functional elements embedding APs in many languages (including *de* in Chinese)

are linkers, that is, copula-like elements that define elementary predications. Furthermore, treatments of linkers as agreement heads have also been entertained in the literature (Lekakou & Szendrői 2012, Philip 2012, Franco et al. 2015). I therefore make no assumptions about the reduced-relative-clause status of some adjectives but take up the whole question from scratch in the next section.

4.3 Phasal and nonphasal APs (aPs)

In minimalist theory, each lexical head is associated with a phase head, as discussed in section 2 in relation to the n-N structures in (9). It is also standardly assumed that there is variation as to whether the phase head is defective. Following standard practice, then, I assume that there is a phase head a associated with the lexical head A. I further assume that a can in principle be defective, as in (45a) as opposed to (45b).

(45) a. $[_{aP}$ a AP]
b. $[_{aP}$ a* AP]

Let us assume that the a* head is phasal in that it supports an external argument. The argument introduced by the phase head is notated as φ in (46b) to indicate a minimal pronoun interpreted as identical to a local antecedent and therefore not undergoing Spellout (i.e., descriptively a PRO). Specifically, the minimal pronoun is bound by D, assuming that D is the element that saturates the R-role of N (Higginbotham 1985). Nonphasal adjectives have the simpler structure in (46a).

(46) a. $[_{aP}$ a AP]
b. $[_{aP}$ φ $[_{aP}$ a* AP]]

I propose that the derivation outlined in section 3 holds for nonphasal adjectives. Recall that under this derivation, in order for the standard of comparison required by the degree modifier to be interpretable on gradable adjectives, it is necessary for AP to be positioned at the edge of nP. In English, then, gradable adjectives are forced to the left of nongradable adjectives, to the extent that they are nonphasal.

On the other hand, in Italian gradable adjectives can appear in the same adjectival sets as nongradable ones, ordering freely with respect to them. To be more precise this free order is observed in postnominal position: that is, the sets are generated in the complement of n, as already proposed in (41) and repeated in (47) for ease of reference.

(47) $[_{nP}$ *cane* $[_{NP}$ $\{_{AP}$ *grosso*, *nero*$\}]$ $[_{NP}$ N$]]]$

The crucial case to be considered is that of a gradable adjective, for example *grosso* 'big' in (47), since nongradable adjectives occur in the complement of n in any event. I propose that the gradable adjective is legitimate in (47) to the extent that it has the richer phase structure in (46b). The minimal pronoun φ provides an explicit representation, internal to the structure of nP, of the argument of N. Therefore, the standard of comparison necessary for the correct interpretation of Deg can be fixed by reference to φ. This means in turn that there is no need for the gradable adjective to be at the edge of nP.

In short, I propose that adjectives that display free-order properties are phasal. Italian is a language with phasal adjectives occurring unordered inside the nP. Recall on the other hand that I have accounted for ANA Italian patterns along the same lines as English AAN orders. The obvious conclusion to draw about Italian, then, is that it has both phasal and nonphasal adjectives. The latter, being merged obligatorily at the phase edge, yield ANA. This is stated in (48a).[17] In English, APs are nonphasal and obligatorily ordered by gradability. This is stated in (48b).

(48) Summary of conclusions 2
   a. Italian has both nonphasal adjectives, ordered according to the ANA schema in (12), and phasal adjectives, occurring unordered (no phasal adjective is required to merge at the nP edge).
   b. English has nonphasal adjectives, ordered prenominally according to (24).

We of course expect that there should be languages that only have phasal adjectives. These would be languages where adjectives are obligatorily embedded under linker structures and are not ordered by conceptual classes. A case in point is Semitic languages (Fassi Fehri 1999 on Arabic, Shlonsky 2004 on Hebrew), whose adjectives are inflected for definiteness (i.e., they are embedded under linkers) and are unordered by semantic classes (Trainin & Shetreet 2021 on Hebrew, Dyer et al. 2023).

[17] One may inquire why a language would have a redundant adjectival system. In fact, redundancy is not an uncommon situation in standardized languages like Italian, where usual external pressures (e.g., history) are compounded by those of grammatical norms. For instance, practically all Romance languages have various ways of forming passive (*be+en* or *se*), some languages have multiple ways of asking questions (e.g., *wh* movement or *wh* in situ in French), and so on.

5 Variation in Romance: undergeneration and overgeneration issues

Cross-linguistic variation raises a potential issue of overgeneration for cartography-style analyses.[18] Consider again the hierarchy in (4), reproduced in (49) for ease of reference.

(49) $[_{FP}\ AP_{quality}\ [_{FP}\ AP_{size}\ [_{FP}\ AP_{age}\ [_{FP}\ AP_{shape}\ [_{FP}\ AP_{color}\ [_{FP}\ AP_{origin}\ NP]]]]]]$

A language like Italian is characterized by movement of N to the left of the shape > color > origin part of the hierarchy. But then we should also expect there to be languages where N moves to the left of just color > origin—and so on for every intermediate position in the hierarchy. If the various languages predicted cannot be shown to exist, then the model has a problem of overgeneration.

Conversely, the present distinction between adjectives at the edge of the nP phase and in its complement predicts that all ANA languages have the same bipartition of adjectival classes as in Italian. So, any language with a different distribution poses a potential problem of undergeneration.

Judging from descriptive and theoretical work, standard Romance languages have the same rough distribution of adjectives as Italian (e.g., Abeillé & Godard 1999 and Bouchard 2002 for French, Bosque 1999 and Demonte 1999 for Spanish). On the other hand, some evidence of variation is available for so-called dialects—and it is prima-facie problematic for both approaches under review.

Bernstein 1993 documents Walloon (a Romance language in contact with Flemish), where most adjectival classes appear prenominally, including color adjectives, for example in (50a). The only adjectives that resist prenominal placement are nationality adjectives, as in (50b).

(50) Walloon

a. *on neûr tchapê*
   a black hat

b. *lu peûpe italyin*
   the people Italian

[18] An anonymous reviewer suggested this line of inquiry.

Bernstein herself concludes that obligatory NP movement in Walloon stops immediately at nationality/origin in the hierarchy in (49).[19]

Another possible cut in the hierarchy is suggested by Sardinian. As discussed in Jones 1993: sect. 2.14, most adjectives are obligatorily postnominal in Sardinian, including size adjectives, which are quite high in the hierarchy; this is shown in (51a, b). Jones provides a very restricted list of adjectives that can appear in prenominal position: *bellu* 'nice, beautiful,' *bonu* 'good,' *bravu* 'good,' *bruttu* 'ugly,' *poveru* 'poor,' and *santu* 'holy.' An example is (51c). These adjectives appear to be evaluative or to be used as evaluatives; thus 'poor' becomes obligatorily postnominal when it denotes lack of riches, as opposed to commiseration by the speaker.

(51) a. *una tassa manna* / **manna tassa*
a cup big big cup

b. *una domo minore* / **minore domo*
a house small small house

c. *una bella femina* / *femina bella*
a beautiful woman woman beautiful

Judging from the data available to me, the distribution of adjectives illustrated by Sardinian may in fact apply to many Italo-Romance varieties as well, for example the Emilian (North Italian) variety illustrated by the following.[20]

(52) a. *na skudɛla granda* / **granda skudɛla*
a bowl big big bowl

b. *na ka tʃina* / **tʃina ka*
a house small small house

c. *na bɛla dʌna* / *dʌna bɛla*
a beautiful woman woman beautiful

[19] Rosen 2016 shows that in Ojibwe size and color adjectives order freely with respect to one another—which is a further counterargument to the hierarchy in (49). At the same time, in size–nationality and color–nationality pairs, adjectives of nationality always appear closest to N. The special status of nationality/relational adjectives is reminiscent of Walloon. See also Brown 2024 for direct counterevidence to the hierarchy in (49) from the Papuan language Naasioi.

[20] The data have been elicited by the author from a Modena native speaker. There is no survey of adjectival order per se in the standard corpora of Italian varieties. However Manzini & Savoia 2005 exemplifies adjectives in its survey of nominal inflections in around 80 varieties (3.575–660); see also Savoia et al. 2025. In all varieties, adjectives corresponding to Italian *bello* 'beautiful,' *bravo* 'good,' *buono* 'good,' and *brutto* 'ugly' are found only prenominally. Other adjectives are found only postnominally, including those corresponding to Italian *vecchio* 'old,' *nuovo* 'new,' *grosso* 'big,' *giovane* 'young,' and *grande* 'big.' The emerging picture is consistent with that in the text, subject to confirmation by finer-grained data research.

On the basis of the data in (51) and (52) it is possible to conclude that Sardinian and Emilian provide evidence that obligatory NP movement can stop immediately below the highest category in the hierarchy in (49), namely value/quality.

In order to show that the model of Cinque 1994 and 2023a does not overgenerate, it would still be necessary to show that there are as many languages as there are possible splits in the hierarchy in (49). As far as I can tell, this claim has never been made for Romance or other languages. Until and unless the claim is proven, the cartographic model faces an issue of overgeneration.[21]

Let me then focus on the potential problems faced by the analysis proposed here, beginning with Sardinian. Though all the adjectives in Jones's list of permitted prenominal adjectives may be claimed to be evaluative, not all evaluative adjectives are present in the list. In particular, the reverse of 'good,' namely 'bad,' is not listed. In fact, data from the Emilian variety illustrated in (52) show that 'bad' is excluded from prenominal position there, as shown in (53b), in contrast to 'good,' as in (53a). Furthermore, though it is true that the regular form of the size adjective 'big' is excluded from prenominal position, the uninflected form *gran* can in fact appear prenominally, as in (53c).

(53) a. *un bɔn ɔm*
a good man

b. **un kativ ɔm*
a bad man

c. *na gran*(**da*) *buza*
a big hole

I would argue that the restricted set of adjectives occurring prenominally in Italo-Romance varieties such as Emilian and in Sardinian does not coincide with value adjectives. Rather, the relevant class may be lexically determined. Therefore, enriching the functional structure of nP to make place for a dedicated value position is not the right account of the facts. Instead, in present terms, one may say that Italo-Romance varieties (and Sardinian) are moving towards a generalized phase structure

[21] Cinque 2023a shows that the NAA orders generated by its model are all attested cross-linguistically. However, Cinque excludes ANA orders from his discussion (apparently for lack of sufficient documentation). Furthermore for only one of the NAA languages mentioned (Tatana, Austronesian) does Cinque explicitly state that the order he presents is the only attested one, thus excluding the possibility that an unordered set is involved.

for all adjectives, while just a small lexically defined subset (presumably that of the most frequently used gradable adjectives) maintains a nonphasal structure.[22]

Walloon is a different matter. Nationality adjectives, which are postnominal in Walloon as (50b) illustrates, form part of a larger class of relational adjectives. As stressed by Marchis Moreno 2018, these relational adjectives share the property of alternating freely with nominal compounding in English and with *di*/*de* ('of') phrases in Romance. Thus consider the Italian example (54a), containing the denominal adjective 'Parisian.' Modification of N by 'of Paris,' as in (54c), is in free alternation with modification by the adjective, though compounding is impossible, as in (54b). In English, all three structures—adjectival modification, compounding, and PP modification—freely alternate, as (55) shows.

(54) a. *una ragazza parigina*
a girl Parisian

b. **una ragazza Parigi*
a girl Paris

c. *una ragazza di Parigi*
a girl of Paris

(55) a. *a Parisian girl*
b. *a Paris girl*
c. *a girl from Paris*

According to a well-known proposal by Harley 2009, compounding instantiates complementation or modification at the root level. Thus in *nurse shoes* the modifier N is merged with the root of the modified N, and the final compound is derived via incorporation. For Fábregas 2020 the adjectival suffix is an exponent of the same Case category as the *di* 'of' head, and both are essentially a way of avoiding incorporation (hence compounding). It is therefore possible to conclude that Walloon individuates a class of relational adjectives, even lower than N modifiers. This seems to be the

[22] The relevant lexical class is also singled out in standard Italian by the fact that it has special inflectional properties when occurring prenominally. Cardinaletti & Giusti 2015 and Giusti 2015: 202ff. argue for a syntactic rather than morphological treatment of these special inflections. Specifically, they argue that the overtly agreeing suffixal part of the adjective *be-* 'beautiful, nice' (cf. Italian *bello*) is not an agreement inflection but an article-like head cliticizing onto the adjective. In other words, these adjectives would lack even the most elementary functional layer, that of agreement features, consistent with the impoverished (nonphasal) structure postulated here.
Also relevant is the typological observation of Dixon 1977: 23 that "in languages with small adjective classes" essentially the same typologies of adjectives tend to be represented, including of course size adjectives and evaluative adjectives.

proposal of Marchis Moreno 2018: 162, which refers to all three structures in (55) as compounding. Therefore, relational adjectives need not be conceived as a cut along the conceptual scale in (49) but can be defined in structural terms.[23]

6 Conclusions

The cartographic model, adopted in Cinque 2010 in its analysis of Italian adjectives, is characterized by rigid functional hierarchies built on semantic classes, by free movement operations, and by precedence order in the syntax. The proposals put forth in this article are noncartographic in at least three respects:

(56) a. Modularity
Semantic categories not interacting with syntactic operations and constraints are not represented syntactically.
b. No linear syntactic order
Structures are not linearly ordered in the syntax (cf. FormSet).
c. Internal Merge
Linearization at Transfer limits the need for movement operations in the syntax.

I followed the guidelines in (56) in accounting for adjectival modification in Italian. I put forth two main proposals. First, adjectives are partially ordered by syntax; specifically, the gradable > nongradable order is syntactically represented by phase structure (edge of phase vs. complement of phase), as summarized in (24). Second, the gradable > nongradable order only holds of nonphasal aPs, which are forced to the edge of nP, if gradable. Phasal aPs can be merged in complement-of-phase position, whether they are gradable or not, as summarized in (48).

[23] The analyses proposed here interact with other aspects of DP structure but do not seem to interfere with solutions commonly adopted for them. As is well known, both in English and in Italian only nonbranching or left-branching modifiers can be prenominal, while right-branching modifiers (including adjectives) must be postnominal: compare Emonds 1976's Surface-Recursion Restriction, Longobardi 1991's Consistency Principle, and Williams 1982's Head-Final Filter. These constraints are all consistent with present assumptions. The fact that they refer to precedence simply means that they must be construed as constraints on the linearization procedure (rather than on syntax).
Another fact, discussed by Adger 2013, is that adjectives precede PPs in postnominal position in Romance and in Celtic. Adger proposes that adjectives are lower than PPs—so that if both are orientated rightward, adjectives, which are lower, precede PPs, which are higher. Again, this analysis is perfectly consistent with present proposals, since I assume that postnominal adjectives are adjoined to the lowest possible nominal projection, NP.

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Competing Interests

The author declares that she has no competing interests.

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