Why is my old friend not old?[1]

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The class of adjectives is perversely heterogeneous. This has been noticed at least as far back as 1967 both by Vendler and by Bolinger. Here is a sampler:[2]

(1) a. *Our red flowers have just blossomed*
     b. *Our flowers which have just blossomed are red*

(2) a. *Our old friend just walked in*
     b. *Our friend who just walked in is old*

(3) a. *The mere fact that they're negotiating does not imply that they will agree*
     b. ** The fact that they're negotiating is mere*

Please, focus on the (underlined) adjectives in (1)–(3); they are either in adnominal or predicate positions. In (1), *red* means approximately the same thing in either position. The situation changes in (2). There, adnominal *old*, in (2a), is ambiguous: are we referring to someone who has been our friend for a long time or to a friend who is aged? Yet, this ambiguity disappears in (2b): the predicate *old* can only mean 'aged'. As for *mere* in (3), it can occur only in adnominal position (with an unambiguous meaning).

In this paper, we take a preliminary stab at making these adjectives less perverse by showing that at least *some* of their heterogeneity has thematic and structural correlates. Namely, we argue that adnominal adjectives are, in X-bar terminology, either (i) heads that take an NP complement and then project to AP; or (ii) heads that directly project to AP, which AP then Chomsky-adjoins to NP. We believe that this structural distinction is intimately tied to the semantics of adjectives, more precisely to the number and the nature of their thematic (θ-) roles. Our proposal is buttressed by a number of distributional and cross-linguistic observations.
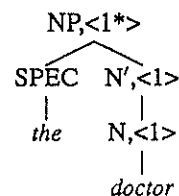
At the onset, we must confess that our account is not really original, in the sense that we use thematic and syntactic constructs already in use in a few generative circles. In other words, the building blocks of our account come straight from our book-shelves and file cabinets. Three of these building blocks are (i) Higginbotham's (1985, 1989) modes of thematic discharge, (ii) Bernstein's (1992) structural analysis of Romance adjectives, and (iii) Stowell's (1978, 1983), Couquaux's (1982) and Burzio's (1986) 'Small-Clause' theory of predication.

Let us put the first block down — Higginbotham.

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[2] Actually, most of the examples in this example are borrowed, adapted or inspired from previous works; see references, especially Bolinger (1967), Vendler (1968) and Siegel (1976).

1 Higginbotham's Thematic Theory ... (revisited)

Higginbotham's work on thematic roles lies at the core our account. Here we spell out its central mechanisms.

Higginbotham adopts Chomsky's θ-criterion, in (4), and extends it as in (5).

Chomsky's (1981) θ-criterion:

(4)   Each argument bears one and only one θ-role, and each θ-role is assigned to one and only one argument.

Higginbotham's (1985) revised θ-criterion:

(5) a.   Every thematic position is discharged.
     b.   If X discharges a θ-role in Y, then it discharges only one.

Thematic discharge in (5) is the process whereby predicates become saturated (as they must, because of (5a)). Higginbotham makes the following ancillary assumptions:

(6) a.   All arguments are saturated
     b.   All predicates start out as unsaturated.

The key to our proposal is *how* thematic positions are discharged. Higginbotham introduces four basic modes of thematic discharge:

(7) a.   *θ-marking*: e.g., a predicate (say V) θ-marks its internal argument (the nominal phrase under V');
     b.   *θ-binding*: e.g., a determiner or quantifier θ-binds an open position in a nominal;
     c.   *θ-identification*: e.g., *absolute* modification of a noun by an adnominal adjective — one open position from the adjective and one from the noun merge into a single open position;
     d.   *Autonymous θ-marking*: the value assigned to an open position in a θ-marker is the very phrase marker of its sister constituent; it provides an attribute along which to "evaluate" the θ-marker — this position in the autonymous θ-marker will be referred to as the *attribute* position.

It is crucial to note that all four modes must operate under government.

The mechanisms in (7), along with some modifications of our own, will become handy in explaining why adjectives such as *old*, in the title and in (2), are (potentially) ambiguous, with their distinct interpretations occurring in selected distributions. But, before going into that, we must elaborate on the theoretical underpinnings of (7) and on the modifications that we bring to them.

The net result of each discharge operation in (7) is to reduce the number of open positions available from one level to the next level up. However, each procedure fulfills its discharge function in a discrete mode, giving rise to particular interpretations.

1.1 Theta-Marking

θ-marking in (7a) is the vanilla case: there, one open position from (the θ-grid[3] of) a verb, say, is discharged by an argument of the verb, with this argument being assigned the role associated with the discharged position. Take the verb *love*, as in (8a). Its lexical entry specifies a θ-grid with two open positions: <1,2> (we arbitrarily assign the labels *agent* and *theme* to 1 and 2, respectively). In (8b), *love* combines with *John* under the V' projection to form (8b), discharging the open position 2 onto the argument *John* ('*' symbolizes thematic discharge). At a higher level up, (8b) combines with the subject argument in (8c), forming *Mary loves*(<1*,2*>) *John*,[4] where all of *love*'s open positions are discharged (i.e, saturated),[5] in accordance with (5a) — and all is well.

(8) a.   *love* : +V, −N   <   1   ,   2   >
                               (agent)   (theme)
     b.   *loves*(<1 ,2*>) *John*
     c.   *Mary loves*(<1*,2*>) *John*

1.2 Theta-Binding

As we just saw in (8), one function of arguments is to saturate open positions in predicates. However, not all open positions are discharged by arguments. Nominals are one case in point. Nominals in some languages function as predicates (e.g., French *Jean est médecin* 'John is a doctor'. Thus, it must be that nominals too, like verbs, have thematic roles to be discharged, i.e., they must contain a thematic grid, on a par with *love* in (8a):

(9)   *doctor* −V, +N   <   1   >
                                  doctor(x)

With that in mind, consider:

(10)   *The doctor has arrived*

where *the doctor* acts as an argument. Thus, by (5a) and (6a), the open position of *doctor* in (9) must be saturated in (10). What saturates this open position in (10)? In Higginbotham's (1985) terms, the open position of *doctor* is accessible to Spec(NP) and it is the determiner in Spec(NP) that θ-binds it, as in (11a) — or as in (11b), in a more recent X-bar framework (e.g., Abney 1987).

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[3]See Stowell 1985.
[4]We ignore inflectional *s*.
[5]How romantic!

(11) a.

```
          NP,<1*>
         /        \
      SPEC      N',<1>
        |          |
       the       N,<1>
                   |
                 doctor
```

b. Or:

```
            DP
            |
          D',<1*>
         /       \
        D⁰      NP,<1>
        |          |
       the       N',<1>
                   |
                 N,<1>
                   |
                 doctor
```

(Higginbotham 1985)

The discharge of *doctor*'s open position by *the* in (11) gives rise to the following interpretation:[6,7]

(12)   *the doctor* : NP, <1*> : $\underline{the}(x)$ such that $\underline{doctor}(x)$

Let us turn to θ-identification and autonymous θ-marking, which are most relevant to elucidating adjectival meanings.

1.3 Theta-Identification

As argued in Higginbotham (1985), the modification of one predicative expression by another is sometimes comparable to conjunction, as in *a red flower*, which refers to a thing that is both red and a flower. In *a red flower*, the 'conjunction' of the meanings of *red* and of *flower* is achieved through θ-identification: one open position in the adjective is identified with the open position in the noun. Consequently, there is one less open position in the next level up, at the N' level as per Higginbotham, as shown in (13a) — or at the NP level, as per our adaptation of (13a) in (13b).

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[6]In (11b), θ-binding occurs under government within DP, with D⁰ *the* acting as a binder of the position 1 in *doctor*. This alternative configuration is similar to the configuration of θ-marking by V of an argument internal to V'. Yet, θ-binding in DP does not reduce to θ-marking even in an 'Abney-type' structure. Indeed, processes of thematic discharge within DP and VP are different in terms of both the direction of thematic discharge and the nature of the discharging category: (i) θ-marking by V of its complement occurs by transmission of a thematic role from the θ-grid of V to the complement of V (Stowell 1985). By contrast, thematic discharge within DP is effectuated by an element, D⁰, that simply binds the open position in its NP complement, which open position is percolated up from N. (ii) Verbs are *lexical* items whose thematic roles (e.g., *agent, patient, theme,* etc.) are transmitted to arguments, which then bear the particular roles. Determiners, however, are *functional* items that do not assign thematic roles; they can only bind open positions in the θ-grids of NPs in a manner somewhat similar to quantifiers binding open variables. Hence the intrinsic nature of θ-marking and θ-binding suffice to differentiate the two operations, although they may occur in similar configurations.

[7]It might not be the case that all determiners saturate the predicative NPs they select. For example, *a doctor* in *John is a doctor* does function as a predicate and, presumably, still has an open position through which it predicates over *John*, resulting in $\underline{doctor}$(JOHN). Compare with *A doctor has arrived* where *a doctor*, being an argument, must be saturated. See Higginbotham (1987).

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(13) a.

```
        N',<1>
       /      \
    A,<1>    N,<1>
     |_____|
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b. Or:

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        NP,<1>
       /      \
    AP,<1>   NP,<1>
     |_____|
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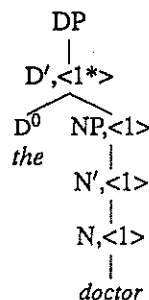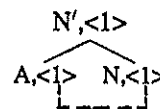
(Higginbotham 1985)

The dotted line in (13b) connects the two positions which are to be equated, one from AP and one from NP percolated up from A⁰ and from N⁰ respectively. Discharge, in this case, refers to the reduction, by identification, of two open positions into one open position, the latter being associated with the highest nominal projection in (13).[8]

We take θ-identification to be responsible for the *absolute* (or *intersective*) readings of adjectival modification. In *red flower, white wall; four-legged animal; drowsy policeman*, etc., the entities described by the combination adjective+<u>noun</u> belong both to the set denoted by the adjective and to the set denoted by the noun. With absolute adjectives, which exclusively discharge their θ-roles through θ-identification, the following implication holds:

(14)   *x is a(n)* <u>Det Adj Noun</u> entails *x is* <u>Adj</u> and *x is a(n)* <u>Noun</u>

1.4 Autonymous Theta-Marking

Now, adjectival ambiguity (like that in (2a)) results from that, in addition to θ-identification, adjectives can discharge open positions through autonymous θ-marking (ATM,[9] for short). Take for example *a good toaster*. Unlike the *red-flower* case, it is not simply a thing that is both good and a toaster. Yet the semantics of *a good toaster* must overlap with that of *a red flower*, i.e., both must involve some notion of conjunction, since it can be said of *a good toaster* that it means 'this is a toaster, and it is good (as a toaster)'.

What Higginbotham suggests is that in nominals like *a good toaster* the adjective *good* would have two thematic positions: one is discharged by identification (with the open position in *toaster*) and the other is discharged by θ-marking of the very phrase-marker of the noun itself (autonymous θ-marking). The latter open position is the *attribute* position: it determines the attribute with respect to which the adjective is evaluated — this toaster is good with respect to the 'toaster' attribute.

What distinguishes autonymous θ-marking from non-autonymous θ-marking like (8)? In (8c), it is the *referent* of the argument *John* that assumes the role associated with the position 2 in the θ-marker's grid. In contrast, in ATM, it is the *reference* of the θ-marked argument that plays a role in interpreting the combination

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[8]The operation of θ-identification is reminiscent of that of equating variables in certain formulae in first-order predicate calculus. Assume that the following formula holds: $P(a)$ AND $Q(b)$. If we also know that $a = b$, then we can deduce: $P(a)$ AND $Q(a)$ (which is equivalent to $[P$ AND $Q](a)$). Replacing P by *red* and Q by *flower*, θ-identification of their argument would give: $[red$ AND $flower](x)$, that says of a thing x that it is both red and a flower.

[9]Not to be confused with ATMs — automated teller machines.
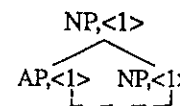
θ-marker+argument; cf. Bolinger's 'reference- vs. referent-modification'. To recapitulate, autonymous θ-marking (hereafter, ATM) involves reference-modification (or modification of the property denoted by the autonymously θ-marked phrase-marker) while θ-identification and θ-marking involve referent-modification.[10] ATM adjectives are, in some sense, *relative* adjectives, relative with respect to the property whose label fills up their attribute position.

For Higginbotham (1985), the structure under which ATM occurs is parallel to that for θ-identification in (13a). This is one main juncture where we depart from him. For us, ATM occurs in a structure isomorphic to that of θ-marking by a transitive verb of its direct object: the autonymously θ-marking adjectival head takes an NP complement under its A' projection (see Section 2). This structural requirement on ATM is the essence of our proposal and the basis of a number of (cross-linguistic) distributional facts (in Sections 3, 4 and 5).

In the meantime, let us quickly review some evidence in favor of the claim that certain adjectives contain an attribute position that is syntactically active.

Evidence for an 'attribute position':

Much of this evidence is adduced from the fact that many adjective+noun combination belie the implication in (14). Take the phrases in (15):

(15) a.   *Our old friend just walked in*   'our friend whose friendship is old. . .'
    b.   *That is a poor liar*   '. . . someone who lies poorly. . .'
    c.   *That is a good dancer*   '. . . someone who dances well'
    d.   *A certain object fell in the water*
    e.   Also: *eager apprentice; expert linguist; first president; frequent visitor; occasional syntactician; regular policeman; rightful heir; true poet; weak king. . .*
    f.   And: *former senator; future CEO; mere fact; next president; prime suspect; real jerk; sheer fraud; total stranger; toy pistol; utter disaster; other person. . .*

None of these adjective+noun phrases denote entities which are both adjective and noun, e.g., a future president is *not* someone who is future and who is a president — actually, a future president is neither future nor a president. The adjectives in (15) make sense only if they are taken as modifying the property labeled by the co-occurring noun.

Other evidence for the attribute position comes from the work of Vendler. He showed for instance that the meaning of certain adjectives when co-occurring with a noun is different from the meaning of the same adjective occurring alone. This is most conspicuously shown in (16) and (17). In (17a), *good* and *bad*, in isolation, are antithetical; but, in (17b), *good* and *bad* do not contradict each other because they are evaluated along different attributes.

(16) a. # *John is good and good*
    b.   *John is a good teacher and a good researcher*

(17) a. # *John is good and bad*

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[10]See Siegel (1976) for inspiring discussion of similar ideas.

    b.   *John is a good teacher and/but a bad researcher*

(18) contains further examples from Vendler. There, we have the following characteristics for the pertinent adjectives: *beautiful* may or may not take an attribute — a beautiful dancer may be either someone who is beautiful (only) as a dancer or a dancer who happens to be beautiful; *slow* takes an attribute — 'she is slow as a dancer'; and *blonde* does not take an attribute — # 'she is blonde as a dancer'. Interestingly, the following patterns emerge: in (18b), non-attribute-taking *blonde* is coordinated with *beautiful* and forces the latter to be interpreted as non-attribute-taking; in (18c), attribute-taking *slow* is coordinated with *beautiful* and forces latter to be interpreted as attribute-taking; and in (18d), non-attribute taking *blonde* cannot be coordinated with attribute-taking *slow*.

(18) a.   *She is a beautiful dancer, however she is not beautiful*
    b.   *She is a blonde and beautiful dancer*
    c.   *She is a slow and beautiful dancer*
    d. * *She is a blonde and slow dancer*

Summing up what we have so far: The main feature of Higginbotham's work that we want to import is the thematic differences that exist internally to the class of adjectives: the *absolute* vs. *relative* readings — or *referent-* vs. *reference-* modification. These differences result from the possibility exhibited by certain adjectives to autonymously θ-mark an accompanying NP (for some, but not all, ATM occurs together with θ-identification[11]). This accounts for why *red* in (1) is not ambiguous — it only has one open position to discharge, through θ-identification — and for why adnominal *old* in (2) is ambiguous — it may or may not take *friend* as an attribute.

In addition to straightforward X-bar theoretic modifications to Higginbotham's proposal (see (11b) and (13b)), we further claim, as alluded to above, that ATM is structurally more constrained than θ-identification: the latter requires only government whereas the former also requires a head-complement configuration[12] (this will explain the non-ambiguity of *old* in (2b) and the distribution of *mere* as in (3); see Section 3). In supporting this claim, we will add another building block to our layout, namely, Bernstein's proposal regarding the structure of Romance adjectival modification.[13]

2   The (Dual) Structure of Adjectival Modification

Following Bernstein (1992), we assume the following: An adjective may project either:
(19) a.   to an AP which is adjoined to XP (*adjoining adjectives*); or

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[11]For example, a good dancer is both a dancer and is good (as a dancer) — both θ-identification and ATM occur — but a future president is not a president — only ATM occurs.

[12]In effect, this forces the attribute position to be saturated at the A' level, i.e., the attribute position does not percolate up.

[13]Bernstein's paper is couched in purely structural terms, completely divorced from the thematic mechanisms put in place by Higginbotham.

b.   to an AP within which it requires a complement under A′ (*adjectival heads*).

Some adjectives (like *old* in (2a) and (20a) and *poor* in (20b)) ambiguously allow both (19a) and (19b), resulting in interpretive ambiguity; whereas others, like *mere* in (3a) (=(20c)), allow (19b) exclusively — the latter are the *strict adjectival heads*.

(20) a.   *This is our old friend* 'friend whose friendship is old' or 'aged friend'
      b.   *That is a poor man* 'pitiable man' or 'impoverished man'
      c.   *The mere fact that they're negotiating does not imply that they will agree*

We adopt the structures in (21) proposed by Bernstein for representing the ambiguity in (20a) — and that in (20b).

(21) a.   b.

'our friend who is old'

'our friend whose friendship is old'
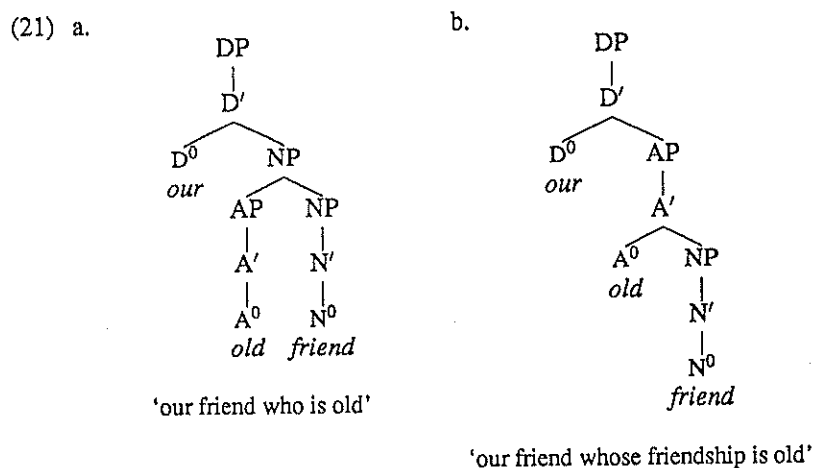
In Bernstein's paper, the ambiguity of adjectives like *old* and *poor* in adnominal position is derived on strictly structural grounds, along the configurations in (21). She enlists solid Romance distributional facts to support her account (see Section 4). However, unlike ours, her account makes no reference to the thematic properties of head vs. adjoining adjectives and to their interaction with the distributional facts she describes.

3   A Thematic Analysis of Adjectival Structures

We, on the other hand, want to show that, given our adaptation of Higginbotham's various modes of thematic discharge, Bernstein's posited structural ambiguity naturally predicts the differences in interpretation. Putting the works of Higginbotham and Bernstein (and Stowell, Burzio, Couquaux, etc.) together, we hope to give a deeper account of the data at hand.

Specifically, the structural distinction schematized in (21) coupled with the structural conditions on θ-identification — government — and on autonymous θ-marking — head-complement — allows us to derive two consequences: (i) adjectives (of the *mere*-type; cf. (15)) which autonymously θ-mark (some of them in

addition to θ-identifying) are adjectival heads and do not occur in predicate position (and in Romance they do not follow the head noun; see Section 4); (ii) adjectives (of the *red-* type; cf. *old* and *poor* in their 'aged' and 'impoverished' readings, respectively) that, because of their semantics, may solely θ-identify, are free to adjoin to nominal projections (they are *adjoining adjectives*) and can behave as predicates.

A corollary of these consequences is that the ambiguity of the adjectives in (20a) and (20b) does not extend to their occurrences as predicates in (2b) (=(22a)) and (22b), i.e., the 'old as a friend' sense of old and the 'pitiable'/'lying poorly' sense of poor are blocked in (22).

(22) a.   *Our friend who just walked in is old*
      b.   *That man/liar is poor*

But prior to deriving the consequences of our approach, we need to show that, assuming Bernstein's structures for adjectival modification, Higginbotham's theory of thematic discharge (plus our home-made extensions) applies to adjectival heads and adjoined adjectives in much the same way as described in his 1985 discussion.

3.1   Adnominal Adjectives

Actually, the application is quite direct: the modes of thematic discharge are as follows: (i) with adjoining adjectives (cf. (19a) and (21a)), only θ-identification occurs since the head-complement condition for autonymous θ-marking is not met; (ii) with adjectival heads (cf. (19b) and (21b)), we have at least autonymous θ-marking and in some cases simultaneous θ-identification. Some adjectives (as in (20b) and (2a)) ambiguously allow both (i) and (ii); others, like *mere*, allow (ii) exclusively (the *strict adjectival heads*).

Adding thematic-discharge information to the structures in (21) produces the following trees:

(23) a.   b.

'our friend who is old'

'our friend whose friendship is old'
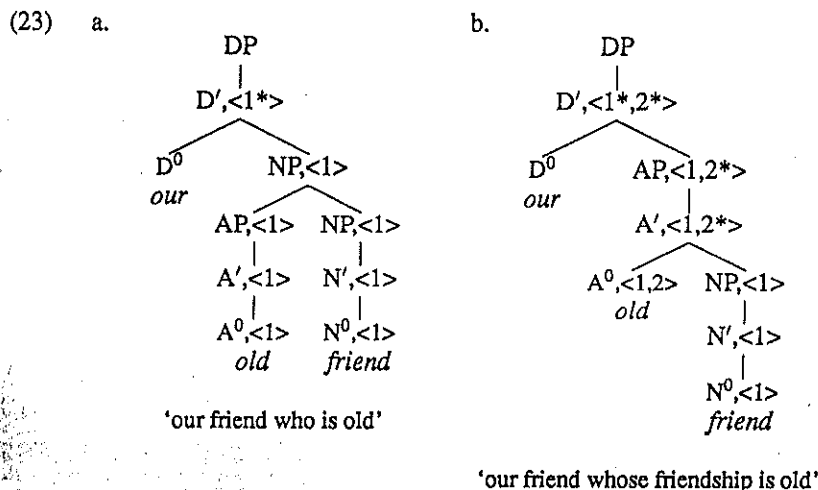
In (23a), at one level below the maximal NP, there are two open positions: one in NP, percolated up from N^0, and the other from AP, percolated up from A^0. These two

open positions are θ-identified, giving rise to the conjunctive reading 'aged friend'. As a result of θ-identification, the maximal NP contains only one open position. This remaining open position is θ-bound by the determiner, and thus discharged at the D' level. Crucially, the adjoining adjective *old* in (23a) cannot autonymously θ-mark the NP *friend* because *old* and *friend* are not in a head-complement relationship.[14]

In (23b), the adjectival head selects a complement NP which it autonymously θ-marks under A'. The phrase-marker NP dominating *friend* fills the attribute position 2 in *old*. Simultaneously, at the level at which ATM occurs (i.e., under A'), the open positions, labeled 1, of A and NP are θ-identified. ATM plus θ-identification give rise to the reading 'our friend whose friendship is old', i.e, 'old as a friend' with 'friend' naming the attribute along which 'oldness' is measured.

Thus far, we have taken into account the ambiguity of adnominal *old*. We have reduced this ambiguity to a thematic one (with structural correlates). In one of its readings, (23a), old<1> 'aged' has a single open position to discharge (through θ-identification), and the AP headed by *old* is adjoined to the NP headed by *friend*. In the other reading, (23b), old<1,2> discharges one extra position (the attribute position), by autonymous θ-marking, A^0 selecting NP as a complement. The same dichotomy holds of *poor* 'impoverished' and *poor* 'pitiable'/'lying poorly', as in *poor man* and *poor liar*.

3.2 Predicate Adjectives

We are now back to a series of questions that were posed at the beginning: Why is it that *old* and *poor*, although ambiguous when adnominal, are no longer ambiguous when in predicate position; see (22)? Why is it that only the 'conjunctive' (i.e., 'intersective' or 'absolute') readings of these adjectives survive in predicate position, instead of the relative reading? In more theory-internal jargon, why is it that the reading due to θ-identification (of adjoining adjectives) persists in predicate position, but not the ATM (adjectival-head) reading? Witness (24).

(24) a. *Our friend is old* 'aged'; 'old-friendship' reading is excluded
    b. *That man is poor* 'impoverished'; 'pitiable' reading is excluded

Also, why is it that certain adjectives, like those in (25), cannot occur in predicate position?

(25) * *The fact is mere*; * *This senator is former*; * *This suspect is prime*;
     * *That disaster is utter*; * *That fraud is sheer*; *That person is other*

This is where our third building block — Stowell + Burzio + Couquaux + ... — enters the ongoing construction.[15]

Consider the examples in (22), repeated in (26):

(26) a. *Our friend who just walked in is old* (i.e., 'aged', not 'old as a friend')
    b. *That man/liar is poor* (i.e., 'impoverished', not 'pitiable'/'lying poorly')

The adjectives are separated from the nominal they modify by the copula. However, the interpretations of *old* and *poor* above are similar to those resulting from θ-

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[14]Similarly, a verb's direct object is under V', not adjoined to VP.

[15]At this point, please put your hard-hats on, if you haven't done so yet.

identification when the adjective is in adnominal position: the interpretation of *old* and *poor* as predicates is absolute, i.e., not relative to a particular property. How are these readings achieved, given that at S-structure in (26) the noun phrase and the adjective are not in a government relation parallel to (13b)? Answer: At D-structure, the subject noun phrase enters a government relation with a projection of the adjective. There, the adjective does predicate over the noun phrase within a Small Clause headed by the adjective. At S-structure, the subject moves from within that Small Clause into the surface subject position (Spec(IP)). We now give the details of this analysis, much of it is borrowed from Stowell (1978, 1983), Burzio (1986) and Couquaux (1981).
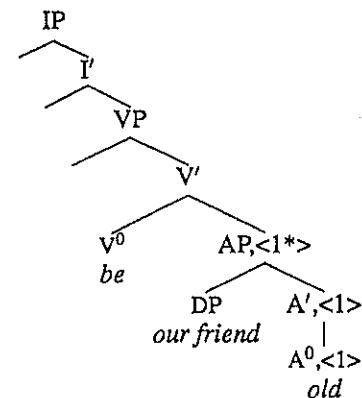
Assuming for example Stowell (1983), the subject DP is in the specifier of AP at D-structure, as shown in (27).

(27) a. $[_{IP} [_{VP} be [_{AP} [_{DP} our friend] [_{A'} old]]]]$
    b. $[_{IP} [_{VP} be [_{AP} [_{DP} that man] [_{A'} poor]]]]$

Following Stowell & Co., let us further assume that *be* can function as a raising verb. Hence the subject DP raises from the subject, or specifier, position of AP to the specifier position of IP to receive Case, and thereby assume its S-structure position.

How is thematic discharge effectuated in these cases? It must be by θ-marking at D-structure. Suppose we have the D-structure in (27a), shown schematically in (28) with thematic-discharge information:

(28)

```
                    IP
                    |
                    I'
                    |
                    VP
                    |
                    V'
                   /  \
                 V⁰   AP,<1*>
                 be    / \
                     DP   A',<1>
                our friend  |
                          A⁰,<1>
                           old
```

D-structure for *Our friend is old*

The open position <1> from *old* is carried up from A^0 to A'. The DP *our friend* sister to A' has no open position to be identified with that from A': within DP, the open position in the NP *friend* is already θ-bound by the determiner *our*, as argued in 1.2 above. Neither can DP (autonymously) θ-mark A' *old*, nor can it be autonymously θ-marked by A^0 *old*: DP *our friend* and A^0 are not sisters. Thus the only mode of thematic discharge available in (28) is θ-marking: DP *our friend* in Spec(AP) is θ-marked by A' *old*, very much like a VP-internal subject which is θ-marked by

V′ (Koopman & Sportiche 1988). Once the thematic role carried by A′ has been discharged, the Small-Clause subject is free to move from Spec(AP) to Spec(IP), its surface position.

Thus, a Small-Clause analysis of predicate adjectives explains the overlap in meaning between adnominal and predicate occurrences of adjectives. But now, what about adjectives that are not allowed to occur as predicates (with certain meanings), as those in (25) (=(29))?

(29)   * *The fact is mere*; * *This senator is former*; * *This suspect is prime*;
         * *That disaster is utter*; * *That fraud is sheer*; * *That person is other*;
         . . .

Strict adjectival heads, i.e., these adjectives which invariably contain an attribute position, obligatory select complements which they autonymously θ-mark through their attribute position. Such adjectives — *mere, former, prime, utter, sheer, other,* etc. — cannot occur in predicate position, separated by the copula from the NP they modify.

Given the picture in (28), the explanation is straightforward. We have seen how thematic discharge operates in sentences like *Our friend is old*. What prevents ATM in *The fact is mere*? Because of the head-complement condition on ATM, the DP *the fact* in Spec(AP) at D-structure (and in Spec(IP) at S-structure) cannot be autonymously θ-marked, in a fashion parallel to (non-autonymous) θ-marking in (27) and (28). ATM cannot occur between either Spec(AP) or Spec(IP) and A⁰. Furthermore, the selection requirements of *mere* would not be satisfied at D-structure.

There is another option though. What if *fact* in *The fact is mere* were, at D-structure, a complement of *mere*, as in (30)? This D-structure would satisfy *mere*'s selectional requirement for an NP complement:

(30) $[_{IP} [_{VP} be [_{DP} [_{D'} [_{D^0} the] [_{AP} [_{A'} [_{A^0} mere] [_{NP} fact]]]]]]]$

And, of course, when NP *fact* is a complement to a strict adjectival head, the relevant attribute thematic role can be discharged, with A⁰ autonymously θ-marking *fact*. But, from (30), the string *the fact is mere* needs to be derived, and as a pre-requisite *the* and *fact* need to combine as one constituent. This is rather problematic: there is no non-ad hoc way in which *the* and *fact* in (30) can join into a constituent. Hence the derivation is unacceptable.[16]

It is then no longer a mystery why the ambiguity of certain adjectives, like *old* 'aged' or 'old as . . .', *poor* 'impoverished' or 'pitiable'/'poor as . . .', and 'certain' 'sure' or 'particular', disappears in post-copula position:

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[16]There is yet a third option: to generate the whole DP *the fact* as a complement to *mere*, moving the DP to Spec(IP) at S-structure. To prevent such a derivation, we must assume that autonymous θ-markers select NP (or perhaps Num(ber)P; see Bernstein 1992) as complement, but not DP; cf. *the mere fact* vs. * *mere the fact*; *the imperfect solution* vs. * *imperfect the solution.* Accordingly, phrases like *How utter an accident!* and *so total an idiot!* would be derived by movement. (Thanks to Mark Baltin for pointing out these examples.) Also, if A⁰ were higher than DP, then its θ-identifying position (if it had one) would be too high to be bound by D⁰.

(31) a.   *Our friend is old* (i.e., 'aged', not 'old as a friend') vs. *Our old friend* (ambiguous)

      b.   *That man/liar is poor* (i.e., 'impoverished', not 'pitiable'/'lying poorly') vs. *That poor man/liar* (ambiguous)

      c.   *This cure is certain* (i.e., 'sure', 'unfailing', not 'particular'/'unspecified') vs. *A certain cure* (ambiguous)

The adjectival meanings which are excluded in predicate position in (31) are exactly those which obtained under ATM — which we know by now cannot occur when the adjective is in predicate position with the subject originating as subject of an AP Small-Clause.

As promised at the start, we now address cross-linguistic evidence for our account.

4   Romance Adjectives

The above thematic and structural distinctions among English adjectives receive support from the Romance data in Bernstein (1992). Bernstein explains the order of adjectives in Romance via the structural distinction in (21). She derives the position of pre- and post-nominal adjectives by assuming that adjectives are generated pre-nominally and that the head noun moves across the AP projection to a higher (inflectional) head, thus deriving the <u>noun+adjective</u> surface order. Interestingly, certain adjectives, because they are heads, categorically block movement of the head noun across (and out of) AP; such movement would violate the Head Movement Constraint (Travis 1984; Chomsky 1986). Thus these adjectival heads only occur in the order <u>adjective+noun</u>.

Now, what's striking about Romance adjectives (and makes us optimistic about the fate of this paper) is that their pre-/post-nominal occurrences correlate with the same thematic properties manifested above in the English case. Specifically, post-nominal adjectives (i.e., adjoining adjectives[17]) do not entail relative meanings, i.e., they do not have those meanings which would be derived through ATM — recall that ATM requires a head-complement configuration. These post-nominal (i.e., adjoining) adjectives only have absolute meanings, which we take by now to be derived through θ-identification; see Spanish *simple* in (32b), Italian *povero* in (33b) and French *certaine* in (34b).

Among adjectives which appear pre-nominally, there are two classes: those which *always* appear pre-nominally (like Spanish *mero* in (32e), Italian *mero* in (33e) and French *autre* in (34e)) and those which may also occur post-nominally (like Spanish *simple*, Italian *povero* and French *certaine*). Significantly, the adjectives in the first class always have relative (or, perhaps more cautiously, non-absolute/non-intersective) readings; therefore, they are ATM adjectives and are, naturally, heads blocking movement of the head-noun they govern. These adjectives, like their English ATM counterparts, cannot occur in predicate position (for the same reasons that English *mere* could not occur as a predicate); see (32d), (33d) and (34d); also see

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[17]These adjectives must head APs which adjoin to NP; being adjoined to NP, they do not govern the head noun and do not block movement of the latter to a higher head. They thus allow the order <u>noun+adjective</u>.

Milner (1967). The adjectives in the second class carry a thematic ambiguity parallel to that of *old, poor* and *certain*. Like for English adjectives which may or may not have an attribute position for ATM, the ambiguity of Spanish *simple*, Italian *povero* and French *certain* is thematically derived and structurally constrained. Indeed, their ambiguity disappears when they occur post-nominally (i.e., when they are adjoining adjectives, having allowed head-movement across them) and when they are predicates (being in a configuration where they cannot select a complement to autonymously θ-mark). In both these configurations, the only available readings are absolute.[18]

(32) a. *El simple hombre ...*   'The simple/mere man ...'   (Spanish)[19]
     b. *El hombre simple ...*   'The simple(-minded) man ...'
     c. *El hombre es simple*   'The man is { simple-minded | *mere }
     d. * *El accidente es mero*   'The accident is mere'
     e. *El mero accidente ...* vs. * *El accidente mero ...*

(33) a. *Il pover' uomo ...*   'The pitiable man ...'   (Italian)
     b. *L'uomo povero ...* 'The impoverished man ...'
     c. *L'uomo è povero ...* 'The man is { impoverished | *pitiable }
     d. * *L'accidente è mero*   'The accident is mere'
     e. *Un mero accidente ...* vs. * *Un accidente mero ...*

(34) a. *Une certaine chose ...* 'A certain (i.e., particular) thing ...' (French)
     b. *Une chose certaine ...* 'A certain (i.e., sure) thing ...'
     c. *La chose est certaine*   'The thing is { sure | *particular }
     d. * *La maison est autre*   'The house is other'
     e. *L'autre maison ...* vs. * *La maison autre ...*

Hence our thematic/structural analysis of English adjectives also applies to Romance adjectives. The thematic arguments supporting the structure of English adjectival modification naturally extends to the Romance case where the structural implications of thematic properties are visible in the surface order of adnominal adjectives.[20]

5   More Romance (French)

Milner (1967) provides further data from French which seem related to the thematic (and structural) characteristics of adjectives. These data involve ellipsis and adjective order.

In (35), French *simple* either means 'mere' when it is an ATM adjectival head (pre-nominal) or 'simple' when it is a θ-identifying adjoining adjective (post-nominal). As of *petit* 'small' as in *cette petite robe* 'this small dress', by its semantics, it is an adjoining adjective with no attribute position to discharge.[21]

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[18]James McCawley points out that we leave unclear how the ambiguity of *old* will interact with other kinds of ambiguity, such as that resulting from PP attachement, e.g., like in *our old friend from Glasgow*. This is one of many questions left unresolved at present.

[19]The data in (32), (33) and (34) is adapted from Bernstein (1992).

[20]For fascinating observations on the order and interpretation of French adjectives, see Waugh (1976).

[21]We here deviate again from Higginbotham (1985) where adjectives like *big* are considered

(35)   *Cette simple robe* 'This mere dress' vs. *Cette robe simple* 'This simple dress' vs. *Cette robe est simple* 'This dress is simple'
                                                            (Milner 1967)

Now, knowing that, in French, pre-nominal *simple* is ATM (and obligatorily selecting an NP complement), and that pre-nominal *petit* 'small' is not ATM, it is not surprising that the NP co-occurring with *simple* resists elision unlike the NP occurring with *petit* may:[22]

(36) a. *Quelle robe   voulez-vous ?*   —   { *La petite.* | *   *La simple.* }
         which dress   want-2sg   the small   the mere
                                                            (adapted from Milner 1967)

6   Conclusion

Our account of adjectives' interpretation and placement implies that their structural ambiguities originate from the distinct configurations under which thematic roles are discharged. Indeed, we have shown that Higginbotham's modes of thematic discharge support the distinction between the two types of adjective attachment adduced in Bernstein (1992): (i) adjunction to NP for APs headed by adjectives like *red* in *red flower* that give rise to conjunctive readings and can occur in predicate position (and in post-nominal position in Romance);[23] and (ii) adjectival heads like *mere* in *the mere fact* selecting an obligatory NP complement and giving rise to non-conjunctive (relative) readings — these adjectives do not occur in predicate position (nor in Romance post-nominal position).[24] In addition, we have shown

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potential ATM adjectives. For us, what gives the nominal *big elephant* its relative reading 'big for an elephant' is not an attribute position present in *big*'s thematic grid. Instead, the relative reading is achieved via the class with respect to which *big* is evaluated. Consider *a big elephant* and the (fictional) set of *balotas*. If we know that the set of elephants is exactly the set of balotas, then we can deduce that a big elephant is a big balota. However, consider *a good dancer*, and further imagine that only linguists are dancers and that only dancers are linguists. Now, even if we know that our friend Titi is a good dancer, we cannot deduce from that that *Titi* is a good linguist — actually, for all we know, Titi might be the worst linguist on earth precisely because she spends too much time practicing the lambada. Thus, ATM adjectives are 'intensional' in the sense that they take properties as arguments (a good dancer is good with respect to the dancer property) whereas adjectives like *big* are 'extensional' in the sense that they are evaluated with respect to the extension of the NP they modify (a big elephant is big as compared with other members in the set of elephants). See Siegel (1976) for more detailed arguments in favor of a similar distinction.

[22]Another possibly-related fact concerns the order within adjectival sequences. In French (as in English) an adjectival head (French *simple*, English *mere*) must precede an adjoining head (French *petit*, English *little*):

(i)   *Une*   *simple*   *petite*   *robe*   ...   (Milner 1967)
           A   mere   little   dress   ...
(ii)   *   *Une*   *petite*   *simple*   *robe*   ...
       *   A   little   mere   dress   ...

(See Waugh (1976) and Bernstein (1992) for additional interesting facts about Romance adjectives.)

[23]For reasons not quite clear to us, certain conjunctive adjectives, like *petit* 'small', seem reluctant to occur post-nominally and others, like color adjectives, seem reluctant to occur pre-nominally. But see Milner (1967), Waugh (1976) and Bernstein (1992) and references therein for relevant observations.

[24]A caveat is in order. At this point what we have done is propose only a coarse thematic division within the class of adjectives. Of course, many semantic and syntactic nuances will not be captured at that level — in pretty much the same way that verbal distinctions like intransitive/transitive,

that a Small-Clause analysis allows a natural extension of Higginbotham's thematic analysis to predicate adjectives: the subject originates in Spec(AP) where it is θ-marked by A'. This also provides an explanation for the correlation noticed in Bernstein (1992) between the relative readings of certain adjectives and their unavailability in post-copular position.[25]

Final pat on our backs: Our proposal refines the interaction between syntax and semantics originally proposed by Higginbotham. These constraints on the syntax/semantics interface appear to hold (somewhat) cross-linguistically.

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accusative/unaccusative or ergatvive/unergatives (say) will not capture all the richness of verbs. Bolinger, Vendler and Siegel, among others, amply document the subtleties of adjectives — we have only scratched the surface of these subtleties (although we're still scratching our heads).

[25]Russian adjectives are remarkable in that they have long and short forms, as in (i) and (ii), from Siegel (1976). Short-form 'adjectives' do not inflect for Case and occur only in predicate position; Siegel views them as verbs. Long-forms are more 'typical' adjectives: they inflect for Case and occur in both predicate and pre-nominal position.

(i)   *Studentka umnaja*   (long form)   "The student is intelligent"   (relative)
(ii) *Studentka umna*   (short form)   "The student is intelligent"   (absolute)

With respect to the thematic properties we have been considering, short adjectives (verbs?) have absolute meaning whereas the long adjectives express relative meanings (via ATM?). Could it be the case that Russian has taken the ATM vs. θ-identifying properties to an extreme in that the grammar distributes these thematic properties across separate lexical categories (adjectives and verbs, respectively)? Siegel provides much more data and illuminating observations toward answering this question.

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