Romance and Restriction[*]

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Abstract

This paper attempts to characterize what *restrictivity* is and how it arises. Although the terms *restrictive* and *non-restrictive* are often used descriptively, they are rarely if ever explicitly defined. In this paper, I propose a definition of *restrictive* and an account of how restrictivity arises. I use as a case-study the distribution of restrictive adjectives in Romance, which has been the topic of much literature and some controversy (Alexiadou 2001, Bouchard 1998, Cinque 2005, Demonte 2005, and Larson 1999, *inter alia*, all come to at least slightly different generalizations about the distribution of 'Romance adjectives'). I argue that restrictivity must be understood as a contextual, pragmatic property of linguistic objects. In addition, there are at least two different ways that an item may be non-restrictive. I demonstrate that distinguishing between these possibilities is necessary in order to fully describe adjectival data in (at least) Spanish and Italian. Finally, I offer some new observations about a problematic class of pre-nominal adjectives in Romance.

1 Introduction

1.1 Adjectives, adjectives everywhere

The division of adjectives into semantic classes, the interpretation of these classes, and the reflexes of these classes in syntax and phonology have been the subject of extensive research throughout the history of Generative Grammmar (and before); Bolinger 1967 and Siegel 1976 are perhaps the two most frequently cited early generative works on the topic. This introduction is mainly concerned with more recent literature, if only because it would be impossible to do justice to a wider range of work outside of a comprehensive review.

This paper is primarily concerned with the traditional division between *restrictive* and *non-restrictive* adjectives, which will be introduced shortly. This particular opposition, however, is part of a broader binary opposition that is often drawn between different types of adjectival interpretation. I digress briefly to introduce these issues.

Much research over the past decade or so has examined the relative ordering of nouns and adjectives in Romance and the semantic correlates of variations in word order (Bouchard 1998, Alexiadou 2001, Demonte 2005, Cinque 2005, Morzycki to appear, *inter alia*). Specifically, several authors have noted that a cluster of interpretive properties appear to be associated with pre-nominal adjectives, and the complement of these properties appears to be associated with post-nominal adjectives. Below are some examples from this literature:

1. French (based on Alexiadou 2001)

     a.   la pauvre francaise
                the poor French (fem.)
                'the unfortunate French woman'.

      b.   la francaise pauvre
               the French (fem.) poor
               'the impoverished French woman'

2. Italian (based on Cinque 2005)

      a.   un buon attacante
               a good forward
               'a forward good at playing soccer'

      b.   un attactante buono
               a forward good
               'a forward who's a good person' (or good at playing soccer)

3. Spanish (based on Demonte 2005)

      a.   los pretenciosos amigos de Laura
               the pretentious friends of Laura
               'Laura's friends, all of whom are pretentious'

      b.   los amigos pretenciosos de Laura
               the friends pretentious of Laura
               'Laura's friends, some or all of whom are pretentious'

4. Spanish (based on Demonte 2005)

      a.   las viejas llaves
               the old keys
               'the keys whose most remarkable property is to be old'

      b.   las llaves viejas
               the keys old
               'the subset of keys that are old'

5. French (Based on Bouchard 1998)

      a.   un authentique chef d'oeuvre
               an authentic masterpiece
               'a complete/total/perfect masterpiece'

      b.   un chef d'oeuvre authentique
               a masterpiece authentic
               'a properly-identified masterpiece'

These examples illustrate only a subset of the distinctions that have been drawn, but they

will suffice for our present purposes. The cluster of properties associated with the pre-

nominal (a) examples have been referred to as *direct modification* (I believe the term originates in Sproat & Shih 1988); these properties include idiomatic readings (1), non-intersectivity (2), non-restrictivity (3), and 'central property modification' (4, 5). The complementary properties, which are referred to as *indirect modification* and are found (at least as an option) post-nominally, include literal readings (1), intersectivity (2), restrictivity (3), and 'referent modification' (4, 5).

The terms I've just introduced are understood to varying degrees. While the differences in (1) and (2) seem relatively straightforward, the difference in (3) and the term 'restrictive' itself is not trivial, as we shall see directly. The differences in (4) and (5) are even harder to characterize, and the terminology associated with them is correspondingly unclear (e.g. what does it mean to 'modify some central property' of a noun?). In the current paper, I'll be largely concerned with the property known as restrictivity (though I'll have a bit to say about the difference in (1), which I will claim involves *expressivity*). A central concern throughout will be formal precision in deploying terms like 'non-restrictive', which could in principle refer to quite a broad range of different properties.

Of the authors mentioned above, Bouchard, Alexiadou, and Demonte argue for what I will call the *complementarity hypothesis*:

6.   **Complementarity Hypothesis:** *pre-nominal adjectives receive a direct modification interpretation in Romance; post-nominal adjectives receive an indirect modification interpretation.*[1]

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[1] Demonte (2005) notes several counterexamples to this generalization, but does not explain them. She suggests that a positionally 'non-canonical' reading may arise when other readings are blocked for independent reasons. She gives as an example a DP involving *manos* 'hands', where the restrictive interpretation is ostensibly blocked because the referent of the phrase

Cinque (2005) differs notably from these authors in claiming that post-nominal adjectives in all of these languages are systematically ambiguous between direct and indirect modification. Larson (1999), although he touches on the Romance data only fleetingly, seems to suggest that there is no systematic correlation between word order and interpretation, but that certain adjectives are idiosyncratically prohibited from one or the other position.

One of my claims in this paper is that some version of the complementarity hypothesis is correct. If this is true, many counterexamples must be explained. These counterexamples all involve what appear to be direct modification interpretations in post-nominal position. In this paper I will show that one major class of counterexamples is indeed systematic (implicitly *contra* Larson), but that the post-nominal direct modification interpretation is not generally available for all adjectives (*contra* Cinque).

The apparent exceptions involving restrictivity are analyzed as not being exceptions at all. In fact, further clarification of exactly what the terms 'restrictive' and 'non-restrictive' describe reveals important differences between the pre- and post-nominal cases. Although post-nominal examples such as (3b) have been described as ambiguous, I show that they are semantically consistent with either a restrictive or non-restrictive construal. Restrictivity arises through pragmatic factors: post-nominal adjectives are relative clauses, and like relative clauses, they are on a scale with the unmodified nominal. This scale creates an implicature

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can't be divided into subsets. This explanation will not generalize to counterexamples such as the *amigos pretenciosos* example in (3), where there may be more than two friends at issue. For counterexamples with post-nominal *bueno* 'good', she seems to suggest that there is a phonological rule targeting this adjective in Spanish. If so, this prosodic rule would need to target (the Spanish equivalents of) *good*, *bad*, and *authentic*, but not *poor*, *former*, and *supposed*. It remains unexplained what phonological property could differentiate these classes.

which generally results in a restrictive construal of the adjective. The scale may be cancelled in certain contexts, and use of the post-nominal adjective in those contexts is *consistent with a construal that is not restrictive*. Pre-nominal adjectives, on the other hand, are not part of the descriptive content of the sentence at all, and are not on a scale with the unmodified nominal. These adjectives pattern with *expressive* elements (Potts 2006, Morzycki to appear), entering into the common ground information about the speaker's attitude toward the maximal salient individual picked out by the noun phrase; I refer to the latter property as *maximality* or *anti-restrictivity*.

The paper is organized as follows: in section 2, I present the data on restrictivity and suggest an analysis. In section 3, I show that the post-nominal ambiguity for restrictivity is not semantic and is not an ambiguity. In section 4, I present data on 'true' non-intersectivity. In section 5, I summarize the paper and suggest directions for future research.

1.2   A quick note on data

Linguists investigating the syntax and semantics of Romance adjectives, as mentioned above, have sometimes come to wildly different conclusions about which interpretations are available in which positions in which languages. In some cases, this may be a consequence of the particular adjectives that were investigated or between-speaker differences in judgments. In other cases, however, the discrepancies may spring from deeper methodological problems.

For one thing, it is impossible to argue coherently about the availability of various putative interpretive properties if those properties have not been defined. It is entirely possible that

the 'non-restrictivity' sought by one researcher is rather different from the 'non-restrictivity' sought by another, for instance. In what follows, I will attempt to deploy precise formal definitions of the terms I employ to describe adjectival interpretation.

A second troublesome feature of data like that presented in (1-5) is its lack of context (in all fairness, some of the original examples had at least the context of a full sentence, rather than the disembodied DPs I've presented here). It is often the case that introspection about some utterance in isolation will fail to uncover some property that the utterance may possess when uttered in a coherent discourse; this is certainly true of the Romance data discussed here. Wherever possible, I will attempt to describe at least informally the contextual factors that bear on adjective construal, and to present example sentences paired with example discourse contexts.

In the end, these measures may help us clarify the data to some extent, but it will never be perfect. Many of the judgments reported here are subtle, 'fuzzy' or difficult to obtain through introspection. Subjects sometimes disagree, and this will be indicated where relevant. I will restrict the generalizations reported here to Spanish and Italian. Judgment patterns for French and European Portuguese informants were rather more complex and variable than in the former two languages, and it was difficult to find a clear pattern. There are similarities to the pre-/post- nominal splits discussed for Spanish and Italian, but this pattern seems to be overlaid in French by more extensive prohibitions on which adjectives can appear in which positions, and in European Portuguese by a broad prohibition on certain adjectives appearing pre-nominally. Whether these 'extra' restrictions themselves are systematic or lexical and idiosyncratic is a problem I simply can not solve at the moment; I

leave it for future research. Preliminary informant work with two Catalan speakers suggests that patterns in that language are similar or identical to Spanish and Italian. Much previous literature has claimed that one pattern or another holds for 'Romance' adjectives; my informant work suggests that no such generalization is possible, and that variation within Romance may itself be an important source of evidence concerning adjectival modification.

2   Restrictivity and implicature

2.1   How Italians and Spaniards talk about Russians

The property of restrictivity is illustrated by the ambiguous string of English words in (7).

7.   The bellicose Russians invaded Georgia.

There are, broadly speaking, two ways to construe the truth conditions of this utterance. It may assert that the intersection of the referent sets [[**bellicose**]] and [[**Russian**]] (or the function equivalent thereof) is the agent of an invasion. It may instead assert that the maximal salient entity picked out by *Russians* is the agent of an invasion.

Each of these interpretations, in turn, comes with some non-truth-conditional content. The first reading (involving set intersection) presupposes or implies that there exist some non-bellicose Russians, and (maybe) that these Russians were not the agent of the invasion; this type of construal is generally referred to as restrictive. The second reading presupposes or

implies that all Russians are bellicose;[2] this type of construal is generally referred to as non-restrictive.

The string of words in (7) may correspond to two distinct sets of truth conditions. The fact that these two propositions may share the same form in English makes it a bit difficult to come to clear judgments about English adjectives.[3] In Spanish and Italian, the situation is rather different:

8.   a. Los **rusos beligerantes** invadieron Georgia. [Spanish]
          the russians belligerent invaded   Georgia

         I **russi belligeranti** hanno invaso la Georgia. [Italian]
         the russians belligerent have invaded the Georgia

         [canonically restrictive (explanation later)]

     b. Los **beligerantes rusos** invadieron Georgia. [Spanish]

         I **belligeranti russi** hanno invaso la Georgia. [Italian]

         [non-restrictive only]

If the complementarity hypothesis is true, it means that Romance languages will be useful for studying restrictivity, because adjectives are always unambiguous in this regard. Henceforth, most of the examples in this paper will be in Spanish or Italian.

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[2] This characterization of the non-truth-conditional content may not be the whole story. The issue is discussed in section 5.

[3] Prosody sometimes allows us to disambiguate between the two readings by de-accenting or focusing the noun or adjective. Some prosodic realizations, however, seem genuinely ambiguous.

2.2   The emergence of restrictivity

For the moment, we define restrictivity as in (9).

9.   **Restrictivity (to be revised)**
    A DP α *containing noun* N *and adjective* A *is restrictive iff for all contexts* c *such that the speaker believes all of the salient* N*s in* c *are* A*, the use of* α *is inconsistent with* c.

This definition makes restrictivity a property of DPs; it says that a given DP is either restrictive in all contexts or is not restrictive; it evaluates restrictivity in terms of being inconsistent with certain contexts, rather than giving rise to some presupposition or implicature. These choices tend to make the diagnosis of restrictivity easier, although they may not align exactly with the intuitive sense of the term. We can ask now whether this definition is useful in categorizing linguistic objects, and whether it is a good approximation of how the term 'restrictive' is used in linguistic descriptions.[4]

For example, the English DP *the nice wugs* is restrictive iff I can't use it in a context where I believe all of the salient wugs are nice. This DP does not meet the definition of restrictivity if we assume 'default' intonation; as we saw earlier, most English DPs are ambiguous in this regard. Switching to Spanish, we note that the DP in (10) is restrictive:

10. Spanish (based on Demonte 2005)

    encontré las llaves viejas
    find-1sg-pst the keys old
    'I found the old keys.'

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[4] Restrictivity is defined here as a property of DPs, which helps keep the definition more concise. In what follows, I will use the term 'restrictive' to refer more-or-less interchangeably to DPs and the adjectives they contain.

For instance: we live in a very old house where all of the doors are locked with antique skeleton keys; I know that no newer keys exist; you left the master keychain lying on the kitchen table and I'm yelling at you for being a slob. *Encontré las llaves viejas en la mesa* 'I found the old keys on the table' is not an appropriate utterance in this context.[5] It is judged by speakers to be not false, but inappropriate. Intuitively, the word *old* here is both unnecessary and irrelevant unless there exist some newer keys that I wish to distinguish the salient set from. For the sake of context concreteness, I've added the locative 'on the table' to (10), and when I discuss the denotation of (10) shortly, I will include that locative.

As (10) illustrates, one of the core features of restrictive adjectives is that they set up an opposition or contrast between those *N*s that are *A* and those *N*s that are *not A*. This observation is common and seems obvious, but it's worth restating in a slightly different form: utterance of a restrictive DP seems to convey (non-truth-conditional) information about a group of entities that are not denoted by the DP. One way to account for such content is to treat it as a *conversational implicature*.

2.3   Restrictivity as quantity implicature[6]

Both the inappropriateness of (10) in the context just described and the contrastive quality of restrictive construal can be explained if the use of these adjectives introduces a *quantity implicature*. This type of implicature is a consequence of the Gricean Maxim of Quantity, roughly 'be as informative as possible'. The phrase *encontré las llaves viejas* 'I found the old

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[5] Although one informant makes the observation, which will turn out to be very important, that the sentence is bad 'unless there's some reason why old things shouldn't be on the table'.

[6] Danny Fox helped spark many of the ideas in this section.

keys' is on a scale with *encontré las llaves* 'I found the keys'. The latter statement is *stronger*, in the sense that it is true in a proper subset of the situations in which the former is true.[7] Using the weaker statement in a context where the stronger one is known to be true is inappropriate, as it violates the Maxim of Quantity.

This pragmatic account reduces restrictivity to independently-motivated facts about language use in general. It also has the virtue of making the semantic interpretation of post-nominal adjectives entirely unremarkable: they are interpreted as conjunctive modifiers, similar to the restrictive versions of prepositional modifiers or relative clauses. In fact, the conjunctive interpretation of post-nominal adjectives is one of the few things that all of the literature I've mentioned seems to agree on. The semantic interpretation of these adjectives, then, is also reduced to independently-motivated principles (see Heim & Kratzer 1998, ch. 4, for said motivation and further references). I will assume the syntactic structure in (11) for post-nominal adjectives, illustrated here with the DP *las llaves viejas* 'the old keys'.[8]

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[7] In fact, the latter statement is stronger only if the set of salient old keys is a proper subset of the set of salient keys; if the two sets are coextensive, neither statement is stronger. This will be addressed shortly.

[8] I analyze post-nominal adjectives as (possibly reduced) relative clauses, following Alexiadou (2001). This is to suggest a parallel between various post-nominal restrictive modifiers. Note that the functional structure in this relative clause is not crucial; it could well be missing the CP or IP level, as in Alexiadou's IP-only analysis.

11.
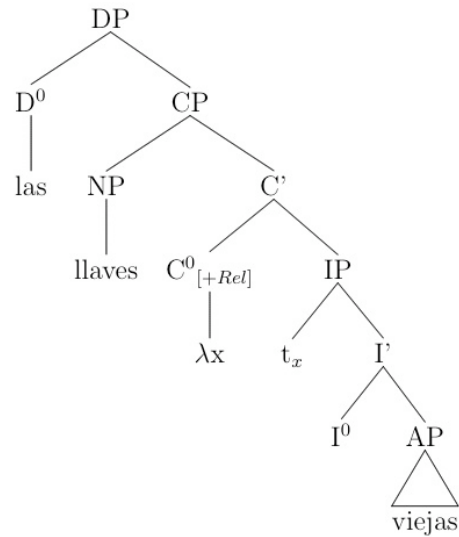
This lends itself quite well to conjunctive interpretation, given a few assumptions about

relative clauses. The subject raises to specifier of CP, the trace of the subject is interpreted as

a variable, and the variable is bound by an operator introduced by C^0 with a [relative] feature.

Following Chierchia (1998), I assume that a Romance NP is a property-denoting predicate of

type <e,t>. Post-nominal adjectives are also treated here as property-denoting <e,t>

predicates. The entire clause is interpreted conjunctively by the rule of Predicate

Modification (Heim and Kratzer 1998), which is the only crucial piece of the analysis. The

CP has the denotation in (12).

12. λx . x is a key & x is old

This predicate then combines with the plural morpheme and the definite determiner by

Functional Application (Heim and Kratzer, 1998), eventually yielding an argument of type e.

The denotation of sentence (10) can be paraphrased as (13a), while the denotation of the corresponding sentence without *viejas* 'old' can be paraphrased as (13b).

13.   (a) 'I found on the table the salient set of objects that are keys and are old.'

      (b) 'I found on the table the salient set of objects that are keys.'

It is these denotations that the quantity implicature will operate on. I introduce in (14) a formulation of the basic principle based on von Fintel (2001).[9]

14.   A speaker S makes correct use of a sentence A in order to make a statement before a listener L just in case:

      (i) S believes that A is true;
      (ii) S believes that A is relevant to the subject of the conversation;
      (iii) For all sentences B such that A is on a scale with B and A is a logical consequence of B (and A is not equivalent to B), (i) and (ii) do not both hold with respect to B. [...]

The general reasoning in (14) readily explains the restrictivity facts. Here, *A* is *I found the old keys on the table*. *B* is *I found the keys on the table*, which entails *A*, in that (13b) is true in a proper subset of the situations where (13a) is true.[10] *A* is inappropriate in the context given above because the stronger statement *B* satisfies 14(i) and 14(ii) in this context. The context given for (10) explicitly stated that the old keys were the only salient keys. Therefore, (13b) is true in this context and (13a) is infelicitous.

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[9] This formulation is itself a simplified version of the formulation from the GAMUT textbook. It ignores the issue of what constitutes a scale; I won't say anything except that unmodified and modified nominals are on a scale.

[10] Still, for the moment, putting off the concern cited in fn. 6, which I'll address directly.

This line of reasoning is only available given a crucial assumption about how entailments are computed. It won't work if the entailment ('logical consequence') referred to in 14(iii) is computed relative to context or world knowledge. In the context given for (10), the statements *A* and *B* are truth-conditionally equivalent (because there is only one salient set of keys and they are old), neither one asymmetrically entails the other, and the maxim fails to apply at all. This means that we need a theory of implicature in which entailments are computed blind to contextual knowledge. There has been extensive debate about this issue in the literature; Magri (2007) is a recent paper with a brief overview and some arguments that context-blindness is the right theory. If contextual information does turn out to play a crucial role in the computation of entailments, the analysis presented here will need to be reconsidered. We now take a brief digression to consider an alternative analysis.

2.4   Restrictivity as manner implicature

A second possibility would be to analyze restrictivity as an implicature related to the Maxim of Manner, roughly stated as 'keep it simple, stupid'. Katzir (2007) discusses several versions of such a principle based the notion of *simplicity*; the version that he refers to as 'Gricean' (p. 11) would suffice to derive the restrictivity facts discussed above, regardless of context-blind entailments.[11] Essentially, a syntactic tree α is simpler than a tree β (notated here as S(α,β)) iff β can be transformed into α by a series of deletions and contractions (contraction being the removal of an edge and identification of its end nodes). The principle also makes use of the entailment relation, combining it with simplicity to define a relation *better-than*, which is notated <:

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[11] The formalizations in this section are based on Katzir's, but I've simplified and changed a few things that are not relevant to the current discussion.

15. ***Better-than*** (to be revised)
    $\alpha < \beta$ iff
    > i. $S(\alpha,\beta) \vee ([[\alpha]] \subset [[\beta]])$, and
    > ii. $\neg (S(\beta,\alpha) \vee [[\beta]] \subset [[\alpha]])$

    (based on Katzir 2007)

In pseudo-English: α is better than β iff α is simpler or stronger than β, and β is neither simpler nor stronger than α. Katzir's Gricean conversational principle is the following:

16. ***Conversational Principle*** (to be revised)
    do not assert α if there is an alternative α' such that:
    > i. $\alpha' < \alpha$
    > ii. you believe α' is true
    > iii. you believe α' is relevant

Applying this formulation once again to the *keys* example, recall the relevant sentences:

17. (a) encontré las llaves viejas en la mesa
        find-1sg-pst the keys old on the table
        'I found the old keys on the table.'

    (b) encontré las llaves en la mesa
        'I found the keys on the table.'

We see that the tree in (11) for *las llaves viejas* 'the old keys' could be easily transformed to unmodified *las llaves* 'the keys' by deleting the C' (and everything inside it) and contracting the CP. On the other hand, no series of deletions and contractions can change the resulting tree back into (11). This means that the tree for (17b) is strictly simpler than the tree for (17a). Recall that we ran into trouble with contextual entailment, because in the context given for (10), sentences 17 (a) & (b) entail one another and the conversational principle in (14) fails to apply. But even if the sentences entail one another, (17b) is still better than (17a) according to (15). As long as the better-than relation holds, the conversational principle in

(16) will apply, predicting correctly that the assertability of (17b) blocks the use of (17a). More generally, the sentence without the adjective is always simpler than the sentence with the adjective, regardless of the (lack of a) strength relation between them.

This approach allows us to avoid the problem of contextual vs. context-blind entailment. It also has the advantage of not requiring any notion of *scale*; the principle, as stated in (16), applies only to pairs of linguistic objects that stand in a better-than relationship. Katzir (2007) discusses at length the broader consequences of this kind of formulation. We will adopt the structural approach for the remainder of this paper.

2.5   Cashing out the implicature

If *B* is better than *A*, *A* may only be felicitously uttered when it satisfies 16(ii) and 16(iii) and *B* fails to satisfy one or the other. This means that (17a) may only be felicitously uttered if the speaker believes that it is true and relevant and (17b) is not true or not relevant. Let us first consider the 'not true' case.

The 'not true' case explains the contrastive quality of post-nominal adjectives. If it is the case that I found the old keys but it is not the case that I found the keys, there must exist some salient keys that are not old. So in order for the conditions on felicitously uttering (17a) to be satisfied, there must exist some non-old keys. When you hear me utter (17a), you assume in the absence of other information that I am doing so felicitously. So, in the absence of other information, you infer that (I believe) there are some non-old keys around. This aligns with our intuitive notion of restrictivity.

3   Non-restrictivity and the Anna Karenina principle

Restrictive adjectives are all alike; every non-restrictive adjective is non-restrictive in its own way. So what is a sensible meaning of 'non-restrictive'? One obvious one would be simply the complement of restrictivity, and that is what I will adopt here. Non-restrictive DPs are, naturally enough, those DPs that are not restrictive according to (9). For the moment (we're about to change our notion of restrictivity), these are DPs containing a noun N and an adjective A that are consistent with some context in which all Ns are A. However, for the purposes of this paper, I want to distinguish between these DPs and the proper subset of them that satisfy a narrower notion of non-restrictivity. This narrower criterion, which I will call *anti-restrictivity*, is given in (18).

18.   *Anti-Restrictivity*
       A DP α containing a noun N and an adjective A is anti-restrictive iff:
             for all contexts c such that the speaker believes some N in c is not A, the use
             of α is inconsistent with c.

As noted above, this picks out a proper subset of the non-restrictive DPs. Note that in previous literature, the term 'non-restrictive' has been used sometimes to refer to non-restrictivity as defined here, and sometimes to refer more narrowly to anti-restrictivity as defined here. In other passages, it's impossible to tell which notion of non-restrictivity is being referenced, which is part of the reason for introducing the terminological distinction here.

Now that DPs are fully partitioned with regard to restrictivity, we can ask about the Romance data. We'll see in the next section that the distinction between 'weak' non-

restrictivity and anti-restrictivity allows us to capture a previously unnoticed generalization about adjectives in Spanish and Italian.

3.1 The complete description of restrictivity in Romance

As noted in section 1, previous authors differed in their descriptions of post-nominal adjectives in Romance. Proponents of the strict complementarity hypothesis claim that DPs with post-nominal adjectives are unambiguously (or at least 'canonically', for Demonte) restrictive. Cinque claimed instead that they are systematically ambiguous between restrictive and non-restrictive construals. We now ask who is correct.

We've defined *restrictive* as being inconsistent with *all* contexts where Ns are uniformly A. To show that DPs with post-nominal adjectives are not restrictive, then, we just need to show *some* context where all Ns are A and use of the DP is still felicitous. We already have an important clue, mentioned in fn. 4: (17a) is bad in such a context 'unless there's some reason why old things shouldn't be on the table'. In that case, subjects find it marginally better, though still awkward.

Trivially, I construct the following context: we both know that all of the salient keys are old; we both understand that old things shouldn't be on the table (because they get rust on it). Frustrated, I utter (17a) when you get home:

17. (a) encontré   las llaves viejas en la mesa
        find-1sg-pst the keys   old   on the table
        'I found the old keys on the table.'

This is at least marginally felicitous, so by our definition the DP is non-restrictive. As we've seen earlier, (17a) is also felicitous in contexts where not all keys are old; this means that it isn't anti-restrictive. We summarily conclude that DPs with post-nominal adjectives are (weakly) non-restrictive, the complementarity hypothesis is wrong, and Cinque is right.

There is, however, a problem. Cinque suggested that pre-nominal adjectives are non-restrictive, and post-nominal adjectives are ambiguous between this same reading and a second, restrictive reading. This description is wrong.

We've just seen that DPs with post-nominal adjectives, even when non-restrictive, are 'weakly' non-restrictive, not anti-restrictive. All available tests indicate that DPs with pre-nominal adjectives, on the other hand, are anti-restrictive. Here's a typical example:

19.   Some of Laura's friends are nice. But others are pretentious.

    # Odio   los pretenciosos amigos de Laura. [Spanish]
    # Odio   gli pretenziosi amici di Laura. [Italian]
       hate-1sg the pretentious friends of Laura
       'I hate Laura's pretentious friends'.

(19) is fine, on the other hand, as an 'out-of-the-blue' utterance. It introduces an implicature or presupposition that I consider all of Laura's friends to be pretentious.

We began this section by asking who was right about the Romance data. The answer, it turns out, is that nobody was. In order to state the *complete* generalization about patterns of restrictivity in (at least) Spanish and Italian, we need to distinguish between two different

kinds of non-restrictivity. We'll return to pre-nominal adjectives in section 4; we turn now to post-nominal non-restrictive construals.

3.2 Why would you say that?

We saw above that DPs with post-nominal adjectives do not necessarily give rise to restrictivity. Intuititively, they are sometimes restrictive and sometimes not restrictive. The definition of restrictivity in (9), however, can't capture this intuition, because it is defined relative to *all* contexts. This suggests the following revision:

20. *Restrictivity* (2nd try)
    A DP α containing noun N and adjective A is restrictive in context c iff it gives rise to the implicature that some N in c is not A.

With this definition in place, we can ask when DPs containing post-nominal adjectives are restrictive and when they're non-restrictive. In the case we saw above, 'old' is licensed if it bears a special kind of *relevance* to the utterance as a whole. This property offers us a way to complete our explanation of post-nominal adjectives.

Approaching the non-restrictivity of post-nominal adjectives in greater detail, let us consider a counterexample to complementarity from Cinque (2005). He presents the sentence in (21) as ambiguous between a restrictive and non-restrictive reading; this is part of his larger argument that post-nominal adjectives are always ambiguous between direct and indirect modification readings.

21. Italian (from Cinque 2005)

> le lezioni noiose di Ferri se le ricordano tutti
> the lessons boring of Ferri Cl Cl recall-3pl all
> 'Everybody remembers Ferri's boring lectures.'

The DP in this sentence does not meet our definition of restrictive or anti-restrictive. It is, as Cinque claims, consistent with either all of the lectures being boring and remembered or just some of them. The reading where some of the lectures are boring and those lectures are also remembered is expected and explained under the analysis given above. The conversational principle in (16) would actually force listeners to infer the existence of some non-boring Ferri lectures. So why, in this case, is the inference not forced?

In fact, informants presented with this sentence in isolation reported that it strongly implies a division of lectures into boring and non-boring. But it was judged at least moderately acceptable in a context where the boring nature of all the salient lectures is already agreed upon. For instance, the sentence is judged as appropriate (if slightly odd) after the context in (22).

22.   Ferri was a senior lecturer in our Department, who passed away recently. We recall that he was a spectacularly boring lecturer, who spoke in a monotone and would often lose his train of thought in mid-sentence. He would spend three hours dissecting an obscure old monograph on Don Quijote, only to conclude at the end of class that the author hadn't said anything interesting. Still, he was a warm and friendly man, and we remember him fondly. I say, near the end of the conversation, *le lezioni noiose di Ferri se le ricordano tutti.*

It appears that the restrictivity implicature that normally affects post-nominal adjectives is cancelled here. I propose that this is due to something like provision 16(iii), the relevance clause. The weaker statement with *noiose* 'boring' is more relevant to the subject of

conversation than the stronger statement without *noiose* if it implies a reason for remembering. If the lectures are remembered *because* they are remarkably boring, this statement is in fact more informative than its stronger counterpart in this context. This 'memorably boring' implication is exactly what informants report in this case. Because the less simple sentence (with adjective) has this type of relevance and the simpler sentence does not, the simpler sentence performs worse on criterion 16(iii), and use of the less simple sentence is felicitous.

This phenomenon is parallel to one discussed by von Fintel (2001).[12] That discussion involves the conditional in (23).

23.   If this cactus grows native to Idaho, then it's an astrophytum.

Von Fintel argues that a conditional *if p then q* can introduce the quantity implicature 'it is not the case that no matter what q'. (23), then, should introduce the implicature 'it is not the case that no matter what this cactus is an astrophytum'. Yet (23) is clearly acceptable in a context where the cactus has just been identified as growing native to Idaho, and the speaker therefore is asserting that, no matter what, it's an astrophytum. The reasoning behind this cancellation is entirely parallel to the *noiose* case above. Because (23) provides some explanation of the reasoning behind *q*, it is in some ways more informative than simply uttering *q* on its own.

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[12] Thanks to Benjamin Spector for bringing this parallel to my attention. Note that I've removed a negation from von Fintel's example for clarity.

If this scalar notion of relevance plays a role in computing conversational implicatures, it makes a strong prediction about post-nominal adjectives: the easier it is to construe the adjective as a rationale (in a sense to be made more precise below), the easier it should be to cancel the restrictive construal of the adjective. This prediction is confirmed in Spanish and Italian.

Consider the following counterexample to complementarity from Demonte (2005). She asserts that (24) is ambiguous between a restrictive and non-restrictive reading.

24. Spanish (from Demonte 2005)

> Los amigos pretenciosos de Laura llegaron tarde.
> the friends pretentious of laura arrived late
> 'Laura's pretentious friends arrived late.'

My informants found the Spanish and Italian versions of this sentence somewhat difficult to reconcile with a context where all of Laura's friends are pretentious; they judged it to strongly imply a contrast with non-pretentious friends. But the sentence was judged marginally acceptable if the friends' lateness is somehow a result of their pretentiousness. The following examples consist of one scenario constructed to make a rationale reading easy (25) and one constructed to make this reading difficult (26). The Spanish and Italian versions of (25) were judged to be better than (24); versions of (26) were judged to be worse than the other examples.[13]

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[13] In fact, nothing is quite so simple. Two out of three Italian informants found (25) better and (26) worse; a third informant had no particular preference. Also, the Italian informants, to varying degrees, found 'presumptuous' to be a more typical person-describing adjective than 'pretentious'. One Spanish informant found the equivalent of (25) odd in any context with any adjectival order. Further examination revealed that he finds all sentences with

25. You're going to a concert tonight. You don't want to go alone, but you can't find anybody to go with. I suggest going with our mutual acquaintance Laura and her friends, even though they're all unbearable and we can't stand them. You say:

Odio gli amici pretenziosi di Laura.
hate-1sg the friends pretentious of Laura
'I hate Laura's pretentious friends.'

This is as expected under the analysis given above. The post-nominal adjective should generate an implicature that there exist friends of Laura who are not pretentious. That implicature should be weakened to the extent that the adjective helps make the sentence more informative. For (24), where the relevance of pretentiousness to arriving late is not entirely obvious, the restrictivity implicature survives somewhat more strongly than in (25), where the information supplied by 'pretentious' is clearly part of the reasoning behind the speaker's attitude. Even in this sentence, the implicature is weakened but not totally absent; the sentence is still judged as a bit awkward in a context where it is common ground that all of Laura's friends are pretentious. Several informants remarked that they would probably use the pre-nominal adjective, or some alternative expression, in this context. The most marked of the structures I examined was (26):

26. You were in Colorado last week, going skiing, and you went out to meet up with our mutual acquaintance Laura, who has moved there. You found all of her friends to be unbearable and pretentious. I ask you how your trip went. You reply that it was OK, and start listing things you did. One of them is:

??Ho conosciutto gli amici pretenziosi di Laura.
aux-1sg known the friends pretentious of Laura
'I met Laura's pretentious friends.'

---

definite DPs containing evaluative non-restrictive adjectives in object position somewhat awkward. In contrast, he shows exactly the expected pattern of judgments with DPs in subject position. I have no explanation for this.

This pattern of judgments is fairly subtle and subject to variation between speakers, but it is consistent for the majority of my Spanish and Italian informants, as well as two Catalan speakers who looked at drafts of this paper. As Demonte (2005) notes, some speakers find it easier to judge these sentences when the possibility of a restrictivity implicature is rendered unlikely by our world knowledge, as in a definite DP involving only two referents:

27. (a) Odio i genitori pretenziosi di Laura.
        hate-1sg the parents pretentious of Laura
        'I hate Laura's pretentious parents.'

   (b)?? Ho conosciutto i genitori pretenziosi di Laura.
        aux-1sg known the parents pretentious of Laura
        'I met Laura's pretentious parents.'

For Spanish, the contrast seems to be clearer when the relevant DPs are in subject position:

28. (a) (same context as 24)

        Los amigos pretenciosos de Laura me molestan.
        the friends pretentious of Laura CL1sg bother
        'Laura's pretentious friends bother me.'

   (b) We both hate all of Laura's friends, who are pretentious. I know you went to a party last night, and I ask 'How was last night?'

      ?? Los amigos pretenciosos de Laura estában en la fiesta.
        the friends pretentious of Laura were-IMP in the party
        'Laura's pretentious friends were at the party.'
        (Infelicitous in a context where we know that all of her friends are pretentious)[14,15]

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[14] One speaker found this marginally acceptable; I'll discuss this shortly.

[15] This is a counterexample to Cinque's generalization that direct modification interpretations are generally available post-nominally. Another possible class of counterexamples are adjectives pertaining to times and worlds, such as 'past/former', 'possible', and 'supposed'. These adjectives, when modifying a noun, must appear to the left of the noun in all Romance languages I've investigated.

Our first step toward an analysis is to characterize what counts as a rationale. (29) is a first approximation.

29. **Rationale**
An adjective A *modifying a noun* N *in utterance* U *is a rationale iff the proposition* that N is A *causes* U *to be true.*

This formulation captures the situation in (22), (25), (27a), and (28a), as well as the more tenuous (24). As noted above, one Spanish informant suggested that the 'old keys on the table' sentence from (17a) was marginally acceptable if the keys' oldness was relevant to why they shouldn't be on the table. The same subject found (28b) also marginally acceptable if the speaker is conveying that he didn't enjoy last night *because* Laura's pretentious friends were at the party. I propose that this speaker has a more permissive notion of rationale. In addition to the condition in (29), he allows an adjective to serve (marginally) as rationale if the proposition *that N is A* causes U to be *relevant*. In the context given with (10), for example, that the keys are old causes the utterance 'I found the old keys on the table' to be relevant, if we've agreed that old things shouldn't be on the table.

The next problem is that the maxim in (16) treats relevance as an absolute property: A is either relevant or is not. To adequately analyze the data, we need a notion of *more relevant*, which in the current cases rests on rationale. To fit with the other scalar properties discussed so far (strength, simplicity), we'll add this to the definition of *better-than*, rather than retaining it in the conversational principle. This means we'll need to change both the definition of *better-than* and the conversational principle (16).

30.   A syntactic tree α is **more relevant** than a tree β (notated $R(\alpha,\beta)$) if α contains a rationale and β does not.

31.   *Better-than* (2nd try)
        $\alpha < \beta$ iff
            i. $S(\alpha,\beta) \lor ([[\alpha]] \subset [[\beta]]) \lor R(\alpha,\beta)$, and
            ii. $\neg (S(\beta,\alpha) \lor [[\beta]] \subset [[\alpha]] \lor R(\beta,\alpha))$

32.   *Conversational Principle* (2nd try)
        do not assert α if there is an alternative α' such that:
            i. $\alpha' < \alpha$
            ii. you believe α' is true

This analysis captures the non-restrictivity of post-nominal adjectives. In cases where the

adjective is a rationale, the same sentence without the adjective is still simpler. But the

sentence with the adjective is more relevant. This means that neither is better than the other,

and uttering one has no implication about the assertability of the other. The restrictivity

implicature which would otherwise arise from a post-nominal adjective fails to arise in just

this case.

Restrictivity, in this account, is entirely an epiphenomenon of general conversational

principles. It has nothing to do with semantic interpretation (i.e., truth conditions). This

offers us a possibility of saving the complementarity hypothesis (for restrictivity specifically)

in some form:

33.   **Limited complementarity**
        DPs containing post-nominal adjectives in Romance are restrictive when they have no rationale reading; DPs containing pre-nominal adjectives are anti-restrictive.

One important thing to note about post-nominal adjectives is that they never force a reading where all *Ns* are *A*. Their denotations simply say nothing about the existence of other individuals instantiating the nominal property. If it is already in the common ground that all *Ns* are *A*, and the adjective makes the utterance more informative, then use of the adjective is perfectly felicitous. But in the absence of information about the set of all *Ns* in the common ground, and if the adjective meets the rationale criterion, nothing forces listeners to infer anything about the larger set of N-instantiating individuals. The semantics are vague, and in such a context the pragmatics are ambiguous: the speaker may be using the adjective because it makes the utterance more informative or because the unmodified nominal is unassertable. This is one thing that sets these adjectives apart from pre-nominal evaluative adjectives, which are discussed in the next section.

4   Anti-restrictivity and expressive content

For evaluative adjectives, meaning roughly those adjectives that are associated with a speaker judgment, there is an unambiguously non-restrictive reading available in Italian and Spanish. In general, in contexts where all of the *Ns* in question are *A*, speakers prefer the pre-nominal adjective. This is because it carries no restrictivity implicature; to the contrary, it introduces a presupposition of anti-restrictivity, in the strong sense defined above. Examples of these constructions were shown in (8b) and (19); the latter is repeated here.

19.   Some of Laura's friends are nice. But others are pretentious.

     # Odio   los pretenciosos amigos de Laura.
     # Odio   gli pretenziosi amici di Laura.
        hate-1sg the pretentious friends of Laura
        'I hate Laura's pretentious friends'.

Pre-nominal adjectives, then, have rather different pragmatic and semantic properties than their post-nominal counterparts. In particular, they presuppose that all of the individuals that instantiate the property denoted by the noun-phrase uniformly also instantiate the property denoted by the adjective. They are not capable of drawing distinctions between various individuals that instantiate the nominal property.

Unlike post-nominal adjectives, pre-nominal adjectives do not need a rationale reading in order to be felicitous. In the context in (28b), for example, we saw that a post-nominal adjective with a rationale reading is infelicitous. A pre-nominal adjective, on the other hand, is acceptable, as shown in (34).

34.   We both hate all of Laura's friends, who are pretentious. I know you went to a party last night, and I ask 'How was last night?'

       Los pretenciosos amigos de Laura estában en la fiesta.
       the pretentious friends of Laura were-IMP in the party
       'Laura's pretentious friends were at the party.'

Even when it's not in the common ground that Laura's friends are pretentious, the target sentence in (34) is still felicitous, introducing the presupposition that they are all pretentious. As noted at the end of the previous section, post-nominal adjectives never force a construal where all *Ns* are *A*. Pre-nominal evaluative adjectives, on the other hand, always force such a construal. These readings, then, are rather different than the post-nominal ones.

As the paraphrase at the beginning of section 2 suggested, the adjective here doesn't appear to contribute any truth-conditional content to the utterance. Morzycki (to appear), in a recent paper, suggests that these adjectives should be understood as *expressive*, in the sense of

Potts (2007). Expressive items, broadly speaking, contribute no truth-conditional content to an utterance, but add to the common ground information about the speaker's attitude toward the NP's referent and/or heightened emotional state. This helps explain why pre-nominal anti-restrictive construal is limited in Spanish and Italian to those adjectives I've labeled 'evaluative'. Predicates like 'boring' and 'pretentious' could be reasonably expected to induce heightened emotional states in a speaker. Predicates like 'black' or 'amphibious', on the other hand, lack this property. Speakers judge utterances with pre-nominal non-evaluative adjectives to be ungrammatical, or at least 'literary', 'archaic', and 'bizarre':

35. (a) Italian :
       #È dificile vedere neri pipistrelli nell'oscuritá.
        is difficult see-inf black bats in-the-darkness
        'It's difficult to see the black bats in the dark.'

    (b) Spanish:
       #Las amfibias ranas sobrevivieron al derrumbe.
        the amphibious frogs survived to-the landslide
        'The amphibious frogs survived the landslide.'

There are also several properties of pre-nominal adjectives that expressivity can't explain. One such property is the very fact that these adjectives must be pre-nominal in order to receive an expressive interpretation. Morzycki (to appear) suggests that this simply be stipulated as a condition on expressive interpretation in general; he points out that expressive items appear on the left of what they modify in English as well, even if they would 'normally' be able to appear on the right. The second property is the anti-restrictivity of these adjectives. Morzycki stipulates that expressive interpretation involves a 'supremum operator' that picks out the maximal salient entity denoted by the noun. Like the left-linearity property, anti-restrictivity also 'clusters' with all or most expressive items. These three associated

properties – expressivity, anti-restrictivity, and needing to appear on the left – suggest that anti-restrictive adjectives should share much of their analysis with other expressive items.

If the denotation of (19) is basically 'I hate Laura's friends', it is tempting to try to derive the truth conditions of the sentence as if the adjective weren't there. This would derive anti-restrictivity in the truth conditions, and one could imagine then trying to derive the anti-restrictive presupposition of the adjective from interaction between plurality, definiteness, and order of composition within the DP. I show in appendix A that such an approach can't work; we must instead add these pre-nominal adjectives to the problematic class of expressive modifiers; although we haven't solved how these readings arise, we can at least reduce them to an existing mystery.

5   Summary and next-up

In this paper, I've proposed a novel definition of the term 'restrictive' and two different kinds of non-restrtictivity. I gave an analysis of how different readings arise, and came to a new generalization about restrictivity in Spanish and Italian. I've shown that one apparent class of counterexamples to the complementarity hypothesis is not a counterexample at all. Though post-nominal adjectives in Spanish and Italian have been described in the literature as ambiguous between a restrictive and non-restrictive reading, I've shown that the range of intuitively non-restrictive readings in post-nominal position is much weaker and more limited than the canonically non-restrictive readings obtained in pre-nominal position. I refer to the latter as *anti-restrictive*, to distinguish them from adjectives that merely fail to display restrictivity.

The default restrictivity of post-nominal adjectives was analyzed as a consequence of conversational principles resulting in an implicature. Lack of restrictivity in that position was shown to be possible in just those cases where use of the modified nominal is more informative than the unmodified nominal, in this case explaining the rationale behind an assertion. This case is parallel to one discussed by von Fintel (2001) for a very different class of constructions.

The anti-restrictive readings associated with pre-nominal adjectives pattern with expressive adjectives. They enter information about a speaker's attitude or beliefs into the common ground, independently of the truth-conditional meaning of the sentence. This expressive modification is not available for all adjectives: in the cases discussed here, evaluative adjectives were fine pre-nominally, but qualitative adjectives like 'black' and 'amphibious' ranged from odd to ungrammatical in that position. This was analyzed as a consequence of expressivity.

This rich empirical domain suggests several directions for future research. It would be desirable to cover a broader range of Romance languages. Previous papers have offered generalizations about the interpretation of 'Romance adjectives' in various positions. My informant work suggests that no such generalizations are valid, and that variation within Romance may itself be a useful source of information about adjectival interpretation. Though French has been described in the literature as obeying the complementarity hypothesis (Bouchard 1998), several other sources (Larson, Cinque) and my preliminary informant work suggest that the picture is more complicated. Although intensional adjectives are strictly pre-nominal, evaluative adjectives like *pretentieux* 'pretentious' and *affecté* 'affected'

are more idiosyncratic, failing to behave uniformly as a class with respect to restrictivity and word order. Preliminary informant work on European Portuguese suggests that ordering restrictions may be of an entirely different nature than the languages discussed here. First off, many evaluative adjectives (e.g. 'boring', 'presumptuous') seem to be banned from appearing pre-nominally at all. Other evaluative adjectives (e.g. 'pretty) can appear pre-nominally, but don't necessarily force an anti-restrictive reading. Expressive modification may be unavailable, or may be possible with post-nominal evaluatives.

The other major counterexample to complementarity from Italian and Spanish is the non-intersective 'task adjectives', such as 'good', 'bad', and 'skillful'. These have been re-analyzed by Larson (1995 *et seq.*) as underlyingly intersective, but mysteries remain. In Spanish and Italian, for instance, where event-modifying adjectives are generally restricted to pre-nominal position, these adjectives may retain their task readings in post-nominal position, in copular constructions, and even adjacent to a noun that is unrelated to the relevant task. Katz (2006) is an attempt to analyze these adjectives as modifying a covert task variable, based loosely on a proposal from Larson (1999). A better elaboration of that approach would allow us to preserve the complementarity hypothesis.

Finally, it appears that English may offer us some insight into the relationship between expressivity and anti-restrictivity. It has adjectives that are anti-restrictive without being expressive:

(36)   I used to run a charter-flight company in Abkhazia. We'd land on **the broken airstrips**, ferry our goods to the warehouse, and take off again.

The restrictive reading of the bold DP is nonsensical (why would we land on a broken airstrip if there were unbroken ones around?), and it doesn't appear to have a rationale reading, yet the discourse is fine. It also doesn't seem to bear any of the hallmarks of expressivity. Examining anti-restrictivity and expressivity as independent phenomena may allow us to better characterize, and eventually explain, their interaction.

Appendix A   An Instructive Dead End

This analysis starts with the hypothesis that while post-nominal adjectives compose directly with the noun, pre-nominal adjectives are separated from the noun by one or more functional projections. For the cases under discussion, it is useful to examine the interaction between plurality and adjectival modification. Ignoring intensionality, I'll assume the denotations in (A1). [16]

A1. $[[\textbf{lezion-}]] = \lambda x$. x is a lecture

$[[\textbf{plural}]] = \lambda P_{<e,t>}$. λX . X is a plurality & $\forall x \leq X\ [P(x) = 1]$

$[[\textbf{noios-}]] = \lambda x$. x is boring

$[[\textbf{def}]] = \lambda P_{<e,t>} : \exists!x\ [P(x) = 1]$. the unique salient x s.t. $P(x) = 1$

Researchers have posited functional categories inside the DP but above the NP since at least the early 1990s (Ritter 1991, Cinque 1994, Borer 1999 *inter alia*). For the moment, I remain agnostic as to the number and nature of these projections; only one will be necessary for the current discussion, and I notate it nP, to suggest a parallel with verbal functional projections. nP will be the locus of number. Those are the minimal assumptions crucial to the analysis, but several other non-crucial assumptions will be necessary just to give a concrete derivation: I'll assume that n^0 probes for an unvalued number feature, valuing the NP's number feature and resulting in movement; I'll further assume that the NP raises to specifier of nP and undergoes the morphological Fusion operation (Halle & Marantz 1993) with n^0; finally, D

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[16] Some simplifications: the denotation of the plural morpheme ignores atomicity. It won't be important here. The definite determiner should really return the *largest* individual satisfying the nominal predicate, and the uniqueness presupposition should fall out of this, but I find the above denotation simpler to work with. This maximality requirement will figure to some extent later in this section.

and A show number (and gender) concord because they enter the derivation unvalued for these features and are valued by N. The structure for post-nominal adjectives given in (11), then, was slightly simplified. The more complete post-nominal structure is as in (A2), though this changes nothing in the interpretation.[17]

A2.
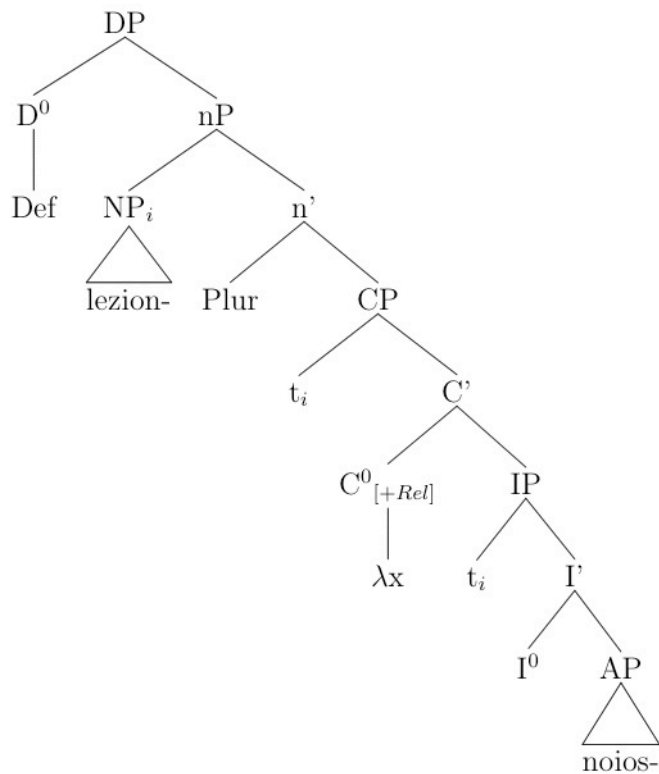
Note that this is a hybrid tree showing aspects of both PF and LF. I'm assuming that the surface string is generated with NP in the location shown in (A2). The NP is not interpreted in its location in (A2), but rather in specifier of CP, as indicated earlier in (11). Because the

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[17] We could assume instead that nP is merged lower in the tree, inside the subject of the reduced relative clause, with NP as its complement. It would then enter into an agreement relation with the noun and the whole subject phrase would move up to specifier of CP. This would yield an equivalent interpretation.

NP and AP compose first, the nP denotes (the function equivalent of) a plurality whose

parts are lessons and are boring. The definite determiner picks out the maximal salient

plurality that meets these conditions, and we are left with a denotation of the type

paraphrased earlier in (13a).

The base-generated structure for a pre-nominal adjective, in this analysis, would be as in

(A3).

A3.
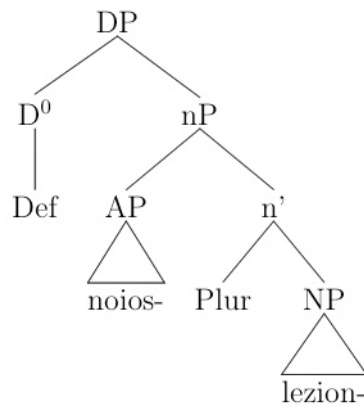
Because the NP will eventually raise to undergo morhpological Fusion with Plural, the AP

must be Merged above Plural if the surface order is to be adjective before noun. In turn, this

configuration dictates that NP and Plural will compose first via Functional Application, and

AP will compose conjunctively with the output of that operation. This leads us through the

steps in (A4).

A4. $[[n']] = \lambda X . X$ is a plurality & $\forall x \leq X$ [x is a lecture]

$[[nP]] = \lambda X . X$ is a plurality & $\forall x \leq X$ [x is a lecture] & X is boring

[[DP]] = the unique salient X s.t. X is a plurality & $\forall x \leq X$ [x is a lecture] & X is boring

The denotation of DP can be paraphrased as 'the unique salient, boring plurality made up of lectures'. This derivation has some desirable properties: it preserves the insight that a pre-nominal adjective is the same kind of word as a post-nominal adjective; it applies the adjective to a plurality rather than a group of atomic individuals, which keeps us from drawing contrasts between atomic individuals. But it's off the mark in two ways. First of all, as noted above, pre-nominal adjectives seem to introduce a presupposition of the property they denote, not an assertion. Second, 'boring' scopes under 'unique' in (A4), which means that there may well be other salient pluralities of lectures in the context, as long as they're not boring. Not only is this not the reading we want for anti-restrictive adjectives, it doesn't correspond to any reading of any kind of adjective that I know of; it corresponds roughly to the meaning of the English phrase *the BORING bunch of lectures* with *boring* focused and everything else de-accented.

The presupposition problem could be solved by proposing that pre-nominal adjectives are actually the identity function that maps <e,t> predicates to themselves, but is only defined if the adjective is true of *e*:

A5.   [[**noios- (pre-N)**]] = $\lambda P_{<e,t>}$. [λx : x is boring . P(x) = 1]

This is already slightly problematic, because pre-nominal and post-nominal adjectives no longer mean the same thing. We would have to posit a type-shifting rule that switches

between pre- and post-nominal adjectives, which is a more complicated kind of analysis than the first option entertained. This will result in a different denotation for the nP in (A3):

A6. $[[nP]] = \lambda X : X$ is boring . X is a plurality & $\forall x \leq X$ [x is a lecture]

Now, instead of asserting that some plurality of lectures is boring, we have a function that picks out pluralities of lectures, and is only defined for boring things. So we've taken care of the fact that pre-nominal adjectives are presupposed rather than asserted. What happens when the $[[nP]]$ function is combined with a definite determiner?

A7. $[[DP]] =$ the unique salient X s.t. $[\lambda Y : Y$ is boring . Y is a plurality & $\forall y \leq Y$ [y is a lecture]](X) = 1

The denotation of the DP is only defined if there's a unique salient individual that satisfies the $[[nP]]$ function. And that function is only defined for boring individuals. This means that the uniqueness/scope problem is still not solved. For instance, in a world where there's a salient plurality of boring lectures X and a salient plurality of interesting lectures Y and nothing else in the domain of individuals D_e, the DP *le noiose lezioni* 'the boring lectures' should have no problem referring to X. The $[[nP]]$ function is defined for X but not Y, and is true of X, so the $[[DP]]$ function is also defined, because there is a unique salient individual (namely X) that $[[nP]]$ is true of. $[[DP]]$ then returns X as its referent. This is not right; we saw above in (19) that pre-nominal adjectives are infelicitous in such contexts.

A last-gasp attempt to solve the uniqueness/scope problem would take an approach to pre-nominal adjectives similar to (A5), which makes them the identity function for properties

coupled with an *A* presupposition; but this analysis would instead treat them as the *A*-presupposing identity function for individuals. Then a pre-nominal adjective would have to scope over the definite determiner at LF, in order to compose with a type e argument. The denotation of the DP would be the unique salient plurality of lectures, and this denotation would only be defined if the unique salient plurality of lectures is boring. This is more or less the meaning that we want.

This approach is untenable for several reasons. For one thing, it involves covert movement that produces the configuration Adj-Det-N, which as far as I know is unattested (Romanian has DPs that look like this, but this is because definiteness is marked by an enclitic). Greenberg's (1966) Universal 20 may actually preclude such an order, if we interpret his term "demonstrative" to include the definite deteriminer (it's not clear to me whether this is the proper way to interpret him or not).

A more serious problem is that this analysis won't work for any DPs that are not of type e. Pre-nominal adjectives are available in some quantified DPs, for instance, where they couldn't possibly compose with an argument of type e.[18] Finally, appealing to covert movement to explain the interpretation of pre-nominal adjectives would leave us unable to explain why post-nominal adjectives don't have the same interpretation available. If one adjective can move covertly to specifier of DP, they all should be able to.

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[18] A few examples from Google:

i. Unos pobres vagabundos no tienen comida.
'Some poor vagabonds don't have food.'

ii. Con cada brutal ataque, el ente se hacía más fuerte.
'With every brutal attack, the entity became stronger.'

The analysis pursued here was attractive for several reasons. It would have *explained* why pre-nominal adjectives are anti-restrictive: those adjectives that appear pre-nominally are higher up in the DP; maximality (the core property of anti-restrictivity) also happens higher up in the DP; the relationship between linear order and interpretation, therefore, falls out 'for free' from independently motivated facts about the syntax of DP and the meaning of the definite article. The core intuition was that pre-nominal adjectives compose with the nominal predicate after something has happened that makes divisions within the set of *Ns* inaccessible. For instance, if the adjective composed with an object that had already picked out a maximal salient plurality of individuals instantiating the noun, anti-restrictivity would be explained.

What this dead end showed us is that getting a strong anti-restrictive reading from plurality, presupposition, definiteness, or order of composition is doomed. Even if we state a type-shifting principle to make pre-nominal adjectives presuppositional, the presupposition bears the wrong relative scope to definiteness. Even if we could get the scope right, the analysis would violate parsimony, fail to generalize, and leave us unable to explain post-nominal adjectives. This means that although these adjectives seem to modify maximal individuals, and the definite determiner picks such individuals out, *the adjective is not getting its anti-restrictivity from definiteness*.

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