ONE, NOUN STRUCTURE, AND MODIFICATION

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Abstract

The present thesis aims to use novel observations as to the behaviour of anaphoric *one* when under modification in order to explore more acutely the structure of the nominal phrase. There has been decades of disagreement as to the syntactic nature of anaphoric *one*. This work highlights novel observations about anaphoric *one* and offers structural analyses for them.

Anaphoric *one* behaves in a markedly distinct way when modified by a prenominal modifier versus when it is modified by a postnominal modifier. Specifically the indefinite article, numerals, and certain quantifiers are able to be introduced into the structure of the noun phrase only when anaphoric *one* is modified prenominally. In such cases that is modified postnominally the introduction of such material is not possible.

Rather than appealing to rich featural specifications on syntactic objects by way of explanation this thesis offers an account based upon the structure of the nominal. An obligatory movement operation in the nominal projection is proposed, the result of which produces a structural configuration which limits extraction from the moved constituent. It is the two of these factors working together that produces the pattern of behaviour to be captured.

Finally I present phenomena that can be found in Spanish, Dutch, Turkish, and Slovenian which can be easily captured using the structural analysis offered in this work. The suggestion being that all of these languages exhibit not only the same movement operation in the nominal projection, but the same limit on what may be extracted from the moved constituent.

Acknowledgments

Studying for a doctorate is hard work. I don't think I'd truly realised just how difficult and taxing this experience would be. Nor do I think that I truly could have known either. I will not say that if I had have known that I would not have started at all. Because not only has it been harder work than I thought, it has also been more elightening than I thought it would be. I feel incredibly lucky to have been able to share in the discussions of so many exceptional and talented people. I have experienced moments, minutes, and hours of wonder that I simply could not have been able to experience were it not for my studying for a doctorate. Even though it had been tough, I am so very grateful for all of it.

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Chapter 1

Introduction to Nominal Structure

1.1 Thesis Overview

This thesis aims to use novel observations as to the behaviour of anaphoric *one* when under modification in order to explore more acutely the structure of the nominal phrase. The rest of this introductory chapter will serve to outline the assumptions I make about the structure of the noun phrase before I begin.

Chapter 2 reviews differing analyses of anaphoric *one* and discusses their varying merits and shortcomings. Here I will argue that anaphoric *one* is best thought of as being introduced into the structure as a phrasal element. Chapter 3 continues to lay groundwork insofar as to describe the different types of nominal modification available in English, the restrictions on their interpretations, and how they are introduced into the structure.

Chapter 4 presents what may be observed about the nature of anaphoric *one* when modified and provides novel observations. In this chapter I motivate a structural account for a contrast in behaviour that can be seen when anaphoric *one* is modified prenominally versus it being modified postnominally.

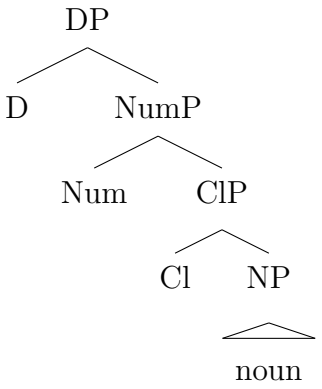
Chapter 5 presents similar behaviour that is found in Spanish. While Chapter 6 continues in this theme by presenting phenomena in Dutch, Turkish, and Slovenian which can be easily captured using the structural analysis presented in Chapter 4.

Chapter 7 concludes the thesis.

1.2 The Nominal Projection

In harmony with the tradition following on from Abney (1987), I assume that reference is encoded in the DP layer of a nominal phrase. Implicit in such an assumtion is the idea that the extended nominal projection consists of a number of functional heads built above an element drawn from the lexicon, with these functional heads contributing in some way to the meaning of the overall phrase.

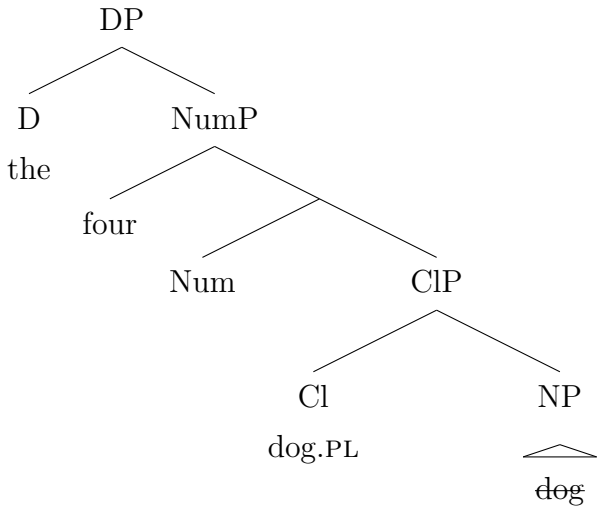
(1)



Alongside there being a layer of the projection in which reference is encoded, I assume a layer of the projection NumP, in which quantity is encoded. I also assume a ClP layer in the projection in which the distinction between mass and count readings is determined.

(2) a. the four dogs

b.



Ultimately I assume that these different layers in the projection are optional, but that there is a degree of dependecy between some of them, meaning that

perhaps not all conceivable configurations will be attested in the repertoire of a natural language speaker.

Nominals can be used either as arguments of predicates or as predicates themselves. For example, in (1a-c) below there is a chasing event being described that takes two arguments - both of which are nominals.

(3) a. [$_{DP}$ a dog][1] chased [$_{DP}$ the postman]

b. [$_{DP}$ every dog] chased [$_{DP}$ the postman]

c. [$_{DP}$ four dogs] chased [$_{DP}$ the postman]

The object nominal picks out as a referent an individual who is a postman, while the subject nominal picks out one (or more - depending on the type of numeral or determiner it appears with) referent that is a dog. Nominals that appear in these types of environments I will call argumental nominals.

The other use of nominals is as a predicate which applies to some individual. Just as the property of *being happy* is predicated of the subject *he* in (4a), so too is the property of *being a hero* predicated of the subject in (4b). Nominals that appear in these types of environments I will call predicative nominals (Higginbotham 1987)

(4) a. he is [$_{AP}$ happy] (adjectival predicate)

b. he is [$_{NumP}$ a hero] (nominal predicate)

c. he is [$_{PartP}$ running] (verbal predicate)

The predicative use can perhaps be more clearly seen when in the predicate position of a 'consider' small clause (Williams 1980, Moro 1991). This is a position in which predicative adjectives are also found. There is a greater restriction on what material a predicative nominals can appear with than there is with argumental nominals.

(5) a. I consider him [happy]

b. I consider him [a hero]

c. *I consider them [every hero]

d. *I consider them [four dogs]

[1]existential closure alternative

Predicative nominals cannot appear with determiners such as *ever*', nor with numerals such as *four*.

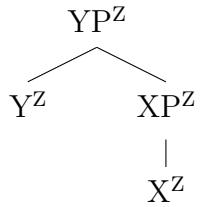
I assume that there is a meaningful relationship between these two variations of the nominal. Specifically, that argumental nominals include the same structure as predicative nominals plus some extra material which (among other things) serves to change the semantic type of the nominal from predicate to argument. This is the standard view of formal semantics within generative grammar. It is mostly argumental nominals which I will be focussing on here, but discussion of predicative nominals will become inevitable as we progress.

1.2.1 Basic Structure

I assume syntactic structures to consist of extended projections, a series of functional heads that are introduced in sequence to a lexical item (Grimshaw 2000). The fundamental concatenative operation Merge takes two Syntactic Objects and joins them to produce a larger Syntact Object. The very first application of Merge in an extended projection it between an item drawn from the lexicon and some functional element (most probably responsible for providing a category label for the extended projection as a whole).

The extended projection can be seen a series of domination relations between nodes. Beginning with some head X, we Merge[2] XP with head Y, and for reasons that are not relevent here label the resulting object YP.

(6)

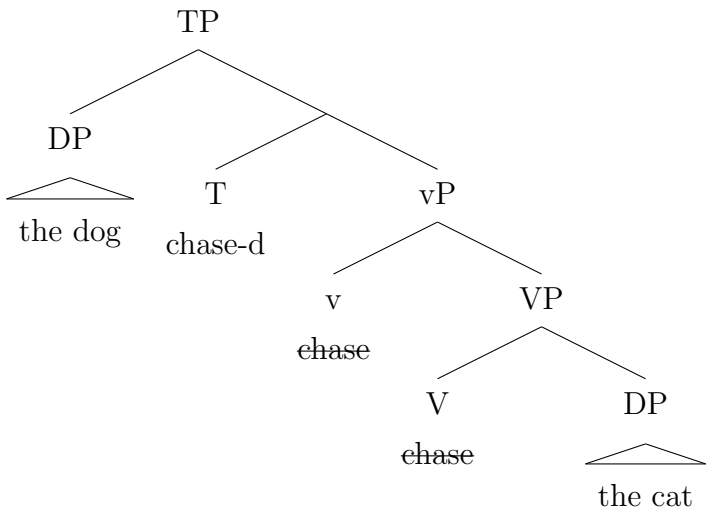


Extended Projection: X-Y

For example, if we consider the structure of the phrase *the dog chased the cat* to be something like the structure given in (1.2.1), we can identify an extended projection.

[2]Merge as defined in Chomsky 1995: "Applied to two objects α and β, Merge forms the new object K, eliminatin α and β."

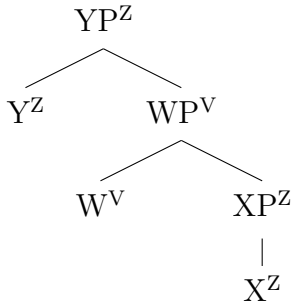
(7)



The functional heads v and T are associated with providing additional verbal information, encoding as they do notions of agency (Larson 1988, Hale and Keyser 1993, Chomsky 2000) and tense respectively (Chomsky 1986, Pollock 1989). According to the conditions given above, we can ascertain whether or not vP and TP are in the extended projection of V. Firstly, vP and TP both dominate V - and so the first condition is met. Secondly, both little v and T share the same categorial features as V - and so the second condition is met. We can say that both vP and TP are in the extended projection of V.

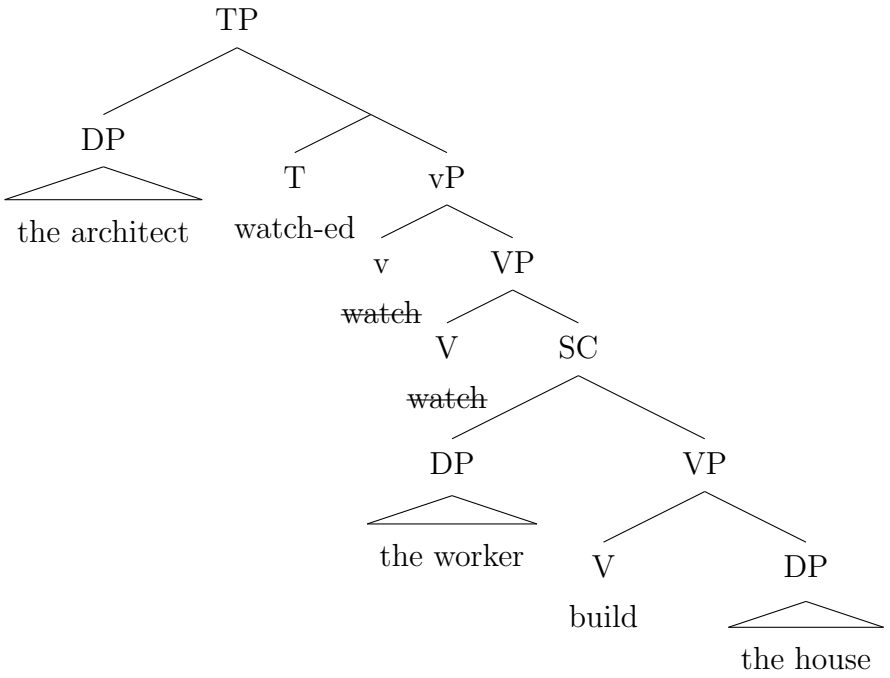
Discontinuous extended projections are prohibited. For example, if we imagine a structure wherein a verb (*watch*) takes as its complement a small clause with a verbal predicate (*build*), we should be unable to define an extended projection that includes the vP and IP of the matrix verb and the verb internal to the small clause.

(8)



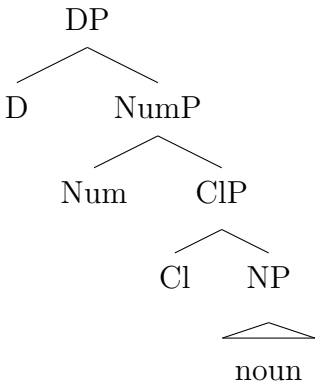
Extended Projection: Y
Extended Projection: X
not Extended Projection: X-Y

(9)



Just as we have verbal extended projections where each functional head is of the same category as the verbal head, so too do we have nominal extended projections where each functional head is of the same category as the nominal head. The general shape of the extended nominal projection is given below (see Zamparelli 2000).

(10)



In the following sections I'll go through each of the layers presented above and outline their different functions in relation to interpretation of the structures in which they appear.

1.2.2 Division and the ClP layer

One of the lower layers of the nominal functional projection is the layer that holds classifiers in those languages which have them. Languages such as Mandarin and Japanese include the classifier in noun phrases that have a countable reading.

(11) a. *yi ge ren* (from Borer 2005)
one CL person

'one person'

b. [$_{\text{NumP}}$ yi [$_{\text{ClP}}$ ge [$_{\text{NP}}$ ren]]] (count reading)

Either the presence of a classifier is a result of the head noun being already featurally specified as 'countable', or it is the presence of the classifier (or more specifically the functional layer which holds the classifier) that causes the 'countable' reading.

The former approach would require a multiple listing in the lexicon for each noun that can have either a 'countable' or a 'mass' reading. We see in English that there are numerous nouns that are compatible with either the 'countable' reading or the 'mass'. For example, *much butter* has an interpretation that the entity being discussed is a homogeonous mass of butter and is not 'countable'. Whereas *three butters* is incompatible with such an interpretation, and the 'countable' reading is required. Note that this phenomena is independent of the presence of the numeral, *some butters* or even just *butters* results in the same effect.

That it is the presence of the classifier that results in the 'countable' reading removes the need for specification of such notions of 'countability' within the lexicon. In those languages that have classifiers, their absence in a noun phrase produces a mass reading. It therefore seems reasonable to suppose that the default reading for nouns taken from the lexicon in general is the mass reading. When a classifier is not present in the noun phrase, and its functional layer absent from the structure, the mass reading is what results.

(12) a. *shenme qian* (from Borer 2005)
what money

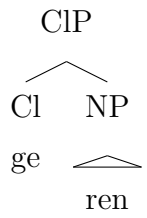
'much money'

b. [$_{\text{NumP}}$ shenme [$_{\text{NP}}$ qian]] (mass reading)

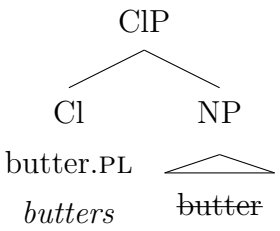
While not all languages contain classifiers, it seems to be universal that there is a distinction between countable and mass nouns. How is such a distinction achieved in languages that don't have access to a classifier? I follow Borer (2005) and assume that the functional layer which holds classifiers in languages such as Mandarin or Japanese is the functional layer associated with the marking of plurality in languages such as English.

The head of the Classifier Phrase introduces the requirement that the denotation of the noun which is contained in the structure below it be divided, changing its denotation from a mass predicate to a count. In languages which have classifiers, it may be the classifier itself which performs this dividing function. I assume that the plural morpheme is also able to perform this function in languages that lack classifiers.

(13) a.



b.



Implicit in these ideas is the notion that there is a degree of optionality in the construction of a noun phrase. The speaker is able to include the ClP layer or leave it out. This choice results in differing interpretational possibilities, but this choice doesn't automatically lead to a crash in the derivation.

So I assume that the lowest element of the nominal extended projection, i.e. the element that is taken from the lexicon, does not carry any featural specification for whether it is to be interpreted as a count or a mass noun. We might ask the question, How light on featural specification should we take the lexicon to be? Are lexical entries specified for category, for example?

Either we assume that the lexical entry is specified as having a nominal category, or we assume that the lexical entry is category-free (Borer 2005, Adger 2012) and that the first step to building the nominal extended projection is to Merge a

functional head that contributes the category of nominal onto the syntactic object under construction

Both approaches ultimately describe the lexicon as containing a list of pairs relating phonological forms with conceptual meaning. For example, the lexical entry for *dog* would relate the phonological shape of /dog/ to the concept of a typically[3] four-legged domestic canine mammal (which I will represent using small caps - DOG).

The former approach has additional information encoded in the lexicon, namely the categorial type of the lexical item. The lowest point of the nominal extended projection would look much as it does in (14b). The lexical item *dog* enters the derivation already specified as N.

(14) a. dog : /dog/
DOG
N

b.
NP
|
N
dog

The latter approach doesn't have categorial information encoded in the lexicon. Instead the lexical item is category-neutral and the syntactic category of the item is contributed by a specific functional element.

(15) a. dog : /dog/
DOG

b.
NP
N dog

The advantage of this latter approach is that we see a large number of examples whereby the same concept is used across different categories. For example, in *the*

[3]Due to the maleable and coersive nature of concepts in general, we find it very difficult to nail down their characteristics specifically. A three-legged dog is still compatible with the concept DOG despite dogs typically having four legs. A feral dog is still compatible with the concept DOG despite not being domesticated. A wooden dog is still compatible with the concept DOG despite not being a canine mammal.

company was dogged by accusations of corruption there is clearly a conceptual relationship between the use of *dog* as a verb and its use as a noun. Rather than having two entries in the lexicon that are identical (relating /dog/ to DOG) but for one listing the category label N while the lists the category label V, the lexicon under this conception would require just one entry relating /dog/ to DOG. The difference in category would be contributed by dedicated functional elements within the derivation itself rather than within the lexicon.

While I am inclined to prefer this latter approach, for the time being I shall remain agnostic. The choice between these two approaches appears not to affect the discussion to come. In what follows I shall use $[_{\text{NP}}$ example $]$ to mean a syntactic object containing a lexical entry, which is of a nominal category.

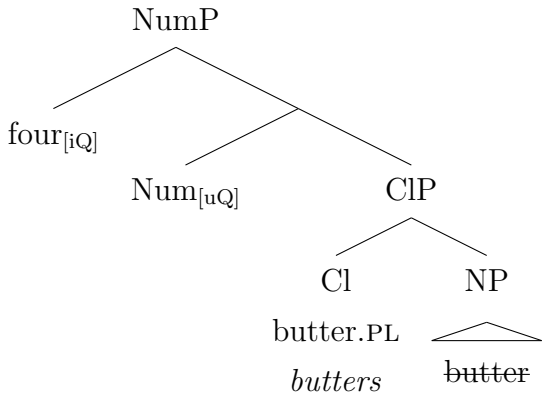
1.2.3 Quantity and the NumP layer

Beyond encoding division, it is also possible to encode quantity within a nominal expression. Numerals and Quantifiers are able to perform this function. Numerals require that the denotation of the nominal should be 'countable' and therefore should already be a ClP layer in the nominal projection, whereas some quantifiers do not have the same requirements and so can encode quantity with an absent ClP layer.

In much the same way that the introduction of the ClP layer brings about a 'countable' reading, so does the introduction of the NumP layer bring about a 'quantified' reading.

(16) a. four butters

b.



The Num head introduces the need for a quantificational specification to be present, and the Merger of a Numeral such as *four* is able to satisfy that requirement.

A point to note is that the presence of the numeral requires not only that the noun have a ClP layer (and therefore be countable), but also that it have plural morphology.[4] There is some requirement of agreement between the Numeral and the shape of the morphology on the noun, but there's no truly significant syntactic difference between singular and plural nouns.

For certain other quantificational elements however (such as *some* and *more*) there is no such requirement of agreement. In addition the presence or absence of the plural morphology correlates with the availability of certain readings.

(17) a. some water (count/mass)

b. some waters (count only)

c. more water (count/mass)

d. more waters (count only)

In (17a) and (17c), the plural morpheme is absent and these nominals are compatible with a mass interpretation, while the other two are not. They are also compatible with a count reading but the nature of the interpretation of the quantifier changes. The *some* seen in this case is more akin to the *some* we see in *some three students*, or *some student*. We can see that there are certain quantificational elements that depend on this contrast between countable and mass. *Many* for example is only available with a count reading, and *much* is only available with a mass reading.

[4]The numeral *one* clearly counters this general statement, but *one* is the only numeral to behave this way, and it fits the behaviour of the other numerals by only being available with countable nouns.

Certain nouns are strikingly resistant to a count reading. *Furniture* is such a noun. We can see below that *one* has trouble appearing with *furniture*.

(i) *He bought one furniture

(ii) He bought some furniture

(iii)*He bought some furnitures

(18) a. *many water

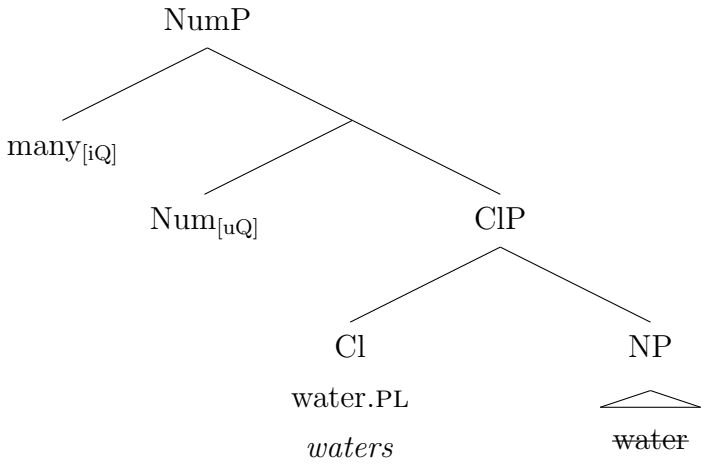
b. many waters

c. much water

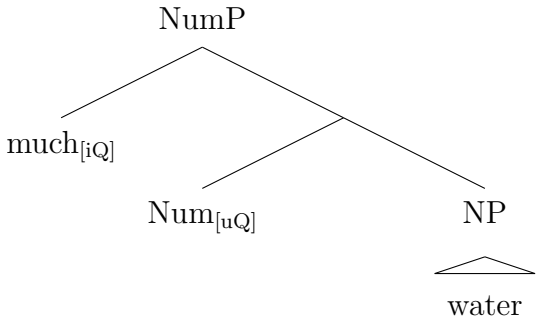
d. *much waters

Certain quantificational elements operate only on denotations that are not only countable, but also exhibit plural morphology. Unsurprisingly, Numerals are of this type - hence the inability of Numerals to appear alongside nouns that do not bear the plural morpheme. Other quantificational elements (such as *some* and *more*) can operate on denotations regardless of whether they have been made countable or not.

(19) a. many waters [count]

b. 

c. much water [mass]

d. 

As with the ClP layer, the NumP layer can optionally be introduced into the structure. If the NumP layer is present, then a specification for quantity is also present, but if the NumP layer is absent, then quantity is left unspecified and vague.

(20) John bought books

a. [$_{\text{ClP}}$ book-s [$_{\text{NP}}$ ~~book~~]]

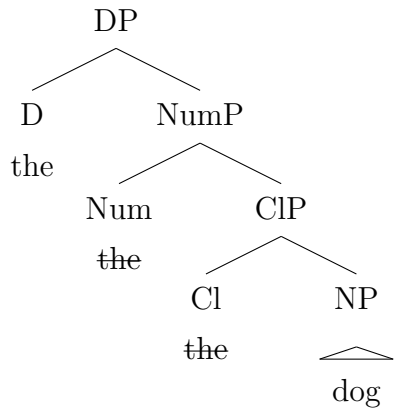
1.2.4 Reference and the DP layer

Szabolcsi (1994) proposes that there is a parallelism between the D head in the extended nominal projection, and the C head in the extended verbal projection. The claim is that the C head in the verbal domain is what closes the verbal projection off, turning it into a proposition that can afterwards act as an argument for other predicates. A similar story applies to the D head: it closes off the nominal projection and turns the nominal into something that can function as an argument to other predicates.

I will assume that the DP layer is where reference is encoded, as in Longobardi (1994). The structure for nominal expressions such as *the dog* looks like (21b).

(21) a. the dog

b.



As the introduction of the ClP layer being responsible for the interpretation of countability, so too does the introduction of the DP layer result in the interpretation of referentiality. A nominal projection with a DP layer is a referential Syntactic Object.

The definite determiner *the* can pick out a discourse referent and as such imparts a reference onto the structure. There are a number of elements that can assign reference. For example demonstratives are also referential and can also serve this function. I assume that it is always at the DP layer where they perform their function of picking out a referent.

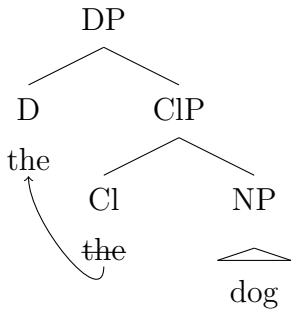
For *the dog* in (21b) to properly be interpreted as a count noun a covert ClP layer needs to be a part of the structure. A mass reading is available for *the dog*, which is to be expected in the absence of the ClP layer.

(22) a. the dogs count/*mass

b. the dog count/mass

For the count reading to be available in (22b) there needs to not only be a ClP layer, but also some syntactic element which is able to perform the dividing function that the plural morpheme is able to perform. One approach is to suggest that the definite article *the* can originate in the ClP layer and then raise up to the DP layer, as in Borer 2005. In this case the definite article *the* can perform the function of dividing the denotation of *dog*, alongside being able to contribute both a quantity (quantity being singular in this case) and also a reference.

(23)



We saw when discussing quantifiers, that those quantifiers which demanded a countable nominal also required plural morphology. But unlike the other numeral quantifiers *one* is incompatible with plural morphology. Borer suggests an explanation for this phenomenon, namely that markers for singularity have dividing and quantifying functions that are semantically identical. Numeral *one* acts as one of these singular markers.

(24) a. [$_{\text{NumP}}$ one [$_{\text{ClP}}$ ~~one~~ [$_{\text{NP}}$ dog]]]

b. [$_{\text{NumP}}$ two [$_{\text{ClP}}$ dog.PL [$_{\text{NP}}$ ~~dog~~]]]

Numeral *one* enters the derivation under ClP in order to perform its dividing fuction, making the denotation of the noun countable. Nonsingular numerals in English cannot perform this dividing function and so cannot be introduced in the ClP layer. Once the NumP layer is introduced numeral *one* is raised up to NumP

and performs its quantifying function as well. With nonsingular numerals it is the plural marker that performs the dividing function and the quantifying function is handled by the numeral. It is for this reason why a numeral such as *zero* while denoting a nonplurality as far as quantity is concerned patterns with the plural numerals.

(25) a. zero dogs

b. *one dogs

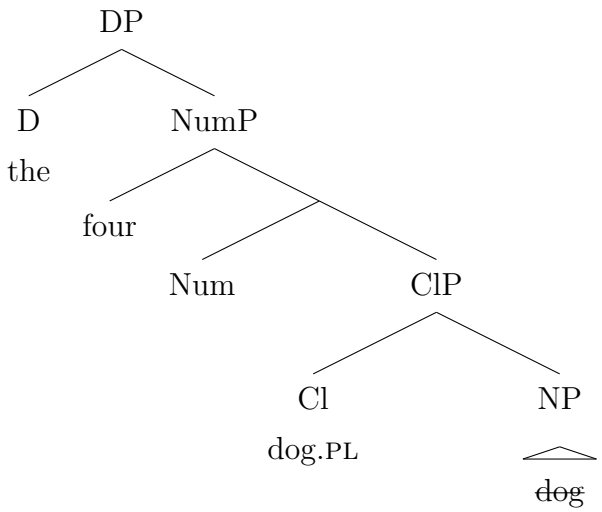
c. two dogs

If the dividing function has already been provided by the plural marker before the introduction of the numeral in NumP, then Borer argues that since singulars have semantically identical dividing and quantifying structures an attempt to apply the quantifying function would lead to a double application of the dividing function, resulting in ungrammaticality. Once the denotation has been divided by the plural marker, it cannot then be divided again by the numeral *one*.

Bringing everything together, we have the following structure for the nominal extended projection.

(26) a. the four dogs

b.



Working from the bottom of the projection up, we have the NP which denotes the property associated with the lexical item that it contains. Then we may Merge the Cl head, which brings the requirement that we divide the denotation. The plural morpheme *-s* is able to fulfill that function and is Merged into the structure.

Following this, the Num head is Merged, which brings the requirement for quantity. The numeral *four* is able to fulfill this requirement. Finally, the D head is Merged and we look for a way of assigning reference. The definite determiner *the* is able to assign reference and is introduced into the structure.

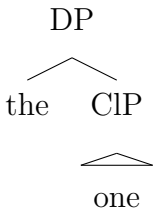
This is the nominal extended projection that we will assume as we progress into the rest of this thesis.

Chapter 2

Anaphoric *One*

This chapter aims to review the literature on the nature of anaphoric *one*. Differing approaches to the analysis of anaphoric *one* have been suggested over the decades. The current work argues for a phrasal analysis of anaphoric *one*. More specifically that it realizes ClP, as depicted below.

(1)



This chapter presents alternate approaches, outlining their problems. In section 2.1 I address an analysis that attempts to combine the anaphoric *one* with the numeral *one* into a single determiner, (Kayne 2015). I argue against such an approach.

In section 2.2 I address the suggestion that anaphoric *one* should be thought of as a phonologically weightier form of the indefinite article, (Llombart-Huesca 2002). I demonstrate that such an approach is problematic.

In section 2.3 I discuss anaphoric *one* being thought of as some sort of pronominal element. This type of approach is the most similar to what I go on to assume; that anaphoric *one* is phrasal.

What is anaphoric *one*?

What is anaphoric *one*? It seems to be a noun that is dependent on a discourse relevant referent for its denotation. By that I mean that *one* doesn't bring an in-

dependent concept to the nominal in which it appears in the way that for example *dog* does. An example of anaphoric *one* is given below.

(2) John brought a red ball and Mary brought a green one

Here *one* is interpreted as having the denotation of ⟦ball⟧. It appears that *a red ball* in the example above acts as the antecedent nominal. There is a degree of freedom as to how much of the antecedent nominal it is possible for *one* to commandeer for its denotation. In the example above, *one* is blocked from having ⟦red ball⟧ as its denotation, presumably due to the conceptual clash of something being simultaneously red and green.

If we take care to avoid such clashes, then *one* is able to use a larger section of an antecedent nominal than just the denotation of the head noun.

(3) John brought a small red ball and Mary brought a large one

Here *one* is not only able to have the denotation of ⟦ball⟧, but also of ⟦red ball⟧. This freedom of access to the denotation of the antecedent nominal is not unconstrained however.

For example, there seems to be a requirement that the antecedent noun is a countable noun (has a ClP layer). In the example below the antecedent noun has a mass interpretation, and this results in *one* being uninterpretable.

(4) a. *John brought red paint, and Mary brought green one

b. John brought red paints and Mary brought green ones

One is also unable to take its denotation from a compound noun antecedent, as can be seen in (4).[1]

(5) a. *John is a taxi driver and Mary is a bus one

b. *John is a dog walker and Mary is a one groomer

[1]An interesting effect can be seen in the following example:

(i) You'll need two waterbowls, a dog one and a cat one

It seems that we have an example of anaphoric *one* referring to part of a compound noun. However, this seems to be influenced in some way by the presence of *and* since we can present an alternative without *and* in it and it is significantly degraded.

(ii) *You'll need a dog bowl and a cat one

It is clear what the intention of both of the phrases above is, and yet their infelicity highlights that there is a requirement that there be a suitable salient countable nominal expression in the discourse. Presumably when a noun enters a compound it does not possess certain structual elements. The inability of the left noun in a noun compound to carry plural morphology speaks to this presumption.[2]

(6) a. *John is a dogs walker

b. *[$_{\text{ClP}}$ dogs][$_{\text{NP}}$ walker]

Since this is unavailable, the nominal as it enters a compound noun appears to be structurally smaller than ClP (if it has any structure at all).

Exactly why there is this requirement that the antecedent nominal should be countable falls outside the scope of this discussion.

2.1 *One* as a Determiner

Kayne (2015) notes the inability of *one* to appear as a bare plural or to be immediately preceded by a numeral. Given that both of these characteristics are available for nouns in general, he argues that we must conclude that *one* cannot be a noun. Instead, he argues that it must be some kind of determiner. It is clear that there are instances in which *one* must be interpreted as some variety of determiner, the standard numeral appearance of *one* would be one such example. However, he argues that when *one* appears following an adjective, that too must be some kind of determiner.

This results in taking the position that it should be possible for the same determiner to appear twice in the same nominal projection. After all *one blue one* and *one green one* are both possible noun phrases. Kayne offers the following example as supporting evidence to the claim that a single nominal projection should be able to have the same determiner appearing twice inside it.

(7) It'll take us a half a day to finish the job

[2]There are examples of compound nouns where the left noun has plural morphology, such as *glasses case*. However the nouns in such examples seem to be somehow intrinsically plural. This quality can be seen in the inability of a noun such as *glasses* to be used in the singular.

Under the assumption that such an utterance is available, I'm not convinced that it is in fact an example of what Kayne claims it to be. For both instances of the indefinite article to be in the same nominal projection then the phrase *a half a day* needs to be bracketed as such, [a [half [a day]]]. My intuition however is to bracket it as follows, [[a half] a day]. In which case the multiple appearances of the same determiner is not special or to be unexpected.

Half is already a problematic and idiosyncratic element in English. After all we are able to say the following,

(8) a. he ate half a pizza

b. *he ate quarter a pizza

However, switching *half* for another word denoting a fraction of something, for example *quarter* results in a diminished acceptibility.

It seems to me the reasonable stance would be to assume this particular example to be a case of the idiosyncracity of *half* itself, rather than a case of anything to do with the possibility of the cooccurance of the same determiner in a single nominal extended projection[3].

(9) a. he ate (a) half of a pizza

b. he ate (a) quarter of a pizza

I would therefore expect that the structure of *a half a day* is in line with the structure of *half a pizza*. If this is the case then we should be able to expand the quantity by introducing the indefinite article, making it phrasal.

The example he gives to demonstrate that English allows two indefinite articles in the same nominal projection falls away when we consider the structure of the example. It's clear that we are really dealing with two nominal projections, one contained within the other, each bearing one of the two indefinite articles.

(10) [$_{NP1}$ [$_{NP1}$ a half] [$_{PP}$ of [$_{NP2}$ a day]]]

[3]It seems to me that what we are observing in the contrast between 17b and 8b is the possibilty of a phonological contraction of *half + of* to just *half* that is not possible with a word like *quarter*.

Under the assumption that all cases of *one* should be instances of a singular lexical item, then the presence of two instances of the same determiner in one nominal projection remains mysterious, and seemingly peculiar to just *one* in English.

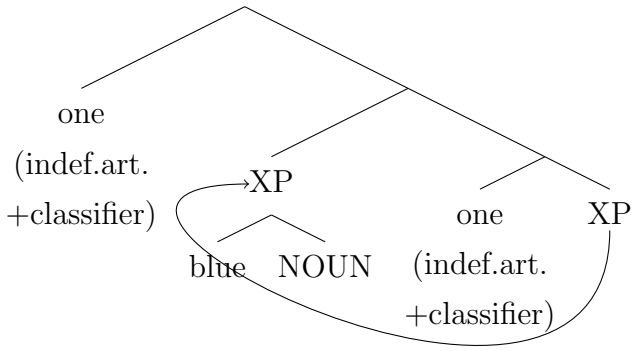
Kayne argues that *one/ones* is a complex determiner that is composed of a classifier, and an indefinite article. His analysis assumes a phonologically null noun that *one/ones* functions as a determiner for. The derivation of a phrase such as *blue ones* begins as 11a, after which the [Adj N] constituent raises across *ones*, resulting in 11b.

(11) a. [ones [blue NOUN]]

b. [[blue NOUN] [ones ~~[blue NOUN]~~]]

Following one of Kayne's central claims a phrase like *one blue one* requires the presence of two copies of the same element, each in a distinct structural position. The movement he argues to take place is depicted below.

(12)



Note however that this movement operation is required not to occur in the case of an overt noun, in order to avoid unattested results such as *blue cars ones*. It seems peculiar that information that is of interest chiefly to the sensorimotor interface should prove so crucial for syntax-internal operations. In addition, further stipulations would need to be provided against the doubling of *one* in those cases where the noun is overt and unable to be raised up. If (13a) is available, then why should (13b) not be?

(13) a. [one [[blue NOUN] [one ~~[blue NOUN]~~]]]

b. [one [one [blue NOUN]]]

Adjective as Licenser

We see in Kayne the claim that adjectives may function as a licensor for certain effects. He notes how the presence of an adjective in the following example somehow *saves* the example from ungrammaticality.

(14) John has written three *(good) ones this year

A parallel is noted between these examples and examples like *a beautiful three weeks*, where the removal of the adjective *beautiful* results in an infelicitous example.

(15) *a three weeks

The claim is that adjectives are able to license certain determiners that appear above them. Remember that in Kayne's analysis of anaphoric *one* adjectives are merged with a silent noun below the determiner *one* before being raised up. It would be in the premovement structural configuration that the licensing of *one* would have to take place.

This predicts that without an adjective present in the structure that *one* should never be appropriately licensed. However, there exist examples in which *one* is able to appear in the absence of any suitable adjectival licenser.

(16) I prefer the ones that John writes

(17) [$_{DP}$ the [$_{CP}$ [[PAPERS] ones ~~[PAPERS]~~] that John writes]]

If *ones* is able to appear in such contexts without being properly licensed by an adjective, then I would suggest that perhaps it is not the licensing by an appropriate adjective that allows it to be able to appear in other contexts.

2.2 *One* as an Allomorph of 'A/An'

Llombart-Huesca (2002) presents an analysis that seeks to explain why anaphoric *one* is only compatible with a count reading. The claim is made that the *one*-construction is in complementary distribution with NP-ellipsis in English. An argument is built that this complementary distribution is indicative of structural

identity and that the *one*-construction is the result of a condition on the proper licensing of elided material.

Llombert-Huesca assumes that elided material needs to be appropriately licensed by features on functional heads, and that if such licensing does not take place then this triggers the insertion of *one* at PF. It is assumed that this licensing is a local phenomena and that the presence of an adjective serves to break this locality and therefore require the presence of *one*.

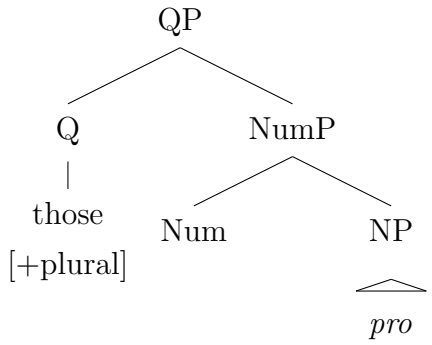
The structure assumed in the analysis is as follows. There is a functional head responsible for encoding grammatical number (Llombart-Huesca calls this head Num - but it is more akin to what we've been calling Cl). Above this NumP can be projected a DP layer or a QP layer (which is where numerals and quantifiers are introduced, in function this is the same as our NumP layer). When the head noun is phonologically contentful, then the features under Num can be supported and successfully realized. However, when the noun is phonologically null, then Num needs to be correctly licensed by higher material. When Num cannot be successfully licensed it is realized at PF with the insertion of *one*.

She assumes that ellided categories are licensed through government by functional X^0s specified by strong agreement, as defined below.

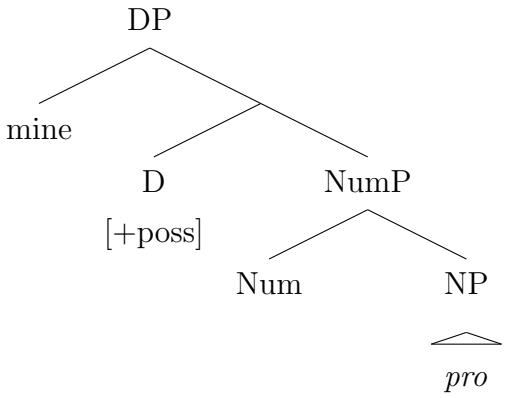
(18) Strong agreement:
An X^0 is specified for strong agreement iff X^0, of the phrase of head with which X^0 agrees, morphologically realizes agreement in a productive number of cases. (Lobeck 1995)

She assumes that there are three features that are able to license Num when it appears with a phonologically null noun. The first is [+plural]; this feature can be carried by numerals and certain quantifiers. The second is [+poss], which is carried by the D head when it has a possessor in its specifier position, as in Abney (1987). The third is [+partitive], which some numerals and quantifiers carry. Examples of these features licensing Num are given below.

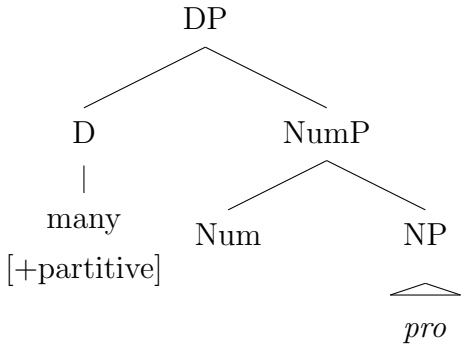
(19) a.



b.



c.



Since these items under Q and D carry these strong features, they are able to properly license the unsupported Num head in a relationship of immediate c-command.

Llombert-Huesca's analysis has it that if we were to try to license the Num head by the presence of an element that does not carry one of the appropriate strong features, then this should not be a possibility. For example, the singular demonstrative *that* does not have a [+plural] feature, being as it is a singular demonstrative. Nor does it have a [+partitive], or a [+poss] feature. We can see from the data below that *that* is unable to appear with an elided noun.

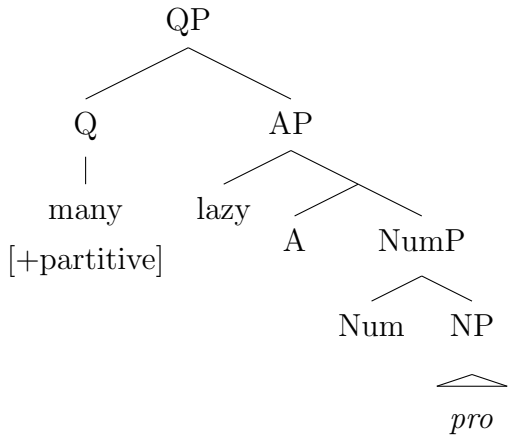
(20) *I like your car but I prefer that *ec*

The idea is that one-insertion is a similar procedure to *do*-support in the verbal domain. Do-support is typically assumed to be a process that happens when there is featural information on the T head that cannot be supported by the verb (for example, under elision), and so the dummy verb *do* is interted and expresses the otherwise unexpressible features. We see that the inclusion of *one* in the example above does rescue it from infelicity.

(21) I like your car but I prefer that one

The claim is made that the way this licensing functions is locally, and as such the presence of an attributive adjective blocks the ability for anything to successfully license Num regardless of whether it is carrying the requisite features. As can be seen below.

(22)



A concern I have which Llombart-Huesca does touch on, is that it very clearly marks a delineation between those structures in which Num can be properly licensed by a strong feature and those structures in which Num can't. For the former we have regular NP-ellipsis, and for the latter we have *one*-insertion.

This makes the prediction that we should never expect to have optionality between these two strategies for a given nominal. However, if it appears that in the case of plural demonstratives we find just such an optionality.

(23) a. I like this car and he likes those *ec*

b. I like this car and he likes those ones

Llombart-Huesca addresses this anomaly and responds in the following way. Those speakers that accept *those ec* still reject *the nice ec* as a possible ellision, and so

there must be some constraint on what can and cannot appear as elided material. A revision to the inventory of strong features is proposed.

Since all quantifiers that permit ellision are specified as [+partitive] (including numerals), while not all are specified as [+plural], then perhaps those that accept *those ones* do not have the [+plural] feature as a strong agreement feature.

That is, some speakers have three strong agreement features; [+poss], [+partitive], and [+plural], while others have only two; [+poss], and [+partitive]. The former permit *those* to properly license Num and therefore block one-insertion, while the latter don't permit *those* to properly license Num and so allow one-insertion to take place.

My issue with this response is that the two approaches are incompatible and again predict that nobody should be able to permit both outcomes at once. However to my ear, both are perfectly fine. The only way that such optionality of output can be captured using the system that Llombart-Huesca builds is ultimately to have optionality over whether the [+plural] feature functions as a strong agreement feature or not. This is obviously a very unwelcome idea to entertain. Rather than having to draw this conclusion I would instead pursue an approach in which NP-ellipsis and the one-construction were fundamentally different mechanisms.

While numerals and quantifiers are able to successfully license the Num head, it should be noted that the indefinite article may not. This is to be expected, given that the indefinite article cannot be specified for [+poss], [+partitive], or [+plural]. The expectation then is that under Num *one* will be inserted at PF. As we have already seen, this is not a possibility.

(24) *[$_{\text{QP}}$ a [$_{\text{NumP}}$ one [$_{\text{NP}}$ *pro*]]]

She proposes that the indefinite article and pronominal *one* are underlyingly the same lexical item, which she calls A/One. Either A/One is inserted under Num under the conditions we have been discussing, or else it may be inserted under Q at will.

Inserting under Num, A/One will always take the form of *one* as it is assumed that *a* requires the presence of phonological material to its right to which it can cliticize. Given that Num is where the feature for [+plural] sits, then when A/One sits under Num it may also carry a [+plural] feature. If this is the case then *one* may be marked as plural *ones*.

(25) a. *[$_{\text{NumP}}$ a [$_{\text{NP}}$ *pro*]]

b. [$_{\text{NumP}}$ one [$_{\text{NP}}$ *pro*]]

c. [$_{\text{NumP}}$ ones [$_{\text{NP}}$ *pro*]]

If instead, A/One sits under Q, then it can either be realized as *a* or as *one* depending entirely upon whether it focused or not.

(26) a. [$_{\text{QP}}$ a [$_{\text{NumP}}$ [$_{\text{NP}}$ book]]]

b. [$_{\text{QP}}$ one [$_{\text{NumP}}$ [$_{\text{NP}}$ book]]]

It is due to this identity between the indefinite article and the pronominal *one* that *a one* should be blocked then. However this is not enough, given the availability of the indefinite article alongside the pronominal *one* in the presence of a modifying adjective. If it is permissible for the same lexical item to be introduced into the structure twice in the presence of an adjective, then it should also be permissible to introduce the same lexical item into the structure twice in the absence of an adjective.

2.2.1 Adjective as Blocker

Now the status of licensor is called into question further with notion that adjectives are able to block licensing effects. Here an empty category element is only able to be successfully licensed in the absence of any intervening material between it and its licensor (in this case, the Num head).

It is assumed that should an adjective intervene between the licenser and the licensee, then this should be enough the prevent the relationship from holding, with the idea being that an unproperly licensed empty category will need to be replaced by proniminal *one* by the time it comes to Spell Out.

This idea proves to be problematic however given that there are examples of an empty category appearing alongside adjectival modification.

(27) the rich are taxed more highly than the poor

Here it seems we have empty categories successfully licensed even in the presence of an adjective. It is clear that there is some role that specifically the definite determiner plays in successfully licensing the phonologically null nominal category, given the inability of other determiners to perform the same function.

(28) a. *every rich has an opinion on taxation

b. *a rich thinks he should be paying more than he currently is

c. *that rich hides the full extent of his income

We would need to claim that the definite determiner is able to license the empty category across the adjective that intervenes between them. This clearly undermines any position that relies on the presence of an adjective to function as a blocker for licensing.

2.3 *One* as a Pronominal Noun

Kayne (2015) makes the following arguments against *one* being analysed as a noun. He notes that *one* doesn't behave in the same way as regular nouns in the following ways: (i) it cannot be a bare plural, (ii) there is no completely bare *a one*, and (iii) it cannot be immediately preceded by a numeral.

(29) a. *I have cars and you have ones, too

b. *I have a car and you have a one, too

c. *You have three cars but I only have two ones

He makes the claim that since *one* does not behave like ordinary nouns, it must not be a noun of any kind, but rather a determiner of some kind instead. I would argue that this is too strong a conclusion to reach, and we should instead arrive at the position that if it is indeed a noun, then it cannot be an ordinary one.

Either the requirement that *one* has a countable denotation can be specified in the semantics of the lexical item, or alternatively it could be that the featural specification of *one* precludes the availability of a mass interpretation.

(30) a. the red paint (mass)

b. the red paint (count)

c. the red paints (count)

The strategy we have for typical nominals is not going to work for *one*.

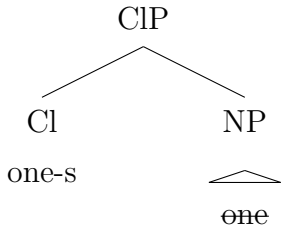
(31) a. *the red one (mass)

b. the red one (count)

c. the red ones (count)

If we imagine that the requirement that *one* be interpreted as countable is purely the result of its semantic specification, then we would expect its distribution to still be the same as that of mass nominals. Mass nominals are NP and we are assuming that Cl combines with a mass nominal. After all, it is felicitous for *one* to appear with the plural morpheme (which we associate with the ClP layer).

(32)



The structure above raises two questions if we assume that the countable interpretation of *one* is a result of the semantics of the lexical item. The first is, what function does the plural morpheme provide in this case? Previously we were working with the theory that the Merger of the Cl head brings a requirement that the denotation of the nominal become divided by the operation of a function that some element is able to perform. We had the plural morpheme *-s* providing such a function. If *one* is already countable as it enters the derivation, then what function does *-s* perform?

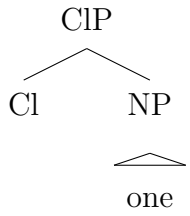
The second question is, if the countable interpretation is specified on the lexical item, and not by syntactic structure built above that lexical item, then why don't we find *one* sharing the same distribution as nouns that have a mass interpretation?

(33) *John brought too many red paints and Mary brought too much green one

It seems clear to me that the fact that *one* is only compatible with a countable reading can't have anything to do with the semantic specification of the lexical item. The challenge then is to be able to see this interpretational constraint on *one* as the result of structural considerations and its featural specification.

Perhaps, *one* is not stored as a lexical item, but as a chunk of syntactic structure that contains the Cl head already.

(34)



This however, doesn't amount to much more than a stipulation that *one* cannot have a mass interpretation. Why this should be the case remains mysterious.

2.4 Summary

In this chapter we laid part of the groundwork for the obeservations and discussions to come in subsequent chapters.

Here we addressed the differing approaches to analysing what anaphoric *one* is. Having examined accounts that try to describe anaphoric *one* as some kind of determiner, I conclude that it is perhaps best thought of as being a phrasal element. I draw a distinction between anaphoric *one* and the numeral *one*. The discussion to come do not attempt in any way to claim a unity between these two syntactic elements.

Chapter 3

Noun Modification

The aim of this chapter is to lay the groundwork for subsequent chapters by providing a summary of the different types of nominal modification and how they are incorporated syntactically. We will see that adjectives introduced at different heights have different readings, and that postnominal modification is underlyingly a type of prenominal modification.

In section 3.1 I discuss adjectives and their different varieties. I examine Cinque (2010) in which adjectives are argued to have different interpretations available depending upon where precisely in the nominal structure they are located.

In section 3.2 discussion of the nature of modification continues, focussing on postnominal modification. Previous analyses of reduced relatives and regular relative clauses are described.

Nouns can undergo modification. Perhaps the most ubiquitous kind of modification is adjectival modification. These come in two varieties, predicative and nonpredicative adjectives. Another kind of modification is postnominal modification (more typically called reduced relative clauses). The final kind of modification is modification by relative clause. Here follows an example of each variety.

(1) a. the honest postman (predicative adjective)

b. the former postman (nonpredicative adjective)

c. the postman raised in Paris (reduced relative clause)

d. the postman who eats gluten (relative clause)

In the following sections I'll examine these different kinds of modification more closely to later be called upon in Chapter 4 where we explore what happens to anaphoric *one* under modification.

3.1 Adjectival Modifiers

Intersective adjectives are adjectives that denote a relationship between a property and an individual in a way that is independent of the denotation of the noun. If we consider the denotation of a noun to be a set of individuals of whom the property associated with the noun holds, then an intersective adjective denotes a set of individuals of whom the property associated with the associated adjectival predicate holds in conjunction.

For example, we can take ⟦postman⟧ to be the set of individuals who are postmen and ⟦honest⟧ to be the set of individuals who are honest. We can then take ⟦honest postman⟧ to be the set of individuals who are found both in the set of individuals who are postmen and the set of individuals who are tall.

(2) ⟦honest postman⟧ = ⟦honest⟧ $\bigcap$ ⟦postman⟧

Predicative adjectives allow for an entailment relation, given that the intersection of two sets exhibits an entailment relation for its members. If an individual is in the intersection of set A and set B (A$\bigcap$B) then it will neccessarily be in A and be in B. We can see this entailment below in (3).

(3) He is a honest postman

a. → He is a postman

b. → He is honest

If an individual is in the denotation of ⟦honest postman⟧, then that individual must also be in the denotation of both ⟦postman⟧ and ⟦honest⟧ independently.

There are a number of adjectives that cannot function as predicates in the same way that *honest* can in (3). These are nonpredicative adjectives. Consider *former* in the example below.

(4) He is a former postman

a. → #He is a postman[1]

b. → *He is former

Such adjectives are nonpredicative and therefore also non-intersective (Larson and Cho 2003). It is not possible for an individual to be a member of the set denoted by ⟦former⟧ alone, since no such set can be said to exist. An adjective like *former* functions as a true modifyier of the denotation of the noun with which it appears, rather than simply fascilitating an intersection of two sets.

With non-intersective adjectives, the meaning of the adjective doesn't directly hold of an individual, but rather modifies the relationship that holds between the noun and the individual. We can consider the famously ambiguous phrase *a beautiful dancer* (Vendler 1968). The two possible readings are given below.

(5) She is a beautiful dancer

a. 'She is a dancer and she is beautiful'

b. 'She dances beautifully'

The first of the possible readings is what we'd expect if *beautiful* were treated as an intersective adjective. The denotation of both *dancer* and *beautiful* pick out an intersection of individuals to which each of the predicates apply. The result of this is that ⟦beautiful dancer⟧ picks out a subset of both the sets picked out by ⟦beautiful⟧[2] and by ⟦dancer⟧.

(6) a. ⟦beautiful dancer⟧ ⊆ ⟦beautiful⟧

b. ⟦beautiful dancer⟧ ⊆ ⟦dancer⟧

The second of the possible readings behaves differently. If we accept that it is possible for somebody to dance beautifully without being considered beautiful themselves, then we have a different pattern of subset-superset relations.

[1]This is a problematic entailment due in part to the meaning of *former* and in part to the present tense of the example. Controlling for these difficulties we can see an available entailment.
(i) For a time, he was a former postman

→ For a time, he was a postman

→ *For a time, he was former

[2]Again, presumably ⟦beautiful⟧ picks out the set of individuals who are beautiful according to some standard

(7) a. $[\![\text{beautiful dancer}]\!] \subseteq [\![\text{dancer}]\!]$

b. $[\![\text{beautiful dancer}]\!] \nsubseteq [\![\text{beautiful}]\!]$

This contrast is perhaps more clearly seen in the following cases, in which *old friend* has a nonintersective reading which does not require the individual picked out by $[\![\text{old friend}]\!]$ to be $[\![\text{old}]\!]$.

(8) a. $[\![\text{old friend}]\!] \subseteq [\![\text{friend}]\!]$

b. $[\![\text{old friend}]\!] \nsubseteq [\![\text{old}]\!]$

Since the second reading in (5) is compatible with an interpretation whereby the dancer is not in the set of people who are beautiful, but is in the set of people who dance beautifully, then this adjective has to be non-intersective.

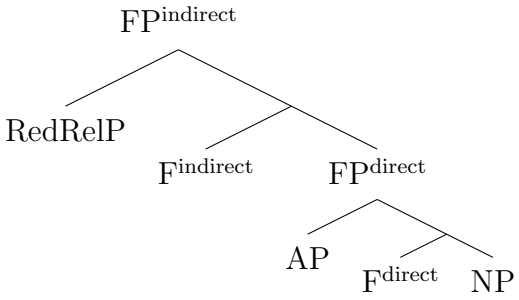
Adjective Syntax

Cinque (2010) offers an analysis for adjectival modification in Germanic and Romance languages, using English and Italian respectively as representatives of each group. He notes that there are reliable distinctions between available interpretations of adjectives depending on their position with respect to the noun. For example, in one position an adjective is ambiguous between two possible interpretations, but when in a different and distinct position the ambiguity dissolves.

The suggestion is that there are two sources of adjectival modication. Either adjectives are brought into the nominal projection in the specifier position of dedicated functional heads, or alternatively they are introduced as part of what Cinque calls a reduced relative clause.[3] Adjectives which are of the first type are structurally closer to the noun (and are referred to as examples of direct modification) than those which are of the latter type (which are referred to as examples of indirect modification).

[3]I am skeptical that they are truly reduced relative clauses when in a prenominal position, but I will uphold Cinque's terminology while discussing his work

(9)



The position arrived at in his work is that both Germanic and Romance languages share a unique underlying structure of nominal modification and that the differences in word order that can be seen between them can be captured entirely through variation in movement operations.

His test case languages are English (which he takes to be representative of Germanic languages) and Italian (which he takes to representative of Romance languages). Both languages exhibit prenominal and postnominal adjectives. However, it's not the case that either language allows free variation of their positions. English has some postnominal adjectives, but not all adjectives can appear postnominally. Likewise, Italian has prenominal adjectives, but not all adjectives can appear prenominally. It's the limits of this variation that Cinque aims to explain. A number of interpretive contrasts are explored and used to delineate between different types of adjectival modification.

One of the contrasts he explores is that between intersective and non-intersective readings of adjectives in prenominal and postnominal positions.

As we've already seen, in English a prenominal adjective can be ambiguous between a predicative adjective (which may be intersective) and a nonpredicative adjective (which must be non-intersective). In postnominal position however, this ambiguity vanishes and the adjective can only carry the intersective reading.

(10) a. Olga is a more beautiful dancer than her instructor [English]
a dancer and more beautiful than her instructor *intersective*
a dancer who dances more beautifully than her instructor
non-intersective

b. Olga is a dancer more beautiful than her instructor
a dancer and more beautiful than her instructor *intersective*
#a dancer who dances more beautifully than her instructor
non-intersective

This difference doesn't hold for Italian. Instead it is swapped over; when the adjective is in postnominal position it has ambiguous readings between intersective and non-intersective, but when it is prenominal the ambiguity vanishes and the adjective can only carry an non-intersective reading.

(11) [Italian]

a. *Un buon attaccante non farebbe mai una cosa del genere*
a good forward not would.do never a thing of.the kind

#a good-hearted forward would never do such a thing *intersective*
a forward good at playing forward would never do such a thing
non-intersective

b. *Un attaccante buono non farebbe mai una cosa del genere*
a forward good not would.do never a thing of.the kind

a good-hearted forward would never do such a thing *intersective*
a forward good at playing forward would never do such a thing
non-intersective

A number of other types of interpretive contrasts are examined and the distribution appears to be as follows. In English, adjectives that appear in the prenominal position are ambiguous as far as these contrasts are concerned, and adjectives in the postnominal position are unambiguous.

(12) English

Prenominal adjectives	N	Postnominal adjectives
individual-level or stage-level		stage-level (or individual-level)
nonrestrictive or restrictive		restrictive
modal or implicit relative		implicit relative
nonintersective or intersective		intersective
absolute or relative		*[untestable]*
absolute or comparative superlatives		*[untestable]*
non-specificity or specificity inducing		non-specificity or specificity inducing
epistemic or evaluative 'unknown'		*[untestable]*
discourse anaphoric or NP dependent 'different'		*[untestable]*

In Italian, adjectives that appear in the prenominal position are unambiguous as far as these contrasts are concerned, and adjectives in the postnominal position are ambiguous. By comparison between the tables for the two respective languages, a difference of behaviour can clearly be seen.

(13) Italian

Prenominal adjectives	N	Postnominal adjectives
individual-level		individual-level or stage-level
nonrestrictive		nonrestrictive or restrictive
modal		modal or implicit relative
nonintersective		nonintersective or intersective
absolute		absolute or relative
absolute superlative		absolute or comparative superlatives
specificity inducing		non-specificity or specificity inducing
evaluative 'unknown'		epistemic or evaluative 'unknown'
NP dependent 'different'		discourse anaphoric or NP dependent 'different'

Given that Cinque uses English as representative of Germanic languages, and Italian as representative of Romance language, the following generalisations are reached.

(14) *Germanic languages*
Prenominal adjectives are ambiguous,
Postnominal adjectives are unambiguous

(15) *Romance languages*
Prenominal adjectives are unambiguous,
Postnominal adjectives are ambiguous

As far as the contrasts listed in the tables are concerned, there is a relationship between whether an adjective is prenominal or postnominal and whether it is ambiguous or unambiguous.

3.2 Reduced Relatives

The first thing to note with postnominal modifiers is that bare intersective and non-intersective adjectives are not licit in this postnominal position.

(16) a. *He is a postman honest

b. *He is a postman former

c. *She is a dancer beautiful

That's not to say that adjectives are not possible at all in this postnominal position, but there are certainly constraints. For example, adjectives that take two arguments appear to be perfectly serviceable in these contexts. Also adjectives such as *available* or *visible* are found in these postnominal positions with no concern.

(17) a. *He spoke to a man proud

b. He spoke to a man proud of his sons

c. He spoke to the firemen available

d. He read every sign visible

The postnominal attributive adjective fits the pattern we saw for intersective adjectives. As can be seen below the denotation of ⟦man proud of his sons⟧ is s subset of the denotation of ⟦proud of x's sons⟧.

(18) a. ⟦man proud of x's sons⟧ ⊆ ⟦man⟧

b. ⟦man proud of x's sons⟧ ⊆ ⟦proud of x's sons⟧

An early analysis for reduced relative clauses is responsible for the name of the phenomena. The idea was that reduced relative clauses and regular relative clauses are structurally identical, and that the difference between them is purely a phonological difference. In the Trasformationalist tradition, 'Whiz-deletion' (Ross 1967) had it that a deletion operation applies to the wh-relativizer and the be-auxiliary in order to transition from a regular relative clause to a reduced relative.

(19) a. He spoke to a man who is proud of his sons

b. He spoke to a man proud of his sons

However the availability of *proud* for example as the adjectival predicate of a regular relative clause contrasts with its inability to appear in a reduced relative clause. I take this to indicate that there has to be something structurally different between the two cases.

(20) a. He spoke to a man who is proud

b. *He spoke to a man proud

Such an approach is an artifact left over from the old Transformationalist ideas of syntactic systems, and was assumed to be an intergral midway step on the transition from adjectival predicate to attributive adjective. It was an old assumption that a phrase like *the proud man* was derived from the underlying proposition *the man who is proud* through a serious of transformational operations. We no longer keep such assumptions, and need a more sophisticated approach to what reduced relatives are and how they function.

While adjectival predicates and verbal predicates are available inside reduced relatives, predicative nominals are not. This is another contrast between regular relative clauses and reduced relatives which argues against structural isomorphism.

(21) a. He spoke to a man who is a postman

b. *He spoke to a man a postman[4]

I take this opportunity to briefly outline what exactly it is that I take reduced relatives to be. I will demonstrate the ways in which they are distinct from appositives, small clauses, and gerunds. From there I move on to their general characteristics, and the previous analyses of them that can be found in the literature.

Reduced Relatives are not Appositives

Proper names resist being modified in English. In order to introduce a restrictive modifier such as a relative clause into a noun phrase there is a requirement that the noun be a common noun, rather than a proper one. While *the man* can be

[4]It has been brought to my attention that there is a degree of acceptability with predicate nominals when an adverb such as *formerly* is introduced.

(1) a.*the man a postment is called John

b. the man formerly a postman is called John

Why this should be the case is unclear to me. While the content of reduced relatives generally has a preference for 'heavy' predicates, i.e. with a suitably large phonological weight, this doesn't explain the unavailability of reduced relatives like:

(2) *the man a postman of great renown is called John

modified by a restrictive relative clause simply by introducing the content of the restrictive relative clause, *John* cannot.

(22) a. the man [$_{\text{CP}}$ ~~man~~ *OP* you met two days ago]

b. *John [$_{\text{CP}}$ ~~John~~ *OP* you met two days ago]

c. the John [$_{\text{CP}}$ ~~John~~ *OP* you met two days ago]

Either there is a requirement that only common nouns can undergo relativization by a restrictive relative clause or the presence of a restrictive relative clause precludes the ability for a common noun to become used as a proper noun.

Proper names are able to appear with *nonrestrictive* relative clauses however. They must be appositive, contributing material as an additional comment rather than by narrowing down the set of possible referents. Reduced relatives follow the same pattern as their regular relative counterparts. They can only restrictively modify common nouns, and can be used with an appositive reading when modifying proper names.

(23) a. *John playing basketball spoke to the coach

b. the John playing basketball spoke to the coach

c. John, playing basketball, spoke to the coach

Here (23b) is only compatible with the reading that there be a set of Johns relevent to both interlocutors and that the phrase *playing basketball* is sufficient to restrict the reference to pick out an individual John. This is the same behaviour we would see with any other noun than John. In (23c) however, no such set of Johns is required, *playing basketball* does not serve the function of a restrictive modifier. This appositive use also carries the notion that the event of playing basketball and the event of speaking to the coach are in some sense simultaneous or overlapping events, whereas no such notion can be seen in the restrictive usage.

We see here a distinction between reduced relatives and appositives in their interpretations. The point to note is that reduced relatives can only restritively modifer common nouns, not proper names. The nature and behaviour of appositives falls outside the scope of this discussion. From here on I will use 'reduced relative' in place of 'restrictive reduced relative' for the ease of the reader.

Reduced Relatives are not Small Clauses

Nouns modified by reduced relatives and appearing in Small Clauses behave differently from one another. Small Clauses are able to have proper names as their subjects (as can be seen in the following examples), while reduced relatives cannot modify proper names.

(24) a. I saw [$_{SC}$ Bill read a newspaper]

b. I consider [$_{SC}$ Penny smarter than most]

The other difference between the two constructions can be found in their denotations, or rather in the types of denotations they yield. Nouns modified by reduced relatives pick out individuals (entities of type $\langle e \rangle$), which is able to serve as the subject of an agentive predicate. Small Clauses pick out a proposition (entities of type $\langle e,t \rangle$), which cannot serve as the subject of such predicates.

(25) a. I saw [a girl [$_{RR}$ smarter than most]] cook a casserole

b. *I saw [$_{SC}$ Penny smarter than most] cook a casserole

While it is conceivable that a reduced relative may contain a small clause predicate inside it, the two constructions are demonstrably distinct.

Reduced Relatives are not Gerunds

Nouns that are modified by reduced relatives can contain a verbal predicate within them, while ultimately being a syntactic object which is of a nominal category. Similarly, Gerunds are nominal category elements built up from a verbal category element. For example, the DP in (26) must contain within it [$_{VP}$ understand mathematics].

(26) [$_{DP}$ Understanding mathematics] is a lifeskill

However a contrast can be demonstrated between Gerunds and reduced relatives. This contrast again relies on the inability for a proper name to be modified by a reduced relative.

(27) a. [Louis reading the newspaper] made me laugh

b. *[Louis reading the newspaper] made a paper airplane

c. [the guy reading the newspaper] made a paper airplane

While the gerund in the subject position of (27a) can appear with a nonagentive predicate such as *make me laugh*, it cannot appear with an agentive predicate. A noun modified by a reduced relative however is able to appear as the subject of an agentive predicate such as *make a paper airplane*.

General Characteristics of Reduced Relatives

Bhatt 1999 lists some of the characteristics of adjectival and participial reduced relatives, given here.

(28) a. the relativized element is always in the subject position.

b. the subject position does not receive case (from the relative clause)

c. the relativization is very local - only the matrix subject can be relativized.

d. the clausal structure that functions as a reduced relative can appear as the complement of predicative *be*

e. no complementizer is permitted.

f. no relative pronoun is permitted.

The inability for a reduced relative to contain a tensed verb suggests a relationship between characteristics (a) and (b), under the assumption that the verbal functional projection that is responsible for tense morphology is also responsible for subject case marking. If it were possible to have an object position be the position for relativization of the head noun, then the subject position would presumably need to receive case somehow. Regardless, it is not possible to have a reduced relative wherein it is the object which has been relativized.

(29) *the newspaper [the man reading -]

Presumably for similar reasons, there is an inability for any embedded subjects or objects to be relativized. Possible reasons for this will be explored later in this chapter.

Characteristic (d) is not as fine-grained as it perhaps it should be. There exist examples of reduced relatives which contain clausal structure that cannot appear as the complement of predicative *be*. Consider a verb such as *surround*, which is resistant to a progressive reading. Such a verb is able to appear perfectly felicitously inside a reduced relative, whilst also being somewhat odd when appearing as the complement of predicative *be*.

(30) a.#the wall is surrounding the city

b. the wall surrounding the city

In addition to these general characteristics, I would like to outline some further observations on the nature of the elements we find inside reduced relatives.

(31) a. adjectival passives behave somewhat unusually inside reduced relatives.

b. comparitive contexts have an improving effect on bare adjectives inside reduced relatives.

c. certain quantifiers have an improving effect on certain predicates inside reduced relatives.

Characteristic (a) is a subtle effect that can be observed in Reduced Relatives when it comes to adjectival and verbal passives.

Verbal passives refer to events whereas adjectival passives refer to states. Typically these states are the resultant states of events signified by the verbal passive equivalents, as discussed in Levin and Rappaport (1986). This contrast can be seen in the examples below.

(32) a. the radio is broken (adjectival)

b. the radio was broken (verbal)

In (32a) *the radio* is in the state of having been *broken*. Although an event is presumed to have occured, the predicate instead refers to the resultant state. (32b) however, does refer to a breaking event and not the resultant state.

The adjectival passive can appear in prenominal position, but the verbal passive cannot. In *the broken radio*, *broken* refers to the resultant state again, rather than the event. Placing *broken* postnominally however leads to unacceptability.

(33) a. I've come to fix the broken radio

b. *I've come to fix the radio broken

Presumably this unacceptability is the result of the preference for 'heaviness' not being met. However as noted above, there is a restorative effect that can be observed when a locative or temporal PP is intoduced into certain Reduced Relatives.

(34) a. ?the book read

b. the book read [$_{PP}$in the library] (verbal)

c. ?the guy asleep

d. the guy asleep [$_{PP}$in the park] (adjectival)

(35) the guy [$_{RR}$ [$_{AP}$asleep] [$_{PP}$ in the park]]

We would expect that the introduction of a temporal or locative PP to the post-nominal *broken* in (33b) should lead to two possible readings, one for the adjectival passive and one for the verbal.

(36) a. I've come to fix the broken radio [in the kitchen] (adjectival)

b. I've come to fix the radio broken [in the kitchen] (verbal, *adjectival)

In (36a) the introduction of the locative PP *in the kitchen* does not affect the interpretation of *broken*. Its interpretation as an adjectival entity is maintained. It refers to the result of some breaking event but not the event itself.

However, when we introduce the same PP to something which we would expect to be ambiguous between being adjectival and verbal (36b), the adjectival reading disappears. Here reference is being made to *the radio* that underwent a breaking event which happened *in the kitchen*. The other reading, in which the breaking event could have happened anywhere, but the resulting broken radio is located *in the kitchen* is not available.

(37) *the radio [$_{RR}$ [$_{AP}$ broken] [$_{PP}$ in the kitchen]]

Given that locative PPs can appear with standard bare adjectives in (34) without any unexpected results, it is surprising that the inclusion of a locative PP with an adjectival passive somehow blocks the availability of an adjectival passive reading.

It seems to be not only the internal workings of Reduced Relatives that affects their acceptabiity, but also the kind of construction in which they sit that seems to be an important factor too.

We saw in previous sections there is a strong preference against bare postnominal adjectives.

(38) a. a drunk man ran away from the police

b. *a man drunk ran away from the police

However, postnominal bare adjectives can become markedly more acceptable when they appear in comparative contexts. For example, in (39).

(39) a. a man drunk is of less use than a man sober

b. a man drunk is more likely to hurt himself than a man sober

Why this should be the case is intriguing. It seems possible that the parrellelism of structure to that of the clause is an important factor. Perhaps the presence of a second Reduced Relative in the same clause is causing some kind of effect. We can see that a similar effect can be seen in equative clauses.

(40) a. a man drunk is a man lost

b. a penny saved is a penny earned

They receive more of a poetic reading to my ear, but they are definitely acceptable.

Certain verbs resist progressive readings, while others are more variable. Some stative verbs can appear with progressive morphology, but when they do they gain a nonstative (or progressive) interpretation.

(41) a. John likes the film (stative)

b. John is liking the film (nonstative)

In (41) John's liking of the film has a transient or temporary flavour.

However there are certain verbs that steadfastly resist progressive readings. One such verb is *know*.

(42) a. John knows film history

b. *John is knowing film history

It appears that such verbs should not be able to appear alongside *-ing* unless in some form of gerund. But they can appear inside Reduced Relatives, when they are beneath a quatifier. We've already seen in Section 3.2 that we cannot consider Reduced Relatives to be gerunds.

(43) Anyone knowing the whereabouts of the stolen car should contact the police

Here the phrase *knowing the whereabouts of the stolen car* acts as a restrictive modifer. The matrix verb *contact* requires an agentive subject.

There's a phenenomenon in English in which modifiers are more acceptable when following quantifiers than when following regular nominals. Williams (2013a) touches on them when discussing types of postnominal modification. The relevent data is given in (44).

(44) a. I bought something Russian

b. *I bought a book Russian

c. I don't know anyone Russian

d. *I don't know a citizen Russian

An explanation of why this should be the case is not offered in Williams (2013b). Whatever the explanation may be for why (44c) is acceptable may also turn out to be the reason for why (43) is acceptable.

The phenomenon Williams describes only applies to quantifiers proper, not quantified DPs. Whereas there is a quantified DP equivalent of (43) which is acceptable. Compare (45) with (46).

(45) *I don't know any citizen Russian

(46) Any citizen knowing the whereabouts of the stolen car should contact the police

Whatever ultimately explains the data in (44) cannot be assumed to also explain the data in (46). There must be an independent explanation for its acceptability.

3.2.1 Previous Analyses of Reduced Relatives

Here I briefly review the literature on the syntax of reduced relatives.

Kayne 1995

The LCA disallows right-adjunction. Roughly speaking structural height is associated with linear precedence. If some subpart (A) of a given phrase is structurally higher than another subpart (B), and the lower subpart is not contained within the higher, then the higher is to precede the lower at the point of linearization. There are some technical notions here (definitions of c-command, etc.) that I have skipped over as they are not directly relevant to the current discussion.

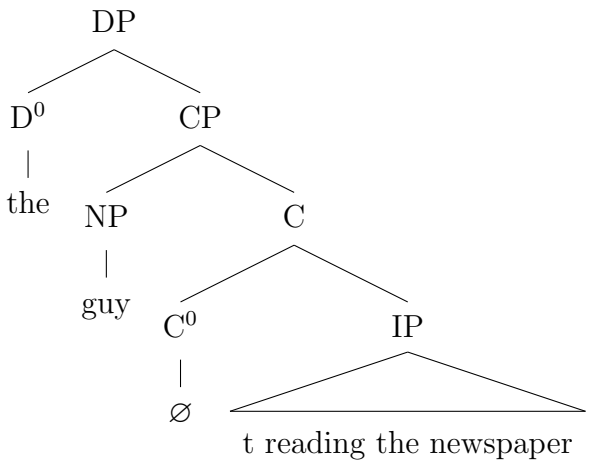
The LCA rules out the possibility of right-adjunction in the syntax. Any adjunct, by its nature, is higher in the structure than what it adjoins to. As such, all adjuncts precede what they adjoin to. All adjunction becomes left-adjunction after linearization.

The only material that may appear to the right of a given head is the complement of that head. Since regular relative clauses and Reduced Relatives appear postnominally, and cannot reasonably be considered nominal complements[5], their derivation must be addressed. For Kayne (1994) the heads of relative clauses cannot be base generated where they appear, but must instead have been raised from some lower position. Here, he takes inspiration from the analysis of relative clauses outlined in Vergnaud (1974). The relative clause is realized as postnominal due to the head of the relative being raised to a higher position.

Similar logic is required for the derivation of Reduced Relatives. The head of a Reduced Relative must be raised from a lower position to one where it is structurally higher than the postnominal material. The structure below demonstrates this analysis.

[5]Again, we may set aside the issue of PPs.

(47)



The main question to ask here is; what motivates the existence of the CP layer in Reduced Relatives? We've seen that no complementizers or relative pronouns are allowed inside Reduced Relatives, so why should we postulate the presence of the layer of structure with which they are intimately associated?

Kayne has possibly two arguments in favour of the CP layer. The first is based on the notion of 'stacking' relative clauses. 'Stacking' is when a single relative head is shared by a number of relative clauses. An example is presented in (48).

(48) I just read the *book* [$_1$ that you told me about] [$_2$ that your son gave me last year]

It is generally possible to use a null complementizer instead of *that* in relative clauses. But Kayne notes that using a null complementizer in a 'stacked' relative gives an unacceptable result.

(49) a. I just read the *book* [you told me about]

b. I just read the *book* [your son gave me last year]

c. *I just read the *book* [that you told me about] [your son gave me last year]

Switching the second 'stacked' relative clause for a Reduced Relative also results in unacceptability.

(50) *I just read the *book* [that you told me about] [given to me by your son last year]

Kayne assumes that this indicates that Reduced Relatives have a null complementizer, and therefore a CP layer.

This argument strikes me as very tenuous. There could be some other aspect of Reduced Relatives that disallows them from being 'stacked' like regular relative clauses. I am not persuaded by this to assume the presence of a null complementizer inside Reduced Relatives.

The second argument in Kayne for the presence of a CP layer is not made explicitly but falls out after considering the need to move an NP out of the rest of the Reduced Relative. We can consider this an implied argument.

Let's consider the passive in Kayne's analysis.

(51) [the [guys [watched t by the police]]] are spies

Some kind of movement operation must have taken place here. Let's consider A-movement. This is movement to an argument position usually for the purpose of checking a case feature. However we know from Section 2 that subjects don't get checked for case inside Reduced Relatives. We may set aside A-movement.

Now let's consider A'-movement. This is movement to a non-argument (and caseless) position. This looks more like what Kayne needs. Whenever we see A'-movement we see movement to the specifier of C^0. The argument therefore is that if we find A'-movment inside Reduced Relatives then there must be a CP layer also.

But we might wonder, if A'-movement is responsible then why don't we find Reduced Relatives where the object crosses over the subject to become the head?

(52) *[the [guys [the police watching t]]] are spies

Kayne argues that *the police* cannot be checked for case here, and hence the unavailability of such types of Reduced Relative. However, we've already in Section 2 seen that it is not enough to rely on considerations of case assignment in order to block out object relativization.

(53) a. the guy reading the newspaper is called Sam

b. *the newspaper the guy reading is upside down

c. *the newspaper PRO reading is upside down

Introducing an argument *PRO* which does not need to be checked for case still results in unacceptability.

It's clear to me that assuming the presence of a CP layer inside Reduced Relative is not only poorly motivated, but also rules in a number of constructions we would wish to rule out. We can take away from this the assumption that there is no CP layer inside a Reduced Relative.

The proposal that Cinque puts forth is that adjectives come in two varieties. The first (and structurally lower) are what he calls 'direct modification' adjectives, the second (and structurally higher) are what he calls 'indirect modification'. If the same adjective appears twice prenominally then the prediction is that they will have two distinct readings. The word *visible* is compatible with an individual-level and a stage-level reading. The individual-level reading for *visible* is 'possible to be seen', while the stage-level reading is 'can currently be seen'.

(54) a. the visibile visible stars

b. the invisible visible stars

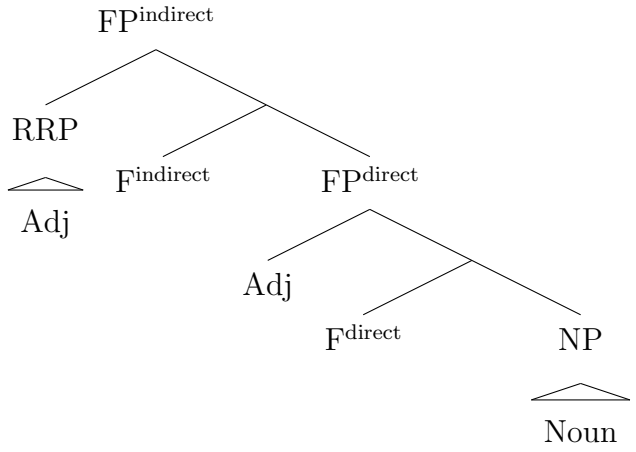
c.# the visible invisible stars

Switching between *visible* and *invisible* provides a diagnostic tool for ascertaining which of the two *visible*s is associated with which reading. We expect that negating the stage-level *visible* should result in a reading which can be successfully interpreted. It is perfectly reasonable for something to be possible to seen, but currently not visible. However, negating the individual-level *visible* should result in something that is uninterpretable. It's insensible for something to be impossible to see but currently visible. That the example in (54c) is semantically odd indicates that the second adjective position is the one associated with the individual-level reading.

Cinque assumes that Kayne (1994)'s Linear Correspondence Axiom (LCA) holds, and as such predicts that when both types of adjective appear prenominally then the leftmost will be the structurally higher of the two types and therefore a case of 'indirect modification'[6].

[6]RRP is what I'll label what Cinque assumes to be a reduced relative clause

(55)



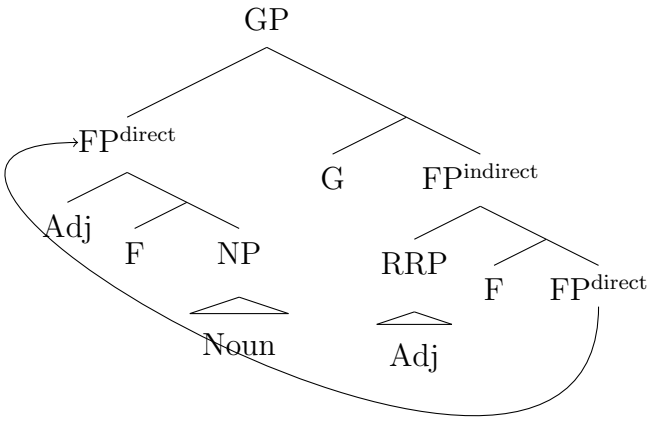
This structure is what provides the prenominal ambiguity that Cinque observes in English. We can use a similar test to the one we used above to see which kind of adjective appears in the postnominal position in English.

(56) a. the visible stars visible

b.#the invisible stars visible = #the visible invisible stars

It's the higher (indirect) adjectives that appear in the postnominal postion. Cinque suggests that there is a position higher than where the indirect modification adjectives sit, to which a constituent containing direct modification adjectives and the noun can raise. Here I've called this projection GP.

(57)



When G is introduced it can trigger a movement of FP^{direct} above $FP^{indirect}$. This movement is what generates the postnominal position in English, and as a result the only possible postnominal adjectives are those that sit in the indirect modification position.

(58) a. $\text{Adj}^{\text{indirect}}$ $\text{Adj}^{\text{direct}}$ Noun

b. $\text{Adj}^{\text{direct}}$ Noun $\text{Adj}^{\text{indirect}}$

Note that the introduction of GP into the structure (and the subsequent movement operation it triggers) is claimed to be optional in English. The prenominal and postnominal indirect modification adjectives are structurally the same - they are introduced into the structure in exactly the same way.

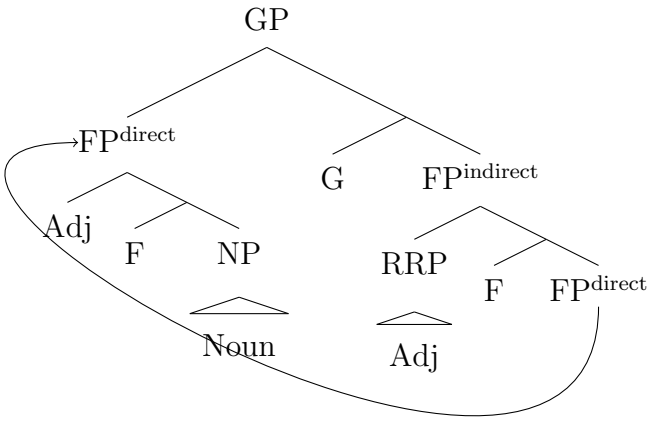
(59) Prenominal reduced relative clauses must be syntactically identical to postnominal reduced relative clauses.

The Analysis for Italian

Whereas postnominal adjectives in English are unambiguous between the two types of adjectives, it is prenominal adjectives in Italian that are unambiguous. As can be seen from the tables shown previously, the unambiguous adjective position in English is of one type (which we've ascertained is 'indirect modification') while the unambiguous adjective position in Italian is of the other type ('direct modification').

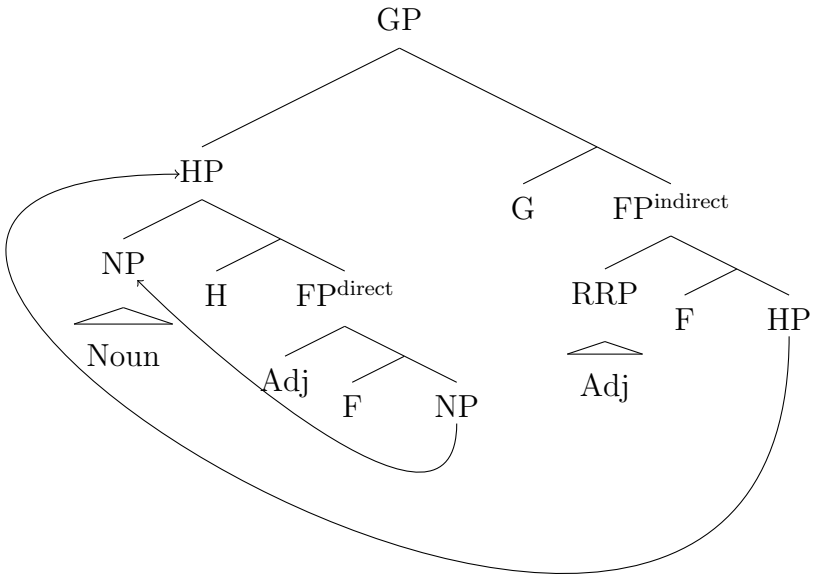
Assuming that English and Italian both share the same underlying structure for the nominal extended projection, then we need to assume that the inability of 'indirect modification' to appear prenominally in Spanish is the result of an obligatory movement to the GP layer. Here we have a contrast with English in that this operation is taken to be obligatory in Italian, yet optional in English.

(60)



This captures the inability of 'indirect modification' adjectives to appear prenominally. As a result of this, the only adjectives that can appear prenominally are of the 'direct modification' type. In order to capture the ambiguity of type found postnominally in Italian, Cinque suggests that NP can optionally raise across the 'direct modification' adjective, as in Cinque (2005). It is conceivable for a contrast in word order to be achieved using other processes but the structural process gifts us an explanatory power that the others don't.

(61)



(62) a. Adj$^{\text{direct}}$ Noun Adj$^{\text{indirect}}$

b. Noun Adj$^{\text{direct}}$ Adj$^{\text{indirect}}$

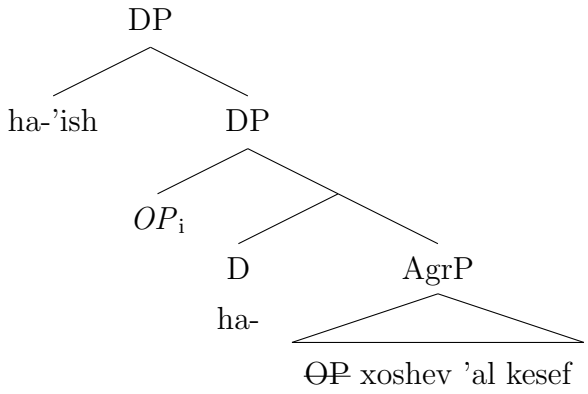
In conclusion, English has an optional raising of the constituent containing 'direct modification' adjectives and the noun to the GP layer. Italian however has this raising obligatorily, and also has an optional raising of the noun across a 'direct modification' adjective. This is depicted in the table below.

(63)

	English	Italian
raising to GP	optional	obligatory
raising to HP	n/a	optional

Siloni 1997

(64)



The analysis presented in Siloni (1995) is an attempt to provide a uniform structure for participial Reduced Relatives in languages like French and English and participial relatives in languages like Hebrew and Arabic.

First, let's consider the data. Presented below are two equivalent sentences in Hebrew and French. In each case there is postnominal material which acts as a modifier of the noun.

(65) [ha-'ish *ha-kore 'iton]* *hu meragel* [Hebrew]
the-man *ha*-reading newspaper is spy

'the man reading the newspaper is a spy

(66) [l'homme *lisant le journal]* *est espion* [French]
the-man reading the newspaper is spy

'the man reading the newspaper is a spy

Before we conclude that the postnominal material in (65) should be considered a Reduced Relative, let's first consider some other options.

One option is that this example contains a regular relative clause. This approach does not fly however, due to the fact that regular relative clauses in Hebrew feature a morphological prefix. The regular relative equivalent of (65) is given in (67).

(67) [ha-'ish she-*kore 'iton]* *hu meragel* [Hebrew]
the-man rel-read newspaper is spy

'the man who reads the newspaper is a spy

The postnominal material clearly cannot be a regular relative clause.

Another option would be to consider it to be some kind of adjective, since adjectives occur postnominally in Hebrew. Superficial support for such an approach is provided by the fact that there are definiteness agreement effects between adjectives and their nouns in Hebrew.

(68) a. *ha-'ish ha-yafe*
def.-man def.-beautiful

b. **ha-'ish yafe*
def.-man beautiful

However, on closer inspection the kind of postnominal material in (65) does not pattern with adjectives in Hebrew. The adjectival definite marker *ha-* only occurs when the noun is marked as definite. If the noun is indefinite it is unacceptable for the adjective to be marked with *ha-*.

(69) a. 'ish yafe

b. *'ish ha-yafe

But in structures such as (65) the *ha-* morpheme associated with the postnominal material must always be there, irrespective of whether the head is definite or indefinite. The presence of the *ha-* morpheme cannot be the result of some agreement operation.

(70) a. ha-'ish ha-kore 'iton hu meragel

b. *'ish kore 'iton hu meragel

c. 'ish ha-kore 'iton hu meragel

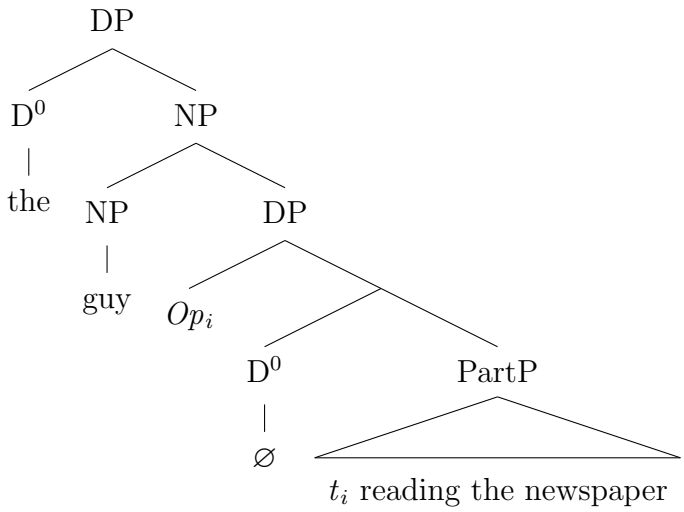
Therefore, considering such structures as some kind of complex adjective fails to capture the data also. Siloni suggests that they should be considered to be the same entity as Reduced Relatives in languages such as French and English.

Siloni provides a comparison between these kinds of structures in Hebrew and French Reduced Relatives based on the following empirical evidence. Both structures are a) tenseless, b) unable to accomodate *wh*-words, and c) only allow relativization of the subject. Assuming that there is a correlation between tenselessness and an inability to assign case, then these three characteristics match the characteristics we've already seen in Reduced Relatives.

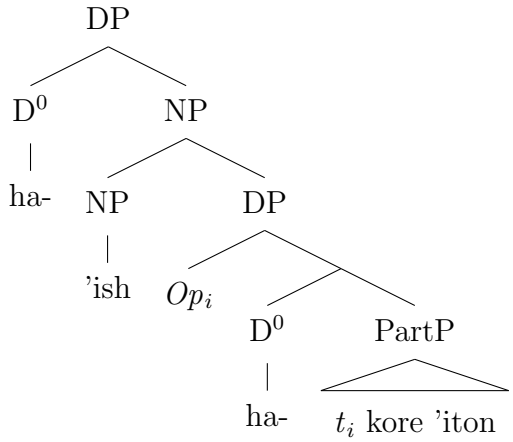
There is a noticable difference between Semitic Reduced Relatives and for example, Romantic Reduced Relatives. The Semitic variety features a morpheme which is the same shape as the definite marker, whereas Romantic Reduced Relatives have nothing.

Siloni suggests the following structure for participial Reduced Relatives (71).

(71) a.



b.



She proposes that D^0 can act as a complementizer in certain contexts. The explanation for the presence of definite marking in some varieties and its absence in others comes down to whether the D^0 complementizer is overt or not.

This analysis follows the idea laid out in Abney (1987), that D^0 is to the nominal domain what C^0 is to the verbal. The suggestion is that since C^0 can behave as a complementizer in verbal domains, perhaps D^0 can behave as a complementizer too.

Siloni, elaborating on the correlation between tensed and CP noted in Stowell (1982), moves the distinction between D^0 and C^0 away from nominal versus verbal towards tenseless versus tense. C^0 is the complementizer for tensed phrases, while D^0 is the complementizer for tenseless phrases.

The rest of the relativization process plays out in a familiar way. She assumes a head-external approach and has a relative operator undergoing A'-movement to the specifier of D^0.

This approach is very interesting, and effortlessly captures the otherwise unexpected presence of a definite marker on the Reduced Relative.

However, I have a couple of concerns about this analysis. The first comes from the strategy Siloni uses to rule out the presence of relative pronouns *wh*-words in Reduced Relatives. Since the analysis uses an A'-movement operation to get the relative operator into the specifier of D^0, an extra piece of machinery is needed to block the possibility of A'-moving a *wh*-word. The piece of machinery evoked comes down to a simple stipulation that these D^0 heads are specified as [-*wh*], or lacking a *wh*-feature. While this achieves the result of blocking relative pronouns, it does not prevent to possiblity of relativizing object arguments.

Siloni evokes a similar argument to Kayne regarding the non-relativization of object arguments, namely that the subject argument would be in need of being assigned case. We've already seen that such an explanation can be problematic.

My other concern is that it seems to me that the claim that D^0 selects tenseless material while C^0 selects tensed material may be fundamentally untestable.

It seems that there are two conceivable ways to falsify the claim made by Siloni. The first is to find a language in which D^0 selects tensed material and C^0 selects tenseless material. The second is to find a language in which D^0 (or C^0) selects both tensed and tenseless material.

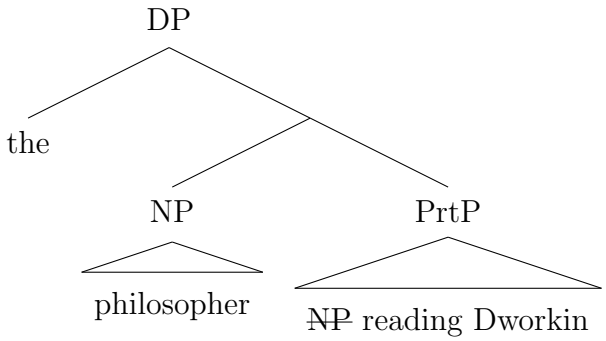
The problem with the first option is that there would be no way to identify which element was D^0 and which was C^0 beforehand. We would need to know which morphemes D^0 and C^0 were without knowing their distributions. This would not be possible.

The problem with the second option is that there remains the possibility that the morpheme associated with tensed material may be coincidentally the same shape as the morpheme associated with tenseless material. Given that D^0 and C^0 would both be carrying out comparable roles, trying to prove against accidental homophony would be difficult.

What we can take away from Siloni's work is that any good analysis of Reduced Relatives should hope to capture the Semitic data as well as the European data. Whatever function the *ha-* morpheme plays in Hebrew may prove enlightening for the French and English data too.

Bhatt 1999

(72)



The suggestion for the formation of Reduced Relatives which is found in Bhatt (1999) takes a different approach to those found in the previous analyses. He does not assume that there is a specific layer of structure which is dedicated to performing the complementizer function. Instead, he suggests that Reduced Relatives are the result of a movement operation, in the spirit of Bury (2003),Donati (2006), a type of reprojecting movement.

Free relatives, such as (73), look very similar to regular relative clauses in terms of their structure. However, they lack a nominal head that is distinct from the relative pronoun.

(73) a. I read [what Lev wrote]

b. I read [the book]

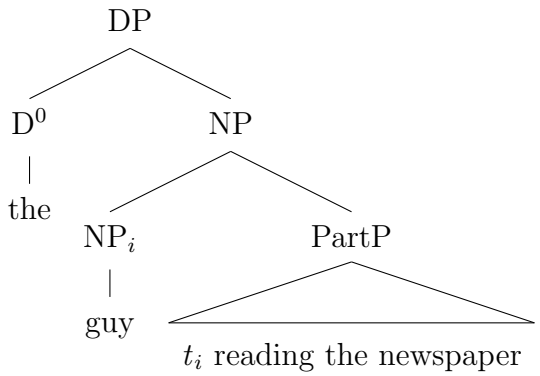
In the case of regular relatives the head is assumed to be where the entire phrase receives its nominal category. But in free relatives, there is no relative head. One

solution for where the DP status of free relatives originates is that the *wh*-word is A'-moved to the specifier of C^0 as normal, but rather than C^0 projecting its categorial features up the *wh*-word projects instead.

(74) I read [$_{DP}$ what$_i$ C^0 Lev wrote t_i]

Bhatt uses a similar operation to derive Reduced Relatives. The NP which is to become the head of the Reduced Relative is raised up and adjoined to the remnant phrase, at which point the categorial features of the NP are projected up. The remnant then behaves like a regular nominal modifier. A representation of this analysis is provided in (75).

(75)



Bhatt himself acknowledges that this kind of movement is peculiar, but it is driven by the assumption that there is no specific piece of structure associated with the complementizer function in Reduced Relatives.

The main motivation behind his approach is the combination of the assumptions a) that all kinds of relatives are derived by a raising operation (roughly in agreement with Kayne's analysis) and b) that there is no CP layer in a Reduced Relative (in contrast with Kayne's analysis).

We've already seen arguments against the existence of a CP layer in Reduced Relatives, so let's look at Bhatt's argument for 'relativization' by raising.

Bhatt presents two arguments for assuming a raising operation in the formation of Reduced Relatives, both of which depend on the phenomenon of reconstruction.

The first depends on notions of idiom interpretation. He assumes that idioms enter the derivation as one piece, as a structurally complex lexical item, Jackendoff (1996). Once in the structure syntactic operations are freely able to apply to it. Consider the following examples.

(76) a. Bill made headway

b. *The headway was fantastic

c. The headway made by Bill was fantastic

Note that *the headway* is not licit as a stand-alone argument, and yet it can be the head of a Reduced Relative if the remnant of it's associated idiom is present inside it. That the idiom interpetation is available in the Reduced Relative case, Bhatt takes to be indicative of a raising operation. The idea is that *made headway* enters the derivation as a unit, and then *headway* raises across.

The second argument relies on the phenomena of scope reconstruction. The following sentences are presented as relevent data.

(77) a. I am worried about the twenty five people likely to come for dinner

b. The twenty five people likely to come to dinner might be a problem

His argument is that the sentence in (77a) carries the reading whereby the head NP *25 people* is interpreted under the scope of *likely*. Under such a reading it is the proposition that *it is likely that 25 people will come for dinner* that is the cause for concern, not the *25 people* themselves.

Bhatts appears to be under the assumption that the head of the Reduced Relative originates in the subject position of the infinitive.

(78) [the [twenty five people]$_i$ [likely t_i to come for dinner]]

This is what allows the reconstruction of the NP to a position under the scope of *likely*. However, there is no reason to assume that this is where that NP originates. The Reduced Relative in (77a) is an adjectival Reduced Relative. Wherever the subject comes from, it is not assumed to orginate inside the adjectival predicate, at least not from beneath the adjective. According to his analysis all adjectival Reduced Relatives are should be derived as in (79).

(79) a. [the committee$_i$ [t_i happy with the proposal]]

b. [the man$_i$ [t_i proud of his son]]

c. [the [twenty five people]$_i$ [t_i likely to come to dinner]]

As we can see, reconstructing the NP down still leaves it above *likely*. So, from where does the lower reading originate? The infinitive inside the adjectival predicate still requires a subject. If we assume that subject to be *PRO*, then its being coreferent with *25 people* make such an interpretation possible.

(80) [the [twenty five people]$_{i,j}$ [t_i likely PRO$_j$ to come to dinner]]

While this approach provides an interesting alternative to the kinds of approaches found elsewhere, I find the motivation behind it to be unconvincing.

This analysis does step away from the assumption that Reduced Relatives and regular relative clauses both involve the same kind of structural machinery to get their similar semantics. Since we have no motivation for assuming that Reduced Relatives and regular relative clauses are syntactically alike, an exploration of such alternative ways of considering the 'relativization' involved is to be encouraged.

3.2.2 Relative Clauses

The External Analysis has it that the NP that serves as the relative head is entered into the structure at the position in which it appears (Partee 1975, Chomsky 1977, Jackendoff 1972). A requirement of such an approach is that there must be some element inside the rest of the relative clause which mediates the thematic relation between the content of the relative clause and the head. This can either be achieved by use of relative ponouns or a null relative operator.

(81) a. [the [story$_{\text{i}}$ [$_{CP}$ which$_{\text{i}}$ C Garth wrote t]]]

b. [the [story$_{\text{i}}$ [$_{CP}$ Op_i that Garth wrote t]]]

Roughly speaking, this is the approach assumed in Siloni.

The Matching Analysis is very similar to *The External Analysis* in that it too proposes that the head is base generated where it appears. However in this case, the material inside the rest of the relative clause is assumed to be another NP which 'matches' the relative head according to certain criteria (refs)(Chomsky 1965, Sauerland 1988). The two NPs corefer with the second NP undergoing an application of ellipsis.

(82) a. [the [story$_{\text{i}}$ [$_{CP}$ [which ~~story$_{\text{i}}$~~] C Garth wrote t]]]

b. [the [story$_{\text{i}}$ [$_{CP}$ ~~story$_{\text{i}}$~~ that Garth wrote t]]]

None of the previous analyses assume such an approach, but it remains a possibility. Assuming this in Reduced Relatives would place certain restrictions on the internal NP such that it sufficiently 'matches' the external.

The final approach is *The Raising Analysis*. Here the relative head is not base generated where it appears but rather is generated inside the relative and comes to sit where it does as the result of a movement operation (Vergnaud 1974).

(83) a. [the [story [$_{CP}$ [which t] C Garth wrote t]]]

b. [the [story [$_{CP}$ t that Garth wrote t]]]

Such approaches are used by Bhatt and Kayne. They do however use different variations. The examples above are given for the purpose of clarity. It represents only one example of a Raising Analyses.

I will remain agnostic as to which of these different approaches is best for describing how relative clauses are formed, as all that is needed for the discussion to come is the notion that relative clauses are introduced fairly high in the structure of the nominal phrase.

3.3 Summary

This chapter lays the groundwork for the discussion to come. Here I reviewed the different varieties of noun modification. Special attention was paid to adjectives and reduced relatives since these will become the most relevent types of modification in the following chapters.

I will be working under the assumption that modifiers are introduced into the structure by dedicated functional heads and that those dedicated functional heads are subject to a strict heirarchy. The position for indirect modification adjectives is higher in the structure of the nominal than the position for direct modification adjectives. I assume too that the position in which reduced relatives are introduced is higher again.

Chapter 4

Anaphoric One Under Modification

The aim of this chapter is to examine previously unreported effects of anaphoric *one* under modification in order to probe the nature of the nominal structures in which they appear.

In section 4.1 I lay out novel observations on the nature of anaphoric *one* under modification. Here we will see interpretational restrictions that are not found with common nouns, and we also observe a contrast in behaviour depending on the type of modification being used.

In section 4.2 I provide a structural account for the behaviour presented. The account suggests the obligatory use of a typically covert movement operation in the nominal, which results in a configuration which impacts on the data presented.

In sectoin 4.3 I turn to English predicate nominals and examine the behaviours we would expect to see given the structure being argued for.

In section 4.4 further relevent data is discussed in the wake of the structural account I propose. Phenomena ranging from DP-internal wh-movement to nominal ellipsis are easily captured.

4.1 Modified *One*: The Data

A characteristic of anaphoric *one* which is of chief interest to this thesis is the way in which it behaves when modified. If we were to assume that the anaphoric nature of *one* were captured entirely within the semantics of the lexical item itself,

then we might expect the distribution of an anaphoric noun to be identical to that of any common noun. This is demonstrably not the case. When modified by a prenominal adjective, anaphoric *one* does indeed behave in exactly the same way as any other noun.

(1) a. the red book(s)

b. the red one(s)

c. a red book

d. a red one

However, with a postnominal modifier, certain differences may be observed. Whereas the definite form of anaphoric *one* behaves similarly to any other noun, in the indefinite we see a clear contrast.

(2) a. the book(s) written by Dickens

b. the one(s) written by Dickens

c. a book written by Dickens

d. *a one written by Dickens

We observe what seems to be an inability for the indefinite article to cooccur with anaphoric *one* specifically in the absence of a prenominal modifier. We might wonder whether this remains the case with full relative clauses in place of the reduced relative clauses, and the effects remain.

(3) a. the book(s) that Dickens wrote

b. the one(s) that Dickens wrote

c. a book that Dickens wrote

d. *a one that Dickens wrote

We might also wonder whether it is only the indefinite article that causes the issue (whatever that issue may turn out to be), but we can see that numerals in general and certain quantificational elements also yield the same effect.

(4) a. *a one written by Dickens

b. *three ones written by Dickens

c. *some ones written by Dickens

d. *many ones written by Dickens

In the following sections, we take a closer look at the behaviours of the different modifiers. And from there seek to provide an explanation to capture this new data.

4.1.1 Adjectives

We've already seen that prenominal adjectives in English have been argued to be associated with different structural positions within the nominal extended projection. Indirect modification being introduced into the structure higher than direct modification. We also saw that this led to the following generalisations.

(5) *Germanic languages*
Prenominal adjectives are ambiguous
Postnominal adjectives are unambiguous

(6) *Romance languages*
Prenominal adjectives are unambiguous
Postnominal adjectives are ambiguous

In a language where prenominal adjectives are the norm, then the speaker has little to go on in terms of word order to identify which of the two structural positions a given adjectives sits in. Therefore a prenominal adjective should be ambiguous. Under an account similar to Cinque (2010), this ambiguity disappears when an adjective is postnominal.

The same reasoning holds for languages where postnominal adjectives are the norm. The speaker has difficulty identifying which of the two structural positions compatible with a postnominal adjective is meant, and so ambiguity results. But with a prenominal adjective in such a language, only one structural position is possible, and so the meaning is unambiguous.

In this section, we go through the list of direct and indirect modification readings that Cinque outlines, and observe how they behave when modifying

anaphoric *one*. We will see that it is the reading that are associated with higher adjectival positions that survive.

Individual level vs. Stage level readings

Bolinger (1967) discusses a difference in readings between certain adjectives when they appear prenominally and when the appear postnominally. He lays out the contrast between the readings in terms of characteristic vs. occasion. When they appear prenominally, they attribute a property to the noun that is characteristic of the object in question. Whereas when they appear postnominally, they attribute a property that is dependent on the occasion of use, that may or may not also hold of the object at a later date. For example, in *the visible stars are Aldebraan and Sirius* the visibility of the stars is a contstant - those stars are bright enough to be visible. But in *the stars visible are Aldebraan and Sirius* the visibility is a temporary visibility - of the stars that are bright enough to be visible, these are the stars that can currently be seen.

The characteristic reading is labelled an individual-level reading, in that the property is deemed to hold of the individual as a whole, and the occasion reading is labelled a stage-level reading, in that it holds of a slice of the individual.

Sadler and Arnold (1994) note that the stage-level reading associated with postnominal adjectives is not totally excluded in prenominal positions, given the availability of phrases such as *the currently visible stars*, where *currently visible* is presumably a stage-level predicate. In conjunction with Svenonius (1994) postnominal adjectives are necessarily interpreted as stage-level predicates, except when phrasal.[1] For example *clever with her hands* is available postnominally, and presumably has an individual-level reading, while *clever* on its own cannot appear postnominally.

Larson (1998) describes the intrepretative contrast in terms of closeness to the noun rather than strictly in terms of linear order. Adjectives such as *visible* can be doubled prenominally, and the resulting interpretation is that the rightmost of the two, i.e. the one closer to the noun, attributes the individual-level reading of *visible* while the other carries the stage-level reading. *The invisible visible stars*

[1]Svenonius mentions cases such as *something wild* as an apparent case of postnominal adjectives not showing the restriction to stage-level predicates. Such examples will be examined further in Section 4.4.2

include Capella is read as meaning something like; the stars that are bright enough to be seen, but which are currently obscured, include Capella. Switching the order of *invisible* and *visible* in this example results in something that is incoherent; *the visible invisible stars include Capella.*

Cinque takes these facts to indicate that the individual-level reading is associated with the lower structural position, and is an example of direct modification. The stage-level reading is associated with the higher structural position and is indirect modification.

Here follow examples of anaphoric *one* being modified by the adjective *visible.*

(7) a. On the topic of stars, the visible ones include Aldebraan and Sirius (*ambiguous*)

b. 'The stars that are generally visible include Aldebraan and Sirius'

c. 'The stars that happen to be visible now include Aldebraan and Sirius'

Just as with common nouns, the resulting phrase is ambiguous between a direct and an indirect reading when the adjective is prenominal.

(8) a. On the topic of stars, the only ones visible are Aldebraan and Sirius (*unambiguous*)

b. #'The only stars that are generally visible are Aldebraan and Sirius'

c. 'The only stars that happen to be visible now are Aldebraan and Sirius'

Again, there is nothing unusual going on here when an adjective such as *visible* modifies anaphoric *one* postnominally. It is unambiguous, as expected.

It seems as far this contrast is concerned, both the structural level associated with direct modification and the structural level associated with indirect modification sit above the location in the structure where anaphoric *one* is found.

(9) a. [$_{\text{FP-direct}}$ *visible* [$_{\text{ClP}}$ one]]

b. [$_{\text{FP-indirect}}$ *visible* [$_{\text{ClP}}$ one]]

As we continue looking at these interpretational contrasts we will see that not all readings are available for prenominal adjectives when modifying anaphoric *one.*

Restrictive vs. non-restrictive readings

Jespersen (1924) discusses a difference in the types of adjuncts; restrictive adjuncts and non-restrictive adjuncts. He asserts that the function of a restrictive adjunct is "to restrict the primary, to limit the number of objects to which it may be applied". In *a red rose*, *red* restricts the set of applicable objects that *rose* picks out by excluding those roses that are not red. Non-restrictive adjectives are described as not performing this function, and are typically used to characterize an object already picked out.

The example given to outline the ambiguity that arises is *his first important poem*. Here *important* is either restrictive or non-restrictive. If restrictive, then we are talking of 'the first of a subset of his poems, that subset being those poems that are important'. However, if not restrictive then we are talking of 'the first of all his poems, which so happens to be important'.

Bolinger (1967) and Larson (2004) note that there is a relationship between the linear order of the adjective and the noun and whether that adjective can be interpreted as being non-restictive or not. As with the contrast between individual-level and stage-level adjectives previously, prenominal adjectives are ambiguous as far as being interpreted as either restrictive or non-restrictive. In *every unsuitable word was deleted*, either *unsuitable* is restrictive (in which case only those words that were 'unsuitable' were deleted) or non-restrictive (in which case all the words were deleted). It is only when the adjective is in postnominal position that it is unambiguously restrictive.

Cinque argues for the restrictive reading to be associated with the higher functional position (thereby being an example of indirect modification), while the non-restrictive reading is associated with the lower position (an example of direct modification).

Here follow examples of anaphoric *one* being modified by the adjective *unsuitable*.

(10) a. When it came to acts, all of his unsuitable ones were condemned (*unambiguous*)

b. # 'All his acts were condemned; they were unsuitable'

c. 'All (and only) his unsuitable acts were condemned'

The expected ambiguity is not forthcoming. When modifying anaphoric *one* it is not possible for the adjective to receive a non-restrictive reading. Here we have a difference in behaviour between anaphoric *one* and common nouns.

(11) a. When it came to words, every other one unsuitable was deleted (*unambiguous*)

b. # 'Every other word was deleted; they were unsuitable'

c. 'Every other word that was unsuitable was deleted'

The nonrestrictive reading would be one in which every other word was deleted and it just so happened that those words were unsuitable. However this is not an available reading for (11a). The only reading that can be achieved is one in which of all the unsuitable words every other one was deleted.

(12) a. *$[_{\text{FP-direct}}$ *unsuitable* $[_{\text{ClP}}$ one]]

b. $[_{\text{FP-indirect}}$ *unsuitable* $[_{\text{ClP}}$ one]]

We can see that unlike with common nouns the adjective is unambiguous when appearing prenominally with anaphoric *one* as far as this contrast between readings is concerned. Whereas in postnominal position, the adjective is unambiguous in the same way with anaphoric *one* as it is with any other common noun.

Modal vs implicit readings

Larson (2000) discusses the ambiguity between a modal interpretation of adjectives like *possible* and what he calls an 'implicit relative reading'. The observation is that a phrase like *possible candidate* in the example given below can either refer to individuals who are not in fact candidates but who have the potential to become candidates at some later date (modal reading), or it can refer to individuals who are candidates but compose a subset of all candidates restricted by considerations of what is possible (implicit relative reading).

(13) Mary interviewed every possible candidate

a. Mary interviewed everyone who might possibly be(come) a candidate

b. Mary interviewed every candidate that it was possible for her to interview

Larson notes that there are two restrictions on the availability of this type of ambiguity, namely the type of adjective used, and the choice of determiner. Despite having a similar semantic quality adjectives like *potential* or *probable* do not result in this ambiguity. The 'implicit relative reading' disappears and only the modal reading remains. The same is seen when the choice of determiner is not a universal quantifier.

(14) Mary interviewed every potential candidate

a. Mary interviewed everyone that was a potential candidate

b. *Mary interviewed every candidate that it was potential for her to interview

(15) Mary interviewed a possible candidate

a. Mary interviewed someone that was a possible candidate

b.#Mary interviewed some candidate that it was possible for her to interview

Something interesting can be observed when we switch out the noun in this example for the anaphoric *one*. This too neutralizes the ambiguity, but in a different way to the change in the choice of adjective or determiner. Now it is the modal reading which becomes unavailable and the 'implicit relative reading' which survives.

(16) a. When it came to candidates, Mary interviewed every possible one (*unambiguous*)

b.#'Mary interviewed every potential candidate'

c. 'Mary interviewed every candidate that it was possible for her to interview'

Larson describes two ways for an adjective like *possible* to occur prenominally. One is to undergo direct modification in the same way as any other adjective, and this gives rise to the modal reading. The other is to originate postnominally before being raised across the noun to a prenominal position. The argument is that this captures why certain semantically similar adjectives are unable to recreate this same ambiguity. Adjectives such as *potential* and *probable* cannot appear

postnominally, and so cannot be involved in the step neccessary to formulate an 'implicit relative reading'.

This analysis permits a cooccurence of *possible* with the expectation that they should each receive distinct readings.

(17) Mary interviewed every possible possible candidate

a. Mary interviewed everyone that was a possible candidate that it was possible for her to interview

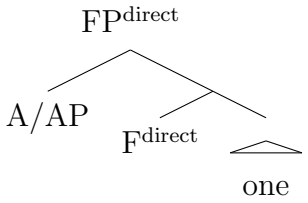
That the 'modal reading' should be unavailable for the anaphoric one carries with it also the prediction that this kind of cooccurance of *possible* should also be infelicitous. This is what we see.

(18) When it came to candidates, Mary interviewed every possible possible one

a. # Mary interviewed every potential candidate that it was possible for her to interview

These observations seem to suggest then that the structural position which is associated with direct modification in common nouns is for some reason unavailable with anaphoric *one*. This is represented below.

(19) *



When examining the behaviour of this contrast in postnominal modifiers we arrive at an issue. As we saw previously, anaphoric *one* cannot appear alongside a quantifier such as *every* without an intervening adjective. In an effort to mitigate this effect I introduced an adjective between *every* and anaphoric *one*.

(20) a. ?When it came to candidates, Mary interviewed every one possible

b. When it came to candidates, Mary interviewed every other one possible

There needs to be a degree of precision here since the conflation of *every one* with *everyone* results in a felicitous sentence with a high degree of similarity to the expected meaning of the example in (21a).

(21) a. When it came to candidates, Mary interviewed every other one possible (*unambiguous*)

b. # 'Mary interviewed every potential candidate'

c. 'Mary interviewed every candidate that it was possible for her to interview'

(22) a. *[$_{\text{FP-direct}}$ *possible* [$_{\text{ClP}}$ one]]

b. [$_{\text{FP-indirect}}$ *possible* [$_{\text{ClP}}$ one]]

Again, we observe an unavailability for the reading associated with direct modification for anaphoric *one*.

Intersective vs. nonintersective readings

Larson (1995) and Larson (1998) discuss a well-known ambiguity in adjectives between an intersective and nonintersective reading. This is the ambiguity discussed in the previous chapter. I return to it again here for the sake of completeness. In (23) *beautiful* can either apply to Olga herself, or to her ability as a dancer.

(23) Olga is a beautiful dancer

a. 'Olga is a dancer and Olga is beautiful'

b. 'Olga is a dancer and she dances beautifully'

Prior analyses had explored the possibility that the ambiguity in these examples rests in the nature of the adjective. That there should be one adjective that is responsible for one resulting meaning, and another homophonous adjective responsible for the other. However, Larson proposes an analysis whereby it is the noun which is the source of the ambiguity. The suggestion is that just as verbal predicates have as a part of their semantic build up a Davidsonian event variable, alongside the variables relating to agentivity etc., so too do nominal predicates have such a variable.

Rather than being thought of as single place predicates, nouns should instead be thought of as having a individual variable (x) and a Davidsonian event variable. From here we need only state that an adjective is free to chose either the individual variable (x) to predicate over, or the event variable (e). If the former is the

subject of the adjectival predicate then we get the intersective reading, since x is predicated by the nominal predicate in conjunction with the adjectival predicate. Whereas is the latter is the subject of the adjectival predicate then we get the non-intersective reading, since x is only predicated by the nominal predicate.

(24) a. Olga is a beautiful dancer

b. $\exists$e [dancer(olga, e) $\wedge$ beautiful(olga)]

c. $\exists$e [dancer(olga, e) $\wedge$ beautiful(e)]

The inability of certain adjectives to receive an ambiguous reading in the same way that *beautiful* can results in their incompatibility with one or the other of the two variables. For example, an adjective like *aged* can only be predicated of an individual variable, not an event variable. Whereas with an adjective such as *former* the inverse is true.

What behaviours do we see then when we swap out a common noun like *dancer* in favour of pronominal *one*?

(25) a. As for dancers, Olga is a more beautiful one than her instructor (*unambiguous*)

b. 'Olga is a dancer who is a more beautiful person than her instructor'

c. # 'Olga dances more beautifully than her instructor'

Only the intersective reading is available when using pronominal *one* in place of a common noun. The reading associated with the modification of the event variable vanishes. The same phenomenon occurs when modifying pronominal *one* with a postnominal modifier.

(26) a. As for dancers, Olga is another one more beautiful than her instructor (*unambiguous*)

b. 'Olga is a dancer who is a more beautiful person than her instructor'

c. # 'Olga dances more beautifully than her instructor'

Again the direct modification reading vanishes when the pronominal *one* is used.

(27) a. *[$_{\text{FP-direct}}$ *beautiful* [$_{\text{ClP}}$ one]]

b. [$_{\text{FP-indirect}}$ *beautiful* [$_{\text{ClP}}$ one]]

Not only this, but it seems that the Davidsonian event variable is an available candidate for modification only below a certain level of the nominal projection. Once an adjective is merged high enough it seems there is no longer the option of modifying the event variable. Exactly why this should be the case is unclear, but it does fall in line with the general observation that the less structure there is in a given phrase, the less specified the meaning of that phrase is. Just as mass is the default reading with respect to the mass/contrast distinction, so too perhaps is the event reading closer the default meaning of nouns. The individual reading would be achieved with additional layers of functional structure.

Comparative vs. absolute readings

In prenominal position a superlative adjective in English is ambiguous between an absolute and a comparative reading. In (28) below *highest mountain* can either be read as being the mountain on Earth such that no other mountains are higher (i.e. the absolute reading), or it can be read as the highest mountain of all the mountains in a discourse relevant subset of all Earth's mountains (i.e. the comparative reading).

(28) Who climbed the highest mountain?

a. 'Who climbed Everest?'

b. 'Who climbed a mountain higher than those which others climbed?'

Since it is clear that the phrase *highest mountain* is ambiguous, it is possible for us to imagine a scenario whereby an individual addresses a group of seasoned mountain climbers and asks the question as given in (29a).

(29) a. Q: Which of you climbed the highest mountain?

b. A: None of us

The response given above is only compatible with one of the two possible readings. It cannot be the case that none of the seasoned mountain climbers have climbed a mountain which was higher than the mountains that his peers have climbed.

And so, the response can only be given if the question is read with the absolute reading.

Using this, we can switch out *mountain* for pronominal *one* and observe an interesting detail.

(30) a. Q: You've all climbed mountains, but which of you climbed the highest one?

b.# A: None of us

It seems that when modifying pronominal *one*, the absolute reading is unavailable for prenominal adjectives.

(31) a. *[$_{\text{FP-direct}}$ highest [$_{\text{ClP}}$ one]]

b. [$_{\text{FP-indirect}}$ highest [$_{\text{ClP}}$ one]]

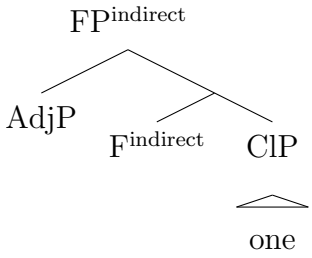
In all of these cases, we've can see that it is the reading associated with indirect modification that survives when adjectives modify pronominal *one*. It is the readings associated with the higher of the two adjectival positions which we see.

Prenominal adjectives	*one*	Postnominal adjectives
individual-level or stage-level		stage-level (or individual-level)
restrictive		restrictive
implicit relative		implicit relative
intersective		intersective
absolute or comparative superlatives		*[untestable]*

I can conceive of two alternate approaches to explaining this kind of behaviour. Either (i) anaphoric *one* enters the derivation as a structural chunk that already contains within it that stretch of the lower nominal projection in which direct modification usually can be incorporated, or (ii) the introduction of a direct modification adjective somehow crashes the derivation.

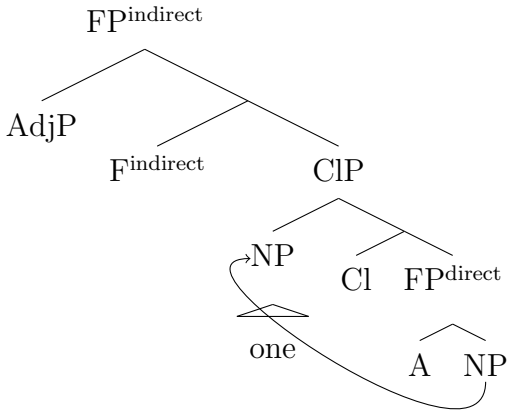
In the first instance, the inability for anaphoric *one* to receive any kind of mass interpretation could be a result of that chunk of structure that anaphoric *one* contains has a ClP layer, forcing a nonmass denotation.

(32)



In the second instance, the inability of anaphoric *one* to raise across a direct modification adjective becomes mysterious. We might wish to follow Panayidou (2014) and assume that lower, direct modification adjectives are introduced into the structure not as phrases, but as heads. Perhaps the presence of an intervening head between N and Cl prevents the movement that would otherwise occur. This is depicted below.

(33) *



However, if this were indeed the case, then we should expect direct modification to be available at the expense of the movement operation. Since no such interpretations are available, I am inclined to conclude that anaphoric *one* enters the derivation as a chunk of structure which already contains a ClP layer and precludes the possibilty of introducing any adjectives into the direct modification position.

4.1.2 Reduced Relatives

The analysis presented in Cinque (2010) deals with attributive adjectives and reduced relative clauses using the same machinery. They are introduced inside the specifier position of a dedicated functional head that sits in the extended projection of the noun.

Cinque does not observe however, that there exists a contrast in behaviour when pronominal *one* is modified by an attributive adjective and when it is modified by a reduced relative clause in English. This can be seen in the examples below.

(34) John was selling books...

a. and Mary bought a red one

b. *and Mary bought one red

c. *and Mary bought a one bound in leather

d. and Mary bought one bound in leather

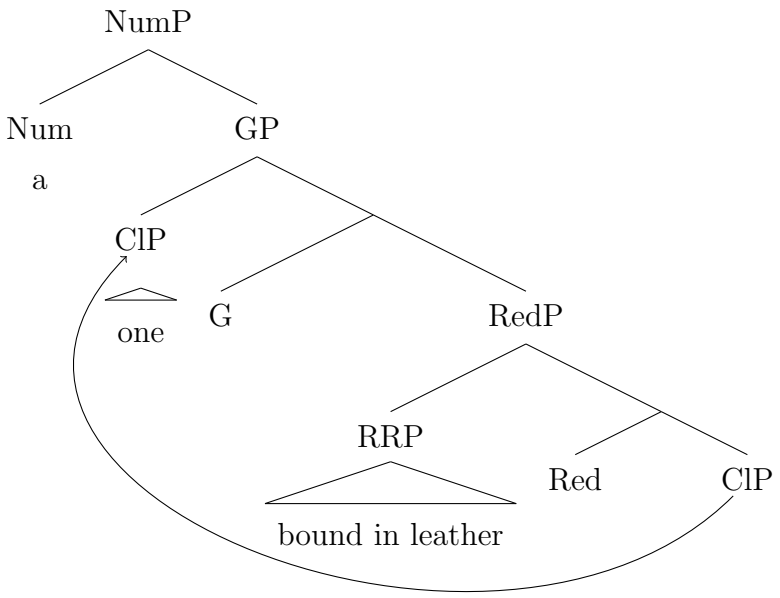
When the pronominal element *one* is modified by an attributive adjective, it is possible for an indefinite article to cooccur with it (34a). However, when anaphoric *one* is only modified by a reduced relative clause then it is not possible for an indefinite article to occur (34c).

If we follow Cinque's analysis for postnominal modifiers in English, we arrive roughly at the structure below. The ClP *one* raises across the reduced relative clause up to the GP layer in the same way as any regular noun. From there we would expect for it to be possible to introduce an indefinite article (or numerals, certain quantifiers) in the continuing structure. This is indeed exactly what we see with common nouns, as in (35a). However, this is not an option for pronominal *one*.

(35) a. [$_{\text{NumP}}$ a [$_{\text{GP}}$ [$_{\text{ClP}}$ book][$_{\text{FP}}$ [$_{\text{RRP}}$ bound in leather] ~~[$_{\text{ClP}}$ book]~~]]]

b. *[$_{\text{NumP}}$ a [$_{\text{GP}}$ [$_{\text{ClP}}$ one][$_{\text{FP}}$ [$_{\text{RRP}}$ bound in leather] ~~[$_{\text{ClP}}$ one]~~]]]

(36) *



Perhaps this difference between postnominal modifiers and prenominal modifiers could be explained by suggesting that whereas the *one* in examples such as in (34b) is indeed the anaphoric *one*, the *one* in (34d) is an instance of the numeral *one* followed by an ellipsis of the remainder of the nominal projection. Were the *one* in (34d) an instance of the numeral *one* then the inability of the indefinite article to appear alongside it would become clear - they would be competing for the same structural position. However, you would also need to advocate that there should be some kind of preferential treatment to the structure containing the numeral *one* over the equivalent structure containing the anaphoric *one*, such that the availability of the former prevents the latter from ever being realised. This strikes me as being too strong of a position to take. Besides, it can be demonstrated that the *one* in examples such as (34d) is indeed the anaphoric *one* and not the numeral. It can be pluralised, whereas numeral *one* cannot.

(37) John was selling all kinds of books, but Mary only bought ones bound in leather

Again, we see that there is an inability for anaphoric *one*, whether it carry plural morphology or not, to appear alongside numerals and certain quantifiers.

(38) John was selling books...

a. *and Mary bought three ones bound in leather

b. *and Mary bought some ones bound in leather

This behaviour is markedly different to the behavious of anaphoric *one* when modified by prenominal adjectives, and is what we seek to explain in subsequent sections. For now however, we turn briefly to anaphoric *one* under modification by regular relative clauses.

4.1.3 Relative Clauses

The way anaphoric *one* behaves when modified by a relative clause patterns with the way in which it behaves when modified by a reduced relative. It is unable to appear alongside the indefinite article, numerals, and certain quantifiers.

(39) John was selling books...

a. *and Mary bought a one that she'd read before

b. and Mary bought one that she'd read before

4.1.4 Summary

Bringing all together the observations made as to the behaviour of anaphoric *one* under these different types of modification we arrive at the following table.

	one	Adj *one*	*one* RedRel	*one* Rel
a + *one*	*		*	*
one only		*		

As can be seen, we have a distinct difference in behaviour when anaphoric *one* is modified by an adjective, in contrast to the other types of modification. It is impossible for anaphoric *one* to appear alongside the indefinite article, except precisely those instances when a prenominal adjective is present. And the inverse it true too, it is impossible for anaphoric *one* to appear on its own in an argumental nominal when a prenominal adjective is present.

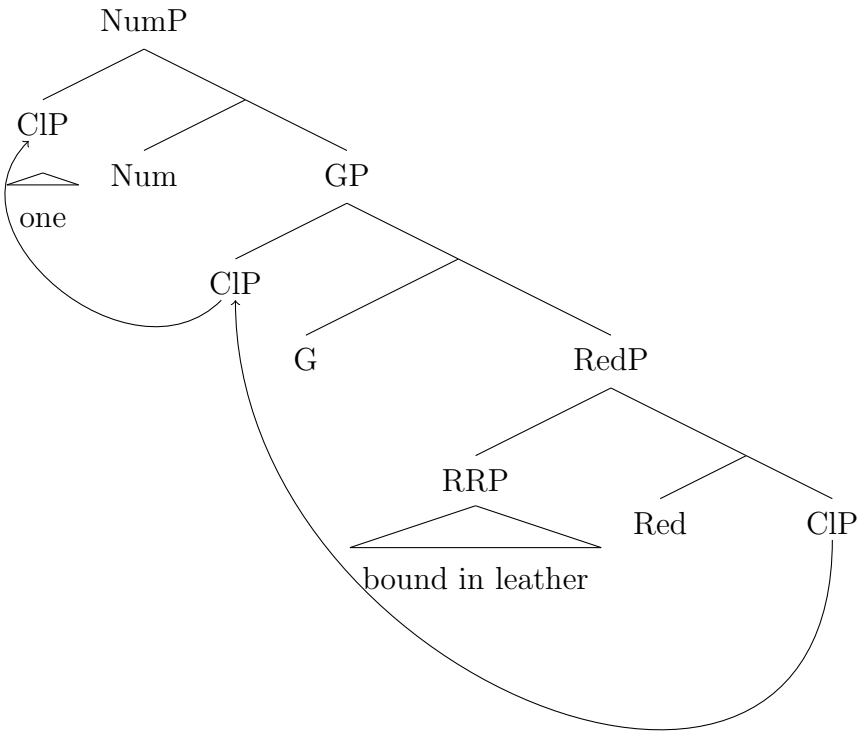
The next section concerns itself with an attempt at explaining why this pattern should be found.

4.2 A Structural Account

I suggest that anaphoric *one* has the ability to encode quantity, and as such can provide that function by moving up the NumP layer. The Num head is introduced into the structure of the nominal and provides a requirement that the nominal be specified for quantity. Anaphoric *one* is able to perform such a function and is raised up into NumP, thereby blocking the External Merger of indefinite articles, numerals, and certain quantifiers.

However, I propose that it doesn't raise up to NumP immediately, but rather undergoes a movement operation first to GP. This movement is by and large a covert movement operation, but I claim it is a neccesary operation, without which it would be very difficult to capture the pattern of behaviour outlined in previous sections.

(40)



We need to have an adequate explanation for what happens in those cases where anaphoric *one* is modified by prenominal adjectives. It appears that the presence of a prenominal adjective for some reason blocks this raising of pronominal *one* to NumP. Other than simply stipulating that there is some quality to the adjective which means that its presence results in this effect, it seems mysterious as to why this should be the case.

(41) a. [a [red [book]]]

b. *[one [red [~~one~~]]]

Perhaps we could take inspiration from Rizzi (1990)'s Relativised Minimality. Generally speaking, movement is prohibited if the moved element crosses another suitable candidate for the same movement opearation. For example, the extraction of a wh-element from an embedded clause in which both the subject and the object bear the [wh]-feature is only felicitous if it is the subject wh-word which is extracted. The object cannot be extracted as it would need to cross another suitable candidate for movement.

(42) a. Who$_{[wh]}$ does John think [$_{CP}$ ~~who~~ C [~~who~~ brought what$_{[wh]}$]]?

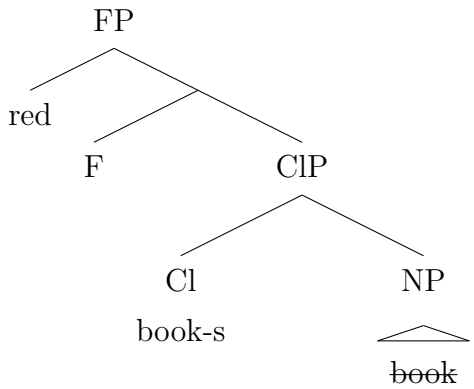
b. *What$_{[wh]}$ does John think [$_{CP}$ ~~what~~ C [who$_{[wh]}$ brought ~~what~~]]?

Perhaps there is something in the specification of adjectives in general, or perhaps the functional structure responsible for introducing adjectives that triggers this kind of prohibition.

We can imagine what such a situation would need to look like. The 'feature' that permits *one* to raise up to the NumP layer is its ability to provide quantity. For a Relativised Minimality story to work, then some element associated with the introduction of an adjective into the structure needs to be able to provide quantity in the same way.

Importantly, it would need to be specified for this quality irrespective of the noun with which it occurs. With this in mind, let's consider the following structure.

(43)



From here we introduce the Num head which brings the requirement that this nominal be specified for quantity. If the adjective itself were able to specify quantity then that would trigger a raising operation, and preclude numerals and certain quantifiers just as we wish to say the raising of *one* does. But this is not what we see.

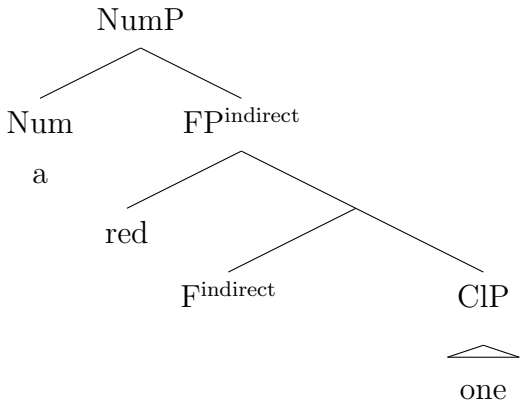
(44) *[$_{\text{NumP}}$ red [$_{\text{FP}}$ ~~red~~ [$_{\text{ClP}}$ book-s [$_{\text{NP}}$ ~~book~~]]]]

(45) a. two red books

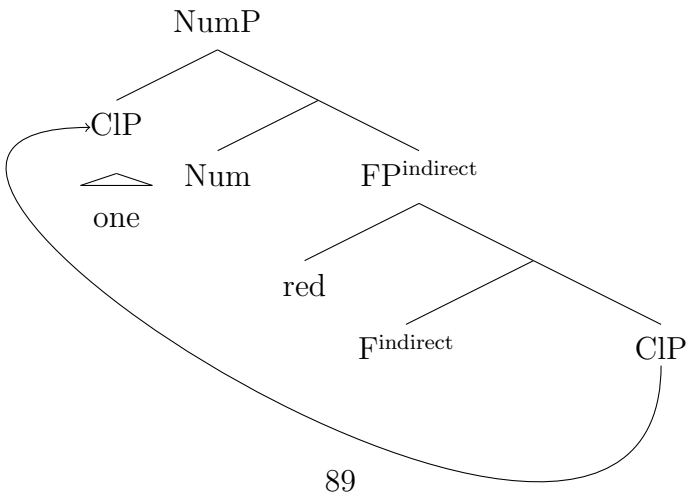
b. many red books

It cannot be the case that adjectives carry a relevent feature that is more local to Num than the ClP *one* is. A Relativised Minimality story is just not going to work given that there is no sign of there being a competition between movement operations. The availability of the indefinite article in the case below tells us that this is not what is going on.

(46)



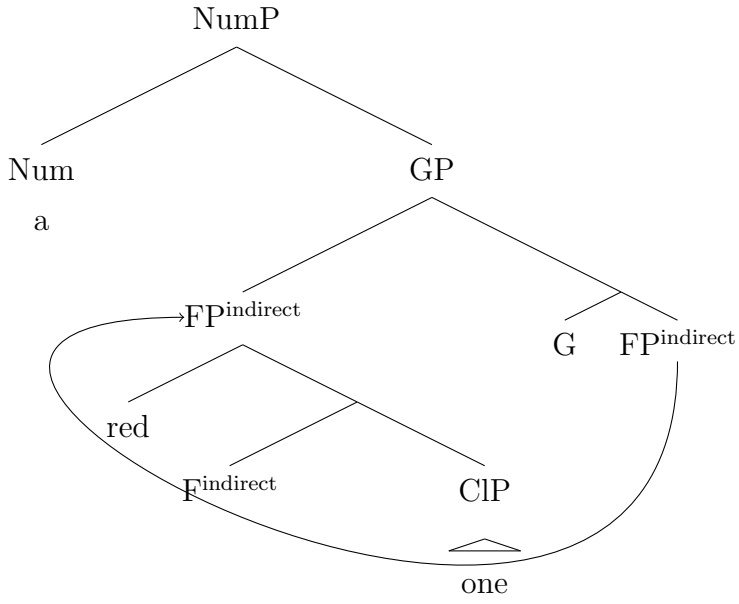
(47) *



We need an account of why the presence of an attributive adjective blocks the raising of *one* to NumP. I suggest that this may best be thought of as resulting from a configurational constraint. Remember that the raising of the constituent containing across the position in which reduced relatives are introduced is assumed to be optional for English in Cinque (2010). If instead, we assume a raising to GP to be obligatory in English, then we can more easily capture these contrasts.[2]

If raising to GP is obligatory then it would happen even in those cases where there is no postnominal modification. Presumably whether or not the projection that is responsible for introducing a reduced relative into the structure is present should have no bearing on whether the GP layer is introduced. I suggest that it is always present in the nominal projection and always requires part of the projection below it to move up. This is represented below.

(48)

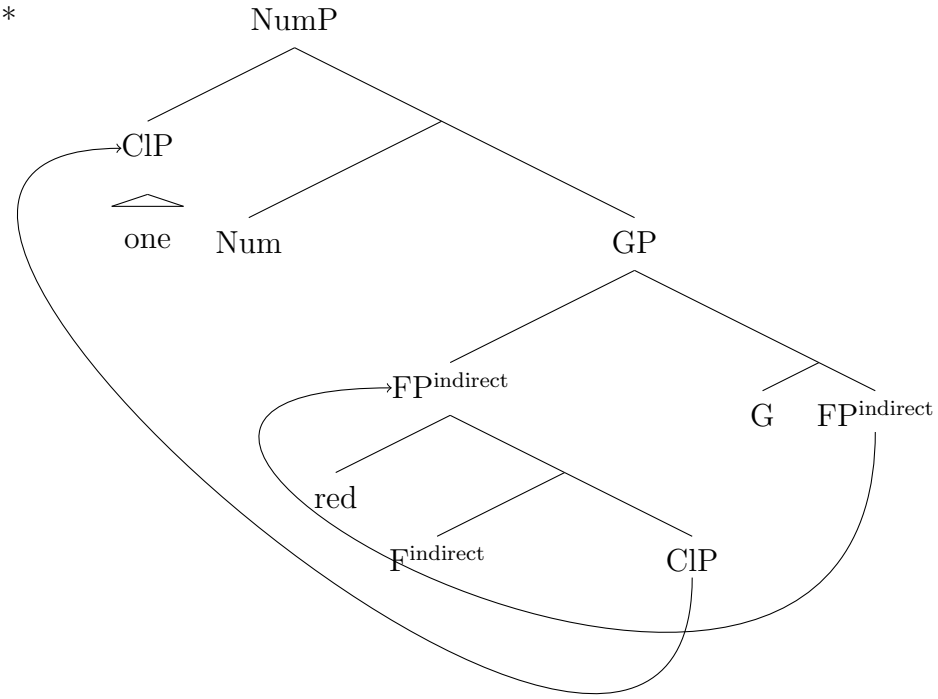


Rather than this being an issue of what the adjective brings into the structure to block a movement operation, it becomes an issue of what can and cannot be extracted from a moved constituent. In English the anaphoric *one* is too deeply embedded inside FP to be able to be raised up to NumP.[3]

[2]Note that the shift from this type of movement being optional to obligatory in English undoes the conclusion in Cinque (2010) that prenominal and postnominal reduced relative clauses are the same beast, which is in line with what we saw in previous sections.

[3]Of course if a language were to utilise an movement operation which raises the NP up across

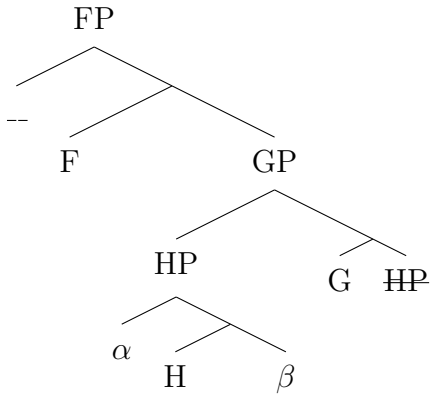
(49) *



The intuition is that the moved element functions much like a phase (Chomsky 2008), and that extraction out of the moved element can only be accomplished by material which is at the topmost edge.

Let me take a moment to abstract away from specific examples to a more general description of what I claim is taking place. If we call the moved element HP, and α is in the specifier position of H, then the only elements that could be extracted from HP are α and the head H itself.

(50) a.



b. viable candidates for extraction from inside HP: α, H

---

the position of AP then that position should not be too deeply embedded for extraction to be possible. This is what I suggest occurs in Spanish, for example.

Assuming that α has the correct featural specification for some higher element that triggers extraction (in the case above this element is F) then α can raise up out of HP. Alternatively, if H carries the correct featural specification then we have two possibilities; the first is that H undergoes head-movement (in accordance with the Head Movement Constraint (Travis 1984)), while the second is that HP itself can raise.

In summary either the whole of the constituent can be moved up from the specifier position of GP, or just the head of the topmost projection, or alternatively any phrasal element sitting in the topmost projection can be moved out. Anything lower than the topmost projection is trapped inside the moved constituent and cannot be moved out of it.

If we apply this thinking to the any of the structures that contain an attributive adjective in English then we see that pronominal *one* sits inside the position of β, and as such is not a viable candidate for extraction. This provides us a more explantorily satisfactory reason for the inability of *one* to raise to NumP in the presence of a prenominal adjective.

From here let us move on to the structures involving reduced relative modification.

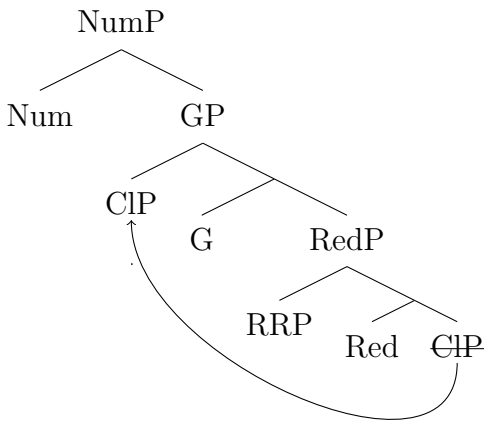
4.2.1 Postnominal Modifiers

The current analysis requires that there be a significant distinction between prenominal and postnominal modifiers. Specifically, in English postnominal modifiers are not inside the constituent out of which a noun needs to escape if it is to be merged again higher in the structure at NumP.

Since there are two types of postnominal modification which are of interest to us (reduced relative and regular relative modification), there are two structural configurations I suggest.

The first is for the structural position of the modifier to be lower than the HP constituent such that any extraction of anaphoric *one* happens in such a way that the modifier cannot possibly intervene. In our current discussion it this position which is crossed over by ClP when it raises up to the GP layer. This is where I imagine reduced relatives are introduced into the structure. They are lower than the NumP layer, but not contained inside the same constituent from which *one* would need to escape.

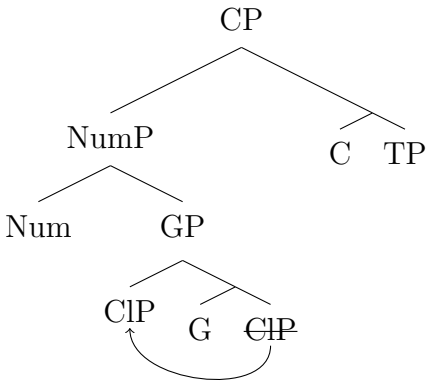
(51)



As can be seen, the presence of a reduced relative (RRP) in the structure of the nominal does nothing to affect the ability of an anaphoric *one* in ClP to raise up to NumP. I suggest this is what prevents the introduction of an indefinite article in the case of postnominal modification by a reduced relative clause.

The second structure is for regular relative clause modification. In this case the modification takes place at a much higher level in the nominal structure. Specifically above the level of NumP. The general structure I have in mind is depicted below.

(52)

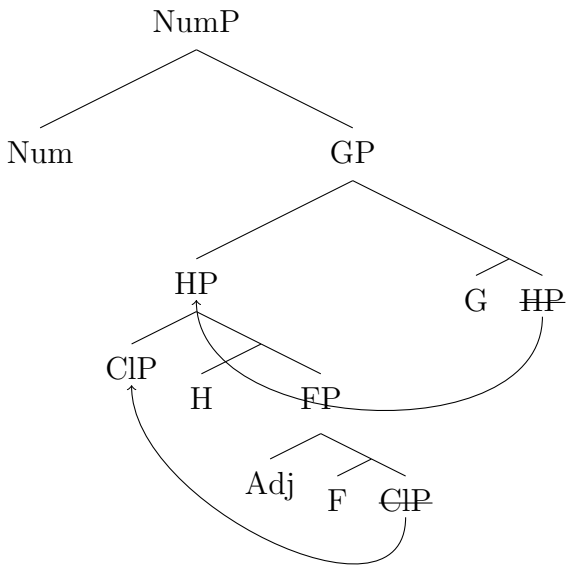


Here the modification by relative clause takes place above the NumP layer and so does nothing to affect the raising of anaphoric *one* from ClP to NumP, resulting in the inability for anaphoric *one* to appear with an indefinite article when modified by a regular relative clause.

I would like to assume one final way of deriving a postnominal modifier in this system; a strategy that is not available in English, but is in Spanish. This is the NP-raising approach as described in Cinque (2005). In this case the adjectival

modifier is contained in the same constituent as the head noun, but the noun is able to raise to a position higher than the adjective.

(53)

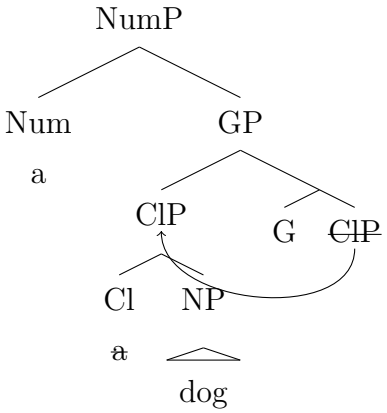


In this case ClP is able to raise up to the topmost projection layer of HP, which results in any adjectives appearing in HP being postnominal adjectives. This is a movement operation that takes place in addition to the cover raising to GP that also occurs. I assume that the movement to GP always takes place, and so I expect it to take place also in nominals without any modification whatsoever.

Unmodified Nominals

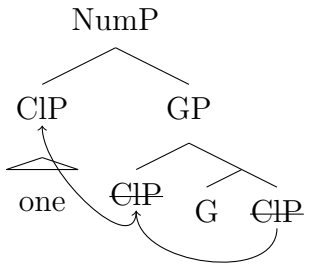
Just as the structural configuration is required to still be achieved in the absence of a postnominal modifier, so too will it need to be achieved in the absence of both a postnominal modifier and a prenominal one.

(54)



This kind of structure doesn't present us with any particularly intriguing properties; it is simply a requirement given what has been argued for above. If anaphoric *one* were introduced it would be able to raise up without much issue.

(55)



4.2.2 ClP and RRP and Sisterhood

We might imagine that rather than being introduced by some covert functional head, reduced relatives are introduced in a different way: that the nominal and the predicate of the reduced relative clause are formed as a syntactic unit, somewhat like a small clause.

For example, if we consider the phrase *a book bound in leather* with this analysis in mind then our jumping off point is as depicted below. We have a syntactic object in which a CLP Merges with a RRP.

(56) $[[_{\text{ClP}}$ book] $[_{\text{RRP}}$ bound in leather]]

There is an important contrast to be noted here between the kind of structure depicted above and small clauses. Small clauses permit fully referential subjects, and so have to involve a predication relation to hold between the subject of the small clause and the predicate.

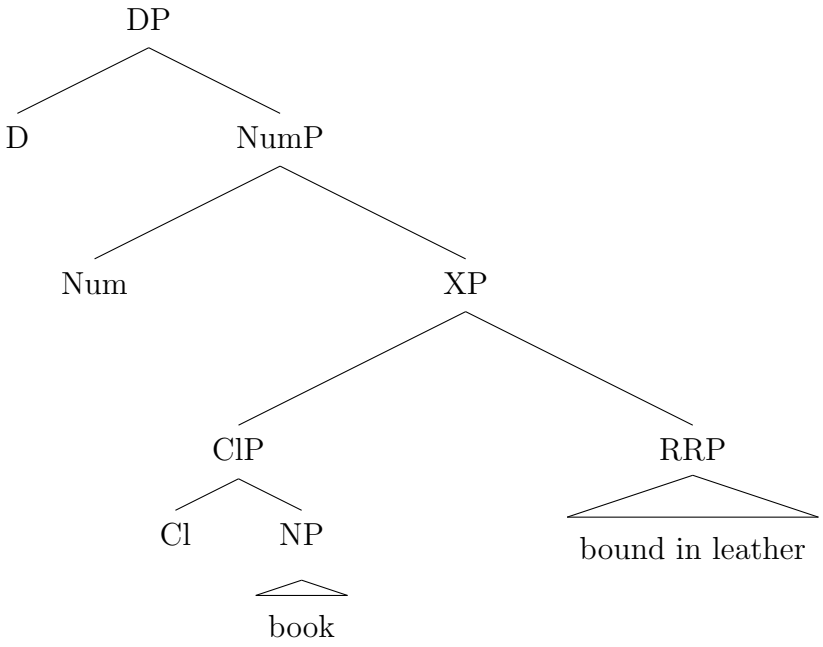
However, this kind of structure doesn't permit fully referential subjects. We have the subject being a ClP which functions as a predicate. This means that rather than a predication relation holding between subject and predicate, we have more of a Predicate Modification rule applying (in the spirit of Heim and Krazter (1998)).

(57) λx. *book*(x) $\wedge$ *bound-in-leather*(x)

x, where x is a book and x is bound in leather

The nominal extended projection is able to proceed above this object, introducing quantifiers and referential material as with a regular nominal projection.

(58)



There is a question as to how such a syntactic object acquires the necessary label for it to progress into a fully articulated extended nominal projection. For the system we've been using we've been assuming implicitly that functional heads (such as Cl, Num) are responsible for providing the label for the syntactic object that is created as a result of their Merger.

But in this case we don't have a head Merging with an XP, but rather two XPs Merging (namely ClP and RRP). Chomsky (2013) discusses what to do in such cases. There are essentially two approaches: the first has it that if the two XPs share a feature then the object can be labelled with that feature; the second is that if no label can be ascertained then movement is triggered in the spirit of Moro (2000).

The only kind of feature that could conceivably by shared between ClP and RRP would be ϕ features, but RRP is never structurally large enough to contain T, which is where we would find the needed ϕ features. So the alternative is to undergo a movement operation.

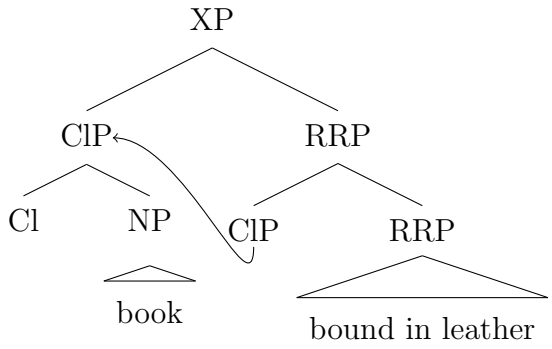
(59) $[[_{\text{ClP}}$ book] $[_{\text{RRP}}$ bound in leather]]

The syntactic object in (59) cannot be successfully labelled, and so ClP raises out and re-Merges. In the wake of such an operation the labelling algorithm will be able to assign a label to XP. That label will be RRP since ClP has moved and is no longer a competitor as far labelling is concerned.

(60) [[$_{\text{ClP}}$ book] [$_{\text{RRP}}$ ~~ClP~~ [$_{\text{RRP}}$ bound in leather]]]

However, this new object is still unable to be properly labelled for precisely the same reason as before. The continuation of the extended nominal projection is impossible with a structure such as this.

(61)



The only way to avoid such a situation is to propose that ClP and RRP do not sit in a sisterhood relationship, and that instead there is some extra structure present that is responsible for mediating the semantic relationship between the two phrases. This is traditionally done through a head which introduces modifiers. I will assume something of this nature to be going on here.

4.2.3 Against a High Reduced Relative

When considering the contrast between modification of pronominal *one* by adjectival phrase and by reduced relative clause, we might consider an analysis whereby the position in which the reduced relative is introduced does not intervene between N and Num. If this were the case then the inability of *one* to raise to Num would be captured entirely by the presence of the adjectival phrase as an intervener. When the adjectival phrase is absent, but the reduced relative present, then the reduced relative would not intervene between N and Num, sitting as it does above the NumP projection. Here I wish to demonstrate that reduced relatives do indeed intervene structurally between N and Num.

(62) a. [$_{\text{NumP}}$ a [$_{\text{FP}}$ AP [$_{\text{NP}}$ one]]]

b. [$_{\text{XP}}$ [$_{\text{NumP}}$ one [$_{\text{NP}}$ ~~one~~]] RRP]

I would argue against the Merger of reduced relatives to a position above NumP. The chief arguments against such an analysis come from the behaviour of noun ellipsis in English and from tests of conjunction.

In English it is possible to elide a noun. Given a suitable referent in the discourse then it is possible to elide material following numerals and quantifiers. Note that it is not possible to elide a noun while stranding an adjective that modifies it. I shall represent the elided material as *ec* in the following examples.

(63) John bought four books and Mary bought six *ec*

(64) a. *John bought four books and Mary bought six green *ec*

b. John bought four books and Mary bought six green ones

While the elided material cannot be modified overtly, it is possible for the elided material to carry an interpretation in which the noun has been modified. For example, in (65) below the elided material is interpeted as meaning 'red books', in accordance with the antecedent noun.

(65) John bought four red books and Mary bought six *ec*

(66) John bought four books bound in leather and Mary bought six *ec*

The elided material in (66) above is compatible with an interpretation where it means 'books bound in leather'. This is most easily captured if we say claim that it is the material contained inside the Syntactic Object with which Num Merges that is susceptible to ellision. For this to be the case, reduced relatives must be Merged in a position contained within the syntactic object that Num Merges with, and so must be structuraly lower than it.

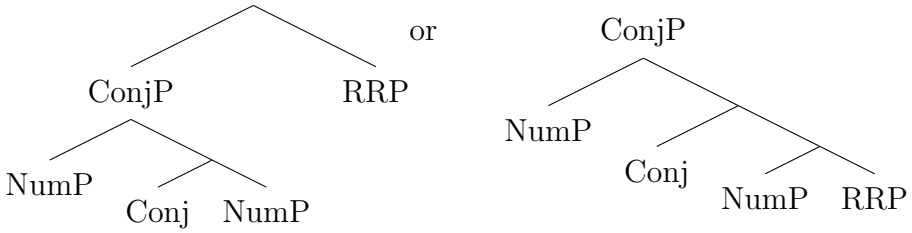
We can also glean details as to the height at which reduced relatives enter the structure with the aid of conjunction tests. Either RRPs are Merged above NumP, or they are Merged below it.

If RRPs are Merged higher then we expect it to be a possible to conjoin two NumPs before the Merging of RRP. Consider the example in (67).

(67) Mary bought three red books and four green books bound in leather

Now, it should be noted that this expression could be ambiguous as to the structure it represents. Does the reduced relative indeed modify the conjunction of the two NumPs, or does it instead merely modify the latter nominal predicate?

(68)



The test for this would be to find a nominal predicate that is fundamentally incompatible with a particular reduced relative clause. If the first of the conjuncts were to contain that predicate, then we should expect this incompatibility to survive the conjunction of the two NumPs only if the reduced relative clause is Merged higher. However if the reduced relative were Merged lower than the conjunction of the two NumPs then we would expect a semantically felicitous example.

(69)#a newly published book published centuries ago

This will serve as the critical case. We get a semantically odd reading if both the adjective and the reduced relative phrase apply in conjunction with one another.

(70) Mary bought three newly published books and four books published centuries ago

That the interpretational oddity of (69) dissolves in the conjunction of two NumPs suggests that the reduced relative *published centuries ago* does not scope over the first conjunct. This instead suggests that the reduced relative phrase is Merged lower in the structure than NumP.

Further support for such a claim can be seen below. It is possible to conjoin two nouns as modified by a reduced relative clause under the scope of phrasal quantificational elements like *too many*, which is taken to sit in NumP.

(71) Mary bought too many apples imported from Ireland and pears imported from Spain

(72) [$_{\text{NumP}}$ too many [[apples RRP] and [pears RRP]]]

This can carry the interpretation of there being both too many apples and too many pears. For the quantificational element to successfully scope over *apples* it must also scope over *imported from Ireland*. Such data is simply incompatible with an analysis wherein the RRP is Merged into the structure at a position higher than the NumP layer.

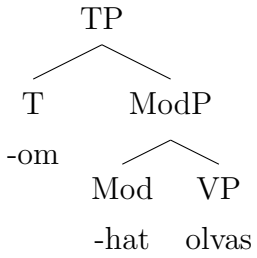
4.2.4 Brody's Mirror Theory and Spanning

There is an alternative approach to these word order facts that does not make use of movement operations at all. In such approaches words are an expression of a complement structure in its extended projection. Movement approaches propose that words are specified to be pronounced either in one position or another, whether that movement be phrasal or head movement. In Brody 2000 a word can't be said to be in a particular position, since it is the expression of a number of positions abstractly.

For example, in Hungarian the verbal word *olvas-hat-om* is the mirror image of the structure of the verbal phrase.

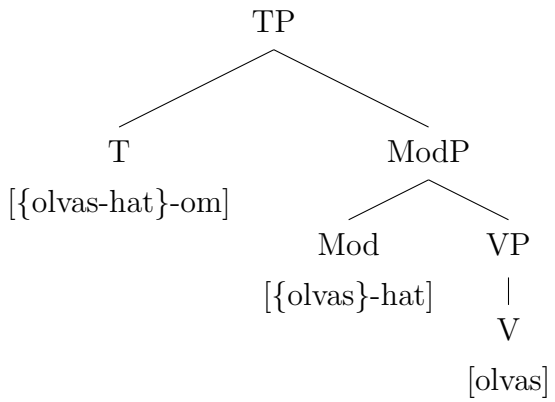
(73) a. *olvas-hat-om*
read-PERMISSIVE-1SG.PRESENT

b.



Under an approach that uses movement in order to derive words and the order of morphemes, the V head would first undergo movement to the Mod head and fuse with it. From there the new complex Mod head would raise again to fuse with the T head, resulting in the complex word *olvas-hat-om*.

(74)



Without making use of movement as an operation, *olvas-hat-om* is the expression of the complement line. Brody's Mirror Theory has it that the syntactic complement line corresponds to a morphological specifier relation, and so if x is the complemement of y then y is suffixed to x. The derivation of *olvas-hat-om* becomes basically trivial under such a system. V is the complement of Mod, and so Mod becomes suffixed to V, resulting in V-Mod. And now V-Mod is the complement of T, and so T becomes suffixed to V-Mod, resulting in V-Mod-T. Spanning approaches are more free in generating the orders in which the morphemes are able to appear, but the general idea is fairly similar in that it is the complement line as a whole that is spelled out rather than any specific node on it.

(75)

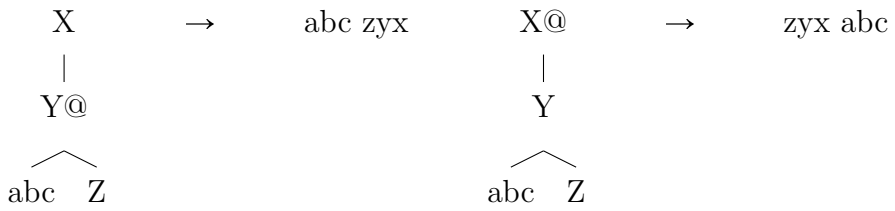
Such nonmovement approaches however need to specify whereabouts on the complement line the word is to be pronounced. This is relevant with regard to the positioning of the word with respect to material sitting in specifier positions. If we have a complement line of X-Y-Z which is spelled out as a single word (*zyx* for example) and Y has structure in its specifier which is spelled out as *abc*, then we need a way of being able to encode which of the two words precedes the other.

In regular movement approaches this is a little clearer to work out. The words will be associated with different structural positions, one higher than the other. Either one has raised from a poition lower than the other to one higher than the other, or they are base generated such that one occupies the higher position. In

the former instance will either precede or follow the other depending on whether it is the higher copy or the lower that is to be spelled out.

In order to understand the relationship between the two words in the context of a nonmovement approach, a point of spell out for the complement line needs to be specified. The spell out position is indicated with an @.

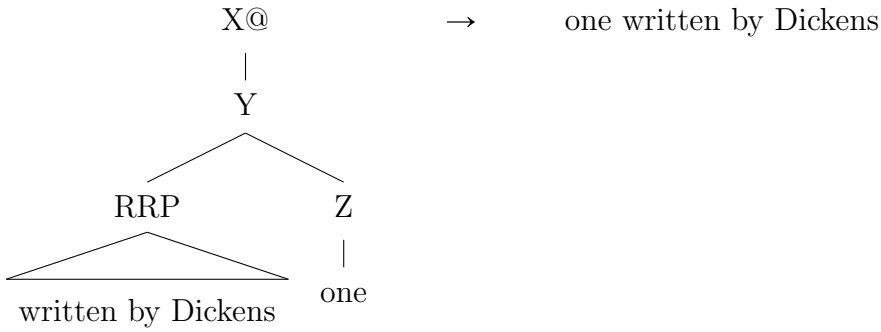
(76)



If the complement line is spelled out sufficiently high then it will precede material in a specifier position, and if it is spelled out sufficiently low then it will follow it.

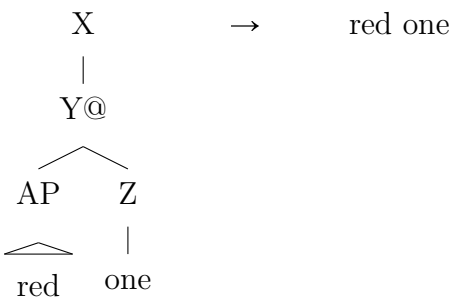
These ideas are of course as applicable to the nominal projection as to the verbal projection. When considering the nature of pronominal *one* in the context of a nonmovement approach, we should want to claim that *one* is the expression of that part of the complement line that at least contains a functional head higher than the position in which reduced relative clauses are introduced.

(77)



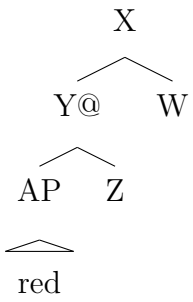
And we should also want to claim that in the presence of an adjective modifier that *one* is the expression of a smaller part of the complement line.

(78)



This variation cannot be resolved except to claim that the presence of an adjective precludes the inclusion of X as part of the complement line which *one* expresses. And according to the Mirror Axiom, they therefore need to be in separate and distinct complement lines, ie different extended projections.

(79)



Making such a claim however results in the derivation shown in (77) being an impossibility. Either X is in the same complement line as Z or it is not. If it is, then *one* should be able to precede adjectives in the same way that it can precede reduced relative modifiers. If it is not, then *one* cannot come to precede a reduced relative modifier expect by recourse to a movement operation of some kind.

4.2.5 Higher Material

When discussing the kinds of syntactic objects that would be in competition with pronominal *one* for position in the NumP layer, I've referred to certain types of quantifiers. Quantifiers come in different flavours. Some can only enter the derivation in NumP, while others are able to enter the derivation in a higher position.

Of the first variety, numerals are a good example. They enter into the structure and provide the function of quantifying the denotation of the phrase as a whole, at the functional layer associated with quantity (NumP). If no further structure is built above NumP then we have a noun phrase which is specified for quantity, but not for reference.

(80) John bought [$_{\text{NumP}}$ three [$_{\text{ClP}}$ book-s [$_{\text{NP}}$ ~~book~~]]]

In the example above *three books* is unspecified for reference. Reference is achieved through the introduction of a DP layer. Two strategies are available. In the first an additional element is brought into the structure in order to make the denotation of the noun referential; the definite article, for example.

The second strategy is to raise the quantifier again up into the DP layer, and thereby perform the function of specifying a reference for the denotation of the phrase.

(81) a. [$_{DP}$ the [$_{NumP}$ three [$_{ClP}$ book-s [$_{NP}$ ~~book~~]]]]

b. [$_{DP}$ three [$_{NumP}$ ~~three~~ [$_{ClP}$ book-s [$_{NP}$ ~~book~~]]]]

These kinds of quantifiers are not able to enter the DP layer without first being introduced in the NumP layer. This can be demonstrated as follows.

The indefinite article is introduced in the ClP layer, but is able to raise up to DP and perform the function of picking out a reference.

(82) John met [$_{DP}$ a [$_{NumP}$ ~~a~~ [$_{ClP}$ ~~a~~ [$_{NP}$ man]]]]

If the indefinite article were able to be merged in DP without first being merged in NumP then we would expect it to be possible to have already merged another element in NumP before merging the indefinite article. We could imagine introducing the singular numeral into the structure first. However, if we try this we see that the outputs are not available.

(83) *[$_{DP}$ a [$_{NumP}$ one [$_{ClP}$ ~~one~~ [$_{NP}$ book]]]]

So we can see that certain elements are able to perform a secondary function providing their first function has already been achieved. Not only that, but the secondary function appears to be somewhat optional. There is not a strict requirement that for example the numeral *three* raise up to DP. It is able to, but also another element is able to be introduced in that layer as an alternative. It is to these types of elements that our attention now turns.

There are a range of quantifiers that can be introduced into the structure of a nominal phrase that already have another quantifier within them. I shall refer to these as the higher quantifiers. They are not introduced in the NumP layer, but are introduced in the DP layer. They don't provide quantity over a denotation, but quantity over referents.

As such, we would expect that these quantifiers should be able to appear with pronominal *one* without issue. As can be seen from the examples below, this is borne out.

(84) a. John was selling books and Mary bought each one written by Dickens

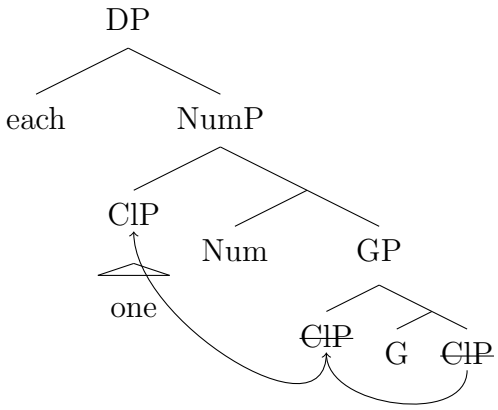
b. John was selling books and Mary bought every one written by Dickens

Note that the *one* that appears in the examples above cannot reasonably be thought of as being the numeral *one* as an overt noun cannot appear in these examples.

(85) a. *Mary bought each one book written by Dickens

b. *Mary bought every one book written by Dickens

(86)



The *one* that appears must therefore be the same pronominal *one* we've been discussing, originating lower inside the ClP and raising up to the NumP position.

4.3 English Predicate Nominals

Roy (2013) discusses non-verbal prediction and argues for a relationship between the structural size of nominal predicates and the types of interpretations that are available to them.

Nominal predicates in French can appear either with or without the indefinite article. This difference correlates with a difference in use and interpretation. For example, those that have an indefinite article cannot be used in answer to the same variety of questions that those that don't can.

(87) Who is Paul? (characterizing predicate)

a. Paul est un acteur

b. *Paul est acteur

c. Paul is an actor

d. *Paul is actor

(88) What is Paul (doing for a living)? (defining predicate)

a. *Paul est un acteur

b. Paul est acteur

c. Paul is an actor

d. *Paul is actor

The presence of the indefinite article is required when the question asks for information of the individual, but is incompatible when the question asks for information of a property of the individual. Roy calls the former type a characterizing predicate, and calls the latter a defining one.

Part of the idea is that a predicate can be said to apply to a 'slice' of an individual's spatiotemporal existence. If John is unwell, then the predicate *unwell* doesn't need to apply to John at every moment during his lifetime, but can instead apply only to a subset, to a limited duration of his existence.

Other interpretational contrasts are discussed; one in relation to tense marking, and another in relation to aspectual marking.

Defining predicates and characterizing predicates behave differently when in the past tense. Defining predicates trigger 'lifetime' effects, while characterizing predicates do not. 'Lifetime' effects conjur a reading in which it is entailed that the subject of the predicate is no longer living.

(89) a. *Jean était un médecin*
John was a doctor

'John was a doctor (when alive)'

b. *Jean était médecin*
John was doctor

'John used to be a doctor

In (89a) there is an interpretation not only that John was a doctor in the past, but also that John no longer exists. The past tense of the clause in conjunction with the defining predicate confers the reading that the subject has deceased. In (89b) however no such intepretation is forthcoming. This is reflected in the different gloss given. Instead the reading is that John has stopped 'doctoring' - or performing the acts and habits of a doctor.

The third contrast presented by Roy relates to imperfective and perfective aspect. If the copula is marked with the imperfective aspect then both defining and characterizing predicates are able to appear, as can be seen below.

(90) a. *Paul était un champion olympique*
Paul was a champion olympic

b. *Paul était champion olympique*
Paul was champion olympic

'Paul was an Olympic champion'

However, when the copula is in the perfective aspect (and supported by the auxiliary *avoir*) then only the characterizing predicate is permissible. The presence of an indefinite article is infelicitous.

(91) a. **Paul a été un champion olympique*
Paul had been a champion olympic

b. *Paul a été champion olympique*
Paul had been champion olympic

'Paul was an Olympic champion'

Roy suggests that the differences in available interpretations for these different predicates is related to their syntactic structure. She assumes, as we have, that NPs can project a ClP layer and a NumP layer above themsleves.

(92) a. $[_{\text{NP}}\ ]$

b. $[_{\text{ClP}}\ [_{\text{NP}}\ ]]$

c. $[_{\text{NumP}}\ [_{\text{NP}}\ ]]$

d. $[_{\text{NumP}}\ [_{\text{ClP}}\ [_{\text{NP}}\ ]]]$

Cl introduces divisions and atomicity. In argumental nominals this confers the property of being countable. In nominal predicates, Roy argues that Cl divides a span of time relating to the subject of the predicate. Just as NumP is responsible for introducing quantity over that which can be counted (in argumental nominals), so too does it introduce quantity over the time slices in predicate nominals.

The defining predicate is as large as NumP, while characterizing predicate is ClP. This, coupled with the assumption that the indefinite article is found only in NumP in French, captures the presence of and absence of the indefinite article in the two uses.

(93) (French)

a. $[_{\text{NumP}}$ un $[_{\text{ClP}} \varnothing [_{\text{NP}}$ champion $]]]$ defining predicate

b. $[_{\text{ClP}} \varnothing [_{\text{NP}}$ champion $]]$ characterizing predicate

This stipulates that the element that provides the dividing function over the denotation of NP in French be covert ($\varnothing$ above).

The inability for nominal predicates to appear without the indefinite article in response to certain questions in English is suggested to be due to the indefinite article being able to perform the function of dividing as well as quantifying.

(94) a. Paul is an actor

b. *Paul is actor

(95) (English)

a. $[_{\text{NumP}}$ a $[_{\text{ClP}}$ ~~a~~ $[_{\text{NP}}$ N $]]]$ defining predicate

b. $[_{\text{ClP}}$ a $[_{\text{NP}}$ N $]]$ characterizing predicate

Support for the claim of a phonologically null dividing functor in French comes from the ability for a singular nominal predicate to apply to a plural subject. Something which is not a possibility in English.

(96) a. *Paul et Jean sont général*
Paul and John are general.SG

b. *Paul et Jean sont généraux*
Paul and John are general.PL

'Paul and John are generals'

(97) a. *Paul and John are a general

b. *Paul and John are general

c. Paul and John are generals

(98) [$_{\text{ClP}}$ $\varnothing$ [$_{\text{NP}}$ general]] (French)

(99) [$_{\text{ClP}}$ a [$_{\text{NP}}$ general]] (English)

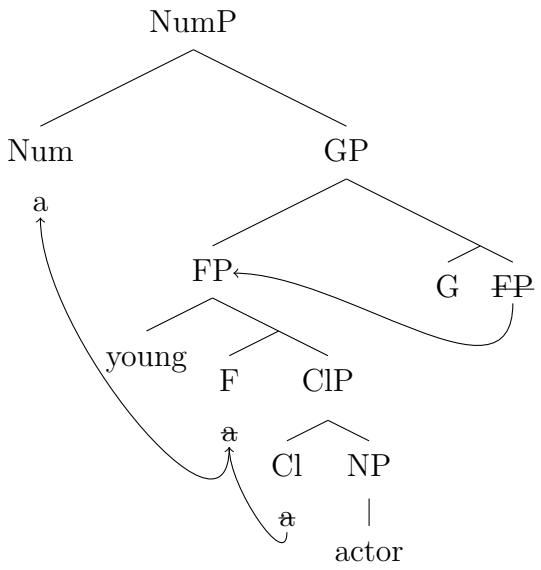
Such a position proves problematic however for the analysis put forward in the previous chapter. We saw there that indirect modification adjectives seem to be introduced into the structure above the ClP layer. That, in combination with the unavailability of movement operations crossing an adjective once raising-to-GP has occured would seem to predict a stranding of the indefinite article.

If such an origin for the indefinite article were possible then we should expect the following, against what we see.

(100) *John is [$_{\text{FP}}$ young [$_{\text{ClP}}$ an [$_{\text{NP}}$ actor]]]

However, we are able to analyse the indefinite article as a Cl head, which would make possible a series of operations whereby the indefinite article undergoes head movement, through the dedicated functional head that introduces the adjective and up into NumP.

(101)



Recall that this was one of the possible methods for material to escape the moved constituent. This resolves the issue at hand. Adjective phrases intervene in the extraction of anaphoric *one* because anaphoric *one* is phrasal, and they don't intervene in the extraction of the indefinite article because the indefinite article is a syntactic head.[4]

(102) John is [$_{\text{NumP}}$ a [$_{\text{FP}}$ young ~~a~~ [$_{\text{ClP}}$ ~~a~~ [$_{\text{NP}}$ actor]]]]

Returning to defining and characterising predicates, the important thing to note is that the former is only as large as ClP, while the other is NumP. Roy (2013) predicts that these two structures should exhibit different behaviours.

We saw earlier that NumP nominal predicates (characterizing predicates) provide felicitous responses to a question asking about the identity of an individual, while ClP nominal predicates (defining predicates) provide felicitous responses to a question asking about the property of an individual.

We are able to make use of that contrast to investigate the structure required for a predicate nominal under modification. If we ask a question about the property that an individual has, then the answer is required to contain a nominal predicate that is at least as large as a NumP. This is demonstrated below.

(103) Who is Paul?

[4]Neither do they intervene in the extraction of the definite article, which is also analysed as being a head.

a. He's a young actor

b. He's an actor

(104) a. [$_{\text{NumP}}$ a [$_{\text{FP}}$ young ~~a~~ [$_{\text{ClP}}$ ~~a~~ [$_{\text{NP}}$ actor]]]]

b. [$_{\text{NumP}}$ a [$_{\text{ClP}}$ ~~a~~ [$_{\text{NP}}$ actor]]]

In these cases, properly constructed NumPs can be achieved. The indefinite article is able to undergo head movement up to Num.

If instead we ask about the property of the individual, then the required answer has to be ClP. However, when there is a prenominal adjective in the nominal predicate given as part of the answer we find a peculiar effect.

(105) What does Paul do for a living?

a.# He's a young actor

b. He's an actor

We find that there is a degree of incompatibility between the predicate being smaller than NumP and also containing adjectival modification.

The difficulty is that the diagnostics Roy presents only really apply to French. She does briefly discuss nominal predicates in French that are modified by adjectives and makes the claim that broadly speaking they require the presence of an indefinite article. Given her assumption previously about the indefinite article only sitting in NumP in French, the behavious matches that in English. When a nominal predicate is modified by an intersective adjective then it must be as big as NumP.

(106) a. *Paul est acteur célèbre

b. Paul est un acteur célèbre

(107) [$_{\text{NumP}}$ un [$_{\text{GP}}$ [$_{\text{ClP}}$ $\varnothing$ [$_{\text{NP}}$ acteur]] G [$_{\text{FP}}$ célèbre ~~ClP~~]]]

In a footnote Roy discusses the fact that certain adjectives can modify predicate nominals in French without triggering the appearance of the indefinite article. An example is given below.

(108) *Constantin est danseur grec*
Constantin is dancer Greek

'Constantin is a Greek dancer'

An interesting effect in this case is that when there is not an indefinite article the interpretation is that Constantin dances a Greek style of dance, not that he is a dancer and Greek. This reminds us of the 'beautiful dance' cases we saw previously, and this falls completely in line with what we've been assuming so far. The adjective *grec* in (108) is only compatible with the nonintersective use, not with the intersective use.

Ultimately French demonstrates that when a nominal predicate is modified by an indirect modification adjective, then the predicate needs to be at least the size of NumP. This is of chief relevance as far as predicates containing anaphoric *one* is concerned in that we have already established that the only types of adjectives that anaphoric *one* can be modified by are indirect modification adjectives. We therefore assume that they must be at least as large as NumP.

4.3.1 Predicate *One* with Adjectival Modification

We can turn to small clauses in order to observe nominal predicates in English. Specifically, in the small clause complement of the verb *consider* we find nominal predicates in much the same way as we find adjectival predicates (Williams 1980).

(109) a. I consider John [a good man] (nominal predicate)

b. I consider John [tall] (adjectival predicate)

It seems as though English exhibits the same requirements as Spanish and French, namely that the nominal predicate should be the size of NumP.

An interesting phenomena can be observed when pronominal *one* appears under modification in a nominal predicate.

(110) a. I consider John [a [AP one]]

b. *I consider John [a [one RRP]]

c. *I consider John [one [~~one~~ RRP]]

The expectation is that when modified by an indirect modification adjective, a nominal predicate containing pronominal *one* should behave exactly the same as a regular nominal predicate. This is demonstrated in example (111).

(111) I consider John a despicable citizen, but I consider Bill [$_{\text{NumP}}$ a respectable one]

This matches the behaviour we observed in argumental nominals and is to be expected. However pronominal *one* when modified by a reduced relative clause behaves peculiarly.

4.3.2 Predicate *One* with Reduced Relative Modification

When turning to anaphoric *one* inside nominal predicates we expect it to behave as it does in argumental nominals. The prediction is that it should be infelicitous for the indefinite article to appear alongside pronominal *one*. This is indeed what we find. Surprisingly however, it's also infelicitous for pronominal *one* to appear on its own. It is this characteristic which we find surprising.

(112) I consider John a citizen worthy of contempt,

a. *but I consider Bill [$_{\text{NumP}}$ a one worthy of respect]

b. *but I consider Bill [$_{\text{NumP}}$ one worthy of respect]

If nominal predicates containing pronominal *one* were to behave based on how argumental nominals containing pronominal *one* behaves then we would expect (112b) to be fine, contra to fact. This raises the question as to what we think would explain this unexpected data.

First of all we should take steps to confirm this observation. We find this pattern occuring in another type of nominal predicate. In (113) the preposition *with* combines with two nominals in which the second nominal *a competent lawyer* is predicated of the first nominal *John*. If we switch the noun in the predicate to the pronominal *one* then we end up with a felicitous nominal predicate.

(113) With John a competent lawyer, his hourly rates are high

(114) With John a competent lawyer and Bill an incompetent one, John's hourly rates are higher

Now if instead of being modified by an attributive adjective, the pronominal *one* is modified by a reduced relative the result is infelicitous both with and without the presence of an indefinite article.

(115) With John a lawyer able to win difficult cases...

a. *and Bill [$_{\text{NumP}}$ a one able to lose simple cases, John's hourly rates are higher]

b. *and Bill [$_{\text{NumP}}$ one able to lose simple cases, John's hourly rates are higher]

As I said, at first blush this difference is unexpected.[5] However, it can be demonstrated that the nominal predicates appearing in these contexts are required to be larger than we've been assuming. The examples in (111) and (113) allow the predicate to appear with a definite article.

(116) I consider John [$_{\text{DP}}$ the despicable citizen]

(117) With John [$_{\text{DP}}$ the lawyer], they're likely to win

I suggest that *one* is able to raise up to NumP, but not up to DP. This, combined with the requirement for the nominal predicates in the contexts we've been looking to be DPs explains the infelicity of the examples above. (115a) is ruled out because the Merger of *a* is blocked by the ability of *one* to raise to NumP, and (115b) is ruled out because there is an absence of anything at the DP layer as *one* is unable to raise to DP.

Now the expectation is that by including the definite article in the examples above, the pattern would fall in line with what we expect to be the case. This is indeed what we find.

[5]In fact for some native English speakers (115b) is felicitous, which is what we expect if predicate nominals follow the pattern already seen with argument nominals. My dialect is one in which (115b) is infelicitous and so further legwork is needed to capture it.

(118) a. I consider John [the [~~the~~ [AP one]]]

b. I consider John [the [one [~~one~~ RRP]]]

(119) a. I consider John the despicable citizen, but I consider Bill the respectable one

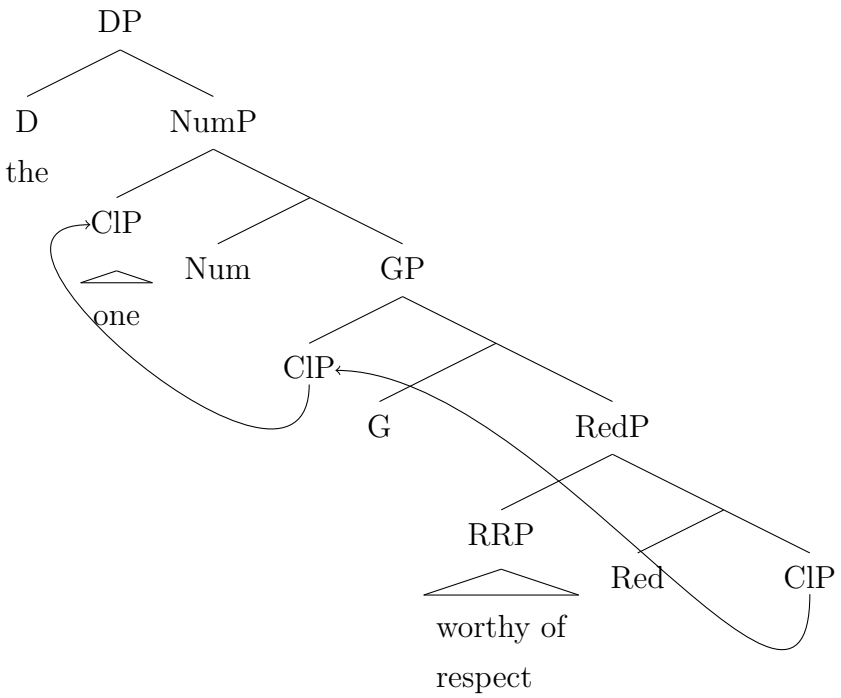
b. I consider John the citizen worthy of contempt, but I consider Bill the one worthy of respect

(120) a. With John the competent lawyer and Bill the incompetent one, John's hourly rates are higher

b. With John the lawyer able to win difficult cases and Bill the one able to lose simple ones, John's hourly rates are higher

Through this lens we can see that nominal predicates containing pronominal *one* behave just as we'd expect them to based on the structural account given in the previous chapter.

(121)



Anaphoric *one* raises to NumP if able, just as it does in nominal arguments. Again, the presence of any indirect modification adjectives will prevent the movement from taking place. From there, the nominal predicate requires a DP layer

in order to appear in the contexts we've been discussing. And since pronominal *one* is unable to perform the semantic function required by the DP layer, extra material is needed and brought into the structure.

4.4 Additional English Data

4.4.1 DP-Internal Wh-Movement

English allows a variety of wh-movement that takes place internally to the DP (Adger 2003).

(122) [how fast a car] does she drive ~~[how fast a car]~~?

The wh-element *how* functions similarly to a degree modifier of the adjective *fast*. The entire complex adjectival constituent *how fast* is introduced into the structure in the same way as regular adjectives are, in the specifier position of an FP. The constituent containing *how fast* and *car* raises up to the GP layer.

(123) $[_{\text{GP}}\ [_{\text{FP}}$ [how fast] $[_{\text{NP}}$ car]][G ~~FP~~]]

From here the restriction on extraction applies. The only thing that can be extracted from FP is the complex adjective *how fast*. This is what happens in the formation of *how fast a car*.

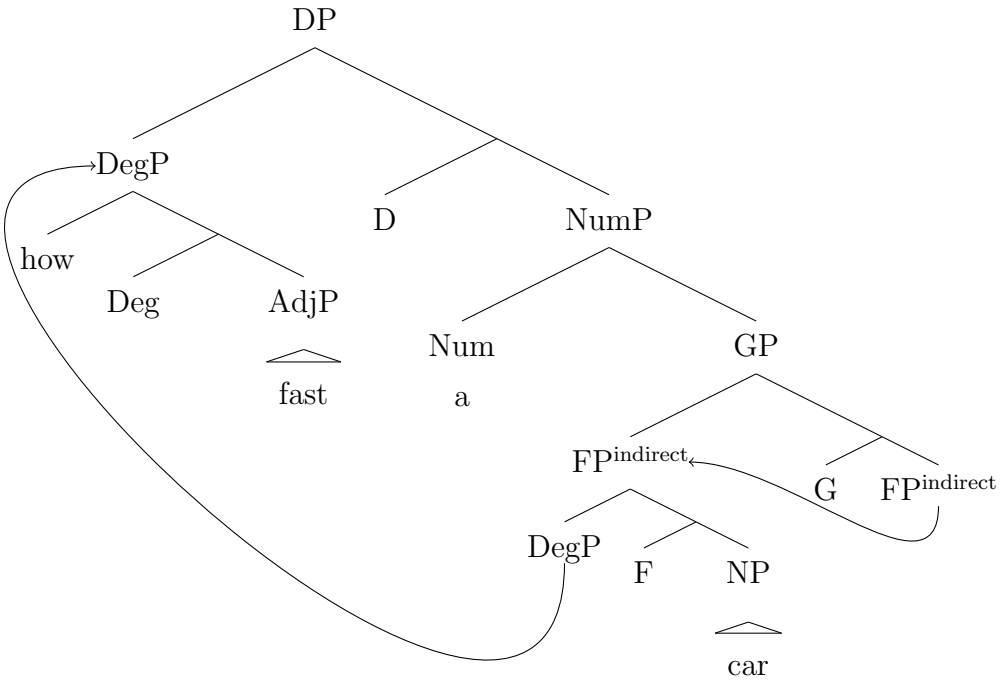
We can assume that it is the Merger of the D head that triggers this movement. Given that it is not only wh-element *how* that can be caught up in this kind of operation but also *so*, it seems that this is not so much a case of DP-internal wh-movement but rather a case of DP-internal focus-movement.

(124) I've never seen $[_{\text{DP}}$ so fast a car]

(125) a. $[_{\text{DP}}\ [_{\text{DegP}}$ how fast$][_{\text{NumP}}$ a $[_{\text{GP}}\ [_{\text{FP}}$ ~~DegP~~ $[_{\text{ClP}}$ car]]] G ~~FP~~]]

b. $[_{\text{DP}}\ [_{\text{DegP}}$ so fast $][_{\text{NumP}}$ a $[_{\text{GP}}\ [_{\text{FP}}$ ~~DegP~~ $[_{\text{ClP}}$ car]]] G ~~FP~~]]

(126)



It should be noted here that this kind of construction is only possible with the indefinite article *a*. We can see from examples below that equivalent constructions are not possible with definite determiners or numerals.

(127) a. *how fast the car does she drive?

b. *how fast one car does she drive?

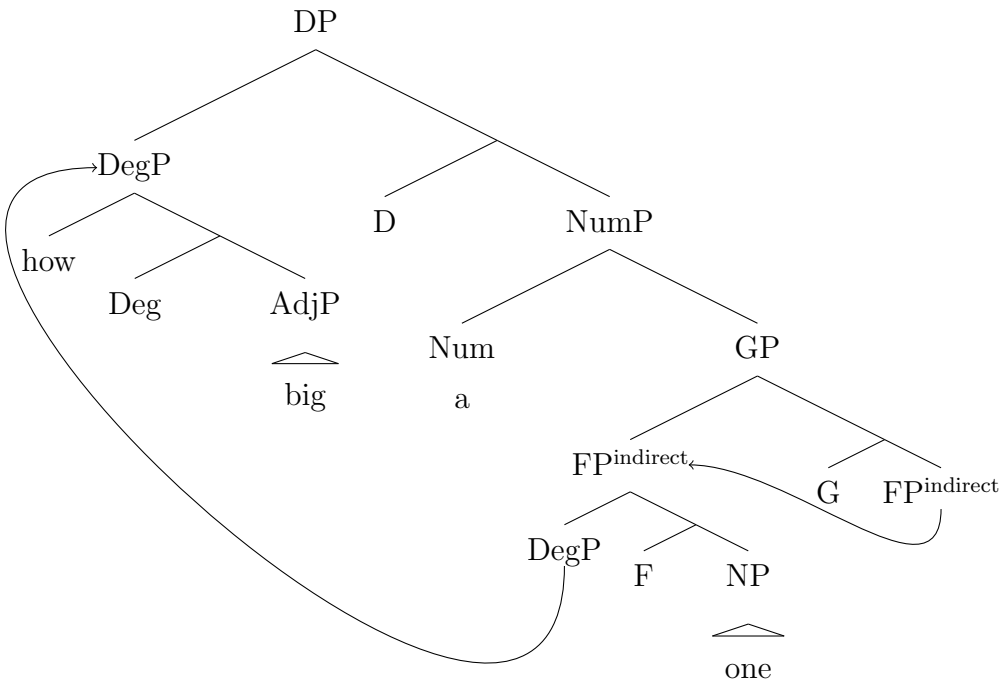
Into this frame we can switch the common noun *car* for the pronominal *one*. If we do this then we predict that *one* cannot raise to the NumP layer due to the presence of the complex adjectival in its base position. This inability to raise permits the Merger of the indefinite article, preceding the raising of *how big* to a higher position. This results in *a one* being permitted in the output, a combination that is otherwise unavailable.

(128) a. John wanted to buy a book, but he didn't know [how big a one] to buy

b. *John wanted to buy a book, but he didn't know [how big one ~~one~~] to buy

c. *John wanted to buy a book, but he didn't know [how big ~~a~~ one] to buy

(129)



If the inability for *a* to cooccur with *one* were simply a surface constraint, then the expectation would be that it should also apply in this case. The fact that it does not apply provides support against one-insertion being a process that applies at PF.

4.4.2 'Something Strange'

There are two conceivable ways of approaching an explanation for the availability of *something strange* in a language like English, which doesn't usually allow adjectives such as *strange* in a postnominal position.

The first is to suggest (as in Cinque 2010) that *thing* is permitted to raise across *strange* in these very limited cases. The second is to suggest that there is a phonologically null head noun, and that *something* functions as a kind of complex quantificational element.[6] These different approaches are represented below.

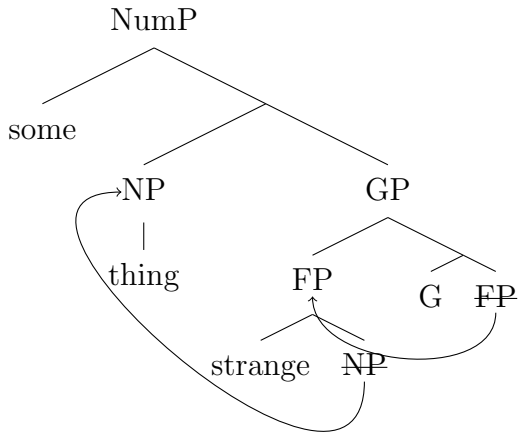
(130) a. [$_{\text{NumP}}$ some [[$_{\text{NP}}$thing] [$_{\text{FP}}$ strange ~~NP~~]]]

b. [$_{\text{NumP}}$ something [$_{\text{FP}}$ strange [$_{\text{NP}}$ *pro*]]]

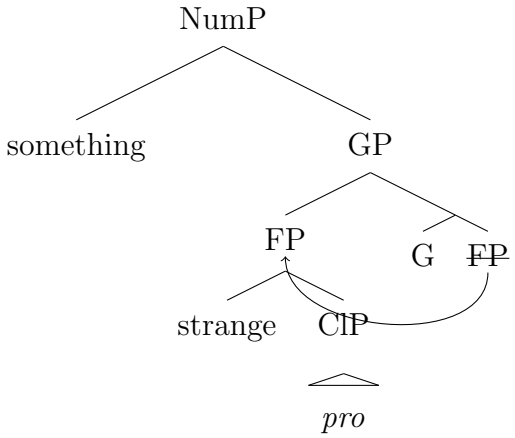
[6]There's independent evidence that *something* is treated as a single unit in the syntax
(i)Mary bought a little red something

The analysis we've been pursuing so far leads us to prefer this second option. Assuming that FP raises to the GP layer (as with regular nominals), then according to the restriction on extraction it is not possible to extract anything other than the adjective from inside FP. Only the second option is possible.

(131)



(132)



This approach requires that *something* (and all similar elements) enter the structure as a unit rather than being formed as part of the derivation, which facilitates the modification of a phonologically null noun by an adjective.

4.4.3 PP Peripherality

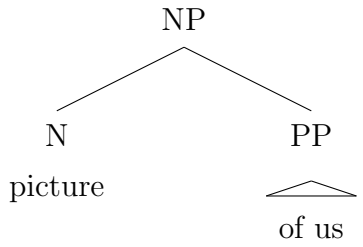
We've been motivating an analysis for English nominals wherein a movement operation raising a part of the extended projection to what we've been calling the GP layer. This movement operation, combined with the restriction on extraction precludes the extraction of any material lower in the projection than where attributive adjectives are introduced.

We might ask what this means for nominal complements. We can see below that it is possible for a PP-complement of a nominal to undergo extraction even in the presence of an attributive adjective.

(133) Who did he buy a large picture of ~~who~~?[7]

Under the kind analysis of nominal complements as given in Chomsky 1970 this positive data point is problematic. In such an analysis the PP complements are directly selected by an N, and then the rest of the DP is projected above.

(134)



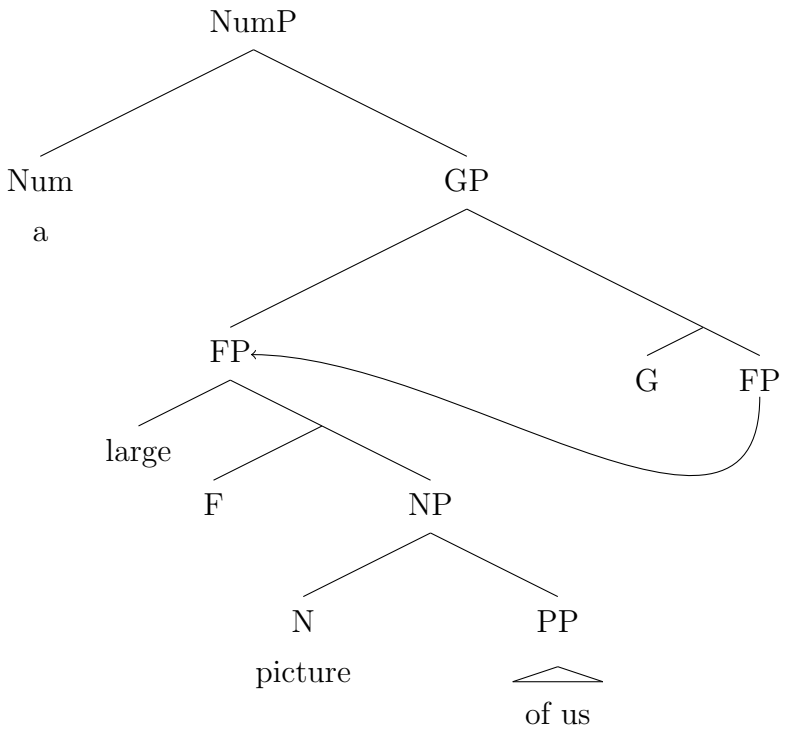
If we try to combine this kind of analysis of nominal complements with the kind of obligatory raising-to-GP movement we've been discussing above then we arrive at the following derivation.

Beginning with [$_{\text{NP}}$ picture PP], we introduce the dedicated functional head F responsible for allowing the Merger of the adjective *large*. Following this, the G head Merges and triggers the raising-to-GP movement. From there the rest of the nominal projection is free to project. This results in the following structure.

[7]Note that switching *a* for *the* diminishes acceptability, reminding us of the behaviour we saw with the DP-internal movement in (127).

(i) ??Who did he buy the large picture of?

(135)



If we take this structure and check it against the restriction on extraction then we arrive at the expectation that the PP (and any material contained inside it) are not viable candidates for extraction out of FP.

However for the example in (133) to be possible, *who* must be extracted out of the DP, and (by extension) out of FP. Under the analysis for nominal complements in Chomsky 1970 a question such as (133) is incorrectly ruled out. There would be no way to raise the PP up to the highest layer of FP for subsequent extraction.

If we wish to retain the advances we've gained so far in assuming the structural configuration that I argue for in this thesis, but also wish to capture the wh-movement of PP complements, we are forced to claim that PPs cannot be introduced low in the structure of the nominal but must instead be introduced in some higher position.

This dovetails nicely with recent findings that suggest that PP complements of nominals are indeed introduced relatively high in the structure. Adger (2012) presents an analysis for nominal complements which neccessitates them being Merged much higher than assumed in Chomsky (1970).

Based on the following binding data in Gaelic, Adger proposes that PPs are base generated in a higher position than typically assumed.

(136) *na dealbhan* [$_{\text{PP}^{\text{poss}}}$ *aig na caileagan*] [$_{\text{PP}}$ de *a cheile*]
the pictures at the girls of each other

'The girls' pictures of each other'

In (136) *na caileagan* successfully binds *a cheile*. The PP$^{\text{poss}}$ can bind into the depictive PP, when PP$^{\text{poss}}$ precedes PP.

(137) **na dealbhan* [$_{\text{PP}^{\text{poss}}}$ *aig a cheile*] [$_{\text{PP}}$ de *na caileagan*]
the pictures at each other of the girls

'Each other's pictures of the girls'

In (137) *na caileagan* cannot successfully bind *a cheile*. The depictive PP is unable to bind into PP$^{\text{poss}}$, when PP$^{\text{poss}}$ precedes PP.

(138) *na dealbhan* [$_{\text{PP}}$ de *a cheile*] [$_{\text{PP}^{\text{poss}}}$ *aig na caileagan*]
the pictures of each other at the girls

'The girls' pictures of each other'

In (138) *na caileagan* successfully binds *a cheile*. The PP$^{\text{poss}}$ can bind into the depictive PP, when PP precedes PP$^{\text{poss}}$.

(139) *na dealbhan* [$_{\text{PP}}$ de *na caileagan*] [$_{\text{PP}^{\text{poss}}}$ *aig a cheile*]
the pictures of the girls at each other

'The pictures of the girls belonging to each other'

In (139) *na caileagan* successfully binds *a cheile*. The depictive PP can bind into PP$^{\text{poss}}$, when PP precedes PP$^{\text{poss}}$.

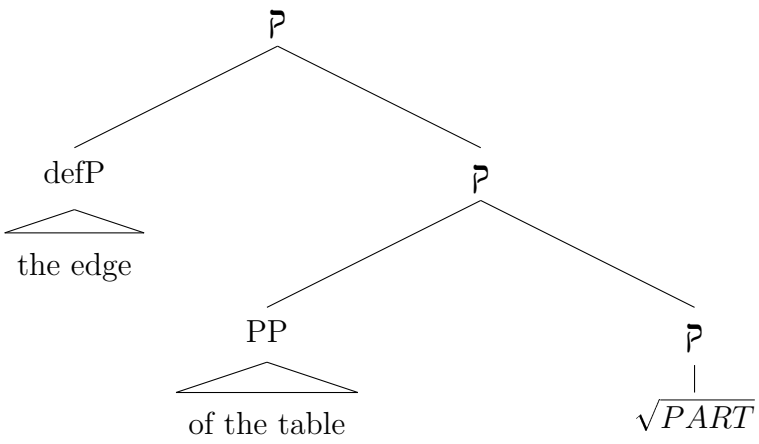
When the possessor PP precedes the depiction PP, it asymmetrically c-commands it; when the depiction PP precedes the possessor PP, each c-commands the other.

Adger's analysis utilizes a novel approach for deriving phrase structure. The specifics of this system are not to be expanded on in this section. I will simply say that Nominal Complements are introduced through ק projections, which perform the function of creating a relation between two nouns. For example, we might consider the example in (140).

(140) the edge of the table

Adger considers this to contain two nominal expressions: *the edge* and *of the table*. The former is large enough to contain a definite determiner. The latter nominal is larger - large enough to carry case marking, which is what he takes *of* to be[8]. These two nominals are brought into a relation by a null lexical element that encodes the type of relationship. It is this kind of element that projects a קּ structure.

(141)

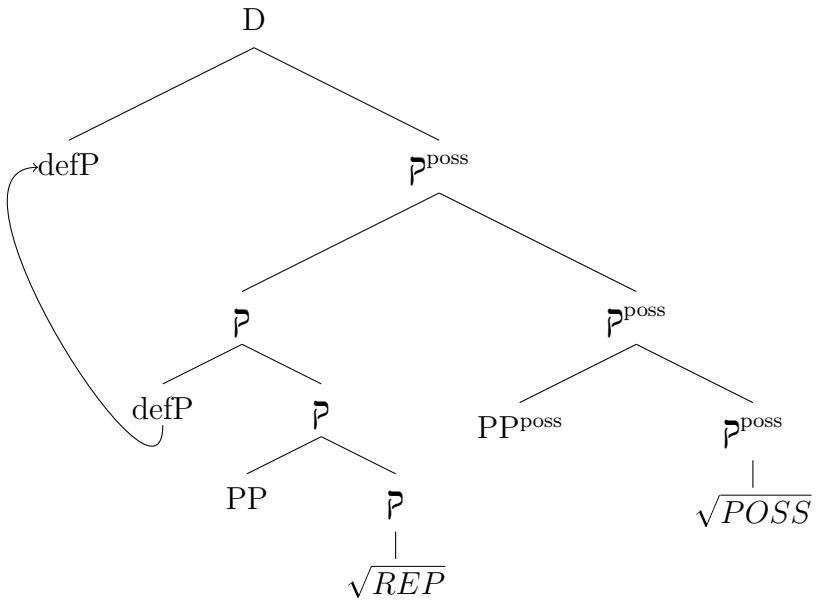


The abstract lexical item PART defines a relationship between the denotation of *the edge* and *of the table* such that one is a part of the other. With respect to the Gaelic data above he also assumes the lexical items REP and POSS. REP defines a relationship between *the picture* and *of us* such that the denotation of one is a representation of the denotation of the other, while POSS defines a relationship of possession between the denotations of two nominals.

The following structure is presented for the data in (136).

[8]Adger calls a constituent like *of the table* a KP, however I'll continue to call these objects PP in an effort to avoid confusion

(142)



(143) defP [[~~defP~~ [PP $\sqrt{REP}$]] [PP $\sqrt{POSS}$]]

(PP^{poss} binds into depictive PP)

(144) a. [$_{def}$ na dealbhan] [– [[~~def~~ [$_{KP}$ de na caileagan]]] [$_{KP^{poss}}$ aig a cheile]]

(KP^{poss} c-commands into KP)

b. [$_{def}$ na dealbhan] [[$_{KP}$ de na caileagan] [[~~def~~ ~~KP~~] [$_{KP^{poss}}$ aig a cheile]]]

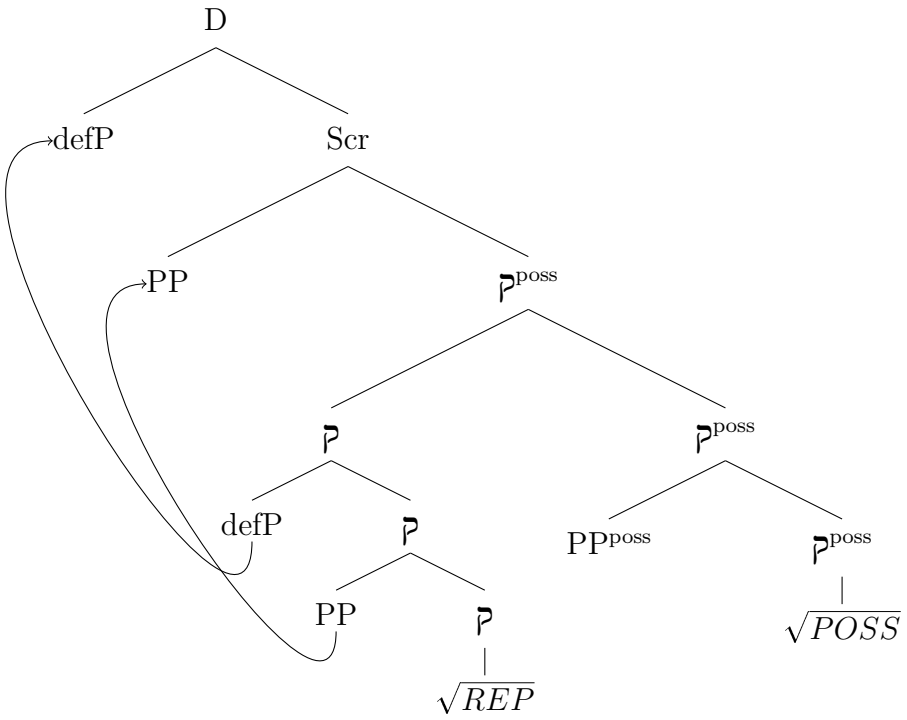
(KP c-commands into KP^{poss})

c. [$_{def}$ na dealbhan] [[$_{KP^{poss}}$ aig a cheile] [[~~def~~ [$_{KP}$ de na caileagan]] ~~KP^{poss}~~]]

(KP^{poss} c-commands into KP)

A scrambling position is assumed to exist between the maximal קposs node and the D node. And to this position either of the PPs may raise. In the structure below it is the depictive PP that raises.

(145)

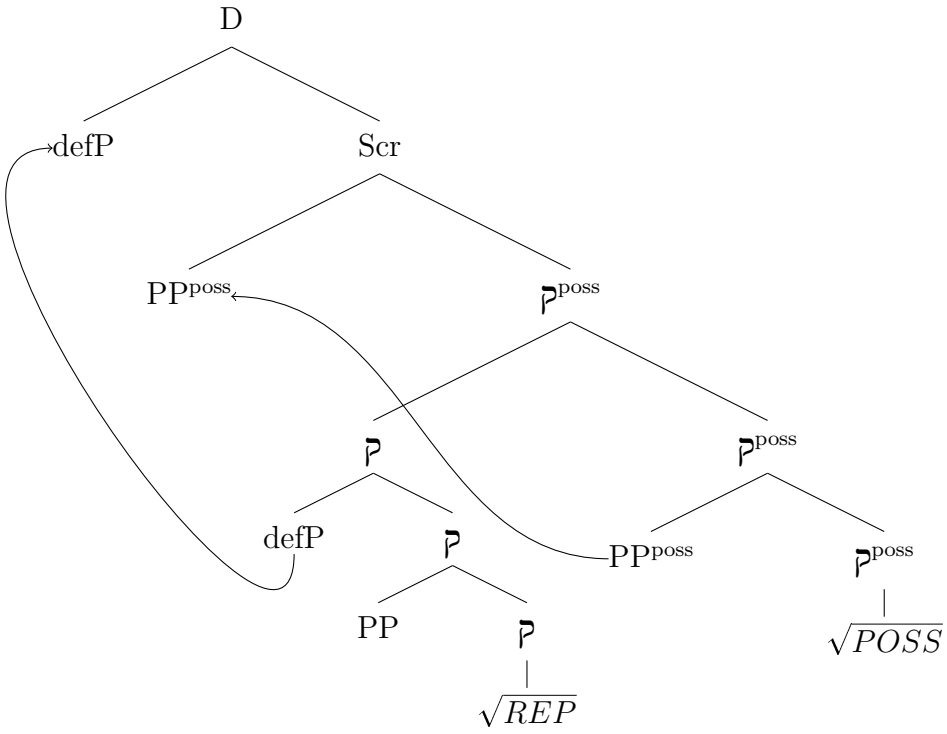


(146) defP [PP [[~~defP~~ [~~PP~~ $\sqrt{REP}$]] [PP $\sqrt{POSS}$]]]

(Depictive PP binds into PP^{poss})

In the structure below however it is PP^{poss} that raises to the scrambling position.

(147)



(148) defP [PP [[~~defP~~ [PP $\sqrt{REP}$]] [~~PP~~ $\sqrt{POSS}$]]]

(PP^{poss} binds into the depictive PP)

It is by virtue of being Merged in a position higher than that of definite determiners that the asymmetrical binding facts can be captured. Without the ability for *na tri dealbhan mora* to be treated as a single constituent the binding data for Gaelic would remain quite mysterious.

(149) *na trí dealbhan móra de Mháiri aig Iain*
the three pictures big of Máiri at Iain

'Iain's three big pictures of Máiri.'

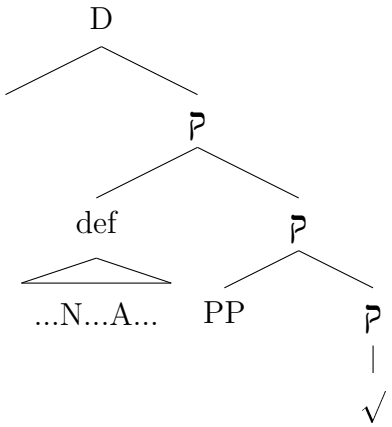
PPs are introduced into the nominal much higher than proposed in Chomsky 1970. Rather than being introduced lower than numerals and adjectives, they are instead introduced external to adjectives, numerals, and even definite determiners in Gaelic.

If we assume that PPs Merge at such a height in the extended nominal projection, then they are further from N than attributive adjectives. This is reflected in the generalization of "PP Peripherality".

(150) **PP Peripherality**: When AP modifiers and PP 'complements' both occur to one side of N inside a noun phrase, the PP is separated from the N by the AP

The structure under which PPs are introduced is suggested to be something like what is depicted below.

(151)



Such an approach to nominal complements is perfectly compatible with the restriction on extraction we've been discussing. The chief point is that if the PP is not in fact inside the syntactic object that has been raised to GP, then the restriction on extraction just does not apply.

While I do not adopt the specific architecture described in Adger's work, I am by neccesity required to expect PPs to be introduced into the structure external to the nominal constituent that undergoes the covert movement to GP.

4.4.4 Nominal Ellipsis

An unexpected result of the structural configuration being argued for in this thesis, is that a reliable target for nominal ellipsis is automatically available. It is always the syntactic object that sits in the specifier position of GP that may be elided. Nothing larger, nothing smaller. Consider the following examples.

(152) a. Mary drove Mike's car and Susan drove Jerry's ~~car/one~~

b. Mike ate three apples and Mary ate two ~~apples~~

We might be tempted to analyse these cases of elision as involving a deletion operation on the sister node of the possessor, or the numeral. However, such an approach proves problematic when reduced relative clause modifiers are introduced. After all, as we've seen previously numerals sit in positions higher in the nominal structure than the position at which reduced relative clauses are introduced. To claim that it is the sister node of these kinds of elements that undergoes deletion, we would expect any reduced relative modifiers to be deleted also. It is however possible to have elision in a noun phrase and for the reduced relative modifier to be present.

(153) Jerry ate two apples bought from a supermarket, and Susan ate three ~~apples~~ bought from a greengrocers

The structural configuration being argued for in this chapter provides us with a ready and easily definable target for a process of elision.

(154) $[_{\text{NumP}}$ three $[_{\text{GP}}$ $[_{\text{ClP}}$ apples $][_{\text{RRP}}$ bought from a greengrocers $]]]$

It can be seen that by eliding the material that sits in the specifier position of GP, we can capture the elision effects in English.

4.5 Summary

In this chapter I explored what can be observed when we put an element such as anaphoric *one* under the different types of nominal modification.

Firstly, I described novel observations as to the limits on the types of interpretations that prenominal adjectives can have when modifying anaphoric *one*. We found the general pattern that those interpretations associated with direct modification (in the sense of Cinque 2010) were unavailable. From there we looked to postnominal modification and found the chief contrast that this thesis aims to explain; when anaphoric *one* is modified by a prenominal adjective the indefinite article is able to appear in the noun phrase, but when anaphoric *one* is modified by a postnominal modifier it cannot.

I proposed a structural explanation for this difference which relies on a movement operation which takes the lower stretch of the nominal projection and raises it up across the position in which reduced relatives are introduced. This movement operation results in a structural configuration whereby it is possible for the presence of a prenominal adjective to make it an impossibility to extract an element like anaphoric *one* from the moved constituent. I claim that this is the reason for the contrast described in this chapter.

Following on from this discusssion we turned to predicate nominals and different behaviours that can be elegantly captured using these ideas.

Chapter 5

Spanish Anaphoric *Uno*

The aim of this chapter is to investigate the behaviour of a lexical item in Spanish which is analogous to anaphoric *one*, namely *uno*. I examine the Spanish facts within the framework of the structure and obligatory covert movement operation discussed in the previous chapter.

In section 5.1 I describe *uno*, demonstrating that is distinct from the indefinite article. From there I show that there is an inability for *uno* to appear alongside the indefinite article in Spanish regardless of the type of modifier it appears with, in contrast with anaphoric *one* in English. From there I present an analysis of these facts.

In section 5.2 we look at predicate nominals in Romance languages and proceed to an account of the behaviour of Spanish predicate nominals containing *uno*.

In section 5.3 further relevent data from Spanish is discussed. The inability for Spanish nominals to exhibit DP-internal wh-movement is explored.

5.1 Spanish *Uno*

We saw in Chapter 3 that in Cinque's system there are two ways of deriving postnominal adjectives in Italian. The first is to raise the constituent containing both the noun and the direct adjective position up across the indirect adjective position. The other is just to raise the noun across only the lower direct modification adjective position. The former is the method used for getting an indirect modifier into postnominal position, while the latter would be the method for getting a direct modifier postnominally. Italian simply doesn't permit indirect modifi-

cation adjectives to appear prenominally, and so Cinque argues that the raising of a consitituent containing the noun across the indirect modification position always happens in Italian, while the raising of the noun across the lower direct modification adjective position is an optional operation.

(1) a. $[_{\text{GP}}\ [\ \text{Adj}^{\text{direct}}\ \text{N}\ ]\ \text{Adj}^{\text{indirect}}\ \sout{[\ \text{Adj}^{\text{direct}}\ \text{N}\ ]}]$

b. $[_{\text{GP}}\ [\ \text{N}\ \text{Adj}^{\text{direct}}\ \sout{\text{N}}\ ]\ \text{Adj}^{\text{indirect}}\ \sout{[\ \text{N}\ \text{Adj}^{\text{direct}}\ \text{N}]}]$

This is the pattern of behaviour for common nouns generally in Spanish too, but what interests us is how an element that is equivalent to anaphoric *one* in English behaves with regard to different types of modification. Borer and Roy (2010) presents an analysis for Spanish *uno* in which it behaves in a similar way to English anaphoric *one*. Their paper doesn't directly address anaphoric nominals but rather concerns itself with nominal expressions that look like adjectives. It is through looking at these expressions that a relevent claim about Spanish *uno* is made. Here I'll present a quick overview of the discussion.

Uno as a pronominal nominal

Cross-linguistically, languages exhibit nominal expressions that look like they are headed by adjectives. Examples of some of these are given in (2a), (2c). Accompanying examples of these adjectives in their normal use are given in (2b), (2d) for clarity.

(2) a. the young, the Scottish, the impatient, the wise

b. the young woman, the Scottish writer, the impatient child, the wise move

c. an American, a Catholic, a psychic, an adolescent

d. an American car, a Catholic ritual, a psychic duck, an adolescent boy

The examples above are taken to instantiate two distinct types of nominal expression that look like they are headed by adjectives. Those in (2a) behave differently from those in (2c) when it comes to appearing with the indefinite article and bearing plural marking. This is illustrated below.

(3) a. *a young, *a Scottish, *an impatient, *a wise

b. *the youngs, *the Scottishes, *the impatients, *the wises

c. an American, a Catholic, a psychic, an adolescent

d. the American(s), the Catholic(s), the psychic(s), the adolescent(s)

The thinking is that those adjectives that are unable to bear plural marking do not actually head the nominal expressions in which they appear. Their not being nominal elements is why they are unable to bear nominal inflection. Instead those nominal expressions are headed by a phonologically null nominal element, *pro*. Those adjectives that can bear plural marking are assumed to actually be nominals that are homophonous with adjectives within the language. We can represent the two types in the following way.

(4) a. [$_{\text{DP}}$ the [$_{\text{FP}}$ scottish [$_{\text{NP}}$ *pro*]]] (Adj-*pro*)

b. [$_{\text{DP}}$ the [$_{\text{NP}}$ american]]

The question of why the Adj-pro type does not permit plural marking is resolved with the assumption that *pro* is not able to support morphological marking since it is phonologically null.

The question remains however as to why they should not permit the presence of an indefinite article. Borer and Roy argue that *pro* is a definite pronominal and requires sufficient licensing in order to be properly interpreted. The indefinite article is assumed not to sufficiently license *pro* whereas the definite article is.

5.1.1 *Uno* + Adjective

Spanish presents data which appear to display the indefinite article licensing a null pronominal element (Bosque 1989, Contreras 1989, Leonetti 1999). Consider the following, wherein a comparison of (6a) and (5a) appears to fit in with the Adj-pro type expressions described above but with the singular indefinite article (una) able to license pro.

(5) a. *una mujer importante*
a woman important

'an important woman'

b. *un hombre importante*
a man important

'an important man'

(6) a. una importante

b. uno importante

The singular indefinite feminine article looks as if it is able to properly license a *pro* in (6a). The masculine equivalent of (6a) has the form *uno* rather than the regular form *un*. Borer and Roy argue against *uno* being some strong form of the indefinite article. They note that not only can *un* not appear in (7a), but *uno* is infelicitous in (7b).

(7) a. *un importante

b. *uno hombre importante

The suggestion is that *uno* enters the derivation under N and is able to move to Num for the purpose of satisfying certain requirements. They follow Roy (2013), as I will, in assuming that the indefinite article is introduced into the structure in NumP. Under this assumption, the presence of *uno* in this structure blocks the external merger of an indefinite article in Spanish. This means we can reassess the data presented in (6) as involving movement of *uno/una* from a N position to a Num position.

(8) a. uno importante

b. *[$_{\text{NumP}}$ un [$_{\text{FP}}$ importante [$_{\text{NP}}$ *pro*]]]

c. [$_{\text{NumP}}$ [$_{\text{NP}}$ uno][$_{\text{FP}}$ importante ~~NP~~]]

This allows us to retain the restriction on what can or cannot license *pro*. It must be the case that rather than being the indefinite article the singular indefinite masculine article in Spanish is unable to license *pro*. Instead an alternate strategy is used where *uno* enters the derivation in NP and raises up to NumP.

This behaviour matches very closely the behaviour of anaphoric *one* in English. The most immediate question that comes to mind is what patterns of behaviour do we observe when *uno* undergoes different types of modification. It is to this that I now turn.

5.1.2 *Uno* + Reduced Relative

Firstly, here we have a case in which a regular noun *libro* is modified first by an attributive adjective, and secondly by a reduced relative clause.

(9) a. *Juan compró un libro rojo* (adjective)
Juan bought a book red

'John bought a red book'

b. *Juan compró un libro escrito por Márquez* (reduced relative)
Juan bought a book written by Marquez

'John bought a book written by Marquez

Changing *libro* for pronominal *uno* results in the cooccurence of *uno* and the indefinite article *un* not being permitted, regardless of the kind of nominal modification.

(10) a. *Juan compró un uno rojo

b. Juan compró uno rojo

c. *Juan compró un uno escrito por Marquez

d. Juan compró uno escrito por Marquez

This is interesting as this patterns well with what we observe in English. There is a resistance to an anaphoric element of this kind appearing next to the indefinite article.

5.1.3 *Uno* + Relative Clause

Here we have our common noun *libro* being modified by a regular relative clause.

(11) *Juan compró un libro que fue escrito por Márquez* (relative clause)
John bought a book that was written by Marquez

'John bought a book that was written by Marquez

Switching *libro* for *uno* in the same way we've been swapping them so far results in the expected result. Having the indefinite article *un* adjacent to *uno* is not available.

(12) a. *Juan compró un uno que fue escrito por Marquez

b. Juan compró uno que fue escrito por Marquez

The regular relative clause modification patterns with the reduced relative clause modification. This is the same as we see in English.

(13)

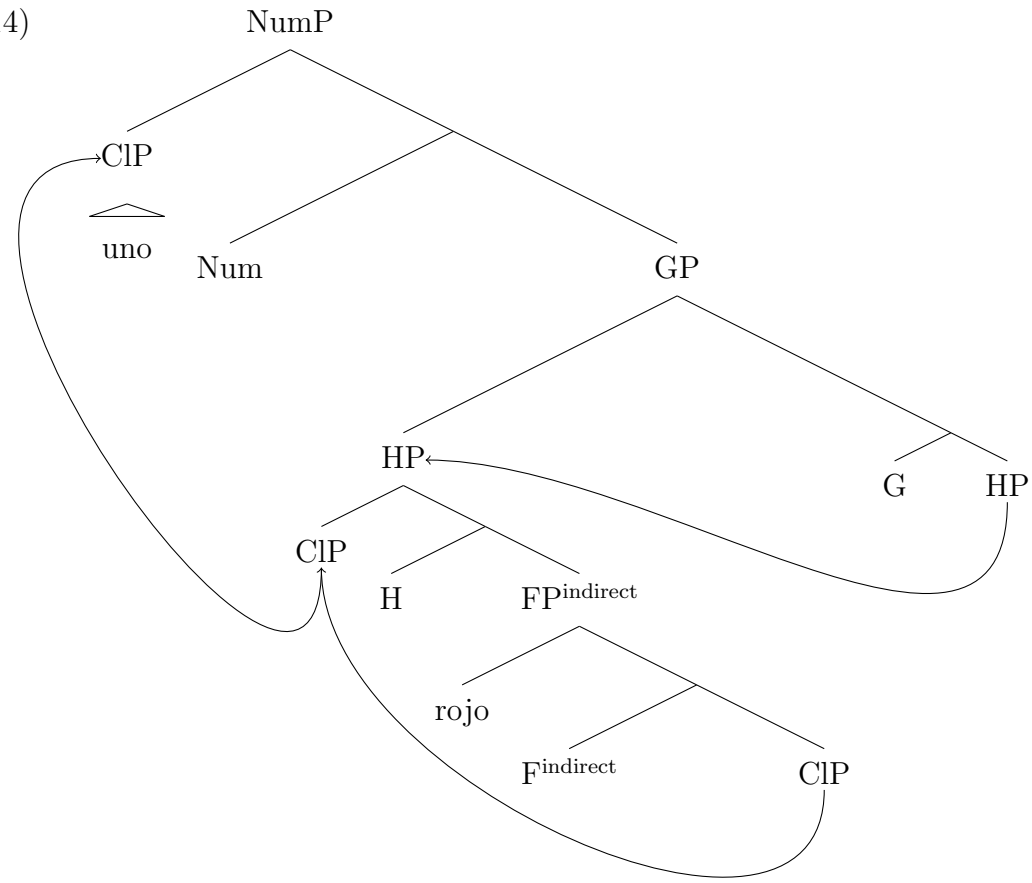
	uno	*uno* Adj	*uno* RedRel	*uno* Rel
un + *uno*	*	*	*	*
uno only				

Here follows an explanation of the Spanish pattern in the context of the structural configuration being discussed in this work.

Firstly, let's look at the case where the modification is by an attributive adjective. The pronominal *uno* raises across the adjective *rojo* to a position higher than it (here labelled as HP). This is analogous to the raising of the nominal across an adjective in the derivation of postnomial adjectives in Romance languages. The HP constituent then raises up into the GP layer.[1] Following this the Num head is Merged into the structure. Since the derived position of the pronominal *uno* in the HP layer is a viable candidate for extraction *uno* raises up into the NumP layer. The result is the blocking of indefinite articles, numerals, and certain quantifiers in the presence of *uno*.

[1]The functional heads H and G I leave vague as to their features and semantics. Their relevant function is to provide a position to which a lower chunk of structure can move. The H head is inherited from Cinquean approaches, and creates the position that Romance nouns move to when they cross their adjectives. The G head is my contribution and is responsible for deriving the structural configuration in the nominal which is need for the account of the effects described in this thesis. The F head is responsible for providing a site which can host an adjective. F heads come in a variety of types and I assume there is a degree of freedom as to the height at which they are introduced into the structure.

(14)

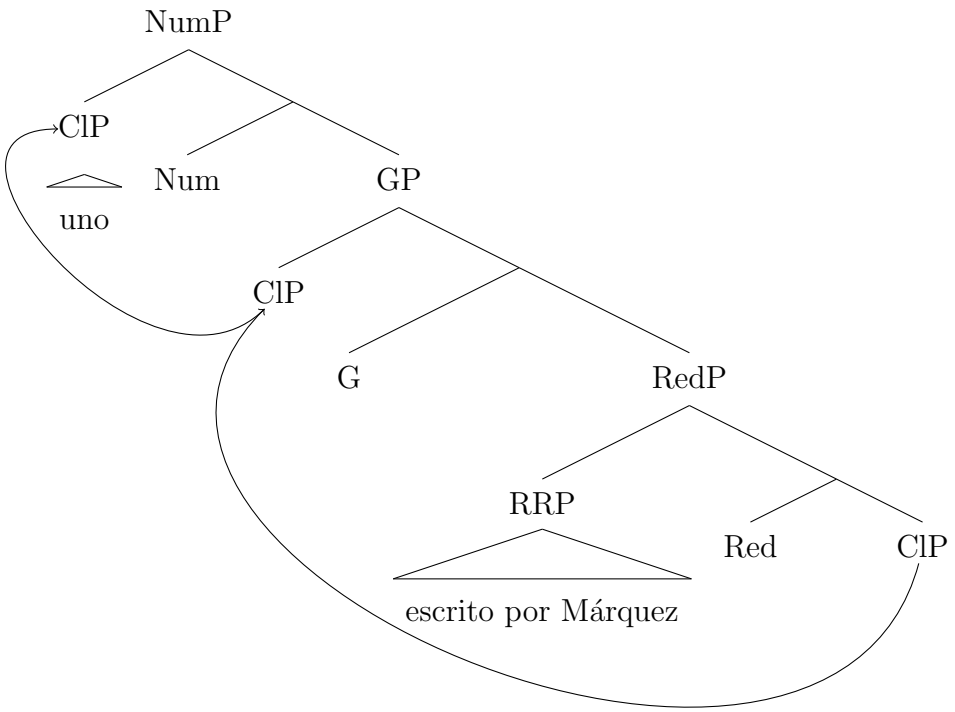


This analysis is somewhat parasitic on a picture of nominal syntax that has Romance postnominal adjectives being derived via phrasal movement of the noun rather than by head movement. Here I follow Cinque 2005, 2010 wherein the argument is made that there is a relationship in each language between the types of phrasal movement available for operations such as wh-movement, and the types of movements available within the noun phrase. My system doesn't necessarily require that such a relationship exists however. The main motivation to prefer phrasal movement here is that just as anaphoric *one* is phrasal, so too would I expect anaphoric *uno* to be phrasal.

Next, the case where the modification is by a reduced relative clause. When the pronominal *uno* is only modified by a reduced relative clause then the derivation is identical to what happens in English. The ClP containing *uno* raises up into the GP layer, crossing reduced relative modifiers on the way. From this position it is raised up after the Merger of the Num head. Again, the presence of indefinite articles, numerals, and certain quantifiers is blocked as a result.[2]

[2]Marti 2015 presents and analysis of *algun* where it sits in the NumP. I expect that this

(15)



The mechanisms involved are the same as those involved in the English anaphoric *one* cases. There is a covert movement of a chunk of the extended projection up to GP, after which the anaphoric element raises up to NumP if it is able. The chief difference is that Spanish has access to an additional operation that can raise anaphoric *one* up to position which will permit it to escape the raised constituent in the case of adjectival modification.

5.2 Spanish Predicate Nominals

We can find predicate nominals in Spanish in the context of the verb *parecer* (equivalent to English *to seem*). The subject of *parecer* is interpreted as being the argument to the predicate that follows it. This predicate can be a verbal, an adjectival, or a nominal predicate.

Here we have an example of a Spanish nominal predicate.

---

should just such an element that cannot appear alongside *uno* in Spanish. This is indeed what we see.

(i) algun libro rojo

(ii) *algun uno rojo

(iii) algun libro escrito por Márquez

(iv)*algun uno escrito por Márquez

(16) *Juan parece* [$_{\text{NumP}}$ *un campeón*]
John seems a champion

'John seems to be a champion'

(17) **Juan parece* [$_{\text{DP}}$ *el campeón*]

In line with the assumptions made so far, *un* is associated with the NumP layer, which we can take to indicate that the nominal predicate is at least as large as NumP. The inability of the definite article to appear instead of *un* in such an utterance I take to be indicative that DP is too large a structure for the predicate nominal in Spanish.

Similarly I take the inability of a bare nominal predicate to demonstrate that NP (or perhaps ClP) is too small a structure for the predicate nominal in Spanish.

(18) **Juan parece* [$_{\text{NP}}$ *campeón*]

Given what we've been seeing of the structure of argumental nominals in this chapter, we expect there to be no issue with the presence of adjectival modification in Spanish predicate nominals. As can be seen, the baviour matches our expectations. An adjective such as *feliz* can quite happily modify a predicative nominal.

(19) a. **Juan parece* [$_{\text{XP}}$ *chico feliz*]

b. *Juan parece* [$_{\text{NumP}}$ *un chico feliz*]

'Juan seems to be a happy guy'

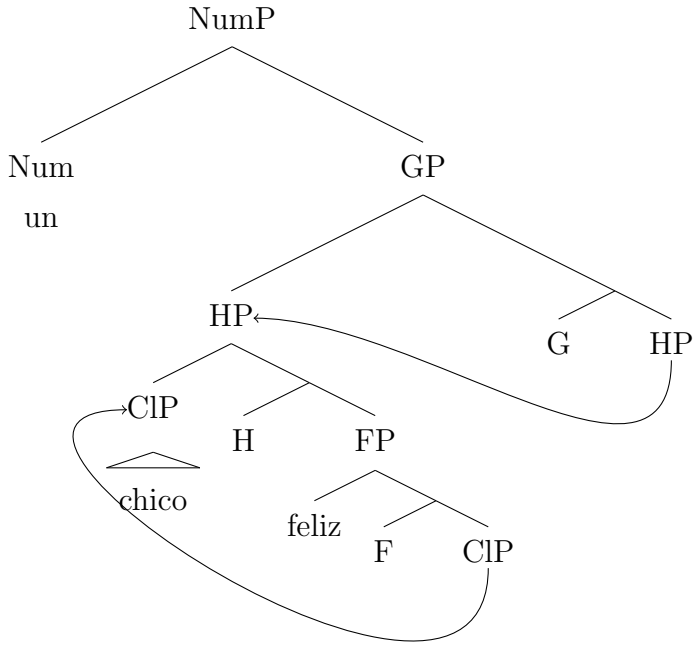
We can assume that (19a) is unavailable for the same reasons that (18) is, namely that the nominal structure does not contain a NumP layer and so is too small.

I assume that the postnominal position of the lower, direct modification adjectives in Romance languages is achieved by the movement of the noun across the adjective, in a movement operation distinct from the movement operation associated with reduced relative modifiers.[3]

[3]Note that it may be possible to account for the differing in word order between the head noun and an adjective via a head-movement, or a spanning account only if an alternative operation is available for pronominal *uno*.

With this in mind, I'd like to suggest that the structure for the nominal predicate in (19b) should be something like what is depicted below.

(20)



As can be seen, there is no difference between the structure assumed for argumental nominals and predicative nominals in Spanish. Now we turn to specifically predicative nominals containing anaphoric *uno*, in order to see whether it behaves as we would expect it.

5.2.1 Predicate *Uno* with Adjectival Modification

The seeming requirement that a Spanish nominal predicate should contain a NumP layer suggests that if a nominal predicate were to be generated with pronominal *uno*, then it should pattern in much the same way as we saw with Spanish argumental nominals.

This is what we observe.

(21) *Juan parece un chico feliz y...*
Juan seems a man happy and

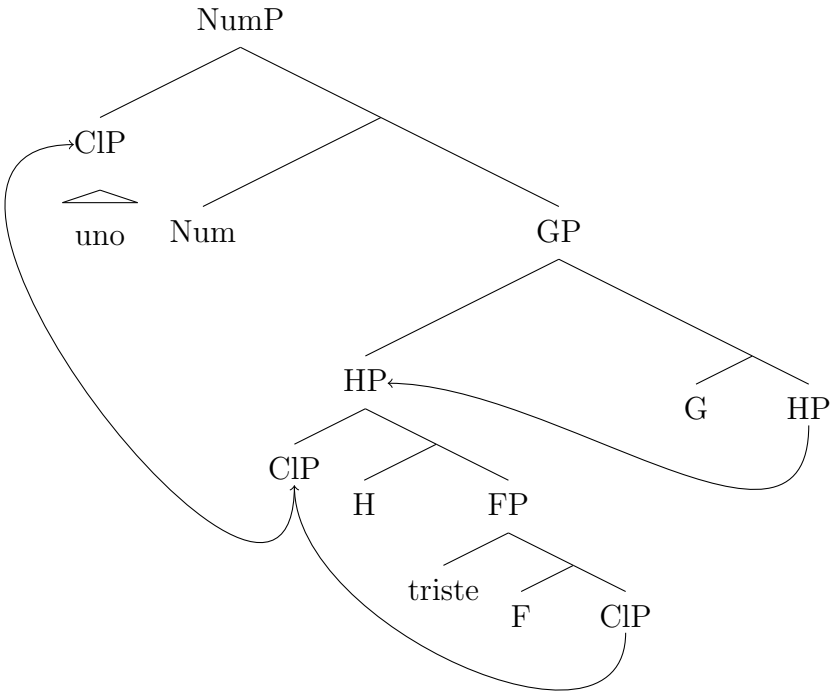
a. *...Pedro parece* [$_{\text{NumP}}$ *uno triste*]
Pedro seems UNO sad

b. **...Pedro parece* [$_{\text{NumP}}$ *un uno triste*]
Pedro seems a UNO sad

'Juan seems to be a happy man and Pedro seems to be a sad one.'

Common nouns in Spanish cannot appear bare when following *parecer*, but pronominal *uno* must. Also, the common nouns are able to occur with the appropriate indefinite article, but pronominal *uno* cannot. This is of course as expected in the framework of the structural account outlined in the previous section.

(22)



Three movement operations are proposed under this approach. The first is the raising of a chunk of syntactic structure that contains pronominal *uno* (at least as large as ClP) across the position for indirect modification adjectives to a higher specifier (here labeled as the specifier of some functional head H). The next is the movement operation that results in the structural configuration being argued for, the raising of HP to the specifier of G. And finally, the movement of the ClP layer containing *uno* to the specifier of Num.

The distribution of the data for Spanish nominal predicates is easily captured in the framework of this account.

(23) a. *[chico triste]

b. [$_{\text{NumP}}$ un [chico triste]]

c. [$_{\text{NumP}}$ uno [~~uno~~ triste]]

d. *[$_{\text{NumP}}$ un [uno triste]]

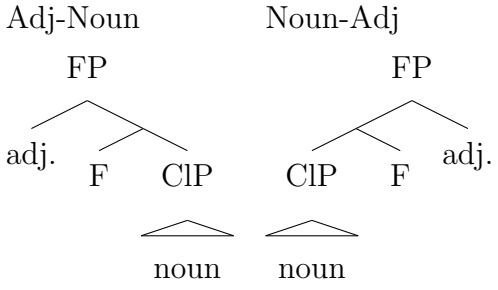
In the paradigm given above, (23a) is unavailable because the predicate is not large enough, i.e. not NumP. While, (23d) is not available because of a requirement to raise pronominal *uno* up to NumP when possible.

5.2.2 Linearization and Headedness

In this section I'll discuss the explanatory benefit afforded us by assuming that linear order of noun and adjective is achieved through movement rather than specification of headedness on the part of the functional structure responsible for introducing the adjectives.

One position that has been argued for, in terms of determining the linear order of nouns and adjectives has it that the structures of the two orders are set-theoretically the same (Abels and Neeleman 2012), and that the different realizations are due to other considerations brought about through the need to externalise the structure as a linear string. Such a position is depicted below.

(24)



Adopting this position proves problematic as far as the explanation being pursued here is concerned. For example if we assume that the Noun-Adj order is structurally identical to the Adj-Noun order then the contrast between Spanish and English becomes difficult to capture.

We would be forced either to conclude that the difference of behaviour between *one* and *uno* with respect to the presence of an attributive adjective cannot be re-

lated to structure, or we would have to stipulate that adjectives permit movement in Spanish, but block it in English.

If we assume that Noun-Adj orders and Adj-Noun orders are the realizations of underlyingly identical structures then we are forced to stipulate these different characteristics of adjectives, going language by language.

If the difference is not structural then, there's little else it could be than a constraint on the output at PF, and yet we've seen that we have reason to doubt the efficacy of such an approach.

I'd suggest instead that assuming something like the restriction on extraction applying everywhere, alongside the derivation of the Noun-Adj order by a noun raising operation yields a greater explanatory power.

5.3 Additional Spanish Data

A point of interest is that based on what we've been discussing so far we would expect that a structure involving internal wh-movement (like the kind discussed in Section 4.4.1) should be unavailable in a language like Spanish. For precisely the same reason that *one* cannot be extracted across an adjective in English (should an adjective be in the structure) so too can a complex adjectival not cross a noun in Spanish. For clarity, in Spanish we have adjectives being introduced with dedicated functional structure, and above that structure we have a layer of projection (HP) to which the noun (the ClP) raises.

And then we have the entire HP raising up to GP. Now the restriction on extraction says that the only things that can be extracted from HP are ClP and the head of HP. If we have a complex adjective with a need to be raised up to DP then we would expect that such a phrase cannot be extracted. I would like to argue that Spanish behaves in this way.

(25) a. How big a cake do you want?

b. * *Cómo de grande un pastel quieres?*
how of big a cake you.want

As can be seen from the two cases above, Spanish does not have access to the same kind of structure as English does. Perhaps the phrase *como de grande* is not sufficiently like the English equivalent for us to expect any similarity of behaviour.

It can be demonstrated that they do behave alike. As can be seen from the cases below, both can function as wh-elements in an interrogative question.

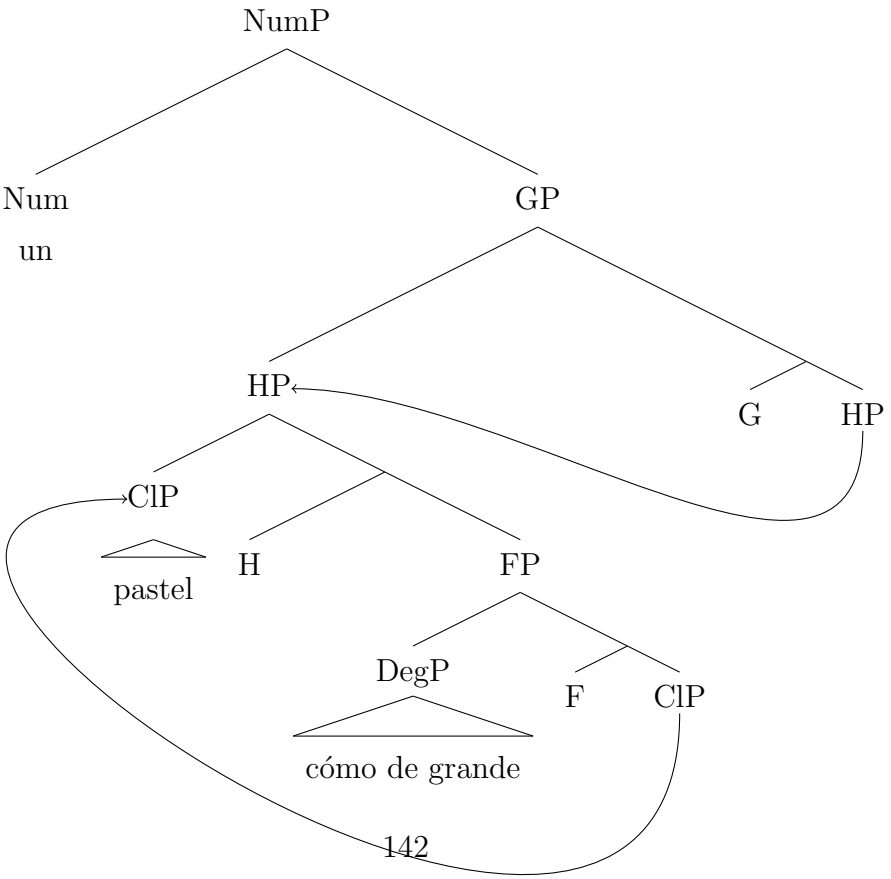
(26) a. *Cómo de grande quieres el pastel?*
how of big you.want the cake
b. how big do you want the cake?

(27) a. [Cómo de grande] quieres el pastel ~~[cómo de grande]~~?
b. [how big] do you want the cake ~~[how big]~~?

In the cases with the definite article I assume that the adjectival phrases containing the wh-elements are not introduced into the structure at a position inside the DP, but instead as its own predicate which takes the DP as its subject. As such there is no problem in raising it to the interrogative position. It is the contrast we see with the use of the indefinite article which interests us.

Why then should there be a disparity between (25a) and (25b)? I suggest that the reason that *cómo de grande* cannot raise to the front of its DP in the same way that English can is due to the restriction on extraction. Depicted below is the Spanish nominal structure.

(28)



The restriction on extraction would make it such that *cómo de grande* is not in a viable position to be extracted out of HP. This can only be achieved as a direct result of the covert movement operation being argued for in this thesis. Both the raising HP to GP and the raising of ClP to HP is what prevents the raising of *cómo de grande* up to a higher position.

5.4 Summary

Presented in this chapter is data relating to Spanish *uno* which I take to be the analogue of anaphoric *one* in English. Just as with anaphoric *one* raises up to NumP when it is able to, so too does *uno*.

From there we investigated the behaviour of Spanish *uno* under modification, noting that *uno* is never able to appear alongside the indefinite article or numerals. I propose that Spanish has access to an additional movement operation that English does not. Spanish nouns are able to raise across their (underlyingly) prenominal adjectives. Now under the assumption that Spanish nominal structure exhibits the same obligatory movement operation as English nominal structure does, this raising of the noun is what allows *uno* to be extracted from the moved constituent.

We then examined predicate nominal structure for Spanish, noting that they behave as they were expected to. We then turned to a discussion on the unavailability of DP-internal wh-movement of the kind described in the previous chapter for English, with a possible explanation being provided which makes use of the same obligatory movement operation that I propose for English.

Chapter 6

Cross-Linguistic Data

The aim of this chapter is to demonstrate a number of behaviours in noun phrases cross-linguistically that can be captured using the nominal structure and covert movement being argued for in this work. Previous chapters have limited the discussion to English and Spanish and so by looking to other languages and language families we might find supporting evidence in favour of the shape of the nominal structure I propose.

In section 6.1 I look to Slovenian, and an analysis of two specific types of nominal constructions, that previously have been analysed by appealing to two distinct nominal structures. I show how these can be collapsed into one structure, matching the structures which I suggest are the result of the obligatory covert movement to GP.

In section 6.2 we look to data from four varieties of Dutch, as described in Barbiers (2005). I discuss the analysis given in that work and offer a structural account which I suggest is less cumbersome, with very little in the way of further stipulations needed.

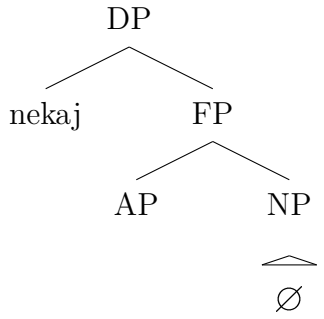
In section 6.3 I present data from Turkish, focussing on the element *bir* and describe the ways in which it is similar to anaphoric *one*. An analysis of the data is provided using the structures argued for in previous chapters.

6.1 Slovenian Data

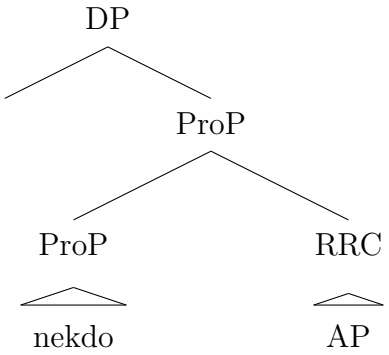
Marušič and Žaucer (2008) discusses similar phenomena that can be found in Slovenian. The observation is made that there are two types of these words,

nekdo (meaning someone) and *nekaj* (meaning something), and that they behave differently with respect to modification. *Nekdo* is claimed to be modified by typically postnominal modifiers, while *nekaj* is modified by typically prenominal adjectives, despite all modifiers appearing postnominally with both. Two distinct structures are suggested, and these are depicted below.

(1) a.



b.



When nouns are modified by complex APs in Slovenian there is a notable difference when appearing prenominally than when appearing postnominally. When an AP has a complement and is prenominal then the complement must precede the adjective. Alternatively, when in the postnominal position the complement must follow the adjective.

(2) a. [okolju *nevaren*] *avto* [[DP A] N]
environment.dat dangerous car

b. *[nevaren *okolju*] *avto* *[[A DP] N]
dangerous environment.dat car

'a car dangerous to the environment'

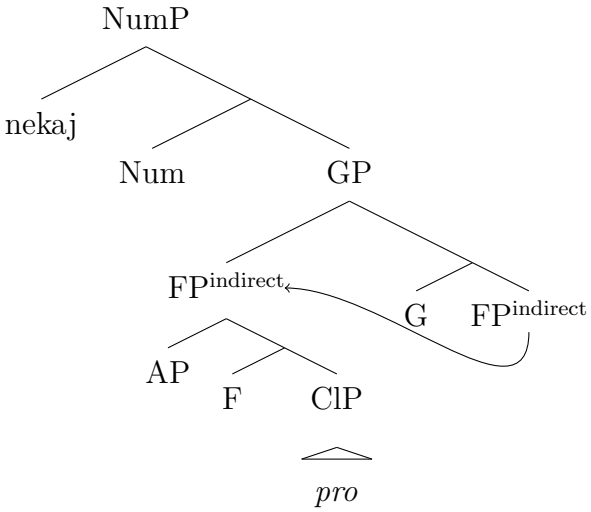
(3) a. * *avto* [*okolju* *nevaren*] *[N [DP A]]
car environment.dat dangerous

b. *avto* [*nevaren* *okolju*] [N [A DP]]
car dangerous environment.dat

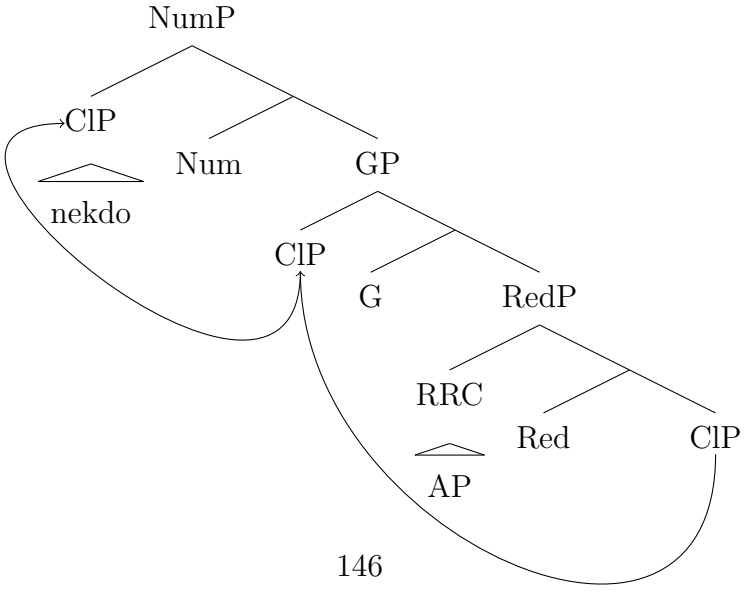
'a car dangerous to the environment'

These two structures fit neatly into the story that we've been constructing above. They are configurationally very similar to structures already being discussed. *Nekaj* would be absolutely analogous to English *something* - it being a complex quantificational element above a phonologically null head noun. *Nekdo* however, would be the true head of the nominal and is only able to raise up to Num in the absence of prenominal adjectival modification.

(4)



(5)



There is a restriction on the types of adjectival phrases that can follow *nekaj* and *nekdo* in Slovenian. Following *nekaj* we observe APs containing an adjective and an associated DP in either order, [$_{\text{AP}}$ DP A] or [$_{\text{AP}}$ A DP]. However, when following *nekdo* one of these orders is strongly dispreferred, with [$_{\text{AP}}$ A DP] being preferred. This distribution can be seen below.

(6) *nekaj* *okolju* *nevarenega* [nekaj [DP A]]
something environment dangerous
nekaj *nevarenega* *okolju* [nekaj [A DP]]
something dangerous environment

'something dangerous to the environment'

(7)?? *nekdo* *okolici* *nevaren* [nekdo [DP A]][1]
someone environment dangerous
nekaj *nevaren* *okolici* [nekdo [A DP]]
someone dangerous environment

'someone dangerous to the environment'

We might consider [$_{\text{AP}}$ DP A] to be an attributive adjectival phrase, and [$_{\text{AP}}$ A DP] to be a reduced relative. In that case the expectation would be that the attributive adjective variety of AP kind will not be possible with *nekdo*. This is due to the fact that *nekdo* begins low in the nominal projection and needs to be raised up to NumP in a similar way to anaphoric *one* in English. If the attributive adjectival phrase were introduced, it would prevent such a raising from occuring.

[1]The differences in form seen here are the result of another requirement that the material that follows *nekaj* be marked in the genitive case.

(i) *nekaj* *velikega* / **veliko*
something-nom big-gen / big-nom
'something big'

(ii) *nekdo* **velikega* / *velik*
someone-nom big-gen / big-nom
'someone tall'

I assume this contrast is orthogonal to the ordering contrast seen between an Adjective and its Complement when in prenominal or postnominal position.

We also predict that *nekaj* will be possible with both varieties of modification since *nekaj* enters the derivation in NumP and is not subject to the same constraints. This is the behaviour that we observe.

Not only do we have motivation for the raising-to-GP variety of movement in Germanic and Romance languages, but in a Slavic language as well.

6.2 Dutch Data

Barbiers (2005) presents a set of data from four varieties of Dutch that demonstrate different ways that a phenomenon he calls ONE-insertion occurs. In what follows here I will oultine the machinery that he needs to assume in order to capture the data. Then I will demonstrate how easily the structure I have been arguing for in this thesis is able to capture the same set of data.

Here is the data set that Barbiers seeks to explain:

(8) a. *een rare* — Standard Dutch
one strange

b. *unnen arigen (inne)* — Northern Brabantish
one strange (one)

c. *'n roaren (ain)* — Frisian and Groningen
one strange one

'a strange one'

Barbiers' Analysis

In Barbiers (2005), rather than ONE being inserted in NP, the claim is made that in Dutch, ONE is always a numeral, but in some dialects it is able to trigger a movement operation in the structure in which it appears, causing it to appear finally in the nominal phrase.

A number of contrasts between the behaviours of English pronominal *one* and Dutch ONE are identified. Firstly, while English *one* cannot be deleted while stranding an adjective, in Dutch dialects ONE can be deleted leaving an adjective

behind.[2] The second contrast is that English lacks the rich adjectival inflection that Dutch possesses, which is invoked as a factor in why *one* is obligatory in English and ONE optional in Dutch.[3] Thirdly only English allows *one* to appear in definite DPs. Similarly, only English permits *one* in plural DPs.

Barbiers assumes the general structure for nominals that I outlined in Chapter 1, namely [$_{\text{DP}}$ D [$_{\text{NumP}}$ Num [$_{\text{NP}}$ N]]]. Not only this, but he assumes based on the data below that this is not the only available structure for nominals. In his alternative structure, NumP projects above DP rather than below it.

(10) a. *een zo 'n boek* Standard Dutch
one such a book

'one such book'

[2]Barbiers uses ONE to stand for the same element across four varieties of Dutch in the forms listed below. I'll share this convention when referring to the Dutch cases, but keep using *one* when discussing English.

(i) één (Standard Dutch)
(ii) inne, één, een, eene (Northern Brabantish)
(iii) ien, ain (Frisian)
(iv) ain (Groningen)

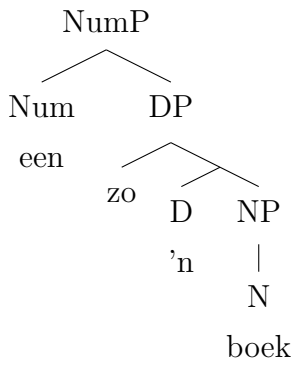
[3]Afrikaans has two varieties of anaphoric nominals. Some adjectives can appear with an optional *een* while others make its presence obligatory. Theresa Bieberauer (personal communication) informs me that in the following example *een* must be present.

(9) *'n vreemde *(een)* Afrikaans
a strange one

'a strange one'

I claim that the deafault situation for anaphoric nominals in Afrikaans is that there should be an obligatory presence of *een* (as is the case in English with *one*), but that other reasons come in to play to allow certain adjectives to appear without it. This an avenue of investigation that would benefit from further research.

b.



One of the consequences of his assumption that ONE is always the numeral regardless of its ultimate position within the noun phrase, is that Standard Dutch must have a phonologically null nominal element as the head of the projection in these examples (*pro*). Given the flexibility of his hierarchical ordering of D and Num in his structure, we might expect that it should be possible for *een* and *'n* to appear side by side. However as can be seen below, this is not a possibility.

(11) * *een 'n rare* pro
one a strange *pro*

'a strange one'

In order to block this from being an available phrase in Standard Dutch, Barbiers offers the following Haplology Rule.

(12) Haplology Rule
Leave D empty at PF when D and Num are adjacent and the features of D are a subset of the features of Num

The featural specification for *een* is given as [indefinite], [singular], and [focus], while the featural specification for *'n* is given as [indefinite], and [singular]. So the idea is that since *'n* sits in D, and is adjacent to Num (which contains *een*), and the features are a subset of those in Num, then *'n* is deleted at PF.

(13) a. *een rare* pro
one strange *pro*

'a strange one'

b. [$_{\text{NumP}}$ een [$_{\text{DP}}$ ~~'n~~ [$_{\text{FP}}$ rare [$_{\text{NP}}$ *pro*]]]] (Haplology Rule)

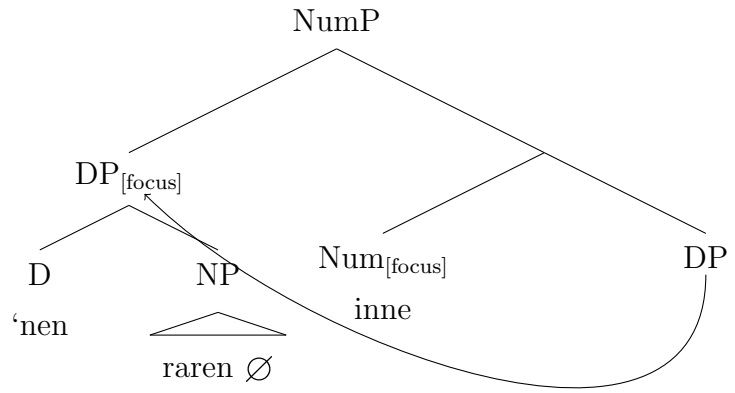
In summary, for Standard Dutch there are two possible base structures for the nominal projection; [DP [NumP [NP]]] and [NumP [DP [NP]]]. It is under Num that ONE-insertion occurs, and a Haplology Rule applies if the features of ONE are a superset of the features of the item in D and these two items are adjacent at PF. Barbiers' explanation for the data in other dialects of Dutch will prove greatly different in their mechanisms.

Turning to Northern Brabantish, Barbiers suggests that the presence of *inne* is involved in the triggering of a movement operation. Again the NumP is assumed to be able to project above DP. Should the DP carry a [focus] feature then this will trigger a movement operation to NumP where *inne* is Merged, also carrying a feature [focus].

(14) a. *'nen raren* pro *inne*
a strange *pro* one

'a strange one'

b.



He assumes that the movement must satisfy the requirement in (15). He proposes that *inne* has the same featural specification as Standard Dutch *een* ([indefinite], [singular], and [focus]), but also with a gender specification (in this case [masculine]). Northern Brabantish has a non-masculine equivalent to *inne*, namely *een* which presumably has the same featural specification as Standard Dutch *een*.

(15) Condition on movement of XP to SpecYP
Movement of XP to SpecYP is possible iff there is full agreement between XP and Y

There is a matching that takes place in this dialect between the gender of the noun and the shape of the indefinite article. He argues that this means that the indefinite article *'nen* in D has the feature specification [indefinite], [singular], and [masculine].

If an AP is present, then it is conferred with a [focus] feature which is inherited by the entire DP. The required featural matching takes place as defined in (15) above and DP can now raise up to NumP.

Since the major factor that affects the presence or absence of *inne* is the [focus] feature on the DP, the prediction is that it should be possible for *inne* to appear alongside an overt nominal. This is indeed what we see.

(16) a. *zo'n mins een*
such-a person one

'such a man'

b. [$_{\text{NumP}}$ [$_{\text{DP}}$ zo'n [$_{\text{NP}}$ mins]] een ~~DP~~]

The optionality of the presence of *inne* is captured again by recourse to the Haplology Rule offered previously. If we take this focus-driven movement to be optional, then in those cases where it does not take place, we are left with Num and D being adjacent at the output - after which D is deleted.

(17) a. *unnen arigen* pro *inne*
a strange *pro* one

'a strange one'

b. [$_{\text{NumP}}$ [$_{\text{DP}}$ unnen [$_{\text{FP}}$ arigen [$_{\text{NP}}$ *pro*]]] inne ~~DP~~]

However, Barbiers doesn't seem to pay all that much attention to the forms of the elements that he is considering. For example, we can consider what he has to say about the structure given in (17b) above in those cases where DP does not raise across NumP for whatever reason. He states that should the DP not raise to NumP, then the Haplology rule in (12) above applies since the Num head and the D head would be adjacent to each other at PF.

The Haplology rule specifically states that it is the D head which is deleted, under the condition that its featural specification is a subset of the featural specification of the Num head. We therefore expect *unnen* to be the element that

deletes, leaving *inne* behind. But instead what we find is that *inne* is deleted and *unnen* left behind.

(18) a. [$_{\text{NumP}}$ inne [$_{\text{DP}}$ unnen [$_{\text{FP}}$ arigen [$_{\text{NP}}$ *pro*]]]]

b. *inne arigen

c. unnen arigen

Either *inne* and *unnen* are allomorphs of the same underlying ONE element, or the Haplology Rule offered above is in need of revision. He does address the availability of (18c) in Northern Brabantish in one of his footnotes. With this case either; (i) Num is not present in the structure, (ii) the indefinite article is generated under Num and moves to D, or (iii) an indefinite article is generated under both D and Num and the Haplology Rule applies.

Of course, under the first option the absence of *inne* is trivial. Under the second, the Haplology Rule need not apply, and even if it did it would apply vacuously. Also, such a strategy would not be available in the NumP >>DP structure.

(19) a. [$_{\text{DP}}$ unnen [$_{\text{NumP}}$ ~~unnen~~ [$_{\text{FP}}$ arigen [$_{\text{NP}}$ *pro*]]]]

b. unnen arigen

Under the third option, we wouldn't expect *unnen* to be able to trigger the raising of DP to Spec-NumP in the same way that *inne* could, due to their differences in featural specification.

In summary, in Northern Brabantish ONE-insertion happens alongside DP raising to NumP in the structure [$_{\text{NumP}}$ [$_{\text{DP}}$ [$_{\text{NP}}$]]].

The two other varieties that Barbiers discusses are Frisian and Groningen. The analysis for each of these is essentially the same. The claim is that due to a featural mismatch between DP and Num the kind of movement seen in Northern Brabantish is never going to be licit. The proposition is that in the Frisian and Groningen dialects ONE is not specified for [gender] (unlike in Northern Brabantish) and so the condition in (15) is not met.

The support for this claim comes from a contrast of adjectival marking with overt nouns and with ONE. When an adjective modifies a regular nominal it agrees in gender, but when it modifies ONE it takes a genderless suffix.

(20) a. *in donker-e jongen*
a dark-NON-NEUTER boy

b. *in donker-en (ien)*
a dark-SUFF (ONE)

The insertion of ONE is assumed to be associated with a movement operation however. Barbiers suggests that ONE-insertion is the result of raising AP up to NumP. In the structure [$_{DP}$ [$_{NumP}$ [$_{NP}$]]] if AP raises up to NumP, then the Num head can be realised as ONE at PF.

(21) [$_{DP}$ in [$_{NumP}$ raaren ien [$_{FP}$ ~~raaren~~ [$_{NP}$ *pro*]]]]

As can be seen, three fairly distinct stories are given for deriving the data found in four dialects of Dutch. I would like to present an alternative account that doesn't rely on the rich featural specifications or post-syntactic processes that Barbiers' account does.

My Alternate Analysis

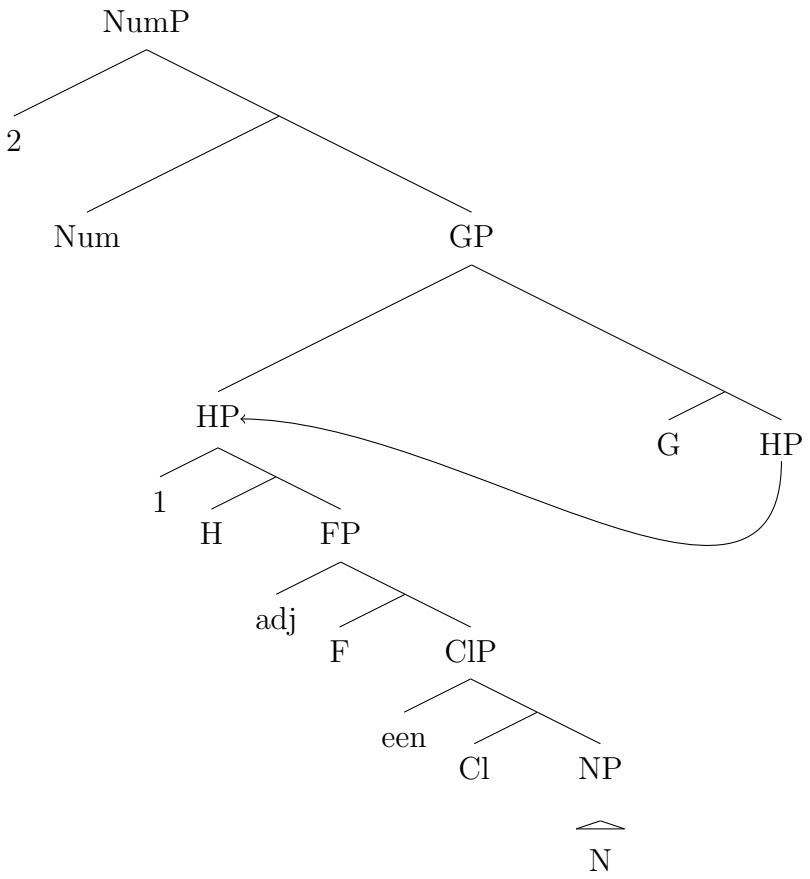
Can we use our restriction on extraction and our assumptions about the specification of functional ability on lexical items to arrive at a more satisfactory of Barbier's Dutch data?

In this section I demonstrate that using the same assumptions that we assumed above we can capture the Dutch data while maintaining a unity to nominal structure.

Standard Dutch

I'd like to suggest that the structure of the nominal in Standard Dutch is essentially the same as that of Spanish (and presumably the other Romance languages), but with one important difference: nouns in Dutch are unable to raise up to HP in the way that nouns in Spanish are.

(22)



If the noun is unable to raise to HP in Standard Dutch, then why should a child acquiring the language postulate that such a position exists? I suggest that such a position should be postulated because *een* is specified as being able to perform a similar function at the NumP layer as *one* does, and *een* can successfully be extracted to that level even in the presence of an adjective. *Een* is able to raise to the position identified as 1 above, and from there it becomes a viable candidate for extraction according to our restriction on extraction. From the position identified as 1 above, it can raise to the position identified as 2.

Just as in Spanish and English, *een* must raise up to NumP if it is able. It is this that prevents cooccurence of similar elements, in the same way as in English and Spanish.

(23) a. *een rare* pro
one strange pro

'a strange one'

b. *een rare een

c. *een 'n rare

(24) [$_{\text{NumP}}$ een [$_{\text{GP}}$ [$_{\text{HP}}$ ~~een~~ [$_{\text{FP}}$ rare [$_{\text{ClP}}$ ~~een~~ [$_{\text{NP}}$ *pro*]]]] G ~~HP~~]]
[$_{\text{HP}}$ ~~een~~ [$_{\text{FP}}$ rare [$_{\text{ClP}}$ ~~een~~ [$_{\text{NP}}$ *pro*]]]]

There is somewhat of a similarity between English *one* and ONE in Standard Dutch. However, whereas *one* enters the derivation under NP, *een* enters under ClP. This difference effortlessly captures an important contrast between the distribution of *one* in English and *een* in Standard Dutch. *One* can appear with plural morphology, but *een* cannot.

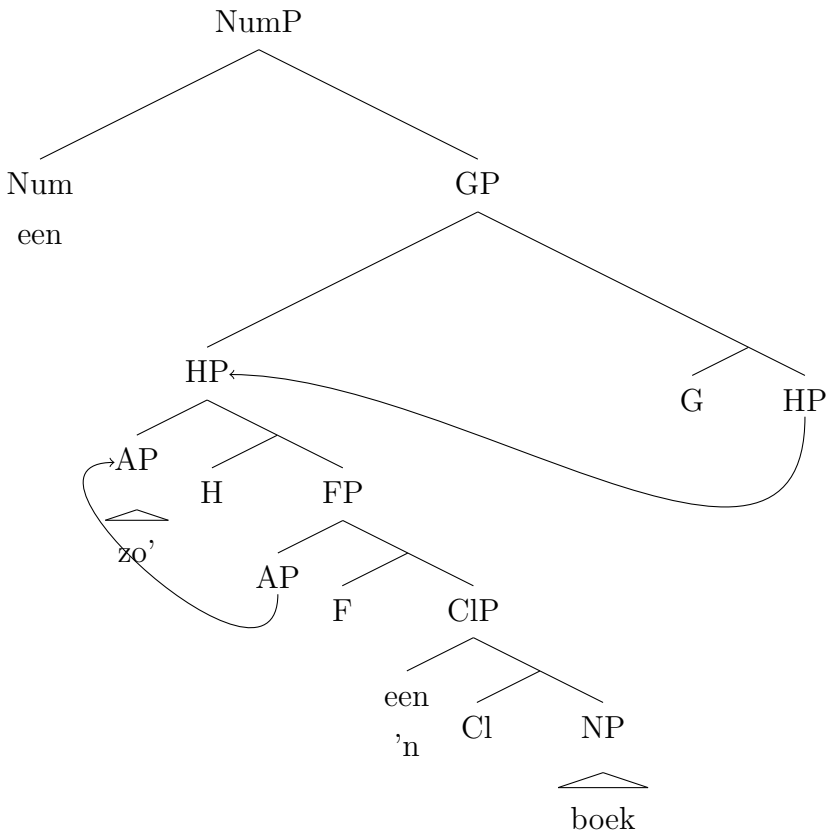
(25) a. [$_{\text{ClP}}$ -s [$_{\text{NP}}$ ~~one~~]]]

b. [$_{\text{ClP}}$ een [$_{\text{NP}}$ pro]]]

The structure proposed delivers a prediction. Given that we are assuming that adjectives are introduced above the ClP layer, if we were to introduce an adjective that can be raised to HP (for whatever reason) then we should predict the raising of *een* to NumP to be blocked. I would like to suggest that *zo* is just such an adjective.

(26) een zo'n boek

(27)



(28) [$_{\text{NumP}}$ een [$_{\text{GP}}$ [$_{\text{HP}}$ zo' [$_{\text{FP}}$ ~~zo'~~ [$_{\text{ClP}}$ een [$_{\text{NP}}$ boek]]]] G ~~HP~~]]
[$_{\text{HP}}$ zo' [$_{\text{FP}}$ ~~zo'~~ [$_{\text{ClP}}$ een [$_{\text{NP}}$ boek]]]]

After the introduction of *zo'* into the structure we introduce the H head. I suggest tha *zo'* raises up to HP and prevents *een* from being able to move there too. This strands *een* inside HP, and permits the external Merger of the indefinite article in NumP. I then assume the *een* in ClP undergoes a phonological contraction and is realised as *'n*.

Northern Brabantish

Unlike Standard Dutch, I propose that Northern Brabantish doesn't have HP projecting above the functional structure in which adjectives are introduced. Instead there is another layer of projection (here called HP)[4] intervening between where

[4]Note that this projection need not actually be the same kind of projection as HP was in Spanish, all it need be is a projection distinct from ClP and FP and yet between them. The behaviour of count nouns with respect to the kind-token readings suggest the existence of another level of projection in just such a location.

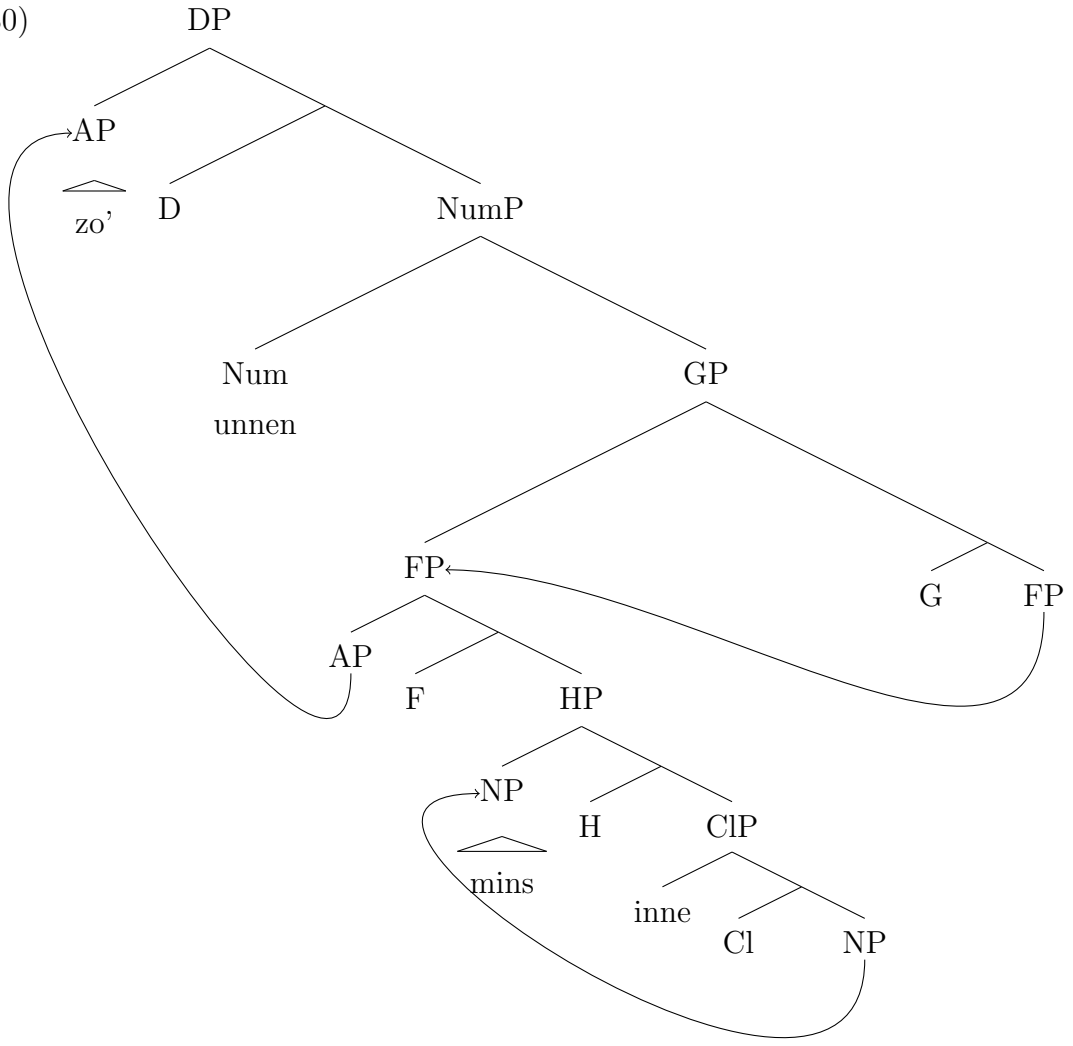
inne is introduced (in ClP) and where adjectives sit. Also unlike Standard Dutch, I suggest that Northern Brabantish is able to raise the nouns in a way similar to languages like Spanish, and that it is to this HP that the noun raises.

These qualities in combination make it such that *inne* would never be able to be extracted out to NumP even if it were able to provide the necessary function at that projection.

(29) *zunnen* *mins* *inne*
so.INDEF.ART men ONE

'such a man'

(30)



(31) [$_{DP}$ z' [$_{NumP}$ unnen [$_{GP}$ [$_{FP}$ ~~z'~~ [$_{HP}$ mins [$_{ClP}$ inne ~~mins~~]]] G ~~FP~~]]]
[$_{FP}$ ~~z'~~ [$_{HP}$ mins [$_{ClP}$ inne ~~mins~~]]]

The optionality of *inne* in Northern Brabantish would need to come down simply to an optionality between *inne* and a null classifier (∅) as the dividing element that sits in ClP.

(32) a. unnen arigen inne

b. unnen arigen

I am of the opinion that this approach is preferable to the approach in Barbiers 2005 in that no Haplology Rules are required, and in that the ONE element maintains its form, and remains distinct from *unnen*.

Frisian and Groningen

The structure I propose for Frisian and Groningen is exactly the same as that proposed for Standard Ductch (and therefore the same as that proposed for Spanish). However, I suggest that just as in Northern Brabantish the ONE element is not specified as being able to perform any function in NumP and so does not raise. Again, the optionality of *ain* would need to come down to the optionality between *ain* and ∅ as the dividing element that sits in ClP.

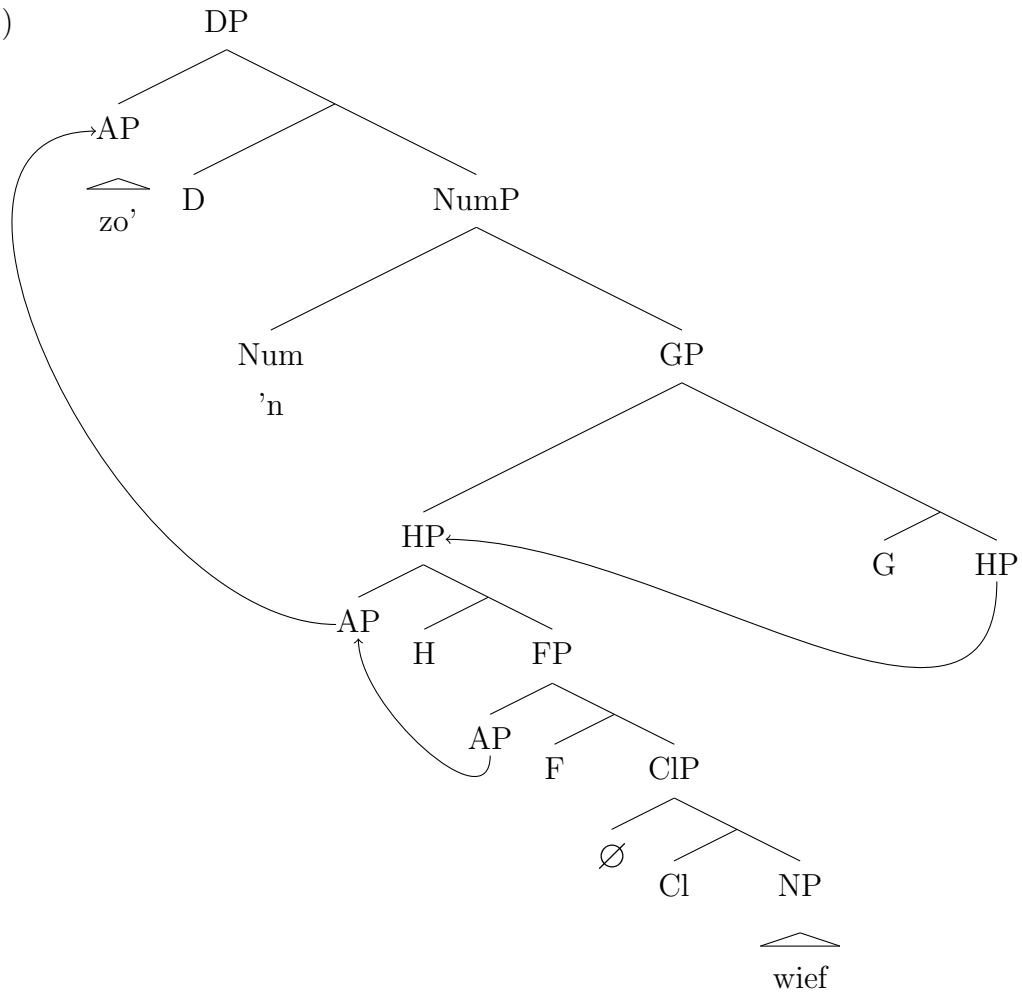
(33) a. 'n roaren ain

b. 'n roaren

(34) *zo'n* *wief*
SO.INDEF.ART wife

'such a wife'

(35)



Just as in Standard Dutch the *zo'* element raises from FP to HP. I would like to suggest that this raising from FP to HP is a movement that all adjectives do in Frisian and Groningen when the head NP is phonologically empty. We saw previously that adjectives receive genderless suffixes when appearing with *ain*. They also gain the same suffix when expressing focus. I would like to suggest that it is precisely this raising from FP to HP that endows adjectives with the genderless suffix in Frisian and Groningen.

(36) a. *a donker-en (ien)*
a dark-SUFF (one)

‘ a dark one’

b. *Hy is in dreg-en baas*
he is a tough-FOC boss

‘he is a very tough boss’

My analysis of these data appears to my mind to be more along the right lines given the degree of isomorphism exhibited between the structures and by avoiding any reliance upon freely ordering the D and Num heads in the structure of the noun.

Argument against a post-syntactic analysis

Based on the data we've discussed so far, the following analysis is conceivable. Let us assume that pronominal *one* is specified for singular number. If we attempt to Merge numerals and certain quantifiers into the same extended projection, then there is a semantic requirement that there be match between the quantificational element and the singular number specified on *one*. This essentially rules out quantifiers such as *many* and all numerals of a cardinality other than 1. The result is that only the following examples are semantically meaningful.

(37) a. a one

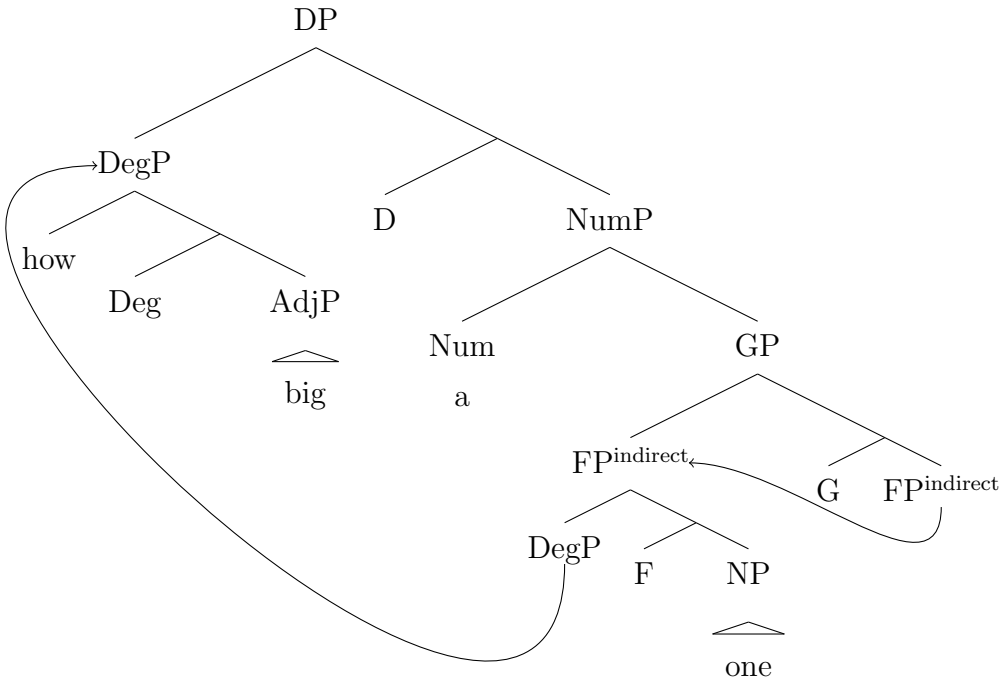
b. one one

The next step of this analysis is to propose that a Haplology rule applies, along the lines of that given in (38) below. Such an approach essentially amounts to a Surface Constraint - an operation that applies to the output string without reference to the syntactic structure that went in to forming that string.

(38) Haplology Rule
Leave Num empty at PF when Num and Cl are adjacent and the features of Num are a subset of the features of ClP

Recall the observation made in Section 4.4.1 about DP internal wh-movement. There we saw that it was possible for anaphoric *one* to appear alongside the indefinite article. I argued that whereas this is normally not permitted in English due to the requirement that anaphoric *one* raise up to NumP when it can, it was possible in these cases due to a movement operation taking place.

(39)



The degree phrase containing the wh-element begins lower than the NumP layer and is responsible for making it so that anaphoric *one* cannot raise past it, and so the indefinite article may appear. Subsequently the degree phrase is raised to a higher position in the nominal and the result is that we have anaphoric *one* and an indefinite article alongside one another.

This is just the type of evidence we need to suggest that having a Haplology driven mechanism of the kind just sketched will not work.[5]

All of this I take to provide extra support for the analysis described in the previous chapters. Just as English and Spanish share in this configuration of the functional structure of the nominal, so too does Dutch.

[5]Not only would such an approach erroneously rule out cases like this, but it would also rule out *not a one* as a meaningful phrase.

(i) John: How many brand new cars did you spot?

Mary: Not a one

It is worth noting that this instance of *one* is resistant to adjectival modification.

(ii) John: How many brand new cars did you spot?

*Mary: Not a blue one

Taking this into consideration, I propose this is an idiomatic usage of *a one*.

6.3 Turkish Data

So far we've looked at English, Spanish, and Dutch data, drawing support for the notion that they all share the same underlying covert movement operation within the nominal projection. I propose that we also find *one*-like behaviour in a lexical item in Turkish - a non-Indo-European language. Like English, and Dutch, Turkish exhibits prenominal adjectives.

(40) a. *yüksek ağaç*
tall tree

'the tall tree'

b. *yedi raşında bir çocuk*
seven age.NC.LOC BIR child

'a seven-year-old child'

Switching the order of the adjective and the noun in the examples serves to change the structure being considered from a nominal structure to a predicative adjectival structure. This indicates that postnominal adjectives in Turkish are not available.

(41) a. *ağaç yüksek*
tree tall

*'the tall tree'
'the tree is tall'

b. *çocuk yedi raşında*
child seven age-NC-LOC

*'the seven-year-old child'
'the child is seven years old'

As can be seen, Turkish lacks a definite article. It does however have an indefinite marker in the form of *bir*. It is this item that I suggest behaves similarly to English *one* and is subject to the same restriction on extraction.

However, before I demonstrate the way in which my proposed condition can capture the data I'd like to address the explanation presented in Kayne 2015 for the way in which *bir* behaves in Turkish.

The observation is made that *bir* is able to precede or follow an adjective, this can be seen below.

(42) a. *bir güzel, olgun elma*
BIR nice ripe apple

'one nice ripe apple'

b. *güzel, olgun bir elma*
nice ripe BIR apple

'a nice, ripe apple'

The differences in position are reflected in a difference of interpretation. When *bir* precedes the adejctive(s) it is interpreted as the numeral *one*, while when it appears following the adjective(s) it is interpreted as the indefinite article.

The suggestion appears to be that *bir* is free to raise across the adjective(s) from a lower position to a higher.

(43) a. [bir güzel, olgun ~~bir~~ elma]

b. [güzel, olgun bir elma]

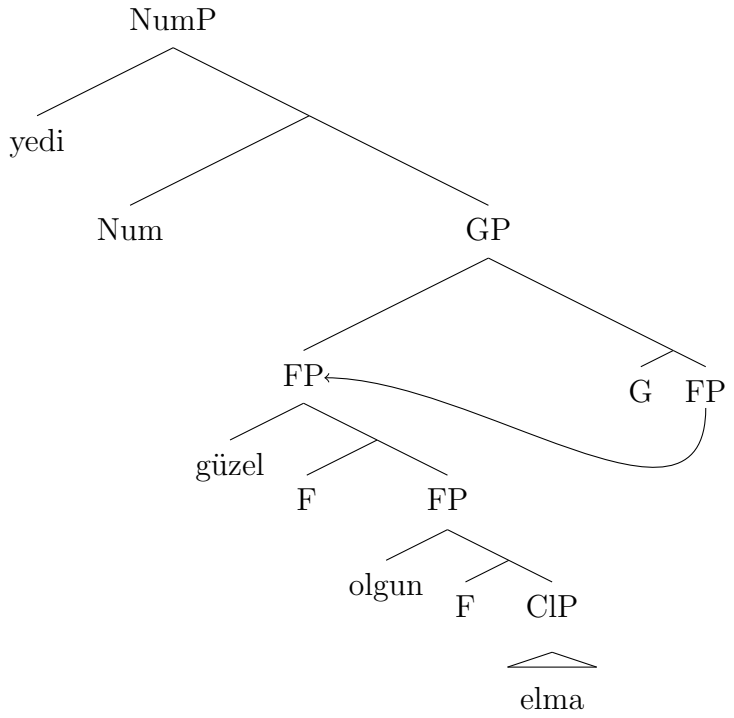
If the raising takes place, then *bir* gains the interpretation of being a numeral. Otherwise it is only interpreted as marking indefiniteness. Some support for the claim that the higher position is associated with the interpretation of cardinality is found in the fact that it is possible to switch *bir* for other numerals (such as *yedi* 'seven') there.

(44) a. *yedi güzel, olgun elma*

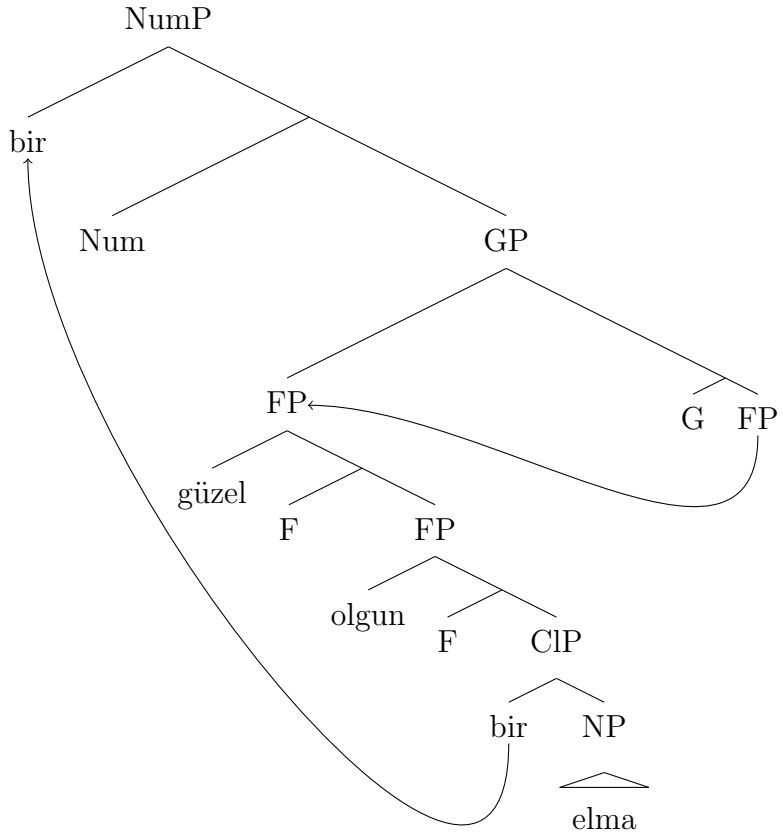
'seven nice ripe apples'

b. * *güzel, olgun yedi elma*

(45)


NumP
yedi
Num
GP
FP
G
FP
güzel
F
FP
olgun
F
ClP
elma

(46)


NumP
bir
Num
GP
FP
G
FP
güzel
F
FP
olgun
F
ClP
bir
NP
elma

This approach proves problematic for the analysis I've been building. Assuming, as we have been, that adjectives are introduced by a functional projection in the lower part of the extended projection, then *bir* would need to be extracted out across it. This would violate our restriction on extraction.

Our prediction would be that (43a) should be unavailable, contrary to the case.

If the restriction on extraction were to hold in this case then I see only two alternative strategies for getting *bir* into the higher position. The first would be to Externally Merge it there, rather than moving it out of FP. The second would be for the functional heads to be sequenced differently such that ClP is higher than FP, from which position *bir* could be extracted in without violating the restriction on extraction.

I would argue that there is evidence that both of the these strategies can be employed in Turkish.

Let's examine the first. If *bir* were to be Externally Merged into the higher position, we would expect *bir* to still be in the lower position, and realised as such. This behaviour is the same as can be seen in the English example below.

(47) one red one

So a question we miht like to ask is, does Turkish exhibit the doubling up of *bir* in a similar way that English exhibits the doubling up of *one*?

(48) a.
bir genç adam
BIR young man

b. *genç bir adam*
young BIR man

'a young man'

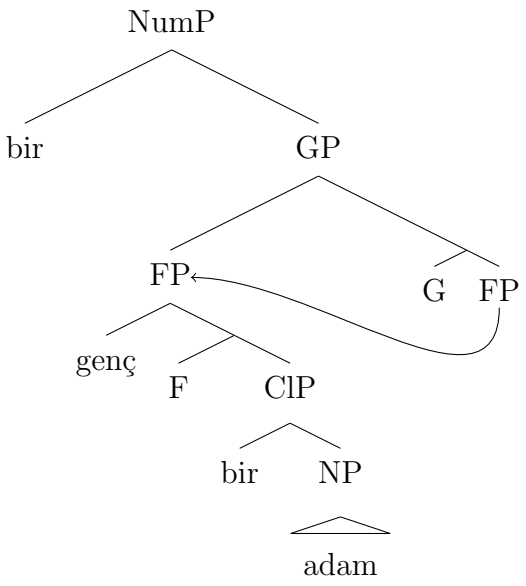
We find examples like the following, where *bir* appears both pre- and postnominally within the same nominal phrase.

(49)
bir genç bir adam
BIR young BIR man

'one young man'

Whereas in English the doubling up of *one* results from the higher instance being the numeral *one* while the lower is the anaphoric ClP I argue for, in Turkish the lower instance cannot be phrasal since the head noun remains.
I propose the following structure for the sequence in (49).

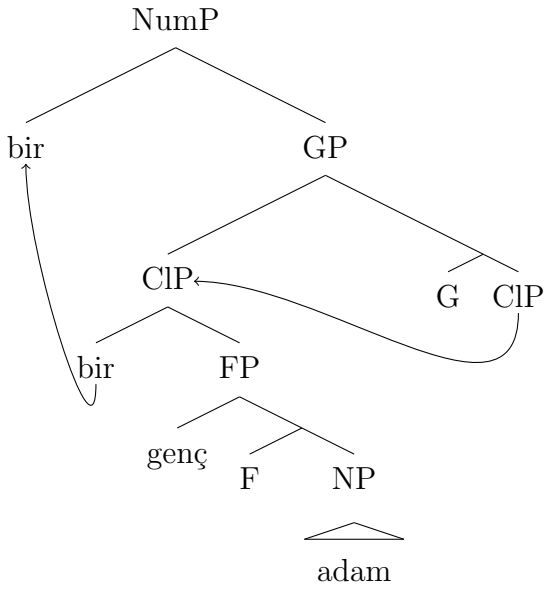
(50)



Since there is no extraction across FP, there is no violation of the restriction on extraction, and everything is fine.

This still leaves us with the question of how the example in (48a) is possible. Let's look to the second strategy. The structure that I suggest is represented below.

(51)



If it is possible to Merge ClP above FP rather than below it then we would expect there to be a difference of interpretation versus FP being Merged above ClP.

Göksel and Kerslake (2004) discuss the contrast in interpretation between *bir genç adam* and *genç bir adam*. The difference is referred to as being a subtle one in which the former order denotes an individual of the set of 'young men', whereas the latter indicates a young member of the set of 'men'. In other words, when *bir* precedes *genç* then the adjective is involved in a direct modification relationship with the noun.

We expect the functional structure associated with the adjective to be introduced before the introduction of *bir*, as in (42) above. Whereas when *bir* follows *genç* then the adjective is in an indirect modification relationship with the noun. In this case the functional structure introducing the adjective would be higher in the projection of the noun than the position in which *bir* is introduced, as in (41).

This is exactly the nature of the contrast in meaning that we would expect to see, given the structure we have been arguing for.

6.4 Summary

Presented in this chapter are a number of phenomena from across a variety of languages which fall in line with what we would expect to find, assuming the structure being argued for in Chapter 4.

Beginning with Dutch data, I presented the analysis given in Barbiers 2005 and gave an alternate account in line with the ideas being explored in this thesis. Not only is that account able to fully capture the data but it does so while maintaining the standard heirarchical order of DP over NumP.

We find in Turkish *bir* an analogue for English pronominal *one*, with appropriate differences in the interpretation of the phrases in which they appear which match what we would expect to see based on behaviour described with *one* in Chapter 4.

And finally, Slovenian presents two nominal phrases that had previously lent themselves to being analysed using two distinct structures. These two structures are easily collapsed and incorporated into the structure currently being argued for.

These captured phenomena go some way to support the validity of the structure and the covert movement operation involved that I propose in this work.

Chapter 7

Conclusion

If I had to summarise the main argument of this thesis in one sentence, it would be the following: nominal structures have an obligatory movement operation which while largely covert results in a configuration that may affect whether or not certain processes are possible.

We first looked at the nature of anaphoric *one* and concluded that it is a phrasal element containing the ClP layer with the result being that anaphoric *one* is always interpreted as being countable. We then explored novel observations as to the types of interpretations that are available to prenominal adjectives that modify anaphoric *one*. A key contrast demonstrating that anaphoric *one* behaves differently when modified prenominally or postnominally with regard to the availability of the indefinite article, numerals, and certain quantifiers was described.

By way of an attempt to explain the difference in behaviour, I propose an obligatory movement operation in the nominal projection. That stretch of the nominal projection which may contain the ClP layer or dedicated functional heads responsible for introducing direct or indirect adjectival modification, I claim that must be raised to a higher position. This results in a structural configuration whereby certain syntactic material inside the moved constituent cannot be extracted. It is these two mechanisms working in conjunction that produces the difference in behaviour we observed. Anaphoric *one* is able to appear alongside the indefinite article when modified by a prenominal adjective because the presence of the adjective forces anaphoric *one* to deeply inside the moved constituent to be extracted out, and so does not compete with the indefinite article for its position in the structure. I claim that postnominal modification occurs externally to the

moved constituent and so does nothing to keep anaphoric *one* from successfully competing with the indefinite article, thereby preventing the two from appearing together.

I've shown that a syntactic element which shares certain characteristics of anaphoric *one* exist in a variety of languages; namely Spanish, Dutch, and Turkish. Each language has an element that would like to raise up to NumP if it is able to. I have also shown that it is not possible to fully account for the behaviours of these types of elements in these languages without also appealing to the same movement operation argued to take place in English.

Whether or not this typically covert movement operation in the projection of the nominal is obligatory in all languages remains a subject for further investigation.

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