

Adjectives

Formal analyses
in syntax and semantics

Edited by

Patricia Cabredo Hofherr

Ora Matushansky

John Benjamins Publishing Company

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Edited by

Patricia Cabredo Hofherr

CNRS / University of Paris 8

Ora Matushansky

University of Utrecht



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List of contributors

Nadira Aljović

University of Zenica (Bosnia)
English Department
& UMR 7023 CNRS – Paris-8
aljovicnadira@gmail.com

Peter Alrenga

Boston University
Linguistics Program
(Dept. of Romance Studies)
621 Commonwealth Avenue
Boston, MA 02215
palrenga@bu.edu

Leonard Babby

Department of Slavic Languages
and Literatures
227 East Pyne Building
Princeton University
Princeton, NJ 08544
babbylh@princeton.edu

Hagit Borer

Professor of Linguistics
Department of Linguistics
University of Southern California
Los Angeles, CA 90089-1693
borer@usc.edu

Patricia Cabredo Hofherr

UMR 7023 SFL CNRS – Paris 8
& Surrey Morphology Group
UMR 7023 D 323, Bât D
Université Paris 8
2 rue de la Liberté
F-93526 Saint Denis Cedex
pcabredo@univ-paris8.fr

Javier Gutiérrez-Rexach

The Ohio State University
298 Hagerty Hall
1775 College Road
Columbus, OH 43210-1340
gutierrez-rexach.1@osu.edu

Catherine Léger

Department of French and Italian
University of Texas at Austin, Austin, TX
leger.catherine@mail.utexas.edu

Rafael Marín

UMR 8163 STL CNRS – Lille 3
Université de Lille 3 – Bât.B4
Rue du Barreau – BP 60149
59653 Villeneuve d'Ascq Cedex
France
rafael.marin@univ-lille3.fr

Waltraud Paul

CNRS CRLAO, EHESS
54 Bld Raspail,
75006 Paris, France
Waltraud.Paul@ehess.fr

Isabelle Roy

University of Tromsø - CASTL
& UMR 7023 SFL CNRS – Paris 8
D 323, Bât D
Université Paris 8
2 rue de la Liberté
F-93526 Saint Denis Cedex
isabelle.roy@sfl.cnrs.fr

Petra Sleeman

Leerstoelgroep Taalkunde van de Romaanse Talen
University of Amsterdam
Spuistraat 134
1012 VB Amsterdam
A.P.Sleeman@uva.nl

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Adjectives

An introduction

Patricia Cabredo Hofherr

CNRS UMR 7023 – Paris 8 & Surrey Morphology Group

The contributions in the present volume deal with a variety of issues in the analysis of the syntax and semantics of adjectives.¹ Compared to the lexical categories of nouns and verbs, adjectives have received little attention in the linguistic literature. In the present introduction I will give an overview of some of the central issues in the study of adjectives and put the issues addressed by the papers in this volume into this wider context.

The first section reviews the criteria that have been proposed to distinguish adjectives as a word class and discusses some cross-linguistic variation observed with respect to these criteria. The second section sketches some issues in the semantics of adjectives. The third section gives a summary of the main issues in the syntax of adjectives and of the syntactic analyses proposed for the attributive and predicative uses of adjectives. The fourth section presents the papers collected in this volume.

1. Adjectives as a word-class

In a typological perspective it is crucial to have criteria that allow us to distinguish nouns and adjectives as well as different types of adjectives. Identifying nouns, verbs and adjectives cross-linguistically is, however, a difficult enterprise, with adjectives being particularly elusive. In earlier research on adjectives as a word class it was claimed that some languages do not have an adjective class at all (Dixon 1977;

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Schachter 1985:13–20) and that predicates typically corresponding to adjectives in other languages are either nouns or verbs in these languages.²

More recent research on adjectives as a word class, however, has defended the idea that an adjective class can be identified in all languages. The detailed studies of adjectives in Baker (2003:238–63) and Dixon (2004:14–28) have both given evidence for a lexical category distinct from nouns and verbs in languages that had been analysed as lacking an adjective class. The criteria invoked by Baker and Dixon to set apart a class of adjectives include the following:

- (1) a. Adjectives allow direct modification of nouns. (Baker 2003:252–6, Dixon 2004:19–20)
- b. Adjectives differ from other predicates in the comparative construction. (Dixon 2004:11,21)
- c. Adjectives do not have their own gender, they agree in gender with the modified noun (Baker 2003:247, Dixon 2004:23)
- d. Adjectives can appear without a preposition in resultative predications. (Baker 2003:219–30)

As Baker and Dixon point out, the criteria proposed need not distinguish adjectives from verbs or nouns in all languages, as independent cross-linguistic differences can interfere with the criteria.

Criterion (1a), for example, is not applicable in languages like Slave (Athapaskan) that do not allow direct modification of the noun by the adjective (Baker 2003:194 citing Rice 1989).

In order to apply criterion (1b), comparatives in a given language also have to be analysed in detail. As Dixon (2004: 26) points out, comparative constructions may but need not distinguish adjectives from nouns (adjectives, but not nouns, admit comparatives in Russian, Finnish and Hungarian, both adjectives and nouns can enter the comparative construction in Portuguese, Sanskrit and Dyirbal). This seems to be a special case of the more general observation that not all degree words select adjectives exclusively (see Baker 2003: 212–18 for discussion). While *how*, *too*, *so* and *as* in English are limited to adjectives (like the synthetic comparative), semantically similar expressions such as *more*, *less* and *enough* can also combine with other expressions such as mass nouns (*more/less/enough water*) and verbs (*I trust her more/less/enough*). The distinction between the two types of degree expressions has other grammatical

2. See e.g. McCawley (1992) for an analysis of Mandarin Chinese adjectives as intransitive verbs (but see Paul this volume for a different analysis), and the discussion in Baker (2003: 173–188) for languages that have been analysed as neutralising the noun-adjective distinction (Huallaga Quechua, Classical Nahuatl and Greenlandic Eskimo).

reflexes in English: *more/less/enough* can combine directly with the predicate pronoun *so* while degree heads like *how/too/so/as* require a dummy *much* (Corver 1997).

- (2) a. Mary is intelligent and Sue is more so.
 b. Mary is intelligent, in fact she is too much so.
 b. *Mary is intelligent, in fact she is too so.

The application of the criterion in (1b) therefore has to be underpinned by a detailed examination of the degree words in a given language (see e.g. Doetjes 2008 for a comparative study of degree expressions in French and English).

Finally, there are languages such as French, Hindi, Russian³ and Chichewa that do allow only PP-resultative predicates – since adjectival resultative predicates are excluded independently in these languages, criterion (1d) is rendered inapplicable (see Baker 2003:226).

Summarising, it seems fair to say that the criteria in (1) are flawed since they are too coarse to properly isolate the characteristic features of adjectives, and therefore other properties of the language can interfere with the behaviour of adjectives on a given criterion. Nevertheless, the criteria provide a useful battery of tests that may help to identify adjectives in a given language.

A heuristic that may be used to approach the task of identifying the potential adjectives in a language is provided by Dixon's study of the semantics covered by adjectives in languages with small adjective inventories. According to Dixon (1977/1982:46–59), small adjective inventories typically include adjectives of dimension (*big, small, long, short, wide*), age (*new, young, old*), value (*good, bad*) colour (*black, white, red*), while only bigger adjective inventories typically also contain adjectives describing physical property (*hard, soft, heavy, wet*), human propensity (*jealous, happy, kind, clever*) and speed (*fast, slow*) (see also Dixon 2004:4).

As adjectives often share properties of either nouns or verbs it is crucial to examine the criteria that allow us to draw the boundary between adjectives and the other two lexical categories for specific languages. The paper by Paul (this volume) examines the relationship between intransitive verbs and adjectives in Mandarin Chinese. Paul argues against the traditional analysis of Mandarin Chinese adjectives as verbs, giving syntactic, semantic and morphological criteria that distinguish two classes of adjectives from intransitive verbs. Two other papers in the present volume examine the relationship between nouns and adjectives: (i) Babby (this volume) argues in detail that Russian long-form adjectives that appear in predicative position have nominal properties and should be analysed as attributive adjectives on an abstract predicative

3. For Russian not admitting the use of adjectives as resultatives see e.g. Spencer & Zaretskaya (1998:3), Strigin & Demjjanov (2001).

noun, and (ii) Borer & Roy (this volume) propose syntactic and semantic criteria to distinguish nominalised adjectives from cases of N-ellipsis (i.e. adjectives modifying a null pronoun *pro*) in English, French and Modern Hebrew.

2. Semantic properties of adjectives

In what follows I will review three central issues in the semantics of adjectives: gradability, intersectivity and lexical aspect. Gradability and the intersective/non-intersective contrast have been the object of a fair amount of research. The study of aspectual properties of adjectives, on the other hand, is only recently emerging as a focus of interest.

2.1 Gradability

Gradability is often taken to be a prototypical property of adjectives (see e.g. Jackendoff 1977): degree expressions of the type of *too* or *very* combine with adjectives but not with other categories. It has been pointed out, however, that the syntactic behaviour of degree expressions varies cross-linguistically as illustrated here by the degree expressions *too* and *trop* ‘too’ in English and French respectively (see Doetjes et al. 1998, Neeleman et al. 2004, Doetjes 2008):

| | | | |
|-----|-----------------------|----------------------------|--------------------|
| (3) | French | English | |
| a. | trop grand | too big | (adjective) |
| b. | trop apprécier | appreciate too much | (gradable verb) |
| c. | trop danser | dance too much | (eventive verb) |
| d. | trop de soupe | too much soup | (mass nouns) |
| e. | trop de livres | too many books | (count nouns) |
| | | | (Doetjes 2008:123) |

As Doetjes points out, the distribution of *too* distinguishes adjectives from other categories in English as only adjectives can combine directly with *too*. In contrast, the French degree expression *trop* – although semantically similar to *too* – does not discriminate between adjectives, verbs and nouns.⁴ Gradability therefore seems to be a more general property of a subclass of predicates that are associated with a scale, be they nouns, verbs or adjectives.

4. The *de* appearing with nouns is generally analysed as a case-marker; if this analysis is correct, the difference between *trop* + Adj/ V and *trop* + *de* + N is not due to *trop* distinguishing between adjectives and verbs on the one hand and nouns on the other, but to a general property of nouns that they need case.

Apart from degree expressions, gradable adjectives also admit comparative and superlative formation (e.g. *smaller/smallest*). In some languages adjectives have dedicated comparative and superlative morphological forms that do not apply to other categories.^{5,6}

- (4) a. schön schöner schönster (Ge)
 beautiful beautiful-comparative beautiful-superlative
 b. green greener greenest

However, in the same way as degree expressions do not single out adjectives cross-linguistically (see discussion in Section 1 above), comparative and superlative morphology is not limited to adjectives either (see (5) and the references cited in Dixon 2004).

- (5) a. **Muy filósofo** estás, Sancho, ... (Sp)
 Very philosopher be-LOC.2SG Sancho ...
 ‘You are in a very philosophical mood, Sancho...’
 (Miguel de Cervantes, translation by J. Rutherford, *The Ingenious Hidalgo Don Quijote de la Mancha*. Penguin Classics, 2001.)
 b. En este lugar del sur me encuentro con el más
 in this place of-DET south 1SG.DAT find with the most
 escritor de nuestros cineastas o con el más **cineasta**
 writer of our filmmakers or with DET most filmmaker
 de nuestros escritores, Gonzálo Suárez. (Sp)
 of our writers Gonzálo Suárez
 ‘In this place in the south I meet with the one of our filmmakers who is
 the most like a writer or the one of our writers who is the most like a
 filmmaker, G.S.’ (attested)

5. It has been proposed that gradable adjectives project an extended functional structure including a degree head (Corver 1990, 1997; Grimshaw 1991; Kennedy 1999). The degree head is generally taken to be filled by the comparative and superlative morphology.

- (i) [_{DegP} [_{Deg'} [_{Deg'} Deg⁰ [_{AP} A⁰ Complement]] XP (than Peter / as Johan)]

6. In the glosses, the following abbreviations are used

| | | | | | |
|----|-----------|------|-------------|-----|-------------------------------|
| F | feminine | NEG | negation | DEF | definite |
| M | masculine | PRES | present | DET | definite determiner |
| SG | singular | PAST | past | COM | common gender (Scandinavian). |
| PL | plural | SUBJ | subjunctive | | |

The following abbreviations are used to indicate the languages in the examples: Bulg = Bulgarian, Ge = German, Gk = Modern Greek, SBC = Serbocroatian, Som = Somali, Sp = Spanish, Sw = Swedish.

The preceding examples show that gradability and its reflexes in degree expressions and superlative and comparative morphology cannot be taken to characterize adjectives as a class cross-linguistically. This notwithstanding, it is true that gradability is an important semantic property of a large subset of adjectives in many languages. Kennedy and McNally (2005) propose a semantic typology of gradable predicates based on the properties of the scales along which these predicates order their arguments (their *scale structure*). These authors propose to classify gradable predicates along two parameters: (i) whether the scale involved is open or closed and (ii) whether the standard of comparison for the predicate is relative (i.e. fixed contextually) or absolute (a maximal or minimal value on the scale, irrespective of context).

- (6) a. open scale relative : *big*
 - (i) no upper limit on the scale: *big* is incompatible with *completely*
 - (ii) relative standard of comparison: *big* can be modified by *very*
- b. closed-scale absolute adjective: *undocumented*
 - (i) upper limit on the scale: *completely undocumented*
 - (ii) absolute standard of comparison: # *very undocumented*

Kennedy & McNally point out that the two properties of gradable predicates interact; in particular, gradable adjectives associated with totally open scales have relative standards (Kennedy & McNally 2005:361). The inverse correlation is not as strong: gradable adjectives that use totally or partially closed scales need not have absolute standards but in the default case the standards for close-scale adjectives correspond to an endpoint of the scale (either the minimum or the maximum).

As the preceding discussion shows, the claim that gradability is proto-typical of adjectives cannot be maintained. However, even if gradability does not characterise adjectives as a class, it is an important semantic property of a large subset of adjectives in many languages that is a crucial component of the meaning of many adjectives.

2.2 Intersective and non-intersective adjectives

Adjectives can further be classified based on the inferences that an adjective+noun combination can license.⁷ The simplest case is that of *intersective* adjectives: these adjectives license inferences between the attributive and the predicative use based both on the noun and on the adjective:

7. In what follows I limit myself to the contrast between intersective and non-intersective adjectives, since this contrast affects a large proportion of adjectives. For some additional contrasts concerning specific lexical items see the detailed discussion of English/Italian contrasts in Cinque (2010, Chapter 2).

(7) Intersective adjectives: Licensed inferences

- | | | |
|----|---|---|
| a. | $X \text{ is Adj } N \rightarrow X \text{ is a } N$ | $X \text{ is a red house} \rightarrow X \text{ is a house}$ |
| b. | $X \text{ is Adj } N \rightarrow X \text{ is Adj}$ | $X \text{ is a red house} \rightarrow X \text{ is red}$ |

Among the adjectives that are not intersective, we can distinguish *subsective* adjectives, and *non-subsective* adjectives. For subsective adjectives only one of the patterns of inference is fulfilled, namely the inferences based on the noun:

(8) Subsective adjectives: Licensed inferences

- | | | |
|----|---|---|
| a. | $X \text{ is Adj } N \rightarrow X \text{ is a } N$ | $X \text{ is a perfect typist} \rightarrow X \text{ is a typist}$ |
| b. | $X \text{ is Adj } N \rightarrow X \text{ is Adj}$ | $X \text{ is a perfect typist} \rightarrow X \text{ is perfect}$ |

Non-subsective adjectives can be further divided into *simple non-subsective* adjectives where the adjective+noun combination implies neither the adjective nor the noun, and *privative* adjectives that license a negative inference for the noun:

(9) Non-subsective adjectives

- | | | |
|--------------------------|---|--|
| i. Simple non-subsective | | |
| a. | $X \text{ is Adj } N \rightarrow X \text{ is a } N$ | $X \text{ is an alleged murderer} \rightarrow X \text{ is a murderer}$ |
| b. | $X \text{ is Adj } N \rightarrow X \text{ is Adj}$ | $X \text{ is an alleged murderer} \rightarrow *X \text{ is alleged}$ |
| ii. Privative | | |
| a. | $X \text{ is Adj } N \rightarrow X \text{ is not a } N$ | $X \text{ is a fake diamond} \rightarrow X \text{ is not a diamond}$ |
| b. | $X \text{ is Adj } N \rightarrow X \text{ is Adj}$ | $X \text{ is a fake diamond} \rightarrow X \text{ is fake}$ |

The intersective/non-intersective distinction is partially correlated with the syntax of the adjectives: only attributive adjectives allow intersective and non-intersective readings, while predicative adjectives are always intersective.

It has been observed that some attributive adjectives give rise to intersective/non-intersective ambiguities (Vendler 1967; Larson 1998), as in the following example.

(10) Olga is a beautiful dancer.

- | | | |
|-----|-------------------------------------|----------------------------|
| i. | 'Olga is a dancer who is beautiful' | (Intersective reading) |
| ii. | 'Olga dances beautifully' | (Non-intersective reading) |

Larson (1998, 2000) argues that adjectives with a non-intersective reading are closer to the noun. When combined with an adjective like *blonde* that only has an intersective reading, the adjective *beautiful* can only have the non-intersective reading if it is closer to the noun as in (11a); when *beautiful* is separated from the noun by the intersective adjective *blonde*, only the intersective reading is possible (11b):

- | | | | |
|------|----|--|---|
| (11) | a. | Olga is a blonde beautiful dancer | INT – INT ok INT – NON-INT ok |
| | b. | Olga is a beautiful blonde dancer | INT – INT ok NON-INT – INT * (ex 40 from Larson & Takahashi 2007) |

In recent research on lexical aspectual properties of verbs (*Aktionsart*, or *situation aspect*, Smith 1991), the lexical aspectual properties of verbs are analysed in terms of subevental structure (see e.g. Ramchand 2007 and references cited there). This subevental structure is reflected in the structure of the temporal trace of the event: an accomplishment like *build a house* for example, can be viewed as having an INITIATING EVENT that sets off the process, a PROCESS PHASE (of building) and a RESULT PHASE (the house being finished) with the three elements corresponding to three parts of the temporal trace.

In a manner similar to verbal predicates the meaning of adjectives can also impose conditions on the internal structure of the interval of which the state holds. Take an adjective like *dead* or *changed*: both adjectives imply that the state holds of an interval that has a left boundary; while the interval of which *dead* is true by virtue of its lexical meaning does not have a right boundary, *changed* is neutral with respect to the length of the interval.

- (13) a. He was dead. (transition, no right boundary)
 b. He was changed. (transition, right boundary not restricted)

Gradability further affects the temporal trace of which the state holds in two respects: (i) the distribution of the property denoted by the state across the interval and (ii) the possible transitions from state to non-state. Compare the following examples illustrating the distribution of a state across an interval: while *drunk* is compatible with varying degrees of drunkenness over an interval, *open/closed* for a shop is a yes-no state that either holds or does not hold. These two examples also contrast with respect to the possible transitions from state to non-state: while the transition from *sober* to *drunk* is a matter of degree, the transition from *open* to *closed* (for a shop) is not: the interval of which *open* holds has a right boundary, while this need not be true for the interval of which *drunk* holds as the transition is gradual.

- (14) a. The shop is open. yes/no states
 b. He was drunk/sick. gradable states

The study of deadjectival verbs in Kennedy and Levin (2008) (following Hay, Kennedy & Levin 1999) supports the hypothesis that there is dualism between gradability in adjectives and lexical aspect (telicity) in verbal predicates. More specifically, they provide evidence that deadjectival verbs such as *to cool* and *widen* inherit the scalar properties of the adjectives from which they are derived and that these scalar properties largely determine the aspectual properties of the derived verb.

Notice that the aspectual distinctions evoked above cannot be reduced to the contrast between individual-level and stage-level adjectives: adjectives like *open* and *drunk*

are both s-level but differ in their gradability properties and in the internal structure that they impose on the temporal trace of their state.

Marín (this volume) argues that at least three aspectual classes of adjectives have to be distinguished for Spanish, based on the distribution of the copulas *ser* and *estar* and the distribution of semi-auxiliaries such as *acabar de* + infinitive/*seguir* + gerund.

3. The syntax of adjectives

As is well-known, adjectives can appear in two main types of syntactic contexts: as *attributive* adjectives directly modifying a noun (15) and as *predicative* adjectives in the complement of a copula (16a) and as secondary predicates (16b):

(15) Attributive adjectives

- a. The **blue** car came down the avenue.
- b. Das **blaue** Auto kam die Strasse entlang. (Ge)
DET blue.NOM.MSG.WK car came DET road along
 'The blue car came along the road.'

(16) a. Predicative adjectives (copula)

- i. The car is **blue**.
- ii. Das Auto ist **blau**. (Ge)
DET car is blue
 'The car is blue.'

b. Predicative adjectives (secondary predication)⁸

- i. John painted the house **blue**.
- ii. Sie streicht das Haus **blau**. (Ge)
she paint.PRES3SG DET house blue
 'She is painting the house blue.'

As the contrast between (15b) and (16a/ii) illustrates, the two contexts can differ in terms of their morphological properties: in German attributive adjectives show agreement in gender, number and case with their head noun (the form of the agreement depending also on the type of determiner) while predicative adjectives in (16) are invariant.

8. The following examples use resultatives to illustrate secondary predication – but see the discussion above that some languages that do have adjective do not admit the use of adjectives as resultatives. Depictives as in *She left the house angry* are also cases of secondary predication.

An analysis of the syntax of adjectives therefore should aim to address the following three questions:

- i. What is the syntax of *attributive* adjectives: how are nouns and adjectives combined in the syntax?
- ii. What is the syntax of *predicative* adjectives?
- iii. What is the relationship between attributive and predicative adjectives?

In what follows, I will review the analyses proposed for attributive and predicative adjectives separately (Sections 3.1 and 3.2). Section 3.3 then addresses the question of the relationship between attributive and predicative adjectives. I review well-studied semantic differences between attributive and predicative adjectives and then discuss some syntactic differences with respect to multiple modification.

3.1 The syntax of attributive adjectives

In what follows I will give a brief overview over the different analyses that have been proposed. As the discussion will show, there is no consensus in the literature as to the analysis of the syntax of attributive adjectives cross-linguistically.

In the second and third subsections I will come back to two empirical problems, namely prenominal adjectives with complements (3.1.2) and languages with two syntactically different types of adjectives (3.1.3).

3.1.1 *Analyses of attributive adjectives: An overview*

Two main approaches to the syntax of attributive adjectives can be found in the literature: adjectives are analysed as either heads or specifiers.

According to the first type of approach, adjectives are heads that take the NP as a complement (Abney 1987) or as a specifier (Bhatt 1990; Delsing 1993). The first analysis of adjectives as heads was proposed in Abney (1987). This analysis treats adjectives as heads that are selected by D and take an NP complement:

$$(17) \quad [_{DP} D [_{AP} A [_{NP} N]]]$$

The main argument for this analysis was the observation that in English prenominal adjectives cannot have complements. If the analysis is taken to be an analysis of adjectives cross-linguistically, however, this argument loses its forces since many languages do allow prenominal attributive adjectives to take complements (see discussion in Section 2.1.4 below).

Based on the observation that prenominal adjectives do admit complements in Mainland Scandinavian and in German, Delsing (1989) and Bhatt (1990) propose an alternative analysis, according to which the adjective is a head but the NP is the

(right-hand) specifier of N, while the complement of the adjective is in complement position of the adjective (see Svenonius 1992:113–7 for a critical evaluation of this proposal).

In the second type of approach, adjectives are phrases that are either adjoined to NP ((18a), see Jackendoff 1977, Valois 1991) or specifiers of dedicated functional projections in the extended projection of the noun ((18b), Cinque 1994)⁹

- (18) a. $[_{DP} D [_{NP} AP NP]]$ (left-adjoined AP)
 $[_{DP} D [_{NP} NP AP]]$ (right-adjoined AP)
 b. $[_{DP} D [_{FP} AP F [_{FP} AP F [_{NP} N]]]]$ (AP in spec FP)

Delsing (1993), citing Cinque (1994), further distinguishes between adjectives in nominalisations which have equivalents in the clause (either the external theta-role or an adverb) and adjectival modification of underived nouns.

- (19) a. thematic adjectives in nominalisations
 the *Italian* invasion of Albania
 b. adverbial adjectives in nominalisations
 the *constant* nagging about taxes
 c. modifying adjectives
 the *red* house

Cinque (1994: 86–89) analyses thematic adjectives as specifiers of N, while modifying adjectives are specifiers of other functional projections selected by D.¹⁰

- (20) a. $[_{DP} D \quad \quad \quad [_{NP} Adj\text{-th} \quad [_{N'} N XP]]]$
 b. $[_{DP} D [_{FP} Adj \quad [_{FP} Adj \quad \quad \quad [_{NP} \quad \quad \quad [_{N'} N XP]]]]]$

9. For an elaborate version of this account see Scott (2002).

10. For adverbial adjectives (Cinque's *manner adjectives*) Cinque considers two possibilities:

- (i) either manner adverbs are in a functional projection outside NP with thematic adjectives in spec NP (Cinque 1994: 90)
 $N [_{XP} AP \text{ manner } t [_{NP} AP \text{ thematic } t YP]]$ (Cinque's ex 10)
 (ii) or manner adverbs and thematic adverbs both compete for the same NP external position (Cinque 1994: 92)
 $[_{XP} AP_{sp}\text{-or} [_{YP} AP_{subj}\text{-or} [_{XP} AP \text{ manner/AP thematic } t [_{NP} N]]]$ (Cinque's ex 14)

There seems to be a third possibility, that Cinque does not examine:

- (iii) manner adverbs and thematic adjectives compete for the position in spec NP
 $N [_{NP} AP \text{ manner/AP thematic } t YP]]$