Determiner Phrases and Noun Movement

One of the puzzles we stumbled over in introducing phrase structure rules involved the internal shape of determiner phrases. I noted that the set of strings that constitute DPs is miserably anemic. There are very few examples of non-trivial strings of words that offer themselves as possible determiner phrases. Typically, a determiner phrase appears to be constituted of nothing more than its head. The sorts of examples I offered as candidates for this family of strings were things like the bold-faced material in (1).

(1) 
   a. all but three determiners  
   b. more than six children  
   c. two dozen eggs

But there are reasons to think that these examples don’t have parallel parses, and that, in fact, none of them fit to a DP string in the desired way. It’s probable that dozen, in (1c) is an adjective; this can be seen by observing that it can follow other adjectives (something determiners aren’t capable of doing):

(2) an expensive dozen eggs

(1a) involves a coordinator, but, which will invoke the sorts of structures we have encountered before with coordinations. (1b) involves what is known as a “comparative construction,” whose syntax, like that with coordinations, invokes larger joined structures. We won’t examine these cases in any detail here, but let me offer as a way of thinking about the syntax of these cases that makes their semantics transparent, something along the lines of (3), where the struck-out material should be understood as syntactically present, but phonetically absent.

(3) 
   a. [all of the determiners] but [three determiners]  
   b. [more of the children] than [six children]

Imagine, that is, that these cases involve bringing two full NPs together, and that a process of ellipsis removes the \( \overline{N} \) from the first NP and, moreover, this \( \overline{N} \) is understood to refer to the same set of individuals that the \( \overline{N} \) in the other NP refers to.

If these cases don’t involve strings that have the same distribution as determiners, then where are the strings that are determiner phrases? Why are they so hard to find?

For an examination of cases like (3b), see Hackl (2000).
This problem can be related to another, worse, problem. Remember that determiner phrases compete with genitive NPs for the Specifier of NP position. This is what is responsible for the paradigm in (4).

(4)  a. Mary's lamp  
    b. the lamp  
    c. * the Mary's lamp

We adopted a view of NPs that embraced a constraint — yet to be found — that limited DPs and genitive NPs to their Specifier position. When we transited from a model about syntactic form that used Phrase Structure rules to one that involved X-Theory and other general principles, we lost a way of expressing this fact. We must now understand how to capture the competition between determiners and genitives for the “first” position in NPs. This involves understanding what it is that governs the distribution of genitive NPs and determiners.

A problem for capturing the related distributions of determiners and genitives arises in certain cases which look rather like clauses, but which nonetheless have genitive subjects. These are called “gerunds,” and (5) provides some examples.

(5)  a. [Mary's loudly singing the song] bothered us.  
    b. I recalled [Mary's fixing the car].  
    c. [Mary's having talked to John] wasn't widely known.

This suggests that these phrases have an organization something like (6).

(6) ![Diagram of NP structure]

I will collapse the distinction between Agr and T into I whenever it doesn’t matter.

But what’s the “?” in this graph?
The DP Hypothesis

There is some evidence that ?P has the same distribution as NPs. Recall that NPs are subject to the Case Filter, and as such, are unable to stand after adjectives, which apparently are incapable of assigning Case. The same is true for these sorts of expressions:

(7) a. I was happy with Mary’s singing the song.
   b. *I was happy Mary’s singing the song.
      (compare: “I was happy that Mary sang the song.”)

And these expressions can be conjoined with NPs, which, if we’ve got the constraints on coordination correct, also indicates that they are NPs.

(8) [Mary’s singing the song] and [my subsequent departure] enraged the organizers.
   (compare: “*[Mary’s singing the song] and [that I subsequently departed] enraged the organizers.”)

But if ?P is a noun phrase, then the law of endocentricity demands that ? be a noun, contrary to fact. Something’s amiss.

One way of thinking about this problem goes as follows. What makes the distribution of ?P look like that of noun phrases is the presence of the genitive NP. So, maybe we should call “?” the head that determines genitive Case on the NP which surfaces in its Specifier. Maybe, actually, it is the genitive s itself. This would mean that the distribution of Genitive Phrases is the same as NPs (perhaps). And since Genitive NPs are in complementary distribution with determiners, maybe we should rethink how we earlier characterized the phrases that we called NPs. Maybe they are in fact determiner phrases, as in (9).

(9) a. DP
   b. DP
   c. DP
   d. DP
   e. DP
   f. DP
   g. DP
   h. DP
   i. DP
   j. DP
   k. DP
   l. DP
   m. DP
   n. DP
   o. DP
   p. DP
   q. DP
   r. DP
   s. DP
   t. DP
   u. DP
   v. DP
   w. DP
   x. DP
   y. DP
   z. DP

---

Diagram:

```
  DP
 / \
|   |
D   IP
 /  |
|   |
Mary
 /  \
|   |
s
 /  \
I   ing
 /  \
V   sing
     DP
     the song
```
If this is correct, it would also answer the problem we began with. The reason DPs look so anemic is because they’re considerably larger than we thought.

The two considerations I’ve just adduced in favor of reanalyzing NPs as DPs with NPs inside them can be found in Abney (1987). He gives another, smaller, argument on behalf of this reanalysis that relies on a mystery concerning the expression of Adjective Phrases in English. The mystery is that there is a constraint on Adjective Phrases in English nominals which determines how large they can be depending on whether they precede or follow the noun. As (10) shows, when an AP has nothing but its head in it, it prefers preceding the noun, whereas if it contains material following the A[0], it prefers following the head.

(10)  a. some angry children  
     b. * some children angry

(11)  a. * some angry at Bill children  
     b. some children angry at Bill

There is a systematic exception to this, and these are expressions like everyone/everything, someone/something, anyone/anything and no one/nothing.

(12)  a. someone angry  
     b. something large  
     c. * angry someone  
     d. * large something

(13)  a. everyone angry  
     b. everything large  
     c. * angry everyone  
     d. * large everything

(14)  a. no one angry  
     b. nothing large  
     c. * angry no one  
     d. * large nothing

I’ve changed slightly his discussion of cases like “Mary’s singing the song” — but the spirit of the argument is his.
Abney suggests that an analysis of this exception should not make it accidental that the determiners every, some, any and no and the nouns one and thing are involved. More particularly, it should not be accidental that the only expressions in English which seem to be made up of a determiner and noun sequence should be the very expressions which seem to violate this generalization. He recommends that we see these cases as coming about through movement of one/thing onto the determiner; that is, he suggests that (12) be involved in a derivation that includes the parses in (15).

(15)  a. DP
     |   \\
     D
     |   \\
     D NP
     |   \\
     some every any no \\
     |   \\
     AP N
     |   \\
     large N
     |   \\
     one thing

b. DP
     |   \\
     D
     |   \\
     D NP
     |   \\
     D N N
     |   \\
     some one every thing \\
     |   \\
     AP N
     |   \\
     large N

Now Head Movement can combine one with $D^0$ to form the DPs in (12).

Further, to the extent that combining one with some/every really involves Head Movement, we have an argument for the reanalysis of NPs into DPs. This is because the Upwards Constraint and the Likes Attracts Likes constraint combine to allow one to adjoin only to a head that c-commands its original position. So, if the some and every parts of someone and everyone are determiners, and the one part is a noun that has Head Moved into these determiners, then it must be that $D^0$ c-commands NP.

If these considerations are on the right track, it demands that we change our way of talking about nominals altogether. Everything we once thought to
be true of NPs, is now true of DPs instead. So, for instance, the Case Filter is something that fixes the position of DPs, not NPs. NPs are now found pretty much only inside DPs and not, as we previously thought, in subject and object positions. From this point forwards, then, let everything that we have credited to NPs hold of DPs instead, and let NPs be selected only by determiners, thereby fixing their position within DPs.

We have also seen, faintly, evidence that nouns move internal to DPs in a way somewhat like the movement of verbs internal to CPs. Indeed, there is a variety of interesting evidence that Noun Movement exists to a larger degree than just that found in the *someone* and *everyone* cases mentioned above. Moreover, there is some evidence that this movement relocates a noun to a head associated with inflectional morphology, much like the situations we have viewed involving verbs and inflectional morphology. In gross terms, then, DPs and IPs have a variety of parallels; it is this parallelism that Abney focuses on in the first two chapters of his dissertation.17

In this chapter, we will examine a paradigm of facts which focus on the noun movement part of this parallelism.

**Noun Movement**

One paradigm of facts that has been accounted for in terms of noun movement concerns a difference in the position of a noun’s “Subject,” which is how we might characterize the terms that appear as genitives in English. In Romance (by which I will mean here Catalan, standard French and Italian), the “subject” argument can appear between the noun and its complements.

(16) a. L’opinione di Maria di Gianni
   the opinion of Mary of John
   ‘Mary’s opinion of John’
   (Italian)

   b. les novelles d’en Pere de Maria
   the novel of Pere of Maria
   ‘Pere’s novel of Mary’
   (Catalan)

   c. le portrait de chaque peintre étranger de son enfant
   the portrait of each foreign painter of his child
   ‘the picture by each foreign painter of his child’
   (French)

This could be made sense of if we adopt the Derived Subjects Hypothesis for nominals as well as for clauses, and suppose that there is N0 movement in Romance but not English. If we understand the Derived Subjects Hypothesis to claim that it is the highest N which assigns the θ-role that “subjects” in DPs receive, then this will put these subjects in Specifier of NP underlyingly. If nouns then move leftwards in Romance, and the subjects of DPs can remain

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in their underlying position, this will have the desired consequence of placing nouns to the left of the subjects.

I think the first argument of this sort comes from Cinque, who makes the argument based on the position of “ethnic” adjectives, which also can be found postnominally in Romance.

(17) L’invasione tedesca dell’Austria.
    the invasion german of Austria

Ethnic adjectives seem able to bear a subject θ-role assigned by a noun. So, consider, for example, the contrast in (18).

(18) a. the American car in the showroom
    b. the American waltz on the radio
    c. the American opinion of the blockade
    d. the American discussion of trade barriers

In (18a), American serves as a genuine modifier, merely attributing to the referent involved that it has the property of being American. But in (18b), American refers to an abstract entity that is constituted of the American people or the American government. That this is a function of these adjectives bearing the external θ-role which opinion and discussion assign is indicated by the fact that this meaning is lost when there is another external θ-role bearer in the nominal.

(19) a. Uganda’s American opinion of the blockade
    b. Morocco’s American discussion of trade barriers

Like other external θ-role bearers, then, this one shows up postnominally in Italian (and the other Romance languages), which can be accounted for if we let these adjectives be underlying placed in Specifier of NP, and then make nouns move leftwards past them.

There is another way of generating these word orders. Giorgi and Longobardi (1991) suggest that there is a difference in the direction that Specifiers can branch in Romance and Germanic, and that this is responsible for the fact that the phrases that appear in these Specifiers, i.e., “subjects,” show up following the noun in Romance but not Germanic. This alternative account predicts that postnominal “subjects” can follow the complements, and this is generally possible too. Thus the di/de phrases in (16) are actually ambiguous; either of them can have the subject or object reading. Giorgi and Longobardi suggest that this word-order alternation arises by virtue of a rule that moves the “object” past the right-branching subject position. The Noun Movement account would have to claim that the subject can move rightwards past the object.

There are reasons for doubting that the Giorgi and Longobardi account is correct, and this direction has largely been abandoned in the literature. One of these is that, as Valois (1991a) and Bernstein (1993) note, “ethnic” adjectives cannot follow complements in Romance.
This can be related to the fact that ethnic adjectives seem unable to move. There is evidence in English for this which comes from the fact that ethnic adjectives are unable to undergo the passive-like operation that nominals support in examples like (21), compare (22).

(21) a. Iran’s bombardment by Russia took several weeks.
    b. Uganda’s invasion by Tanzania grinds slowly on.

(22) a. * The Iranian bombardment by Russia took weeks.
    b. * The Ugandan invasion by Tanzania grinds slowly on.

(roughly Kayne’s 1984, (32) and (33), p. 139)

As we shall have occasion to see, there is evidence that the genitives in (21) have undergone A Movement from a position to the right of the noun, where they receive their θ-role. Ethnic adjectives, apparently, are unable to move from this position. Instead, they are stuck in the position from which they get their θ-role. Thus, the fact that they appear in Romance between the noun and the noun’s complements suggests that the underlying position to which the external θ-role is assigned in nominals is to the left of the complement. This follows if the Specifier of NP branches to the left rather than the right. This fact, then, fits the model of Romance nominals which has the noun moving leftwards past the subject.

So, now, where are the nouns moving in these cases? One possibility, explored in a variety of places, is that the intermediary position is where number morphology is associated. There is some prima facie reason for thinking that number morphology heads a syntactic phrase: Cross-linguistically this is common, as Dryer (1989) shows. Thus, in Yapese, for example, the plural/singular/dual categories are expressed with separate morphemes.

(23) a. ea rea kaarroo neey
    sing car this

b. ea gal kaarroo neey
    dual car this

c. ea pi kaarroo neey
    plural car this

This at least suggests that Universal Grammar makes projecting a syntactic phrase above Number a possibility. Further, Dryer shows that the relative order of Num⁰ and Noun correlates with Verb-Object word order. This would be explained, on standard theories of word order typology, if Num⁰ is in a head complement relation with Nouns. Moreover, Dryer finds that most times there is a number word, it falls more embedded in the nominal than do
determiners, but above adjectives and the noun. He provides examples like the following.

(24) a. ha ongo puhaʻe ua
   art dual box two
   (Tongan)

   b. do mamu ragha
   tree big plural
   (Kimaghama)

   c. me-ria rabiri
   plur-new paddle
   (Cayuvava)

There are exceptions, but this can be said to be the "basic" order among these terms. If so, the pattern that emerges can be sketched in (25).

(25) \[
\begin{array}{c}
\text{DP} \\
\downarrow \\
\text{NP} \\
\downarrow \\
\text{NP} \\
\downarrow \\
\text{N} \\
\downarrow \\
\text{XP}
\end{array}
\]

This is what the statistical study yields.

Of course, if Dryer's conclusion that adjectives come between Num⁰ and N⁰ is valid for English, then English nouns must combine with this morphology in one of the ways we have seen possible in the verb/inflection cases. One possibility is that nouns overtly move to Number, but that this doesn't bring the noun to the left of the possessor in English because possessors are driven into Specifier of DP, an even higher position. Or, we might imagine that the noun undergoes covert movement to Number head.

So now what we want to determine is: Is there language internal evidence for the picture that Dryer gives us statistically? And, is there evidence that bears on whether English differs from other languages in not enjoying overt N⁰ movement to Number?

Let's tackle the second question first.

We have seen evidence for the movability of nouns. Is there language internal evidence that the site of this movement is Num⁰? The best argument I know for this in the literature is found in Bernstein (1991), who manufactures what I called in the preceding chapter a "correlation argument." She claims
that there is reason to believe that the position of nouns relative to adjectives correlates with the presence of number morphology on the noun. Her evidence comes chiefly from a comparison of Walloon and standard French. The contrast she describes is very like one that holds between English and French, however, so I will begin with an illustration of this difference.

In French, but not English (with the exception we've already noted), it is possible for single adjectives to follow the noun they modify.

(26) a. dès bêtes malades (French)
   b. some sick animals (English)
   *some animals sick

It is also possible to find prenominal single adjectives in French, as in the following example.

(27) a. une large vallée
   a. large valley
   b. une vallée large
   a. valley large

But here Bernstein notes that there is a difference in meaning: in (27a), the nominal refers to an individual drawn from the set of things that are large valleys. In (27b), by contrast, a “member of a class of valleys which happens to be large” is denoted. In Giorgi and Longobardi’s study of this phenomenon in Italian, they suggest that the prenominal depictive adjective can only get an appositive interpretation, whereas the postnominal one can have either an appositive or restrictive reading. The difference between an “appositive” and a “restrictive” reading is subtle. Roughly speaking, appositive modifiers contribute their meaning to the expression they are attached to in a way that is reminiscent of conjunction. So, for instance, in (28a) the PP from Duluth stands in the same relation to Mary as it does in (28b).

(28) a. Mary, from Duluth, has arrived.
   b. Mary has arrived and she is from Duluth.

In an example such as (29), by contrast, from Duluth plays a more direct role in determining the reference of the DP it is attached to.

(29) Jill likes women from Duluth.

In this case, from Duluth restricts the reference of women to just those that have an attribute that Jill values: being from Duluth. One could not capture the meaning conveyed by (29) with a circumlocution, parallel to (28b), like:

(30) Jill likes women, and they are from Duluth.

Perhaps it is this sort of difference in meaning that correlates with the prenominal/post-nominal position of adjectives.
If so, it doesn't appear to always be the case, however. There are some examples where the alternation between Adj+N and N+Adj order doesn't appear to invoke any meaning difference. Valois (1991b) provides some examples in nominals with a deverbal noun.

(31) a. La probable invasion de Jupiter
   the probable invasion of Jupiter
   La invasion probable de Jupiter
   the invasion probable of Jupiter

b. La fréquente invasion de Jupiter
   the frequent invasion of Jupiter
   La invasion fréquente de Jupiter
   the invasion frequent of Jupiter

(Valois, 1991b, 374)

Valois claims that there is no difference in meaning attendant with these word orders. What's going on here will have to await a better understanding of the syntax-to-semantics mapping of modification.

What is the source of the difference between French and English with respect to placement of these single adjectives. Why can they appear after the noun in French but not in English?

One possibility would be to blame whatever it is that prohibits bare adjectives from being right-joined to the nominal projection as the cause. Maybe this constraint is not present in French? Actually, however, there is evidence that this constraint is also present in French. We've seen that bare adjectives can follow the noun, but they cannot follow the noun's complement, as in the following example.

(32) *L’invasion de Jupiter complète

If bare adjectives could right-adjoin to a projection of a noun, there would be no reason for this asymmetry — they should be able to follow everything that is in an NP. But, on the other hand, if we assume that this constraint operates in French just in the same way that it does in English, then (32) will be ungrammatical for the same reason that the English version of this DP is. And, the fact that bare adjectives can follow single nouns, on the other hand, can be explained if we allow nouns to Head Move past adjectives in French, but not English.

Now, interestingly, Bernstein shows that Walloon patterns with English, and not with the other Romance languages, with regard to adjective placement. Single adjectives must precede the noun they modify in Walloon, just as in English.
She suggests that the difference between French and Walloon is that the noun moves past the adjective in French but not in English or Walloon. And, further, she argues that the contrast between Walloon and French correlates with a difference in the way that number morphology is expressed on the noun. This, she argues, suggests that the position the nouns are moving to in French is a position associated with number morphology.

Her argument that number morphology is centrally implicated rests on several observations. First, she points out that neither colloquial French nor Walloon show (phonetically) the plural morphology that is orthographically present on nouns. Thus the bracketed portions of the following nouns are not pronounced.

These plural affixes are not present phonetically even when the context for liaison is provided.

However, she notes that in French there is a certain class of suppletive forms where the nouns do show a morphological mark for plurality. Examples are given below.

In Walloon, however, these forms always appear just in their singular form.
Further, she notes that liaison is possible in literary French, but never in Walloon. Thus, the orthographically present, but normally not phonetically manifest, plural suffix is pronounced in literary French in contexts like the following.

(41) Les train-z-ont du retard.
the train-s-are running late

From these data, she concludes that the plural affix in French is -es, or a suppletive trigger, and that it is absent altogether in Walloon (well, almost — we’ll revise this immediately). Thus, using the inflectional feature model we adapted from Chomsky in connection with verbal syntax, this gives to French/Walloon nominals the D-structure in (42).

In French, the head noun is driven overtly into the Num0 position to satisfy the * attribute associated with the feature residing there, and this will bring it past the adjective. This movement is blocked in Walloon because either there is no NumP, or its head is associated with a feature that has no * attribute.

Thus the availability of plural forms in French is correlated with its ability to
appear before single adjectives. This achieves the desired correlation between presence of number morphology and N+Adj word order, and also supports the idea that number morphology is associated with an inflectional category that projects its own phrase.

Is it possible to tell whether Walloon has a NumP, or whether it is absent altogether? Bernstein suggests that there are reasons for assuming that Walloon does have NumP and, moreover, there is some reason to believe that it is actually filled with morphology. If this is correct, the crucial difference between Walloon and French is not whether NumP is present or not, but instead how it combines with the noun that follows. Interestingly, Bernstein argues that it combines in a way that we would not have expected from our examination of verbal syntax. She argues that the plural morpheme in Walloon begins in Num⁰ and attaches to the left edge of the following noun; but, somewhat surprisingly, it shows up orthographically as the final syllable of an adjective which precedes the noun. Let’s briefly examine how she arrives at this conclusion.

One fact, due to Morin (1986), that leads her in this direction is that liaison between prenominal adjectives and a following noun is absent in Walloon, though present in French.

\[
\begin{align*}
(43) & \quad \text{a. un groz -arbre} \\
& \quad \quad \text{a big tree} \\
& \quad \text{b. une peti-t -enfant} \\
& \quad \quad \text{a little child} \\
(44) & \quad \text{a. on gro[s] abe} \\
& \quad \quad \text{a big tree} \\
& \quad \text{b. on peti[t] èfant} \\
& \quad \quad \text{a small child}
\end{align*}
\]

(French)

(Liège Walloon)

(Gondecourt Picard)

She suggests that the account offered here would provide an immediate explanation for this, if in Walloon there is a Num⁰ that lies between the prenominal adjective and the following noun. This intervening category might then be responsible for blocking liaison in Walloon. In French, by contrast, the noun has moved into Num⁰, and is therefore in a position to trigger liaison with a preceding adjective. For this reason, she suggests that Num⁰ should be present in Walloon, but not able to attract N⁰s to it.

Note how this account presupposes that adjectives cannot come between Num⁰ and N⁰; if they could, then an intervening Num⁰ cannot be blamed on the absence of liaison. This, however, is incompatible with the proposal that adjectives follow nouns (when they do) because of movement to Num⁰. Thus, either Bernstein must posit two differences between French and Walloon — adding that in addition to the differing expressions of noun movement they also differ in placement of adjectives — or something is being missed here. It should also be noted that this would diverge from the trend Dryer found
in the relative placement of number words and adjectives. His results suggest that adjectives should be placed lower in the DP than number Num⁰.

In fact, we have another kind of problem that arises as soon as we adopt the view that it is movement of Nouns to Num⁰ that is responsible for the N+Adj word order. We have adopted a system that includes Earliness, which prohibits optional movement. And, as we have seen, in the Romance languages which allow the N+Adj word order, the Adj+N word order is also possible. Moreover, recall that with some adjectives, there is a difference in meaning that correlates with these two orders. We need to find a way of fitting these facts to our goal of correlating the availability of the N+Adj word order with overt movement to Num⁰. One way we could do this is to imagine that adjectives can be placed either above or below Num⁰, as indicated in (45).

(45)

```
(45) DP
    /\  
   D   NumP
      /\  
     Num AP^1 Num
        /\  
       Num NP
          /\  
         N AP^2 N
```

Once the noun has moved into Num⁰, there is still, according to this model, a place for adjectives to the left of the Num⁰+N⁰ pair. In order to account for the meaning difference that (sometimes) arises, we might imagine that adjectives in the AP^2 position get a different interpretation (maybe restrictive) than do adjectives in the AP^1 position. We might seek an account for this difference from the fact that these adjectives are modifying different things: a Num⁰ in one case and a N⁰ in the other. This way of modeling the meaning difference, then, would predict that, with respect to those adjectives that show the difference, whether the adjective appears to the left or right of the noun will completely disambiguate its meaning. Thus, for example, if an adjective shows up to the left of the noun, it’ll have to be non-restrictive; whereas if it appears to the right of the noun, it’ll have to be restrictive. I don’t know if this is a correct outcome.

A different way of modeling the N+Adj/Adj+N word order, that still correlates the availability of the N+Adj order with overt Noun Movement to
Num\(^0\) and would also address the problem we encountered with Bernstein’s explanation for the contrast in liaison between Walloon and French, would be to hypothesize an optional projection above Num\(P\). Then we could place adjectives on either side of this optional projection, and let the noun move into its head when it is present. I don’t know what this optional phrase is, so I will simply call in “Y” here. The idea, then, would be to give to DPs the shape in (46).

Relevant to this decision is that ethnic adjectives can’t appear prenominally in (standard) Italian or French.

(i) * la tedesca invasione dell’Austria
   the german invasion of Austria

(ii) quel tedeschissimo
    that very German
    comportamento
    behavior
   (Valois, 1991b, p. 374)

To the extent, then, that ethnic adjectives show us where the D-structure position of external θ-role bearers are in nominals, this fact suggests that these external θ-role bearers are positioned before objects in Romance nominals.

Now, as before, let nouns be driven into Num\(^0\) to satisfy a * property associated with the number feature in Romance. When YP is absent, then nouns will surface to the right of adjectives, both those in AP\(^1\) and those in AP\(^2\) position. If, as before, we associate these two positions with the two interpretations that these adjectives can get, we will, in this situation, allow prenominal adjectives to have either interpretation. When YP is present, assume that Y\(^0\) has a feature with a * attribute associated with it, and the Num\(^0\)+N\(^0\) pair will be driven into Y\(^0\). In that situation, the noun will surface to the left of adjectives in AP\(^2\), thus appearing to the left of adjectives with a restrictive interpretation, and will still remain to the right of adjectives in AP\(^2\), presumably those with a non-restrictive interpretation.

Consider, by contrast, a language which does not allow Nouns to move into Num\(^0\), presumably Walloon for instance. In these languages, movement into Y\(^0\) will be blocked by the Head Movement Constraint. That is, if we could find something that not only prevented Nouns from surfacing in Num\(^0\), but also

\[
\text{(46) } \begin{array}{c}
\text{DP} \\
\text{ } \\
\text{ } \\
\text{D} \\
\text{YP} \\
\text{ } \\
\text{Y} \\
\text{AP}^1 \\
\text{Y} \\
\text{NumP} \\
\text{ } \\
\text{Num} \\
\text{AP}^2 \\
\text{Num} \\
\text{NP} \\
\text{ } \\
\text{N} \\
\text{ } \\
\text{N}
\end{array}
\]
Determined phrases and noun movement

prevented them from moving through Num⁰, then we would have a way of correlating access to Y⁰ with access to Num⁰.

This, in fact, is what Bernstein does. She argues that the plural morpheme in Walloon is placed in Num⁰, and this blocks movement of the noun in Walloon.

There are two plural morphemes in Walloon, one for feminine nouns and one for masculine nouns. Both are expressed orthographically on the prenominal adjective. The “feminine plural morpheme” is realized before consonant initial words as an unstressed vowel and before vowel initial words as [ez]. Examples follow.

(47)  a. les belè[s] feyes
      the pretty girls

       b. dès neûr-z-amonnes
          some black berries

Compare:

(48)  li neûr sipène
      the black thorn

The masculine plural morpheme (-s) shows a similar pattern, though it is phonetically manifest only in contexts of liaison.

(49)  a. dès deûr[s] tchivès
      the black hair

       b. dès neûr-z-ouy
          the black eyes

She argues against composing the feminine plural marking of a gender morpheme and a number morpheme because this would assign to feminine the suffix -e, and this doesn't show up in singular nominals.

(50)  li neûr sipène
      the black thorn

So she supposes that there is only one morpheme, a plural one, that is to be found here. And, she conjectures that this morpheme is portmanteau with gender, or what she calls a word-marker, following work by Jim Harris. From now on we will illustrate this morpheme with the phonetically more salient feminine one.

The evidence that these morphemes are actually attached to the noun that follows them is as follows. First, only prenominal adjectives show this morphology, as (51) indicates.

(51)  a. Èle sont neûr.
      they are black

       b. Èle sont tot[es] petit[es].
          the are very little
And when the nominal that the adjective precedes is absent, this morpheme does not appear. It's missing in copular constructions, for instance, as shown in (52).

(52) a. C’è dés bèl[es].
    those are good
b. * C’è dés bèl[e]s.
    those are good

Second, only one of these morphemes appears when two prenominal adjectives are conjoined.

(53) dés bèl[es] èt bounè[s] bièsses
    some nice and good animals

This, at least, is the case in one dialect of Walloon (Boulogne Picard). In another, Liège Walloon, it is possible to find the plural morpheme on all adjectives in the series.

(54) dés bèl[e]s gradè[s] djônè[s] fèy[es]
    some nice and strong young girls

She suggests that in these cases, the adjectives aren't actually stacked, but are instead conjoined. She notes that the conjunction is ès in Walloon, and therefore homophonous with the plural morpheme.

Third, there is phonological evidence that this morpheme is a proclitic on the following noun and not suffixed onto the preceding adjective. First, there is a widespread process of final obstruent devoicing in Walloon, that Bernstein illustrates with the following pair.

(55) a. grandeûr
    big
b. grande amice [grât amis]
    good friend

When adjectives are followed by the plural morpheme, they show obstruent final devoicing, as the contrast below illustrates.

(56) a. * grandè[s] fèyes
    big girls
b. grantè[s] fèyes
    good girls

A second phonological reason for thinking that the plural affix is not part of the preceding adjective is that it is unstressed. She cites Morin who argues that all words in Walloon have stressed final syllables. Finally, again following Morin, she points to the fact that in Gondecourt Picard, the plural morpheme, ès, triggers harmony on the following noun. She follows Morin and adopts the proposition that harmony is restricted to words in Walloon, which leads
to the conclusion that *es* is part of the following noun, not the preceding adjective.

This pattern of data all makes sense, Bernstein concludes, if the Walloon plural suffix combines with the following noun not by way of N⁰ movement, but instead, by procliticizing onto the unmoved, following N⁰, as indicated in (57). (Understand the material enclosed within "[PrWd]") to form a phonological word.)

(57)

```
(57) DP
    |          
    D
    |          
    D YP
    |          
    Y
    |          
    AP¹ Y
    |          
    Y NumP
    |          
    Num
    |          
    AP² Num
    |          
    Num NP
    |          
    [PrWd -es N
    |          
    N]
```

As noted above, this will explain why Walloon nouns surface always to the right of adjectives, because they will not be able to move through Num⁰ into Y⁰.

Still, there are problems with this account which are central enough to suggest that it needs revision. For one thing, it persists in requiring that adjectives be placed higher than NumP, and this runs against the trend Dryer found for languages to place adjectives within NumP. In addition, it credits the availability of a noun movement past an adjective to the properties of Y⁰, and only indirectly to the properties of Num⁰. But the aim of Bernstein's analysis of the Walloon/French contrast is to make the properties of Num⁰ responsible for noun movement past adjectives. Unless some intimate link can be made between Y⁰ and Num⁰, the phrase marker in (46) isn't equipped to express a correlation between occupying Num⁰ and preceding single adjectives.

The decision to place adjectives higher than Num⁰, and to invent a new Y⁰ into which nouns can move, responds to the desire to explain the absence of liaison in Walloon between prenominal adjectives and the nouns that follow. 
them. Bernstein’s account forces Num\(^0\) to intervene between prenominal adjectives and NP. Perhaps we should abandon trying to account for this fact, and let it come from some other idiosyncrasy of Walloon. This will allow us to return to a model of DPs like (58).

\[(58)\]
\[
\begin{array}{c}
\text{DP} \\
\mid \\
\text{D} \\
\mid \\
\text{D NumP} \\
\mid \\
\text{Num} \\
\mid \\
\text{AP Num} \\
\mid \\
\text{Num NP} \\
\mid \\
\text{N} \\
\mid \\
\text{N}
\end{array}
\]

The difference between French and Walloon consists in whether Num\(^0\) holds a free morpheme, just as Bernstein proposes. It contains a clitic, as in Walloon, or a number feature that values the number feature on the following noun, as in French, and this correlates with whether noun movement is possible.

Let’s consider how this account of the difference in adjective placement between Walloon and French/Spanish/Catalan might be applied to the similar difference between English and French/Spanish/Catalan. There is no evidence of the sort we’ve just seen in Walloon that the number morpheme in English is a free morpheme. Let’s assume, then, that Num\(^0\) in English contains a number feature, as it does in French. Given the tools developed here, perhaps the most straightforward way of modeling the difference between English and Romance, then, would be to give the number feature in French, Catalan and Spanish a \(*\) property, but not give the number feature that attribute in English. This will force nouns in French, Catalan and Spanish to move to Num\(^0\), thereby bringing them to the left of (some) adjectives. So, English S-structures will arrange DPs as in (59), while in the remaining Romance languages, nouns will surface in Num\(^0\) as in (60).
This gives us a three-way distinction. Walloon nouns have no number feature, English nouns do, but don't move, and French nouns have a number feature and move. The surface position of nouns in English and Walloon, then, is the same but for different reasons.

One consequence of forcing nouns in Walloon and English to remain in their underlying position is that they will remain to the right of the Specifier of NP. Recall that in Romance, we associated the ability of nouns to surface to the left of Specifier of NP with the availability of "subjects" of nouns to surface post-nominally. For instance, the French example in (16c), repeated below, arises by leaving *de chaque peintre étranger* ('of each foreign painter') in Specifier of NP and moving the noun, *portrait* ('portrait'), past it to the left.
(16c) le portrait de chaque peintre étranger de son enfant
the portrait of each painter foreign of his child
‘the picture by each foreign painter of his child’

If nouns don’t move to Num$^0$ in English or Walloon, we would expect these postnominal subjects to be unavailable in both English and Walloon. We’ve already seen that this is the case for English. But, interestingly, it doesn’t seem to be the case for Walloon.

Walloon does allow the N+Subject word order; Bernstein illustrates this with examples like (61).

(61) la fèy do mouni
   the daughter of the miller
   ‘the miller’s daughter’ (Bernstein 1993, (85): 241)

This suggests that even in Walloon, there is short noun movement, past the Specifier of NP position. If Bernstein’s arguments concerning how number morphology is expressed in Walloon is correct, this short noun movement can’t be to Num$^0$. Bernstein suggests that it is instead movement to the position associated with the “gender” morpheme that Romance nouns so typically end in. She calls this a “word marker.” A schematic surface phrase marker for a Walloon DP, then, looks something like (62), then.

(62) \[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{D NumP} \\
\text{Num} \\
\text{AP$^1$ Num} \\
\text{Num WmP} \\
\text{es Wm} \\
\text{AP$^2$ Wm} \\
\text{Wm NP} \\
\text{N Wm SUBJ N}
\end{array}
\]

Note that this requires that adjectives are not capable of being within NP. Indeed, Walloon illustrates that the availability of postnominal subjects

This is perhaps not the most compelling example as it is difficult to tell whether miller bears the “subject” relation to daughter. Interestingly, Bernstein claims that Walloon also allows for postnominal adjectives when they are ethnic; in fact, in these situations, the prenominal position is blocked. This also, rather dramatically, supports the conclusion that “subjects” can be postnominal in Walloon.
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and postnominal (single) adjectives do not correlate cross-linguistically. It is necessary, therefore, to divorce the processes that yield these two word-orders, and if noun movement is the relevant process, then this means there must be two positions to which nouns can move, with subjects below, and adjectives above, the lower of these. Up to now we have relied on a general theory of modifier placement one of whose outcomes is that adjectives should be adjoined to the N that they modify. One thing we learn from this study, then, is that this general theory will have to be changed.

But let’s leave that for a later occasion.

We must also revisit our account for why postnominal subjects don’t arise in English. It’s no longer sufficient to prevent nouns from moving to Num₀ in English. We must also now address the possibility that nouns could move to a position beneath Num₀: the Wm₀ position that Bernstein posits Wallon to have, for instance.

While it might be that there are no postnominal subjects in English because English nouns don’t make even a short move, but it could also be because the other ingredient necessary to getting postnominal subjects is missing from English. Perhaps subjects cannot remain in Specifier of NP position. We might characterize this difference between English and Romance in terms of the positions that Case is assigned to within DPs. Let the Specifier of DP be assigned Case in both English and Romance, but let only Romance assign Case to Specifier of NP. Note that this Case is manifest in what appears to be a preposition — di or de, depending on the language. Let’s call this Case, the one expressed by a preposition, “Nominal Case.” On this view, then, the difference in availability of postnominal subjects between English and Romance boils down to the availability of Nominal Case in Specifier of NP.

Indeed, the “subject” arguments of DPs uniformly appear with the genitive Case in English, and this is a position, as we’ve seen, associated Specifier of DP. Thus, no matter what its position relative to the noun, the subject of a “transitive” noun cannot be Case marked with of, as (63) indicates.

(63) a. *the discussion of Jill of the problem
   b. *the discussion of the problem of Jill
   c. *the of Jill discussion of the problem
   d. *the placement of Mark of the sofa
   e. *the placement of the sofa of Mark
   f. *the of Mark placement of the sofa

It’s not possible to express the subjects of nouns this way even when the nouns do not express their object argument. Leaving the objects unexpressed in the examples in (63), for example, does not improve them.
(64)  a. * the discussion of Jill  
    b. * the of Jill discussion  
    c. * the placement of Mark  
    d. * the of Mark placement  

But it’s not that Nominal Case is completely absent in English. It is possible for Nominal Case to be found on the arguments of nouns that derive from unaccusative verbs, as in (65).

(65)  a. the death of her  
    b. the arrival of it  
    c. the appearance of Jill  
    d. the sinking of the ship  

With nouns derived from unergative verbs, the situation is somewhat intermediate, as illustrated by (66).

(66)  a. ?* the running of her  
    b. * the talking of him  
    c. ?? the dancing of Jill  
    d. ?* the speaking of the woman  
    e. ?* the sitting of Mark  

If we interpret these facts as indicating that there is a distinction between the “unaccusative” nouns and the others — that is if we set aside the cause for the intermediate status of the “unergative” nouns — then this pattern can be described with (67).

(67)  Nominal Case Assignment: English  

Nominal Case is assigned to the “object position” of nouns.

We’ll set to defining what “object position” means later; but, importantly, it can’t have the same sort of definition we’ve given to the positions that verbs assign their “object” Case to if we adopt the view that nouns move overtly to Wm° in English. Object Case is assigned by verbs to positions they govern (and are adjacent to), as we’ve seen. If we let Nominal Case be assigned by nouns to positions they govern, then once a noun has moved to Wm° it should be able to assign its Case to a DP within Specifier of NP: just the effect we are hoping to avoid.

It would be reasonable, therefore, to expect the general absence of post-nominal subjects in English DPs to be caused by the constraints on Nominal Case that derive (67). This means it is conceivable that nouns in English do make a short movement, as they do in Walloon. This hypothesis, then, would give an example like “Jill’s animated discussions of the problem” a representation like that in (68).
As this discussion makes clear, the relative heights of \( \text{Wm}^0 \) and \( \text{Num}^0 \) correlates the relative position of nouns and subjects with the relative position of nouns and adjectives. The general prediction is that there should be a positive correlation between nouns surfacing to the left of (bare) adjectives and nouns surfacing to the left of subjects. We should not find a language, in other words, that is the anti-Walloon: nouns surface to the left of bare adjectives but cannot surface to the left of “subjects.” In fact, this correlation does seem to hold in our language sample. All the languages we have examined that allow nouns to surface to the left of adjectives also allow them to surface to the left of subjects.

Restricting attention to just those languages that Case mark subject DPs in Specifier of NP, and have the ban on right-adjoining bare adjectives.