

INFORMATION TO USERS

This manuscript has been reproduced from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI

University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313/761-4700 800/521-0600

Order Number 9510691

Syntactic conditions on saturation

Mandelbaum, Deborah, Ph.D.

City University of New York, 1994

Copyright ©1994 by Mandelbaum, Deborah. All rights reserved.

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

H

SYNTACTIC CONDITIONS ON SATURATION

by

DEBORAH MANDELBAUM

A dissertation submitted to the Graduate Faculty in Linguistics
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy, The City University of New York

1994

© 1994

DEBORAH MANDELBAUM

All Rights Reserved

This manuscript has been read and accepted for the Graduate Faculty in Linguistics in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

9/8/94
Date

Robert Fiengo
Robert Fiengo
Chair of Examining Committee

9/8/94
Date

Richard Kayne
Richard Kayne
Executive Officer

9/8/94
Date

Charles E. Cairns
Charles Cairns
Acting Executive Officer

Richard Kayne
Richard Kayne

Richard K. Larson
Richard Larson

Supervisory Committee

The City University of New York

Abstract

SYNTACTIC CONDITIONS ON SATURATION

by

Deborah Mandelbaum

Adviser: Professor Robert W. Fiengo

This thesis examines the syntactic structures within which a theory of predication may operate. The range of investigation includes saturation in adjectival structures, predicate nominal structures, genitive structures, and superlative nominal structures.

A theory of adjectival structure and predication forms the basis for the remaining structures proposed in the thesis. It is assumed that when in construction with nouns adjectives are generated in either of two positions: as transitive heads of adjectival phrases, selecting noun phrase complements, or as intransitive heads of adjectival phrases, adjoined to noun phrases. How saturation becomes complete in either of these two possible configurations is demonstrated via a theory of thematic role percolation and discharge in which thematic attributes of adjectives

found in one position are distinct from the thematic attributes of adjectives found in the other position.

The theory of syntactic structure and predication is extended to simple predicate nominals introduced by "indefinite" determiners (*he is a lawyer*). It is shown that the configurations for intransitive adjectives and the nouns they modify generalize to the appropriate structures for predicate nominals. This partially relies on analyses proposing a similarity in logical form between adjectival modification and the behavior of the indefinite determiners.

A look at the class of predicate nominals introduced by a genitive (*he is John's lawyer*) reveals that their distribution is the same as that of simple predicate nominals. Similar structures to those of the predicate nominals introduced by determiners are proposed for the genitive variety of predicate nominal. The theory of saturation is shown to support the proposed structures for genitive constructions, and evidence from Swedish, Finnish and Greek provides some cross-linguistic support for the structural claims.

Superlative nominals may occur in the same distribution as other predicate nominals (*he is the best lawyer in town*). As an expansion on proposals made earlier in the thesis about adjectival structure and the structure of predicate nominals, predication structures are provided for these superlative nominals. The superlative complement is argued to be sister to the superlative morpheme in these structures, following several proposals in the recent literature.

Acknowledgements

The key to good acknowledgements is to keep them short, and yet not leave out anyone who merits acknowledgement. Anyone who has written a dissertation knows what a tall order this is, and I suppose I shall violate it in precisely the same way that most dissertation writers previous to me have.

I must express my gratitude to the network of CUNY faculty, staff, and students who have made the journey through graduate school as educational, maturing, and yes, fun, for me as it has been. This network includes most of the faculty and staff who are or were in the Linguistics program at CUNY, and many of those in the Philosophy program: Chuck Cairns, Martin Chodorow, Bob Fiengo, Janet Fodor, Jerry Fodor, Jerry Katz, Richie Kayne, Judith Klavans, Arnold Koslow, Terry Langendoen, Sam Levin, John Moyne, David Rosenthal, Stephen Schiffer, Alan Stevens, Bill Stewart, David Swinney, Bob Vago, Virginia Valian, Judith Tucker, Liz Hogan. But the network also includes a giant support system of CUNY students in both departments (many of them now former students!), a support system that I consider myself extremely fortunate to have had: David Man, Stephanie Smolinsky, Elaine Klein, Kathleen Kane, Tom Maxfield, Dana McDaniel, Jody Azzouni, Gary Ostertag, Ruth Reeves, Maureen Linker, Celeste Friend, David Pitt, Scott Acus, Scott Walden, Consuelo Pretti, Constantine Schoelkopf, Tracy

Forrest, Lydia Hartunian, Ivy Sichel, Claudia Leacock, Karen Kovatch, Robert Hollander, Barbara Bevington, Rossina Petrova-Roos, Francisco Ordóñez, Harriet Taber, Amahl Smith, Adam Vinueza, Lisa Bates, Sheila Meltzer, Norie Sanchez.

Yet there are four CUNY friends who merit special mention, and I am forever indebted to them for their unwavering belief in me and continuous encouragement. To Jill Burstein, Arhonto Terzi and Inge Lasser I owe hours and hours of discussion and sympathy, and much coffee. Most especially, though, to Judy Bernstein, whose work forms part of the inspiration for this thesis, I owe the best friendship that I can possibly give.

There are linguists and philosophers who are not at CUNY to whom I am grateful for data, ideas and encouragement: Peter Ludlow, Gabe Segal, Juan Uriagereka, Anders Holmberg, Susan Rothstein, Giuliana Giusti, Chris Barker, Peter Svenonius, Lori Davis, Beatrice Santorini, Raffaella Zanuttini, Bob Frank, Paschalina Groutka. There are linguists who are not at CUNY to whom I am indebted for friendship: Rich Janda, Julie Auger, Lori Davis, and most especially, Michel Degraff. My experience coauthoring a paper with Michel taught me a great deal about Linguistics, and gave me the extra gift of providing me with a friend for life.

There are two other coauthors with whom I have shared trials and tribulations over data and theory, and much tea and sympathy. These are Virginia Valian and Inge Lasser. The jury may still be out on our analysis of children's questions, but the experience I gained in data analysis, theory construction and

experimental method under Virginia's guidance is certain and invaluable to me. I will always be grateful for my experience in the Psycholinguistics Lab at Hunter College.

Teaching can be a chore, as just about any teacher will tell you. One way to make it more enjoyable is to make sure that you are amongst colleagues with whom you enjoy working. I have been fortunate to have been teaching in departments at both Queens College and Hunter College in which I made solid friendships--with people with whom it's a pleasure to work. At the Queens College Linguistics Department, I thank Bob Vago, Chuck Cairns, Alan Stevens, Elaine Klein, Herb Seliger, Bob Fiengo, Gita Martohardjono. At the Queens College English Department, I thank Jeanie Gallagher, Michael Sargent, Judith Summerfield, Nancy Comley, Janice Peritz, Steve Kruger, Judy Radler-Cohen, Christina Boufis, Diane Menna, Jim Werner, Janine Werner, Gerry Beckerman, Evelyn Diaz.

Although most of the people I have thanked so far are academics, there is a core of non-academic friends who have helped me make my way through this dissertation: Mike Mandelbaum, Christine Cooke, Bill Weinstein, Katie Browning, Ellen Chanowitz, Rita Rodriguez, Maxine Melchior, Lisa Flores, Sean Jackson, Maxcine Holder, Peggy, Joanne, Danny Stern, Enoch Degraff, Eric Schmetter, Michelle Schmetter. I thank you all--for support, for much needed fun and trips to mountains and lakes, and above all else, for the gym.

But among the most important acknowledgements are those due the

members of my dissertation committee.

To Richard Kayne I shall always be indebted. It is due to Richie that I learned to look at linguistic facts from a cross-linguistic perspective, although the bulk of my research is still on English. I am grateful to Richie for his fair and even-handed manner in dealing with all graduate students, and for his making time to discuss ideas with me at any time, whether by telephone, email, or in person. Richie's input into this dissertation was the accumulation of the years I spent learning from him how to ask the right question, in order to get the right answer.

Richard Larson is not at CUNY, and I consider myself very lucky to have met him before I began my dissertation. That way I had the opportunity to ask him to be on my committee. No matter how busy Richard has been, he has always made the time to read my work carefully and give it his best attention. One need but read it to realize how much this dissertation has benefitted from his insights. From Richard I have learned that the only way to make a point clear is to state it clearly; and that precise language can make the difference between an analysis that succeeds, and an analysis that fails.

The final member, and chair, of my committee was Robert Fiengo. It is difficult for me to express how very indebted to Bob I am, since so many years of teaching and friendship have gone into our relationship. Bob was the person who inspired me to tackle syntax, and the person who inspired me to think about the philosophy of language. He is certainly among the very best teachers I have ever had. It was from Bob that I learned what a challenge theoretical work can be, and

how empty a theory is without data to support it. Bob also taught me about different levels of description, and led me to the metatheoretical questions that philosophers of language ask.

Bob's door has always been open to me, and he has spent hours discussing all aspects of linguistics with me. I can never repay him for all his support through even the roughest hours of graduate school. I thank you Bob.

A number of members of my family who have helped me through this venture deserve special mention, since it was with their respect and encouragement, and total support, that I completed this dissertation: Rachel, Elena, John, Harry, Jonathan, Mookie, Sammy, Bertie, Bill, Beth, Adam, Emily, Mom Seymour, and Dad Seymour.

But I am most of all indebted to my husband, Dan Seymour, for love, support, friendship, ideas, insights and, last but not least, logical notation. Without Dan's total commitment to my completing my degree, I most certainly would not have done it.

There remain but two people to mention in my giant list of acknowledgements, and these are my children, Tziporah and Ari. They have been patient and loving for as many years as I have been a graduate student. It is to them that I dedicate this work.

To Tziporah and Ari

Contents

Abstract

Acknowledgements

Chapter 1

Introduction

1.0.0	Background of Theoretical Assumptions	1
1.0.0.1	Saturation and Predication	1
1.0.0.2	The Relation Between Syntax and Semantics	3
1.1.0	Background of Formal Assumptions	4
1.1.0.1	Distinguishing Predicates from Arguments	5
1.1.0.2	X-Bar Theory	9
1.1.0.3	The DP Hypothesis	10
1.2.0	What It Means for a Noun Phrase to Be a Predicate	12
1.2.1	Determiners and Adjectival Character	14
1.2.2	Predicate NPs and Semantics--McCawley (1981) and Partee (1987)	16
1.3.0	Types of Adjectives	20
1.4.0	Organization of the Thesis	22
	Notes to Chapter 1	24

Chapter 2

Adjectives and Saturation

2.0.0	Introduction	25
2.0.1	A Structural Distinction	26
2.0.2	Toward an Analysis of the Structural Distinction	29
2.0.3	Thematic Discharge in Adjectival Structures	36
2.0.4	Predicate Nominals	45
2.1.0	How Close is the Semantic Fit?	51
2.1.1	Bolinger (1967)	52
2.1.2	Siegel (1976)	54

2.2.0	Iterated Adjectives	58
2.2.1	Adjectival Modification of Adjectives	59
2.2.2	Conjunctive Readings of Adjectives	61
2.2.3	Adjectival Modification of NPs	62
2.2.4	Modification of A ⁰ Complements	66
2.2.5	Iterated Adjectives as Predicates	69
2.3.0	Ordering Restrictions on Transitive and Intransitive Adjectival Combinations	70
2.3.1	A Case of Adverbial Modification	72
2.4.0	A Structural Account of Restrictive and Non-Restrictive Adjectives	78
2.4.1	The Interpretations of R/NR Adjectives	84
2.5.0	Chapter Summary	90
	Notes to Chapter 2	91

Chapter 3

Noun Phrases and Saturation

3.0.0	Introduction	96
3.0.1	Problems with the Assumptions: Ludlow (1986; 1991)	98
3.0.2	Problems with the Assumptions: Neale (1990)	104
3.0.3	Strong and Weak Quantifiers	106
3.0.4	The Distribution of Predicative Noun Phrases	109
3.1.0	Determiners as Adjectives	111
3.2.0	The Structure of Predicate Nominals	112
3.2.1	Justifying the Proposed Structure	118
3.2.2	DPs as Arguments, NPs as Predicates	124
3.2.2.1	NPs or DPs as Predicates? Stowell (1989; 1991)	127
3.2.2.2	Stowell's Syntax and Semantics	129
3.2.3	NPs or DPs as Predicates? Longobardi (1991)	135
3.2.4	Similarities Between D ⁰ and A ⁰	137
3.2.4.1	A Dual Role for determiner	140
3.2.5	Cardinal Determiners	143
3.3.0	Chapter Summary	148
	Notes to Chapter 3	149

Chapter 4

Genitives and Saturation

4.0.0	Introduction	151
4.0.1	Genitives as Adjectives	152
4.1.0	The Semantics of "Adjectival" Genitives	159
4.2.0	A Previous Proposal for Theta-Marking by the Genitive--Abney (1986; 1987)	163
4.3.0	The Structure of Predicative Genitive Constructions	167
4.3.1	Lasnik and Saito's (1992) Proposal	170
4.3.2	Genitives and Adjectives	172
4.4.0	Evidence from Swedish: Some Unsurprising Facts and Some Surprising Facts	174
4.4.1	A Similar, yet Different Approach	177
4.4.2	Movement Yields an Argument	182
4.4.3	Conclusions from the English and Swedish Data	183
4.5.0	Chapter Summary	184
	Notes to Chapter 4	185

Chapter 5

Superlative NPs and Saturation

5.0.0	Introduction	189
5.0.1	Superlatives	190
5.1.0	The Structure of Argument Superlatives	195
5.2.0	The Structure of Superlative Predicate NPs	202
5.2.1	Superlative Predicate NPs	203
5.2.2	Deg ⁰ and D ⁰	205
5.2.3	<i>The</i> Predicate NPs	209
5.2.4	The Structure of Superlative Predicate NPs	211
5.3.0	" <i>The</i> -comparatives"	214
5.3.1	Predicative Partitives--A Contradiction in Terms?	215
5.4.0	Conclusions and Further Questions	219
	Notes to Chapter 5	223

Bibliography	225
---------------------	-----

Chapter 1

Introduction

1.0.0 Background of theoretical assumptions

1.0.0.1 Saturation and predication

As this thesis takes as its primary focus the notion of **saturation**, originally proposed by Gottlob Frege in "Function and Concept" (1891), I shall first briefly summarize Frege's discussion of the idea. In this seminal work, Frege proposed a way of thinking about how to derive the truth conditions of sentences. Frege's term "saturation" is a metaphor for the idea that arguments are "complete" entities, or saturated whereas functions are "incomplete" entities, or unsaturated. The need for the concept of saturation, according to Frege, arises when we consider that in order to obtain the semantic value of any sentence, it must be determined how the parts of this sentence fit together to yield a semantic value. For Frege the parts are

arguments, or complete entities, and predicates, which can be thought of as (one-place) functions.

Now in order to link these two elements of the sentence in a way that a semantic value--a truth value--can be obtained for the sentence as a whole, saturation is required. The argument is a saturated element, but the predicate, like a mathematical function, is not. According to Frege, "only when this (open) place (in a predicate) is filled up with a proper name, or with an expression that replaces a proper name, does a complete sense appear" (Frege, 1891, in Geach and Black, p.31; parentheticals mine).

The importance of saturation to compositional theories of meaning is illustrated by the following: How does the meaning of a sentence, or indeed of a complex singular term, depend on the meaning of its parts?

To take a standard example, the complex expression *the father of* ____ is incomplete; and in order for it to be completed, some linguistic entity must fill in the blank. Following Frege, we can think of *the father of* ____ as a function. When a proper name is filled in the blank, what results is a completed expression that has a value. Frege's notion of saturation, then, is useful in that it allows one to talk about how the components of expressions are combined to return a value, for in the case of 'the father of (x)' in which 'Sandra' is substituted for x, on Frege's reasoning, what is returned as a value is the object that is the referent of the expression *the father of Sandra*.

Frege's notion of saturation has been extended into modern expositions of predication, in that at the heart of most current predication theories remains the goal of explaining the relationship between open and closed positions in sentences and in other complex linguistic expressions. The theory of predication on which I will rely in this thesis is that introduced by Higginbotham (1985), whose particular theory employs theta-marking to represent the relationship between open constituents, or predicates, and closed constituents, or arguments. The predicate structures that will be examined most closely in this thesis are those whose main constituents are commonly thought of as carrying a +N feature (see, for example, Chomsky (1970; 1981)). These are, of course, nouns and adjectives.

1.0.0.2 The relation between syntax and semantics

Although there are many different ways of characterizing the relationship between syntax and semantics, I shall follow Higginbotham (1985) in claiming that a complete phrase structure **p** is (a) "unique and that lexical information, together with other grammatical principles, suffices strictly to determine it"; and that (b) "it must be demonstrable that the interpretation of the structure **p** is fixed, insofar as determined by the rules of grammar." (p. 9, as reprinted in LePore, 1987).

Values (or semantic values), for Higginbotham, are relative to grammars, which implies that the very same phrase marker **p** might mean one thing in one grammar, and quite another thing in another grammar. But relative to a grammar **g**, a phrase structure **p** will allow for a specific interpretation of the combination

of words found in it (perhaps at the level LF), which interpretation may vary should the same combination of words be found in a different phrase structure (at LF), say p' . In this thesis, the basic idea that interpretive form, as weakly stated, **converges** with syntactic form is elaborated by the theory that distinct thematic mechanisms are tied to distinct phrase structures. Thus even on a syntactic notion of saturation like that given by Higginbotham, the method of saturation in a structure is contingent on the form of the structure itself.

One important point that Higginbotham makes is that in his theory of semantics, contrary to the Montague thesis that each syntactic category corresponds to only one semantic category, certain syntactic categories crisscross certain semantic categories. This issue, along with the phrase structure notions discussed just above, becomes relevant in Chapters 3-5. There I show that the argument in Ludlow (1986) that the idea of a "predicate nominal" involves the confluence of a syntactic category with an unmatched semantic category has the following response: in distinguishing the syntax of predicate nominals from that of argument nominals, two distinct types of syntactic phrase marker for argument and predicate nominals emerge. Hence, that the semantics of the two kinds of nominal are different arises from their difference in syntactic form, making unnecessary in this particular case the "crisscrossing" of syntactic and semantic categories.

1.1.0 Background of formal assumptions

1.1.0.1 Distinguishing predicates from arguments

Although noun phrases occur in different sorts of positions in the sentence, they most generally are taken to occupy argument positions. What exactly an argument is can be defined in several ways, but on any definition, there is at least some contribution from semantics to the status of a constituent as an argument. The most common way, in current linguistics, to think of a noun phrase as an argument is in virtue of its bearing a **thematic (theta) role**, due to its having been theta-marked by a predicate. Verbs subcategorize for various (nominal) positions in a sentence, and the noun phrases occupying those positions are said to bear theta roles representing the lexical semantic properties selected by the verbs heading their clauses. In other words, in the notation of Higginbotham (1987), the verb *see* might have the lexical entry in (1), in which $\langle 1, 2 \rangle$ respectively represent that the **thematic grid** (Stowell, 1981) of *see* has two positions in addition to a 'hidden' eventive argument position *E*:

- (1) *see*, +V -N, $\langle 1, 2, E \rangle$

$\langle 1, 2 \rangle$ are considered to represent the various theta roles that the noun phrases appearing in the verb's subcategorized argument positions within a sentence will bear. The notion of predication expressed by the theta-marking of its arguments by a verb is called **saturation** by Higginbotham, in conscious imitation of the terminology of Frege (1891).

As Higginbotham (1985) expresses his theory of predication, there are several critical elements. For one thing, the theory rests on the notion of the Theta Criterion, which can be stated as the following:

- (2) a. Every argument is assigned one and only one thematic role.
- b. Every thematic role is assigned to one and only one argument.

In Higginbotham (1987) this idea is stated more generally as in (3):

- (3) a. All arguments are saturated.
- b. All predicates are unsaturated.

The Theta Criterion makes clear the relation between predicates, the assigners of thematic roles, and arguments, the bearers of thematic roles. The **adicity** of a predicate, or the number of open places it contains, must meet up appropriately with its arguments, so that all thematic roles are discharged, in one fashion or another, for complete saturation.

A verb's theta grid may look as does the one in (1), but the theta grid of a noun looks more like the one in (4):

- (4) *dog*, -V +N, <1>

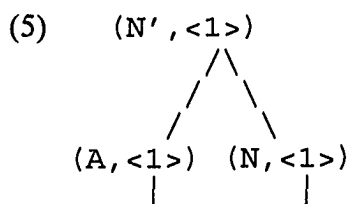
Higginbotham argues that nouns, as simple predicates, have an open position to be discharged. As will be discussed in later sections of the thesis, most often this open position is discharged by **theta-binding** by a determiner.

Further means of discharging thematic roles can be seen operating between adjectives and nouns. As Higginbotham says, "Adjectives grade things along

dimensions that are partly contextually filled in, but also partly controlled by the syntactic environment." (Higginbotham, 1985, as reprinted in Lepore, 1987, p. 18)

What this statement indicates is that the syntactic combination of an adjective with a noun to form a complex structure (according to Higginbotham) forms a semantic link between the adjective and the noun. This semantic link is broken when the adjective is separated from the noun.

The way that the syntactic-semantic link can be represented is in virtue of the thematic relationship between the adjective and the noun, which is constrained by the syntactic configuration in which they are found. One type of semantic link between the adjective and the noun that is contingent on their syntax is the link of a **conjunctive** interpretation of the two predicates, in that if *that is a big butterfly* is true, then 'that is a butterfly, and it is big'. This relationship of conjunction can be expressed in a thematic framework by what Higginbotham calls **theta-identification**, or an identification of one open position in an adjective with the open position in the noun that it is in syntactic construction with. This can be represented as in (5), where an open position in the adjectival predicate is theta-identified with an open position in the nominal predicate:



Notice that this means of identification still leaves one open position at the level of N' to be discharged further up the structure. In Chapter 2 I provide a more

in-depth discussion of the modes of thematic discharge between adjectives and nouns, but for the purposes of this section, I will briefly introduce the final thematic mechanism defined by Higginbotham as occurring between adjectives and nouns, and this mechanism is called **autonomous theta-marking**.

In a statement like *that is a big butterfly*, we have already noted that a conjunctive interpretation of the two predicates *big* and *butterfly* can be represented by theta-identification. But there is, according to Higginbotham, another semantic relationship that exists between the two predicates that is worthy of being represented thematically, and that is the relationship expressed by 'that is big for a butterfly'. Butterflies are not generally considered big creatures, and so if the statement *that is a big butterfly* is true, it must be true in the sense that 'that is big for a butterfly'. The relationship between *big* and *butterfly* needs to be expressed so that it acknowledges this as the meaning of the statement. Higginbotham suggests that thematically, this relationship can be expressed by autonomous theta-marking, which takes the phrase marker projected by the noun to become the value of the **attribute** position in the adjective. The attribute position is the position in the adjective representing that the adjective grades with respect to some attribute, in the case of the butterfly example, with respect to the attribute of being a butterfly. Hence the attribute is an argument of the adjective, and is theta-marked by autonomous theta-marking of the syntactic projection of the noun.

For the purposes of the present discussion, what is important about the thematic approach of Higginbotham (1985; 1987; 1989a) as an implementation of

the concept of saturation is that it shows that the argument-predicate relation is not a product of syntax alone, but that at least some semantic criterion is involved, even if it most crucially operates at the level of lexical semantics.

The general claim I argue for in this thesis, however, is that the semantic criteria for being a predicate noun phrase may be thought of as quite directly reflecting the syntactic structure of predicate noun phrases, since the structure of a predicate noun phrase must be such that it leaves an open position to theta-mark the subject of the sentence.

1.1.0.2 X-Bar theory

Throughout the thesis I will be using the basic X-Bar theory as conceived in Chomsky (1986a) for the structures proposed. A summary of the most important components of this theory follows, assuming binary branching structures, the head-complement relation within such structures, and a notion of adjunction to XP.

Although current theories of X-Bar syntax mostly assume a split Infl hypothesis as in Pollock (1989), for example, I will be using the abbreviated convention of one IP since the claims I will be making do not depend on separating Tense from Agreement, etc.

Let us assume, along with Chomsky, that there is a distinction between lexical and functional categories, the lexical categories including (among others) N, V, and A, and functional categories including (among others) C, D, and I. Categories of one or more Bar levels are projections of the X^0 categories,

represented in (6) (where X^* stands for zero or more occurrences of some maximal projection and $X = X^0$):

- (6) a. $X' = X X''^*$
 b. $X'' = X''^* X'$

X'' in (6)(a) is the complement of X , and X'' in (6)(b) is the specifier of X (or X' , or X''). The usual notational conventions of AP, PP, NP, IP, etc. as being instances of X'' are employed throughout. Only binary branching structures occur throughout. Adjunction, both base generated and as occurs during a derivation, may lead to iteration of X'' levels, although all thematic operations are assumed to occur at D-structure. Finally, again as per Chomsky (1986a), choice of the X' level's occurrence is forced when there is a specifier, and otherwise is optional.

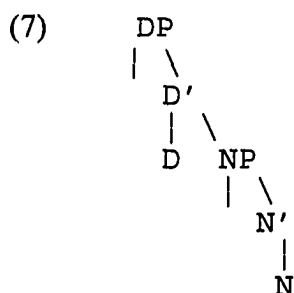
1.1.0.3 The DP Hypothesis

Recent expositions of noun phrases have looked at them in a different way than via the traditional NP structure headed by N. Much of this newer treatment is due to the work in Szabolcsi (1987) and Abney (1987), although others had thought of the ideas leading to the DP hypothesis earlier; some of the relevant references are listed in chapter 2 of Abney (1987). The basic idea behind the DP hypothesis is that a noun phrase not headed by N but rather by a functional element (like D) captures more readily similarities between sentence structure and noun phrase structure than a noun phrase that is headed by a lexical element (like N). Abney makes the qualification that whether a functional element heads the noun

phrase is separate from the issue of whether D is that functional element. But for the purposes of most of the current literature, it has been assumed that the functional head of the noun phrase is D, at least when that noun phrase is an argument.

Abney explains that sentences and noun phrases are similar with respect to agreement, and processes like control and binding. Both noun phrases and sentences can be arguments, another feature that distinguishes them from other sorts of projections. Finally, (and although this may not exhaust the list of similarities between noun phrases and sentences,) Case marking of subjects of sentences and noun phrases can be shown to be parallel in many languages, even if English does not seem to fall into the paradigm as regards this process.

Thus the structure of the noun phrase under the DP hypothesis is the one in (7):



-where NP is complement to the D head of DP.

Now the idea behind **theta-binding** (mentioned earlier in this section) is that it closes off the nominal projection by discharging the empty theta position in N. This binding of the open position in N allows the full noun phrase to be a quantifier. Theta-binding is implemented by the determiner, according to

Higginbotham. If the determiner in fact is the head of the structure, then theta-binding occurs from the D position to the NP position, and the structure is closed at the level of D'. Thus an argument noun phrase (which, for example, is a quantifier) must be a closed noun phrase including the DP level of structure, or at least enough structure to reach the D' level so that the structure is closed.

This leads to the idea that noun phrases that do not have enough structure to reach the D' level are not closed structures, therefore are not quantifiers, and furthermore cannot function as arguments.

1.2.0 What it means for a noun phrase to be a predicate

As there are various semantic means of distinguishing argument from predicate noun phrases, it might be useful at this point to examine, albeit cursorily for the moment, the semantics of predicate noun phrases. We have suggested that quantification, for example, may be instantiated by argument noun phrases. What then are the semantic properties of predicate noun phrases?

Predicate noun phrases can be semantically quite similar to adjectives, even when no adjective is present in the noun phrase. They can be thought of as modifying a subject, rather than being thought of as "referring expressions" or as quantificational expressions. The distribution of predicate NPs is based on the environments selecting for them. The environments notoriously selecting for predicate NPs are Small Clause and copular environments: The semantics of the verbs creating Small Clause environments allows the subject of the Small Clause

to be followed by a predicate; **even** if the constituent following the Small Clause subject is a noun phrase that might function as an argument in another environment. Copular environments have long been treated as environments allowing for a "predicational reading" of their sentences.¹ A Small Clause syntactic treatment of copular sentences, assimilating them syntactically to other sentences containing Small Clauses, was introduced by Stowell (1978) and is adopted throughout this thesis. The occurrence of a noun phrase in the predicate position of a Small Clause, then, has the reflex that it behaves as a predicate.

What we are claiming, therefore, is that an NP that (superficially) looks like a *bona fide* argument cannot be judged as such independently of its environment; and further, we will claim that the determiner introducing such an NP, often taken to be an indicator of argumenthood, only indicates argumenthood some of the time--when it is in a syntactic position to "close a predicate". The notion of a predicate being closed stems from Frege's original idea of saturation, where arguments are closed entities and predicates are open entities like mathematical functions. One factor that determines whether a constituent of a sentence is an argument or a predicate is whether it contains a grammatical category that "closes" it, so that this category has as one of its attributes the ability to close a predicate and thereby convert it into an argument. In light of the preceding (brief) preview of how a thematic role theory of arguments works, one conclusion we can draw is that the bearers of theta roles are "closed entities". A grammatical category commonly accepted as one that closes predicates is the category of determiners, and therefore,

when a noun phrase contains a determiner as its head (in current frameworks, as discussed above) the noun phrase is closed and must function as an argument. The determiner closes the nominal predicate by "theta-binding" any open thematic positions in the noun phrase; but as alluded to earlier in this paragraph, only if it is in a syntactic position to theta-bind any such open positions (when it is D^0 head of DP).

The rest of the time (when the determiner is not a D^0 head of DP) it does not "close the predicate" and appears in the NP as a function of totally different factors, usually akin to the function of modifiers like adjectives. Thus even when noun phrases that are predicational instance determiners, if their determiners are not in the syntactic position inducing theta-binding, as I will claim, the noun phrase remains open (in the sense of Frege). The determiners found in the NPs are hence adjectival both in terms of syntactic position and semantics; in that they project an open thematic position indicating, for example, the number of members in the set that is the extension of the noun, or to whom the members of such set belong.

1.2.1 Determiners and adjectival character

Evidence for the behavior of determiners as adjectives can be found in Higginbotham (1987), where it is claimed that the proper analysis of the distribution of post-copular noun phrases in There-insertion involves an adjectival construal of the determiners occurring in those noun phrases:

- (8) there is no justice

If the positions of *there* and the noun phrase *no justice* are related, and QR applies to the quantified noun phrase *no justice*, an output on the order of the following is the result:

(9) [no justice] [there is *t*]

or,

(10) [no *x*: justice(*x*)] [*x* is]

Given Higginbotham's claim that *there* has nothing existential about it, the only real role it plays in the logical derivation is that of a variable at LF, at which level the post-copular noun phrase and *there* reverse roles.

But even though the roles of the two relevant noun phrases may be explained by this simple LF, the proposal, as Higginbotham says, fails to interact with the Definiteness Effect (DE). Hence another way to analyze the acceptable cases of There-insertion would be to suggest that the noun phrase following the copula in There-insertion itself functions as a sentence, the result of applying a binder, *Q*, to an open sentence represented in this notation as *N'*. The binder, or *Q*, in this case must be unrestricted, or **absolute**, since its usual restriction, *N'*, no longer serves this function. If we take this approach, (8) can be represented as:

(11) [No *x*] justice(*x*)

Here the quantifier *Q* (determiner *no*) displays what Higginbotham calls **adjectival character**.² The only quantifiers that yield the proper LF interpretation, it turns out, are the **weak** quantifiers associated with the positions exhibiting the DE. These are the quantifiers that are **symmetric**, in the sense that *Q A are B* is

always equivalent to *Q B are A*. And this symmetric quality is what lends the quantifier its adjectival character.

I will follow Higginbotham in claiming that not only There-insertion sentences such as that in (8) exemplify adjectival behavior of a category of non-adjectival forms, but that various examples of bare determiners occurring in post-copular position, as well as some determiners in lexical noun phrases, may instance adjectival behavior as well:

- (12) a. John is a fool.
 b. Mary is a good cook.
 c. Will is some lawyer in Nova Scotia.
 d. The geniuses in this class are many.

The discussion in Chapter 3 has as its emphasis the notion of the adjectival character of some determiners. I therefore discuss Higginbotham's characterization at greater length in Chapter 3.

1.2.2 Predicate NPs and semantics--McCawley (1981) and Partee (1987)

Various claims have been made in the philosophy of language and linguistics literature about the status of predicate NPs. Some authors claim it is possible to construe an NP as a predicate (notably, for the purposes of this thesis, Williams, 1983 and Higginbotham, 1987, although there are scores of others), while others claim that NPs cannot be predicates (for example, Ludlow, 1986; 1991). An exposition of how Bertrand Russell's definite descriptions analysis can be

maintained in the face of this debate without completely rejecting either position is given in McCawley (1981, pp. 176-180).³

McCawley's examples are given in (13) and (14):

- (13) a. Michael Moskowitz is the mayor of Heppleworth, Iowa.
 b. Sheila Ostrovsky is the student who wrote the best exam paper.
- (14) a. Michael Moskowitz wants to be the mayor of Heppleworth, Iowa.
 b. Michael Moskowitz wants to meet the mayor of Heppleworth, Iowa.

The examples in (13) are ambiguous, as McCawley points out, between what is traditionally called an **equative** reading and a **predicative** reading. How the two readings are squared with the Russellian definite descriptions account of *the*-phrases relies on two different applications of the formal definite descriptions logical structure to the sentence:

- (15) a. equative:

$(\iota x: \text{mayor}(x, \text{HI})) = (\text{MM}, x)$; where $(\iota x: \text{mayor}(x, \text{HI}))$ is an abbreviation of the quantifiers and connectives into which *the mayor of Heppleworth, Iowa* is analyzed.

The expanded version of the interpretation's representation is the following:

$$(\exists x) \wedge (\text{mayor}(x, \text{HI}), (\forall y) \supset (\sim =yx, \sim \text{mayor}(y, \text{HI})), =(\text{MM}, x))$$

This represents 'there is an x such that x is mayor of Heppleworth, Iowa and for all y , if y is not identical to x and it is not the case that y is mayor of Heppleworth, Iowa, then Michael Moskowitz is identical to x '.

- b. predicative:

$$\wedge (\text{mayor}(\text{MM}, \text{HI}), (\forall y) \supset (\sim =(y, \text{MM}), \sim \text{mayor}(y, \text{HI})))$$

This says the following: 'Michael Moskowitz is mayor of Heppleworth, Iowa and for all y , if it is not the case that y is identical to Michael Moskowitz, then it is not the case that y is mayor of Heppleworth, Iowa'.

What (15)(a) says is that the mayor of Heppleworth, Iowa is x , and Michael Moskowitz is identical to x . (15)(b) is not equative, however, and according to McCawley, is the predicative interpretation for the sentence since *the mayor of Heppleworth, Iowa* in that representation is missing the crucial bits allowing it to function as a standard definite description (an argument).

In a nutshell, the existential quantifier usually present in a definite description's logical form is absent in (15)(b), and the variable it binds is missing as well. According to McCawley, on his modification of the Russellian analysis, it is the existential quantifier that is responsible for the scope of the definite description, and not the *the* itself. Hence the scope ambiguity encountered in (15)(a) is not present in (15)(b); and thus the two types of interpretation are distinguished.

The relevance of the examples in (14) to McCawley's account is that although (14)(b) is but two ways ambiguous, between a *de dicto* and a *de re* interpretation, (14)(a) is three ways ambiguous, between: (a) a *de dicto* interpretation in which Moskowitz wants to hold the office of the mayor of Heppleworth; and two other, less salient (identity) readings--(b) a *de re* interpretation involving a desired change of identity for Moskowitz--he wants to be the person who actually is the mayor of Heppleworth; and (c) another *de dicto*

interpretation, involving Moskowitz's wish to be the person who is the mayor of Heppleworth, whoever that is. The three way ambiguity here must be cashed out as three different logical forms, on McCawley's account:

- (16) a. $(\iota x: \text{mayor}(x, \text{HI})) \text{ want}(\text{MM}, =(\text{MM}, x))$ (interpretation (b))
 b. $\text{want}(\text{MM}, (\iota x: \text{mayor}(x, \text{HI})) = (\text{MM}, x))$ (interpretation (c))
 c. $\text{want}(\text{MM}, \wedge(\text{mayor}(\text{MM}, \text{HI}), (\forall y) \supset (\sim = (y, \text{MM}), \sim \text{mayor}(y, \text{HI}))))$ (interpretation (a))

The three representations include the two identity types of reading for the sentence, and the one predicative reading. Hence the discussion provided by McCawley suggests that one need not entirely forfeit a Russellian account in order to accommodate the predicative readings of definite descriptions, although a modification is necessary of some of the crucial steps in order to provide the relevant logical form.

Partee (1987) provides an attempt at resolving the conflict between a Montague-style generalized quantifiers treatment of all NPs, and the treatment of NPs as either referring, predicative or quantificational. The approach Partee assumes employs certain type-shifting operations such that an expression like *the king* can have any one of three uses (referring, predicative, or quantificational) as a function of the various type-shifting operations applied across its (Montagovian) potential denotation types (viz. application of principles of type-shifting will allow the conversion of an NP from one Montagovian type to another).

Partee points out that both definite and indefinite NPs may be used predicationally. The question is why a number of NPs don't occur naturally after *be* or in other predicative positions. According to Partee, the explanation has to do with what the *BE* function does and does not do:

(*BE*) also ignores a lot of structure by looking only at the singletons in any generalized quantifier. *Most men*, for instance, will never contain any singletons, so *be most men* will always be empty; similarly for distributive readings of plurals like *two men*, *several men*, etc. (Group readings of such plurals yield good predicative readings, which is predicted if groups or plural individuals are treated as entities, as in Link (1983).)

(Partee, 1987, p. 127)

Partee's exposition of the issue of predicate nominals from an essentially Montague perspective is formal and thorough; but most relevant to us is her illustration of the idea that one need not sacrifice a generalized quantifiers approach to NPs in order to acknowledge that there are predicational NPs. In Chapter 3 I address the concerns in this area raised in Ludlow (1986), which to some degree are influenced by a Montague-style perspective on syntactic categories.

1.3.0 Types of adjectives

Given that the theory for distinguishing argument and predicate NPs that I will propose will rely on a theory of adjectival syntax and semantics, it seems appropriate to briefly introduce the reasons for distinguishing types of adjectives in this section.

Some of the motivations for claiming that not all adjectives behave similarly in a sentence are rather eloquently described by Platts (1979). Following is a quote

from Platts which I have not paraphrased, since I think he puts the problem most clearly and succinctly. In order to see Platts' point, one need only know that adjectives are commonly characterized as either **attributive** or **predicative**:

Suppose we treat the attributive 'large' in

(17) Theo is a large flea

as a one-place predicate. Then the logical representation of (17) will be

(17) a. $Fa \ \& \ Ga$

where 'F' is the predicate '*is large*' and 'a' is '*Theo*'. From (17)(a) it follows that

(18) a. Fa

which is

(18) Theo is large.

But (18) is false: large fleas are not large. Yet Theo might be attributively a large flea, so (17)(a) cannot be the correct representation of (17).

As remarked (earlier in the text), this argument is often embodied in a test. A sentence of the form

(19) This is a (adjective) (noun)

is a predicative as opposed to attributive construction if and only if it implies

(20) This is (adjective).

(Platts, 1979, pp. 162-163)

This brief exposition by Platts (reminiscent of the one in Higginbotham, 1985) shows one of the problems with analyzing all adjectives as semantically alike, in that not all adjectives are syntactically alike either. Some adjectives can be "bare predicates", such as *red* in *that ball is red*, while others must be prenominal, such as *mere* in *that is a mere fact*. The illustration given by Platts using the adjective *large* provides an example of an adjective that is commonly taken to fit into yet a third category, the category of adjectives that may both be prenominal and be "bare predicates", and yet alter their interpretation depending on

the position of occurrence. My exposition of adjectives like *large* will differ from many common ones, but Platts' discussion serves well in making the point that the syntax and semantics for adjectives cannot be totally uniform across the entire class of adjectives.

In Chapter 2 we will explore in greater depth what the semantic distinctions between the broad classes of adjectives amount to. The distinction we will rely upon most in Chapter 2 is the predicative-attributive distinction among adjectives, also called sometimes the **intersective-relative** distinction since Siegel (1976).

The argument will be (based on Bernstein (1992; 1993) and Degraff and Mandelbaum (1993)) that the semantic distinction apparent here results from a structural distinction between adjectives that are transitive heads of AP and intransitive adjectives that are adjoined to NP. This analysis will form the basis for the arguments occurring throughout the thesis.

1.4.0 Organization of the thesis

Following this introduction, in Chapter 2 I examine the distribution and structure of adjectival constructions. The analysis places emphasis on the way in which predication is contingent on structure for these constructions. The structural distinction between **transitive** and **intransitive** adjectives (terminology mine) introduced in Bernstein (1992; 1993) and forming the basis of the analysis in Degraff and Mandelbaum (1993) acts as the springboard for the structural and thematic analyses in the entire dissertation.

Chapter 3 extends the structural and predication analysis developed in Chapter 2 to predicate nominals, arguing that the same head-adjointing distinction assumed in Chapter 2 is relevant to the distribution of determiners in argument and predicate noun phrases. In Chapter 4 I argue that the semantics of predicate noun phrases introduced by genitive forms is contingent on their structure being distinguished from that of argument noun phrases introduced by genitive forms. The theme throughout Chapters 3-5 is that the semantics of predicate nominals as unsaturated derives from their predicative syntax, where that syntax is permitted exclusively in environments selecting for predicates.

The discussion of adjectives in Chapter 2 and of predicate noun phrases in Chapter 3 leads naturally into the discussion of superlative noun phrases in Chapter 5. I show that the proposals made about the structures of adjectival constructions in Chapter 2, if carried over to superlatives, help to distinguish the interpretations of adjectivally ambiguous superlative constructions. Moreover, the proposals made about the syntax of predicate nominals in Chapter 3, as extended to the constructions in Chapter 5, allow us to distinguish a predicative interpretation of superlatives from an argument reading of them. Chapter 5 also includes the summary and conclusions section of the thesis.

Notes to Chapter 1

1. The list of references for this idea is far too long to enumerate--in Chapter 3 I provide a short and by no means complete list of sources for it.
2. The term **adjectival character** seems to have been chosen by Higginbotham since to him the character of the determiner in such positions seems modificational, and not quantificational. The symmetricalness of such determiners that is so heavily relied upon by Higginbotham's approach is stated in the following way: for a symmetric Q the truth value of $Q A \text{ are } B$ depends only on how many things are both A and B .
3. Note that Russell's position is to be distinguished from the position of Frege; for although Frege thought that definite descriptions could refer to concrete objects, Russell, in contrast, **defined** them as quantificational.

Chapter 2

Adjectives and Saturation

2.0.0 Introduction

The distribution of adjective-noun combinations in English may seem easy to describe; ie., adjectives are almost invariably prenominal, as opposed to, say, in Romance, in which adjectives can occupy both pre and postnominal positions. Yet, as I will argue, adjectives can actually occupy several distinct structural positions in English, corresponding to the positions they occupy in Romance. I will show that these positions are clearly distinguished from each other based on facts regarding the distribution of adjectives. Moreover, I will demonstrate that distinct adjectival structures give rise to particular interpretations due to distinct means of saturation.

The ideas in this chapter are in part based on the work of Bernstein (1992; 1993), and on ideas presented in Degraff and Mandelbaum (1993), in which

adjectival configurations were analyzed within the theory of predication argued for in Higginbotham (1985; 1987; 1989a). The argument in this chapter takes as its focus the idea that adjectives project exclusively to structures that are suitable for predication. Hence one central theme will be that adjective order is constrained by the syntactic requirements of a predication structure.

In this chapter and in the ones that follow, I will be assuming X-Bar theoretic notions as presented in Chomsky (1986a), as well as the "DP hypothesis" as proposed in Abney (1987) for argument nominals. It will become clear as this thesis proceeds that the DP structure is in fact inappropriate for predicate nominals, as will be shown in Chapters 3-5. The system of predication proposed in this chapter for adjectival structures will serve as a model for nominal predication in general, and its structural scheme will form the framework for the remaining chapters of the thesis.

2.0.1 A structural distinction

Bernstein (1992) argues that in order to represent the distribution of adjectives an adjective may project either (i) to an AP, A^0 requiring a complement, as what I shall call a **transitive adjective**, or (ii) to an AP which is adjoined to XP (I shall call these **intransitive adjectives**). Bernstein provides evidence that an adjective may project to an AP that selects a complement, or that an adjective may adjoin to XP, in virtue of examples like (1) and (2):

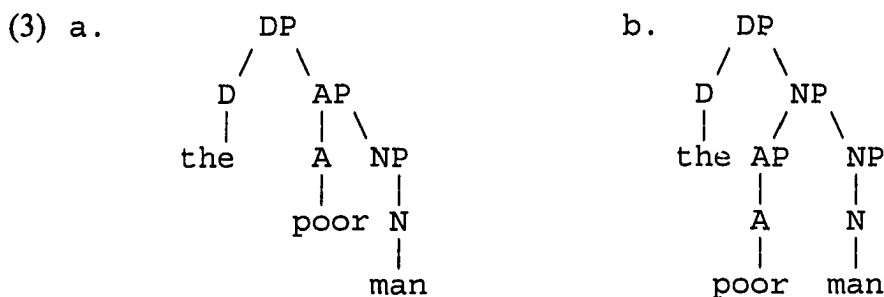
- (1) the poor man

- (2) an old friend

Note that both these examples are ambiguous between two interpretations:

- (1) a. 'the pitiable man'
 b. 'the impoverished man'
- (2) a. 'a friend for a long time'
 b. 'an aged friend'

Bernstein (1992) analyzes this ambiguity as a structural ambiguity, positing two structures that determine the possible interpretations. The adjectives when understood as in (1)(a) and (2)(a) are analyzed as transitive, projecting to AP, whereas when they are understood as in (1)(b) and (2)(b) they are analyzed as intransitive and adjoined to NP. These two structures (represented in (3)) are comparable to the structures posited by Bernstein for pre and postnominal occurrences of adjectives in Romance, in which similar alternations in the interpretations of adjectives are demonstrated.



Notice that only the interpretations of the adjectives as intransitive are available in predicative contexts such as (4):

- (4) my friend is old
 'my friend is aged'

* 'my friend has been a friend for a long time'

This follows from the fact that adjectives that must be transitive require an XP complement, as will be discussed at greater length in section 2.0.2. A nominal complement to the adjective does not occur in the case of (bare) adjectival predicates; and thus adjectives that are obligatorily transitive are not permitted as (bare) adjectival predicates.

There is a class of adjectives analyzed in Bernstein (1992) as admitting only of the possibility of the transitive adjective structure. These adjectives can be thought of as being obligatorily transitive in a similar way to the way certain verbs are thought of as obligatorily transitive. Such verbs as *devour* in *John devoured the meal* are obligatorily transitive; the case of **John devoured* is unacceptable.

Adjectives that are invariably transitive (e.g. *mere*, *other*, *utter*), may never occur as predicates:

(5) * the man is mere

(6) * that girl is other

In addition, these transitive adjectives usually cannot be modified:

(7) * a very utter fool

(8) * the very other book

It follows from the above analysis that examples like the ones in (9) are degraded, since they contain an intervening A^0 between the A^0 *mere* and its complement NP (Bernstein, 1992):

(9) a. * the mere utter fact

b. * the mere other idea

If we adopt the structural distinctions among adjectival occurrences posited by Bernstein, various predictions about the distribution of adjectives follow. In section 2.1 I discuss the semantics of transitive adjectives in order to demonstrate that this class of adjectives can be distinguished from the class of intransitive adjectives not simply by virtue of the transitive adjectives' non-occurrence as (bare) predicates, but based on particular semantic properties that these adjectives share.

2.0.2 Toward an analysis of the structural distinction

In Degraff and Mandelbaum (1993) a thematic analysis of adjectival structure was given based on the notions of thematic discharge posited in Higginbotham (1985, 1987, 1989a). We further incorporated the Small Clause analysis of copular constructions (Stowell, 1978, 1983, 1985; Burzio, 1986; Couquaux, 1982) into the discussion in order to account for some of Higginbotham's cases, and explained how the structural treatment of adjectives provided by Bernstein, outlined above in section 2.0.1, is compatible with the analysis given by Higginbotham.

In the next two sections I shall briefly discuss and summarize the major claims and analysis in Degraff and Mandelbaum, with the goal of setting a framework for the analysis of adjectives in the sections that follow. As a point of terminology, when the term *modify* or its variants are used with respect to a structure in which the adjective is transitive, the intended meaning is syntactic

modification, in that I claim that the head-complement relation syntactically requires modification of the noun by the adjective. On the other hand, when the term *modify* or its variants are used with respect to a structure in which the adjective adjoins to XP, its intended meaning is semantic modification; in that the interpretation of the predicate containing the adjective-noun combination involves semantic restriction of the class of objects in the noun's extension.¹ Recall that the introduction to this chapter stated that an analysis of the structures of adjectival constructions is constrained by the requirements of predication. Hence the structures applied to the examples below must be shown to be compatible with a theory of predication. For many of the claims that will be made regarding the structures of adjectival constructions, it is not critical which particular theory of predication is chosen to support them. For ease of exposition I will assume one predication theory throughout. This is the theory of predication developed in Higginbotham (1985, 1987, 1989a).

Higginbotham's theory demonstrates how the thematic positions carried by predicates are discharged, given the assumption that all arguments are saturated and all predicates are unsaturated. As described in Chapter 1, four modes of thematic discharge are defined by Higginbotham.

These are:

- (i) theta-marking, in which a predicate (for example V) theta-marks one of its arguments (the NP under V'),

(ii) theta-identification, as occurs for example in simple adjectival modification between an adjective and the noun it modifies; one open position in the adjective merges with an open position in the noun into a single open position (which must then be filled),

(iii) autonymous theta-marking, in which the value assigned to an open position in the theta-marker is the very phrase marker of its sister constituent, and

(iv) theta-binding, in which a quantifier closes an open position in its restricting predicate.

One point to note is that, according to Higginbotham, theta-identification can occur between a determiner and a noun when the determiner assumes the function of an adjective. This is important, since it will become clear in the following sections and in Chapter 3 that although some determiners can assume an adjectival function, they can only assume the function of intransitive adjectives.

How do these modes of discharge apply to the cases of interest to us? To begin with, as observed by Higginbotham, bare nominals can be predicates. That is, they have an open position to be discharged, as, according to Higginbotham, can be seen from examples like the following from French:

(10) a. Jean est avocat

'John is a lawyer'

b. Hugo est musicien

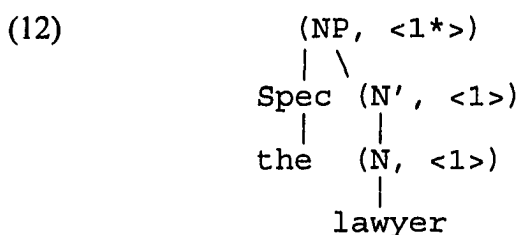
'Hugo is a musician'

In sentences like those in (10) the nouns *avocat* and *musicien* serve as the predicates of the sentences in which they appear. No determiner occurs between the copula and these nominals, suggesting that the predicate consists entirely and exclusively of the nominal.² If all predicates are unsaturated, the nouns in question must contain an open position to be discharged. Hypothetically, then, according to Higginbotham, **all** nouns contain an open position to be discharged, and the position might be discharged either directly, by **theta-binding**, or somewhat more indirectly, via **theta-identification**.

Higginbotham claims that the open position in a noun can be **theta-bound** by a determiner in the specifier position of the noun phrase, provided that the entire noun phrase is not itself behaving as a predicate:³

(11) a. The lawyer is at the door.

b. An actor showed up late to the audition.



Here the determiner in SpecNP theta-binds the open position in [_N lawyer], since the open position (represented by the notation <1>) percolates up to N', sister to Spec. All the modes of thematic discharge introduced by Higginbotham are constrained to operate under government. Hence, as the determiner is in sister configuration with N', it can theta-bind the open position in N' and thereby discharge the open position at the level of NP, represented notationally by the (*)

flanking the <1>. Crucially, within the DP framework (Abney, 1987) assumed in this dissertation, theta-binding must occur by theta-binding of the open position in N by the determiner in D^0 . Hence, our modification to the account in Higginbotham (in which the determiner is in SpecNP) is that the open position in N percolates up to NP, and is theta-bound **under sisterhood to the head D^0 to which it is complement.**⁴

For the cases in English paralleling the French examples in (10), the process of thematic discharge is a little different. These cases are going to look more like the adjectival cases that will make up the greater part of this discussion. For cases like those in (13), **theta-identification** is employed.

- (13) a. John is a lawyer.
b. Hugo is a musician.

Higginbotham (1987) suggests that the determiner in examples like (13)(a) and (b) is interpreted very much like an adjective, so that for such cases *a* means 'one', a predicate true of things that are not pluralities.⁵ Hence on Higginbotham's account, the sort of modification found in cases like those in (13) counts as the identification of an open position in the determiner with an open position in the noun. This is exactly parallel to the sort of theta-identification described by Higginbotham for adjectives, to which I turn next.

For simple cases of adjectival modification, theta-identification between an open position in the adjective and one in the noun it modifies will occur. There

is an open position in the adjective, since it is a predicate, (like *big* in sentences like (14)), and there is an open position in the noun:

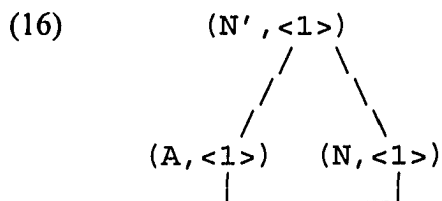
(14) That butterfly is big.

(15) That is a big butterfly.

(from Higginbotham, 1985)

These two open positions can be identified by virtue of their merging into one to become a predicate potentially theta-bound by the determiner governing the NP (*a big butterfly* in (15)). I shall argue below that actually, in cases like (15), there is further theta-identification between the open position in the determiner and the theta-identified position of the adjective and noun, giving rise to one open position for theta-marking of the subject of the sentence. But prior to considering such predication, let us examine how theta-identification is represented, and some simpler cases of adjectival predication.

In (16) the representation given by Higginbotham for theta-identification is shown:



In this representation the connecting line shows identification. Hence one open position remains after the merging of the two open positions of the adjective and the noun. Theta-identification, according to Higginbotham, syntactically represents the fact that the semantics of expressions like *white house* can be given

by **conjunction**, so that it is comparable to semantically representing an expression $Fx \ \& \ Gy$ in a manner such that Fx and Gy are conjoined and x and y are identified.

In addition to theta-identification, however, adjectives may sometimes autonomously theta-mark a noun they govern. According to Higginbotham, in, say, *big butterfly or healthy animal* the expression can be evaluated as 'big/healthy for a butterfly/animal', or more generally, 'big/healthy for an A (some attribute)' where in this case, the A is the attribute of being a butterfly or an animal. Autonomous theta-marking once again requires government of the noun by the adjective, and here an additional open position in the adjective gets discharged by assuming the phrase marker projected from the noun as its value. Higginbotham explains this aspect of autonomous theta-marking in the following way: "In the usual case of theta-marking, the reference of the theta-marked expression becomes the value of an open position in the theta-marker; but in the case of modification, I suggest, what is theta-marked, the phrase marker with root N , is itself the value (of the open position in the adjective/modifier)" (Higginbotham, 1985 as reprinted in Lepore, 1987, p. 19). This is because the modification of the noun by the adjective is a function of (the syntax of) the adjective's prenominal position. Hence the link between the adjective and noun which autonomous theta-marking yields is based on the very syntax of the construction, and so the phrase marker to which the noun projects is the value of the adjective's autonomous theta-marking position.

In Degraff and Mandelbaum we assume (as suggested but not explicitly stated by Higginbotham) that the adjective and noun must **be sister to each other**

for autonomous theta-marking to occur. Hence the adjective assumes the phrasal projection of its complement as the value of the (autonomously theta-marking) open position. We exploit this mode of thematic discharge in order to explain the inherent distinction in the syntax of transitive adjectives and intransitive adjectives. For Higginbotham, the government criterion explains the difference in interpretation between (14) and (15), in that in (14) the adjective does not govern the noun it modifies, and hence cannot be interpreted (due to lack of the possibility of autonomous theta-marking) as 'big for an *A*', where *A* is filled in by the attribute of being a butterfly. However, this immediately suggests that for autonomous theta-marking to occur, a transitive adjective must be present, since intransitive adjectives are not sisters to the nouns they semantically modify. In the next section, I will demonstrate that, in fact, this observation can be tested, given the data and analysis in Bernstein, and in Degraff and Mandelbaum.

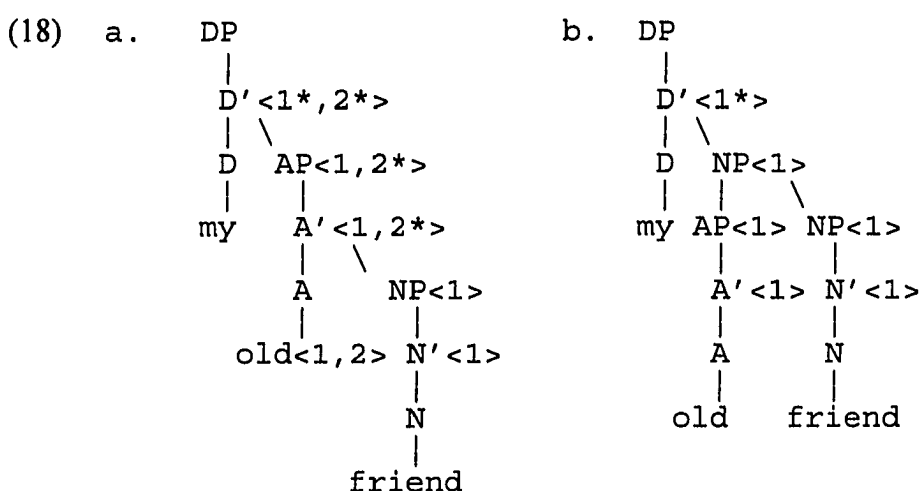
2.0.3 Thematic discharge in adjectival structures

In this section I will explore the entailments of applying Higginbotham's thematic analysis to adjectival structures as construed by Bernstein. Recall that according to Bernstein, adjectives may occur in one of two configurations: as adjoined to XPs (**intransitive adjectives**), or as heads of AP selecting an NP complement (**transitive adjectives**).⁶ If we assume the modes of thematic discharge as described by Higginbotham and apply them to structures as posited by Bernstein, evidence for both theories is obtained. Moreover, extensions of the two

theories provided in this section and in following sections lay the groundwork for the question of the appropriate structures for nominal predication, inasmuch as it will be shown how predicate nominal constructions are similar to simple adjectival constructions in their structure.

To begin with some simple cases of adjectival modification, as demonstrated in Degraff and Mandelbaum the two possible readings of (17) can be thematically analyzed according to the structures in (18):

(17) my old friend



Taking structure (18)(a) first, this is the structure yielding the interpretation 'my friend who has been a friend for a long time'. The transitive adjective has two open positions, one discharged by theta-binding and one by autonomous theta marking. It is in a mutual c-command relationship with the NP, which it autonomously theta-marks giving rise to the nonconjunctive interpretation 'my friend who has been a friend for a long time'. Autonomous theta-marking is represented by <2> flanking the phrase marker, where the attribute position is filled

by the phrase marker NP. Crucially, the difference between this representation and that given by Higginbotham is that the role is discharged at the level of A' dominating A and NP, and not at the level of N' dominating A and N as sisters.

What happens to the attribute position of *old* that theta-identifies with that of the noun it governs? The position labeled <1> carried by the adjective theta-identifies with the position labeled <1> carried by the noun, at the A' level. Notice the difference between this representation of theta-identification and the one given by Higginbotham, in which theta-identification occurs at the level of N' dominating both A and N. Given our current analysis of various ambiguous adjectives as transitive adjectives on their readings that cannot occur as predicates, we would still venture to say that theta-identification takes place between one position in these adjectives and the one carried by the noun, but it must do so at the level where the adjective governs NP, or at A'. An important point to make is that various adjectives that can only occur as transitives (*former*, *future*) do not instantiate theta-identification with the open position in the NP they govern, since they afford no conjunctive reading at all. These, along with other adjectives that never occur as bare predicates such as *mere*, *utter*, and *other*, we called **strict adjectival heads** in Degraff and Mandelbaum. In the context of this thesis, however, these adjectives will all be classified as **obligatorily transitive adjectives**.

Hence our representation still leaves us with one open position to discharge, <1>, that has been theta-identified at A'. This open position is theta-bound by D, discharged at the level of D'.

Structure (18)(b) is somewhat different, in that it contains an intransitive adjective, or represents the conjunctive reading, so to speak, of the adjective. The thematic mechanism as applied to this structure is analyzed as follows:

As the conjunctive reading of the adjective *old* is represented by the adjunction of the adjective to NP, theta-identification must be allowed to occur within this configuration. Here theta-identification takes place between the open position percolated up from A to its projected AP and the open position percolated up to the minimal NP from N, yielding only one open position at the level of the maximal NP, <1>. <1> in turn is theta-bound by D, under government, with discharge occurring at the level of D'.

Note that there is no autonomous theta-marking within this configuration. For the intransitive reading of an adjective like *old*, an attribute position is not filled by the phrase marker projected from the modified noun; where *old* is adjoined, my old friend does not have an interpretation on the order of 'my friend who has been a friend for a long time', or 'my friend who is aged for a friend', etc. Thus the only mode of thematic discharge employed by an intransitive reading of an adjective and its modified noun is that of theta-identification. As we observed earlier, autonomous theta-marking is only going to occur in a mutual c-command configuration.

Apart from these simple cases of semantic and syntactic modification in which the adjective is either adjoined to NP, or selects an NP complement, there are cases in which the adjective can appear "bare", or without an NP following it.⁷

The standard cases of bare adjectives appear in predicate position following the copula, as in (14), section 2.0.2 (repeated as (19)). Further examples are shown in (20):⁸

(19) That butterfly is big. (from Higginbotham, 1985)

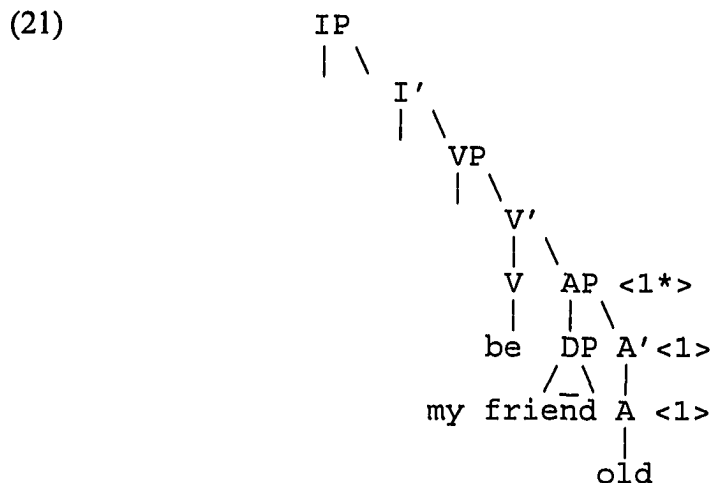
(20) a. My friend is old.

b. The students are poor.

Notice that the interpretation of *old* and *poor* in (20) is the intransitive interpretation. The transitive interpretation is not available. Yet the adjectives are not adjoined to the noun phrase they semantically modify in this context. Moreover, recall that the interpretation of *big* in (19) is free, on Higginbotham's account. That is to say, neither theta-identification nor autonymous theta-marking is in effect, since the noun is not governed by the adjective in this configuration.

How are the available interpretations established, to the exclusion of the unavailable ones?

In Degraff and Mandelbaum we applied the Stowell-Couquaux-Burzio Small Clause theory of predication in order to show how this result is achieved. Let us assume, along the lines of this theory, that copular *be* can function as a raising verb. If we posit the following structure for such cases, we can show that the subject raises out of the specifier position of the Small Clause to assume its S-structure position, in order to receive nominative Case:



Crucially, an adjective that may adjoin to an NP is **free to adjoin to NP**. It is not selected by D^0 , nor is it obligatorily attached to NP. We could simply leave matters at that in order to justify the structure in (21), but then we would be ignoring the question of whether the thematic apparatus introduced so far proves consistent in this environment.

There is an open position associated with the adjective that percolates up to the level of A' , represented by $\langle 1 \rangle$. This would be the position theta-identified with one in the noun in such examples as (18)(b). Note that the attribute position remains open, since the adjective does not have a complement whose phrase marker may fill the position via autonomous theta-marking. But now we must consider how the open position $\langle 1 \rangle$ associated with A' in the representation (21) is discharged.

Theta-identification cannot take place since there is no available position from, say, the noun to identify with the one percolated up to A' . The open position in the noun appearing in SpecAP has been theta-bound by the D^0 governing it,

thereby discharging that position. The DP occurring in SpecAP cannot be autonomously theta-marked by A⁰, since they are not sisters. In Degraff and Mandelbaum we proposed that the adjective theta-marks the subject DP, in much the same way as the verb theta-marks a subject in a standard VP-internal subject configuration. This discharges the position represented as <1> at the level of AP, and the subject is free to move to SpecIP in order to receive Case.

Hence thematic discharge is achieved, still leaving the attribute (autonomous theta-marking) position open so that the interpretation of the bare adjectives in (19) and (20) is the one assumed in an adjunction.

It is important to realize that supporting evidence for this analysis is obtained from the ungrammaticality of examples such as those in (22):

- (22) a. * the fact is mere
 b. * that person is other
 c. * that quality is certain ('particular')
 d. * that soul is poor ('pitiable')
 e. * my friend is old ('long in duration')

The adjectives in (22) are all transitive adjectives. They are unacceptable in post-copular position unless they have a complement. Should we posit a similar structure for such sentences to the one in (21), it is not clear how we could both provide the transitive adjective with a complement, and yet allow this complement to form a constituent with the determiner head in the subject position. Thematically, it is a result of the foregoing analysis that transitive adjectives **must**

autonomously theta-mark their complements, and never occur in an environment where the attribute position remains free.⁹

One final issue to address in this section is the question of whether *old* and *poor* (and indeed other adjectives that will be examined in later sections), having an ambiguity structurally represented by the head-complement versus adjunction distinction, are lexically ambiguous or merely structurally ambiguous. The issue is not a simple one to decide. If they are presumed lexically ambiguous (if there are two lexical entries for the adjective *poor*, for example) it might seem unnecessary to propose any structural distinction at all, and the interpretive differences between the two versions could be determined on the basis of how the thematic mechanism works in each case, alone.

If, on the other hand, it is assumed that there is only one version of each ambiguous adjective and the distinction in interpretation between the adjective being transitive or intransitive is decided by structural position, (a) how the two interpretations may come to diverge so widely must be addressed, and (b) it is a result of the analysis that open attribute positions accompany each intransitive instance of ambiguous adjectives, even when they are prenominal, which is not necessarily a desirable entailment.

But, if we already assume along with Higginbotham that "bare" occurrences of ambiguous adjectives contain an open attribute position, being forced to say that prenominal intransitive occurrences of these same adjectives contain open attribute positions is not unacceptable if the interpretations are continuous across the two

environments. And it seems to me that they are. Moreover, that the two interpretations may come to diverge so widely is countered by the observation, as will be shown in the next section, that a great number of the adjectives in English are ambiguous in the relevant respect (explicitly noted in Siegel, 1976), so that the onus is on the one who contends that they ought be considered lexically ambiguous to explain why so many adjectives have attained multiple interpretations (instead of novel lexical items being added to the language for those interpretations).

Bernstein has adduced a robust quantity of evidence for the claim that the structural ambiguity exists at least in Romance. If English adjectives are to be classified along with adjectives of Romance that are ambiguous in precisely the same way, it seems reasonable to posit similar structural ambiguities in both languages. If this forces the claim that transitive and intransitive readings of adjectives arise exclusively on the basis of the adjective's structural position, it is my judgement that we have to accept this claim and hence, the theory in this thesis that links thematic operations to structural positions takes the structural distinction as a starting point.

For the purposes of learnability, the claim is not untenable since the intransitive reading of the adjective may occur in bare predicate position, a position that clearly does not require a complement to the adjective head. Perhaps by virtue of the occurrence of intransitives as bare predicates, the language learner observes that such interpretations are possible, and with non-complement-seeking adjective heads. If the same syntax is possible (say, the head may **optionally** adjoin)

preminally, the same interpretation becomes available. Yet the complement-seeking adjective head (or transitive) reading never occurs for a bare predicate, leading the learner to observe that there the complement is always required.

How the thematic structure of adjectives depends on the structural configurations in which they occur therefore reduces to whether these distinct configurations can give rise to distinct thematic mechanisms even within the same general category of the grammar. Note that this is impossible in the case of the category of verbs, since verbs do not have the option of adjoining. Thus the lexicon must dictate for a verb whether or not it is transitive, since it will consistently occur in the same basic configuration--and the lexicon must then inform the syntax as to the adicity of the verb.

In summary, then, the case of adjectives seems more promising than the case of verbs as a category in which its structural aspects dictate its thematic aspects.

2.0.4 Predicate Nominals

One sort of case worth considering is that of simple predicate nominals, such as the ones in (13). In the previous section we saw that Higginbotham analyzes examples such as those in (23) as inducing theta-identification between the determiner and noun in predicate position.

- (23) a. John is a lawyer.
b. Henriette is a fool.

We might introduce adjectives into these constructions, yielding the example from Higginbotham appearing in (24), and some others such as those in (25):

(24) That is a big butterfly.

(25) a. John is a good lawyer.

b. Henriette is an utter fool.

Interestingly, following Higginbotham in the analysis of (24), we would have to say that *big* is ambiguous between a transitive reading and an intransitive reading. In the case of obligatorily transitive adjectives like *utter*, the analysis is less complex. I shall discuss these below. But for Higginbotham, in examples like (24) and (25)(a), the adjective autonomously theta-marks its noun complement. On the analysis in Degraff and Mandelbaum, we would then achieve the ambiguity seen with adjectives like *poor*, *old*, *certain*, etc. In other words, according to Degraff and Mandelbaum when the adjective is transitive, it both theta-identifies its open (predicational) position with an open position in its NP complement and autonomously theta-marks that NP; whereas when it is intransitive, only theta-identification takes place. Thus if adjectives like *big* and *good* are autonomous theta-markers, they must bear transitive readings as well as intransitive readings.

In Degraff and Mandelbaum we follow Siegel (1976) in distinguishing adjectives like *big* from adjectives like *good* by claiming, pace Higginbotham, that adjectives like *big* are not autonomous theta-markers, despite their being evaluated with respect to a comparison class (implied in the discussion of Platts, 1979 in Chapter 1). Hence most relevant to our somewhat substantial deviation from

Higginbotham's analysis is Siegel's discussion of **measure adjectives** (*big, tall, short, heavy, light*, etc.), which she shows to be semantically and syntactically more closely related to intransitive adjectives than transitive adjectives despite their inducing an evaluation with respect to a comparison class. Siegel, as will be discussed in section 2.1, says that the term **relative** used to classify certain adjectives is more correctly used to convey the intensional status of the adjective than the notion of evaluation with respect to a comparison class. What Siegel concludes after considering various theories regarding measure adjectives is that the relation of the adjective to the comparison class, and in some cases even what the comparison class is exactly, is contextually determined; and that the best theory of how to analyze such adjectives is the one that accepts the greatest degree of vagueness.

In Siegel's terms, adjectives like *big* are extensional; they are evaluated with respect to the extension of the term they modify, and are considered to belong to the class of intransitive adjectives. Adjectives like *good*, on the other hand, are intensional on at least one construal, and are considered to belong to the class of transitive adjectives on that construal. The latter adjectives take properties as arguments (as I discuss in section 2.1).

Ludlow (1989) provides an alternative account which is specifically intended to be different from Higginbotham's, suggesting that there is an implicit comparison class against which the adjective is evaluated even in cases like *that butterfly is big*, in which Higginbotham suggests that the choice of attribute is free.

This analysis appears particularly salient for cases like (26) (Klein, 1980; Ludlow, 1989), in which *flea* ought to be evaluated with respect to a different attribute, or c-class, than *elephant*:

(26) That elephant is large and that flea is too.

Ludlow's analysis correctly predicts a different interpretation for each conjunct, and it is not clear how Higginbotham's does. Although on the analysis provided here, namely that of Higginbotham, the choice of attribute remains free for each adjective, the comparison (or contrast) between the two is made more explicit on the analysis given by Ludlow.

On the analysis proposed here, however, autonymously theta-marking adjectives, or adjectives with an attribute position to be filled, are precisely those that are intensional for Siegel--among which *good* is included.

This is borne out by the examples in (27). The cases in (27) can be construed in two ways:

- (27) a. Rudy is a responsible adult.
b. Sheila is a serious graduate student.

(27)(a) can be interpreted as 'Rudy is responsible as an adult', or as 'Rudy is responsible, and an adult'. (27)(b) can be interpreted as 'Sheila is serious as a graduate student', or as 'Sheila is serious, and a graduate student'. Some cases seem to lend themselves more naturally to both readings, but what the examples in (27) point out is that adjectives that are able to be predicates quite often can be ambiguous between a transitive and an intransitive reading in prenominal position.

Hence, although both autonomous theta-marking and theta-identification occur according to Higginbotham on the reading of say, (24) as 'that is big for a butterfly', I do not claim that *big* is a transitive adjective, based on the possibility of the following situation *e*: Imagine the class of butterflies was coextensive with the class of oleoflies. We could then conclude that a big butterfly is a big oleofly. We would, on the other hand, claim that *good*, *responsible* and *serious* in (25)(a) and (27) have interpretations on a par with those of other transitives, though, based on the possibility of the following situation *i*, which contrasts with situation *e* above: Imagine that the class of graduate students, for example, was coextensive with the class of nail biters. From (27)(b) we could not conclude that Sheila is a serious nail biter.

Thus *serious* is an intensional adjective in the sense of Siegel (1976), and on our theory when it is not adjoined it takes the value of its complement NP to saturate its attribute position, yielding the interpretation 'Sheila is serious as a graduate student (and not necessarily as a nail biter)'.

Returning to (25)(a), we could interpret the sentence either as 'John is good as a lawyer' or as 'John is good, and a lawyer'. Although the second reading is rather unnatural, one can imagine a situation in which the context of the sentence is that all lawyers are evil crooks, and this sentence is pointing out that John is not an evil crook, but in fact a good person, and a lawyer. Certainly the reading is available. On that reading, then, *good* is adjoined and only theta-identification occurs.

The relevant thematic roles are discharged, in sentences of the forms in (24), (25)(a) and (27) in the following way:

We already know that at least theta-identification must occur between an open position in the noun and one in the adjective, in each case. Autonymous theta-marking occurs when the adjective is transitive, and not when it is intransitive. This leaves one open position, the one identified between the adjective and the noun, which percolates either up to AP or NP, depending on whether the adjective is transitive or intransitive. What happens to this remaining position? According to Higginbotham, it must be theta-identified with the determiner, as in cases like (23), where the determiner is adjectival. Hence discharge occurs by predication of the subject, as in cases like (20), discussed in the previous section. We can assume the subject is subject of a Small Clause for these cases, and is theta-marked by the position percolated up, via theta-identification, from the noun, adjective, and ultimately the determiner. This analysis, of course, immediately leaves us with the question of what the structure of the Small Clause is in such sentences. Chapter 3 provides an analysis of the structure of predicate nominals and Small Clauses, in which I answer this question.

I shall conclude this section by briefly considering predicate nominals containing obligatorily transitive adjectives, such as the one in (25)(b). Recall that obligatorily transitive adjectives cannot occur as bare predicates, and that many do not seem to contain an open position to be theta-identified with one in the noun. The discharge of thematic roles in such sentences thus crucially involves

autonomous theta-marking of the NP by the transitive adjective, and in some cases percolation of the empty position in the noun all the way up to AP, at which point theta-identification with the determiner takes place.¹⁰ This leaves one open position for saturation via predication to fill. Once again, I shall leave open the question of what the structure of the entire noun phrase is until further discussion in later sections of this chapter, and Chapter 3.

2.1.0 How close is the semantic fit?

Although in the previous sections we have provided a basic structural and thematic analysis of some simple adjectival constructions, there remains a question as to why adjectives ambiguous between transitive and intransitive interpretations assume the particular interpretations that they do in the respective environments that they do. In other words, why do *poor* and *old*, for example, assume what we have called the transitive interpretation exclusively prenominally and the intransitive interpretation in both prenominal and predicate positions?¹¹

In this section I provide a partial answer to this question, by surveying the literature on adjectival semantics in a rather broad way. What we will realize is that the adjectives that are transitive do not form a specific natural class in any semantic sense other in than they do not appear to be **intersective** (Siegel, 1976). Intersective adjectives can be thought of as allowing for an interpretation that yields an intersection between the element(s) in their extensions and the element(s) in the extensions of the nouns they modify. The approach adopted by Siegel (1976)

assumes the Montague semantic framework, and proves a convenient medium for the consideration of adjectival semantics given the transitive vs. intransitive (or autonomously theta-marking vs. only theta-identification) dichotomy we already have in place.

2.1.1 Bolinger (1967)

In the previous sections of this chapter, we have given a dual account of the syntax and theta-marking properties of adjectives that is intimately involved with whether any adjective in question obligatorily takes a nominal complement. The simple distributional facts discussed were noted in the literature quite a while back. In the early days of transformational grammar, the various adjectival positions were derived transformationally (Chomsky, 1965; 1970), and a dynamic debate ensued as to the appropriateness of the transformations proposed (Siegel, 1976). I shall not discuss these transformations in any detail here. On Montague's approach, adjectives that can be predicates (our intransitive adjectives) occur in prenominal position via derivation as well (Partee, 1980), and the possible derivations for any adjective that occurs in prenominal position form a set of diagnostics that aid Siegel in determining the adjective's syntax and semantics.

More relevant to us is the distinction made by Bolinger (and Siegel) between two types of adjective, that corresponds roughly to our head-adjunction distinction. Bolinger (1967) discusses a large volume of facts, and argues that there is a clear distinction between **predicative** and **attributive** adjectives. As one

might immediately guess, our intransitive adjectives quite closely map onto the predicative class, and our transitives rather neatly map onto the attributive class. As Bolinger notes, there are many attributive adjectives that are never predicative:

- (28) a. the main reason; *The reason is main
 b. a crack salesman; *The salesman is crack
 c. a runaway horse; *The horse is runaway
 d. a total stranger; *The stranger is total

(from Bolinger, 1967)

Bolinger further notes that there are adjectives that are ambiguous between predicative and attributive uses, such as *sorry* and *responsible*. One idea that Bolinger mentions is that an adjective can develop two distinct senses related to its two positions. This would be to suggest that the specific sense of an adjective in a given syntactic position really does have to do with the position in which it is found. Hence we might speculate that the transitive sense of transitive/intransitive-ambiguous adjectives evolved as specific to the complement-taking head position, and would be lost in any other position. Naturally, the reverse could be the case in that the intransitive sense of such ambiguous adjectives might have evolved as specific to the adjunction position, but this seems less likely since the adjunction sense is available for the adjective in bare predicate position.

As far as the semantics of predicates versus attributives goes, the major contrast that Bolinger draws is between **referent-modification** and **reference-modification**. Predication is an instance of referent-modification, for Bolinger, and

attribution is an instance of reference-modification. In the case of predication, the referent of the noun being modified is the subject of the modification. In the case of attribution, however, the reference (system) of the noun is the subject of the modification. Hence *a crooked lawyer* when *crooked* is a complement-taking head is a lawyer who is crooked with respect to lawyerhood, while in *the lawyer is crooked* a particular lawyer is being labeled as crooked. This is echoed in our thematic analysis of adjectival constructions, in which we said that autonomous theta-markers take the NP projected from the syntactically modified noun as their value; and this can be thought of as a modification with respect to some attribute.

2.1.2 Siegel (1976)

Siegel draws a similar contrast, in a more formal system of adjectival semantics. Recall examples like (29), which have two readings we previously distinguished by either the occurrence or lack of occurrence of autonomous theta-marking:

(29) Marya is a beautiful dancer. (from Siegel, 1976)

In Siegel's system, one reading is intersective, while the other is not. The intersective reading is the one meaning 'Marya is beautiful, and a dancer'. As Siegel says, "She is a member of the intersection of the sets of beautiful things and dancers, and consequently must be beautiful in general" (p. 2). This notion we have captured by theta-identification, which allows for the "conjunctive" reading of the adjectival construction. The non-intersective reading is the one meaning

'Marya is beautiful as a dancer'. The non-intersective reading of an adjective is bound to the meaning of the common noun it modifies, according to Siegel, and is parallel to the reading we have captured by autonomous theta-marking. One way of looking at the +intersective/-intersective distinction is to say that +intersective adjectives are **absolute** modifiers of individuals (echoed in Higginbotham (1987) with respect to so-called *weak determiners*); and that -intersective adjectives are **relative** to the common nouns they modify (Siegel, 1976).

Siegel adopts the Montague framework in examining the syntax and semantics of adjectives. Within this framework, she too says that the semantic ambiguity reflects a double syntactic role of adjectives, as do we by specifying as autonomous theta-markers the transitive adjectives, and as non-autonomous theta-markers the intransitive adjectives. In Montague grammar, a *t/e* expression is one that combines with an entity to form a sentence. Hence *t/e* is a general category of the grammar, often the appropriate classification for intransitive verbs or verb phrases. On the other hand, *t/e*'s are common nouns, and can be notated as CNs. What Siegel suggests is that intersective adjectives are of the category *t///e*; semantically similar to intransitive verbs, while syntactically different from them. Non-intersective adjectives, on the other hand, are of the category CN/CN, as they take a common noun into a common noun. CN/CN adjectives are only generated prenominal, for Siegel, once again reminiscent of our requirement that transitives require complement NPs.

I shall not summarize all of Siegel's syntactic and semantic rules here, although intuitively some reflect the analysis given in the previous sections of this chapter. Evidence that our analysis is on the right track can be taken from the fact that it quite generally parallels an alternative analysis given in a rather different framework. What I shall focus on here is the original question we began this section with--how does a particular syntactic position "force" a certain reading of the adjective?

From a Montagovian standpoint, we would have to consider whether the adjective *qua* modifier with a particular syntax is a predicate over individuals, or over properties. And for Siegel, an adjective like *former*, for example, which we have called a transitive adjective, is analyzed as a CN/CN which totally lacks an intersective reading; it can never be absolute, or predicative--its meaning when combined with a common noun is never the intersection of its extension with that of the common noun's. Hence *former* is not analyzed as extensional, but intensional. Thus the semantic reflex of being a transitive adjective would be that an intensional interpretation, in Siegel's sense, is possible for the adjective while for those adjectives that are exclusively intersective, an intensional interpretation is not available.¹²

One symptom of this dichotomy, drawn to my attention by Robert Hollander, is the contrast in acceptability between pairs of the following nature:

- (30) a. * the fool is utter (utter-transitive adjective)
 b. ? his foolishness is utter

- (31) a. * the disaster was sheer (sheer-transitive adjective)
 b. ? its disastrousness was sheer

In (30)(a) and (31)(a) the modified noun phrase represents an individual, while in the (b) cases of these examples the modified noun phrase represents a property. Interestingly enough, the (b) cases do not parallel the (a) cases in unacceptability. That they are not perfectly acceptable would be decided on syntactic grounds alone, according to our analysis. But that the semantics seems to care at all about whether the modified phrase represents an individual or property provides us with some reason to believe that the syntactic/semantic fit is quite close for the adjectives we have been analyzing.

Naturally, there are adjectives that can be ambiguous between t//e and CN/CN readings, such as the ones we have mentioned so far like *poor*, *old*, *certain*; and ones like *good* and *responsible* for which the difference in interpretation between the transitive and intransitive (or CN/CN and t//e) readings is less obvious. For Siegel these would count as **doublets**, and how subtle the degrees of difference between the interpretations of each doublet are turns on the various distributional and syntactic conditions Siegel discusses for their occurrence.

Warren (1984) discusses *poor* and *old* in terms of Quirk *et al.*'s (1978) contrast between a reading which characterizes the **referent of the noun**, and a reading which characterizes **some aspect of the referent of the noun**. Hence on the transitive interpretation of, say, *old* in *old friend*, we can say that some aspect of the referent of the noun *friend* is being modified; namely that the friendship is

old. This is in agreement with Bolinger, and an informal way of putting the point made by Siegel.

Hence, if we take Bolinger's suggestion that interpretations of adjectives become frozen relative to the positions in which they occur, along with Siegel's semantics for the interpretations of adjectives as either relative to the nouns that they modify or intersecting with the nouns that they modify, there is adequate reason to believe that the position of an adjective interacts with its semantics in a close manner. That is, if the semantics of an adjective is contingent on the position in which it occurs, and the two types of adjectival semantics that Siegel proposes are available, then the intersective versus relative semantics for adjectives will distribute according to distinct adjectival positions.

2.2.0 Iterated adjectives

In this section I will argue that certain sentences containing iterated adjectives can be analyzed within the syntactic framework proposed by Bernstein. The thematic analysis we have given applies in cases of iterated adjectives, and several ordering constraints on adjectives are directly entailed by thematic structure.

Given the analysis that there are at least two distinct positions for adjectives to occupy in the noun phrase, either as a complement-taking head of AP or as adjoined to XP, the question arises as to the determination of structures for strings containing more than one adjective. Not surprisingly, there are several possible

structures for such iterations. The appropriate structure for any particular example determines whether the string-initial adjective:

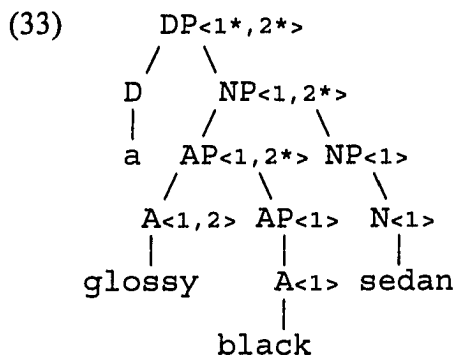
- (a) modifies only the adjective that immediately follows it,
- (b) modifies all of what follows in the noun phrase, or
- (c) modifies some portion of the noun phrase.

2.2.1 Adjectival modification of adjectives

In the first kind of case, such as in the sentences in (32), there is an ambiguity between an interpretation in which the initial adjective modifies the final one, and an interpretation in which the adjectives conjointly modify the NP.^{13,14}

- (32) a. a glossy black sedan was parked down the block
 b. she picked a bright yellow flower
 c. the orchestra played soft classical music

To account for the first interpretation, we can posit the structure in (33) to express the modification of the second adjective by the first:



Note that the second adjective in each example has an interpretation that is perfectly acceptable as a predicate, and thus these adjectives assimilate to the class that may adjoin to XP, and do not require a complement. Although the initial adjective in each case also has an interpretation as a predicate, in the case where an adjective modifies another adjective, it selects the following adjective as an AP complement. Were the first adjective adjoined to the second, as in (34), the interpretation would be conjunctive yielding the reading 'a glossy and black sedan'.

(34) $[_{DP} [_D a] [_{NP} [_{AP} [_{AP} [_A glossy]] [_{AP} [_A black]]] [_{NP} [_N sedan]]]]]$

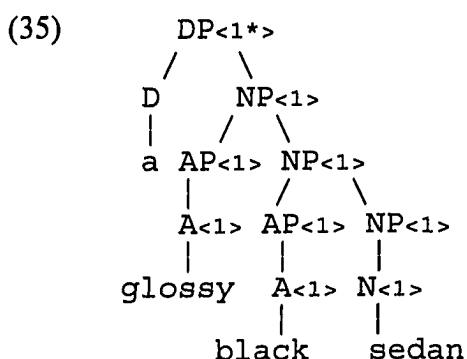
The structure (33), then, is different from those we discussed in the earlier portions of the chapter, in which transitive adjectives took exclusively NP complements. Notice that it is the entire adjectival complex that is adjoined to NP, and not merely one adjective. Although no head may intervene between a transitive adjective and its NP complement, in the structure shown in (33) no head does intervene between the transitive adjective and its complement. The transitive adjective simply selects an adjectival complement instead of an NP. The entire adjectival complex, then, is adjoined to NP.

But we still haven't fully justified the structure, since it must be legitimate within the thematic framework we have adopted thus far. Recall that transitive adjectives have a relative reading; they modify with respect to some attribute *A*. Here, for instance, we would say that *glossy* modifies *black* in the sense that the object in question (a sedan) is 'glossy with respect to being black'. Hence we know immediately that autonomous theta-marking must occur between the

transitive adjective *glossy* and its complement AP, [_{AP} [_A black]]. So we have discharge of the attribute position in *glossy* by autonomous theta-marking of its AP complement. Moreover, the "predicate" theta position in *glossy* percolates up to be theta-identified with the one in *black*, at the level of the maximal AP. Given that the "predicate" position in *sedan* percolates up to NP, we can assume theta-identification at the level of the maximal NP between the open position in AP and the one in the minimal NP. Finally, this position is discharged by theta-binding at the level of DP, by D⁰. This process would yield an intransitive reading of the adjectival complex, with a transitive reading of the first adjective.

2.2.2 Conjunctive readings of adjectives

We can disambiguate the conjunctive reading of the adjectives from the interpretation in which the first adjective modifies the second on the basis of the structure in (35):



In (35) both adjectives are adjoined to NP since each can modify it individually, and the NP has a reading in which it is both modified by the first adjective, and the second ('a sedan that is both glossy and black').¹⁵

We have already shown that for simple cases of one adjective adjoining to NP, theta-identification occurs between a thematic position in the adjective and one in the noun. The two positions percolate up to AP and NP respectively, and are identified at the level of the maximal NP. In adjectival strings like those in (32), for the conjunctive reading to obtain only one further step is necessary. The position in the first adjective is carried up to AP and theta-identifies with the one open position remaining in its sister NP, for the result of one role remaining at the level of the maximal NP. This role is theta-bound by D^0 , and discharge of all roles is accomplished at the level of DP.

Does this process really yield the desired interpretation of the structure? In fact, exactly the right interpretation is obtained, in that by virtue of the theta-identification proceeding up the structure we have a reading of, say, *glossy black sedan* as '(something that is a) sedan and black and glossy'.

2.2.3 Adjectival modification of NPs

Consider the sentences in (36). For these examples, we have the conjunctive reading just described, in addition to a reading in which the first adjective modifies the second. If we drop the second adjective and the final noun in each sentence, the sentence is rendered ungrammatical. Or if we drop both adjectives but retain the final noun of each sentence, it assumes what may be a different syntactic status, as discussed below:¹⁶

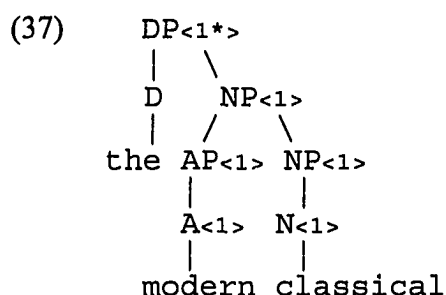
- (36) a. the sedan in the lot is the glossy black one

- b. the tape on the table is the modern classical one
- c. the flower in the vase is the dark yellow one

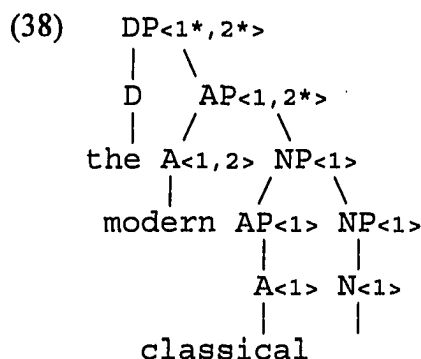
On the reading in which the first adjective modifies the second, the structure (33) obtains. The D^0 in each case requires the presence of a noun in the complement, and although it seems that the adjectives preceding the noun must have a restrictive semantics, it is NP that is selected by the determiner.

The adjectives have the conjunctive reading mentioned with respect to the examples in (32) as well. For the conjunctive reading, the structure in (35) obtains.

But finally note, regarding the sentences in (36), that if we drop the final noun in the sentence, the conjunctive reading is disallowed. Instead, the interpretation that remains can be syntactically construed in one of two ways: one in which the second adjective assumes the function of a noun and is the head of an NP to which the first adjective adjoins, as in (37):¹⁷



Or, one in which the structure of the examples without an overt occurrence of the final noun has a null NP:



Is there any evidence for preferring one structure over the other, with respect to (37) and (38)?

For one thing, if the second adjective does not project to NP, the first adjective must be transitive, due to the unacceptability of the sentences with both the second adjective and the noun dropped:

- (39)
- a. * the sedan in question is the glossy
 - b. * the music in question is the modern
 - c. * the flower in question is the dark

This is an interesting result. What it proves is that adjectives that are ambiguous in the way that *glossy*, *modern* and *dark* are, are ambiguous between being complement-taking heads and adjoining to XPs. Here these adjectives must be (transitive) complement-taking heads (selected by D^0), yet they are missing their complements--which rules the structures out immediately. Adjectives like *black* and *yellow*, however, which are unambiguously intransitive adjectives, when substituted for the transitives in the frames in (39)(a) and (c) respectively, yield perfectly acceptable sentences. Hence if we choose the structure (37), we would say that only intransitive adjectives may assume the function of a noun in the

sentence, and not transitive adjectives; if we choose the structure (38) we state the generalization for the purposes of elision as **only heads may delete; not complements**. One further piece of evidence for this claim is the example of sentences like (40):

(40) He donates money regularly to the poor.

Here *poor* has no overt complement. It can be assigned the syntactic status of a noun, assuming structure (37). Or, if we assume structure (38), the generalization that only heads may delete, and not complements, seems to apply since the only interpretation of *poor* available is the adjoining interpretation. *Poor* in (40) cannot mean 'pitiable', which is the transitive interpretation of that adjective.

And actually, the two possibilities reduce to the same generalization: Syntactic selection may not be violated. Parallel to the structural generalization runs its thematic counterpart: All thematic roles must be discharged. If transitive adjectives have two thematic roles to discharge, theta-binding by the determiner that governs them is insufficient to effect thematic discharge of both roles. Hence we have no reason to prefer (37) over (38), at this stage.¹⁸

One can see how the relevant interpretations would be obtained. In the structure (37) theta-identification occurs between an open position in, say, *modern* and *classical*, just as in any simple intransitive adjective-noun combination. In (38), the string-final adjective, say *classical*, has an open position which percolates up to the level of NP, theta-identified with the open predicate position in the

transitive adjective, say *modern*, to which NP is sister. Moreover, the entire NP is autonomously theta-marked by the transitive adjective, say *modern*, to discharge its attribute position. Finally D^0 *the* theta-binds the remaining open position which underwent theta-identification at the level of the maximal AP.

2.2.4 Modification of A^0 complements

Another case to consider is that of an adjective that assumes the function of a noun but is the complement to A^0 , as is shown in (41):

- (41) a. ? the sedan in question is the other blue
 b. ? the ring I told you about is the mere silver
 (where *blue* and *silver* purport to refer to particular colors)

Note first that these sentences are much more unnatural than those in (36) with their final nouns dropped. Note too that the first adjective in each of (41)(a) and (b) is a transitive adjective; it does not occur as a sentential predicate. Hence the structure for the sentences in (41) would have to be one in which the first adjective is an A^0 that projects to an AP and selects an NP complement projected from the second "adjective" (shown in (42)):

- (42)
- ```

 DP<1*, 2*>
 | \
 D AP<1, 2*>
 | / \
 the A<1, 2> NP<1>
 | |
 other N<1>
 |
 black

```

This structure is rather unnatural for sentences in which the NP is projected from an adjective. It cannot be simply because the  $A^0$  has an adjectival complement, since this was fine in a structure like that in (33). Yet in the structure (33) the  $A^0$  bearing an adjectival complement was an adjective that has both a predicative (intransitive) interpretation, and an attributive, or relative (transitive) interpretation. Here the  $A^0$  is an obligatorily transitive adjective. As observed by Bernstein (1993), obligatorily transitive adjectives require a lexical noun complement. Although we have projected from the second adjective to NP in the strings in (41), the structure is blocked on the basis of the fact that *black*, although shown as projecting to NP, is not a noun. The structure fails, then, in that the complement is an adjective, and there is no noun anywhere in the complement projection. Notice that there is no way to explain the oddness of the sentences in (41) strictly on the basis of the thematic account as we have thus far presented it--both adjectives and nouns have an open position that can be theta-identified to yield a conjunctive reading, and so in this sense there is no difference between the final adjective in the sentences in (41) and the noun in sentences containing a noun in the final projection:

- (43) a. the incident I told you about is the *sheer* coincidence  
       b. the sedan in question is the *mere* Buick  
       (NB: *sheer* and *mere* are transitive adjectives)

Yet the sentences in (43) are certainly less odd than those in (41). As autonomous theta-markers, transitive adjectives appear to be able to autonomously theta-mark adjectival complements, e.g., in (33). Hence there is some difference

between obligatory autonomous theta-markers and adjectives that can be ambiguous between a transitive and a predicative (intransitive) reading, that *prima facie* looks like it might have to do with the inherent inability of obligatorily transitive adjectives to induce theta-identification with a predicate position in their complements (see fn. 10). On the basis of this new evidence, then, we have reached a descriptive generalization regarding the thematic structure of adjectival constructions: in contexts where exclusively autonomous theta-marking takes place, the autonomously theta-marked complement must be a projection from a lexical noun.

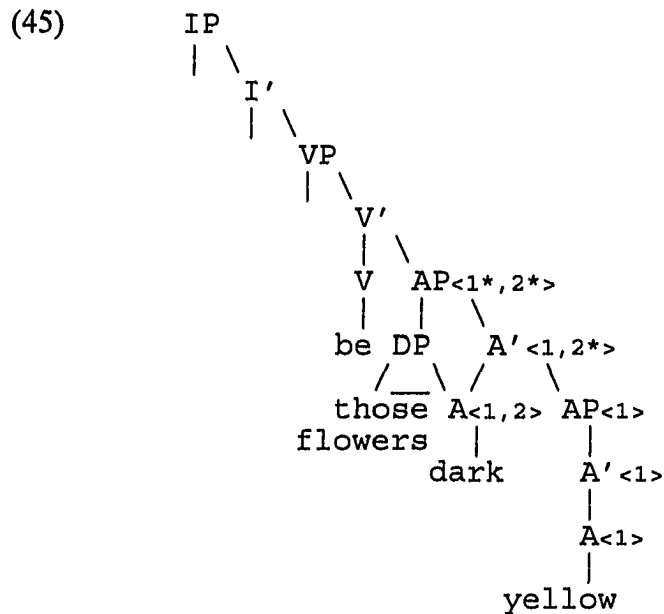
Bernstein suggests, based on the distributional facts of English and Romance, that transitive adjectives are functional--they are heads of a functional projection on the order of heads of negation, and complementizers; and that transitive adjectives require a lexical complement. Just as other functional categories cannot be modified very easily, so too transitive adjectives like *utter* and *mere* resist degree modification (similarly pointed out in Larson (1987)). Another reason for supposing that these elements are functional is that they cannot appear as bare predicates, similarly to determiners, complementizers, inflectional elements and prepositions. If transitive adjectives require a lexical complement, our proposal then is that for **obligatorily transitive adjectives**, this complement must be a projection from a lexical noun.

### 2.2.5 Iterated adjectives as predicates

Notice that the examples in (44) below differ from those in (36) by virtue of the adjectives' being predicative, as opposed to their being constituents of arguments. We can propose that the sentences in (36) are equative, since the post-copular noun phrase in each case has a definite  $D^0$  head. The absence of the definite determiner in the post-copular position of the sentences in (44), however, will have the consequence that their adjectival strings differ in structure from those in (36).

- (44) a. that sedan is glossy black  
       b. that music is modern classical  
       c. those flowers are dark yellow

Recall that we posited a structure for the sentences in (32) which gives rise to the interpretation in which the first adjective modifies the second. The structure has the first adjective projecting to AP selecting AP as its complement. Suppose we similarly posit the D-structure in (45) for the sentences in (44):



Notice that the structure in (45) has the subject DP of the sentence in Spec AP, the first adjective as head of the maximal AP, and the second adjective as an AP complement to the head of the maximal AP.<sup>19</sup> Given the thematic analysis provided for examples with one adjective in predicate position of the sentence in section 2.0.3, we can presume that thematic discharge occurs in almost exactly the same way here, with the additional autonomous theta-marking and theta-identification aspects noted for the examples in (32).

### 2.3.0 Ordering restrictions on transitive and intransitive adjectival combinations

Although we have alluded to some restrictions on ordering of adjectives in the discussion so far, we have not made explicit exactly what the constraints are. An all-encompassing analysis of adjectival ordering constraints would lead us too

far afield of the main thesis (namely, that only material that can project to a syntactically legitimate predicate can occur in predicate position), but a brief excursus into adjective order serves only to reinforce the claims made thus far.

We already know that no head may intervene between a transitive adjective and its complement noun, as has been shown in Bernstein (1993):

- (46) a. \* the other mere fact  
b. \* a certain sheer atrocity

It is also true that in a string of adjectives containing both a transitive adjective and intransitive adjectives, the transitive precedes all the intransitive adjectives, and the string seems to favor a conjunction reading (commas between the adjectives serve to clarify this fact):

- (47) a. its sheer, ugly force  
b. the utter, debased stupidity of his actions

The intuitive interpretation of the phrase in (47)(a) is something like 'its sheer and ugly force'. Alternatively, we might construe the example as 'its sheer force and ugly force', with elision of the noun after the first adjective, or the transitive adjective. Either way, the implication is that obligatorily transitive adjectives favor a noun complement, or disfavor any projection intervening between them and their noun complements (also mentioned in Smith, 1961).<sup>20</sup> This fact has already been discussed in the previous section, in that we analyzed obligatorily transitive adjectives as autonomously theta-marking their nominal complements under sisterhood, and their complements must be lexical nouns.

The question of whether intransitive adjectives can adjoin to the AP projected from the transitive adjective, yielding an order in which the transitive appears last is not explicitly answered by Bernstein (1993), although her judgement is that such examples are not acceptable:

(48) \*? [<sub>DP</sub> its [<sub>AP</sub> [<sub>AP</sub> [<sub>A</sub> ugly]] [<sub>AP</sub> [<sub>A</sub> sheer] [<sub>NP</sub> [<sub>N</sub> force]]]]]

I share with Bernstein the intuition that reversing the order of the two adjectives improves the acceptability of the string, and it is not clear why this ought to be so. We could stipulate that adjunction must be to a noun or another intransitive adjective, or we could disallow the structure because theta-identification between "predicative" positions in the adjoined adjective and the noun is blocked by the projection of the AP from the transitive adjective. But given the obvious acceptability of examples like *a beautiful former actress* and *the blind utter fool* it is not clear that such a prohibition is actually in effect. Along with Bernstein, I will leave this issue underspecified, although it seems to me that there is a possibility that in the acceptable cases the transitive adjective and its nominal complement form some sort of compound, subject to the modification of the (uppermost) intransitive adjective.

### 2.3.1 A case of adverbial modification

Now consider the case of the examples in (47) again, and other similar cases:

(49) a. the mere, thin waif

b. an utter, silly disaster

We have established that due to the requirement of an NP *sister* for obligatorily transitive adjectives these examples must be interpreted as conjunctive; each adjective modifies the noun, and the transitive does not modify the intransitive adjective that follows it. How do such adjectives modify adjectives that follow within a string? The answer, quite clearly, is that they must be converted to adverbs. That is, if we affix *-ly* to the transitive adjective, the interpretation of the string becomes one in which the first modifier modifies the second.

Following Larson (1987), we can propose that the *-ly* requirement is an instance of the general Case requirement on +N categories. Larson explains that adjectives, as members of a +N category, obligatorily receive Case. In English Case inflection is usually not visible on adjectives, just as it is not visible on almost any nominal category. However, we can suppose along with Larson that adjectives are subject to Case requirements even though, most of the time, Case inflection does not overtly appear. There is an exception to the lack of visibility of Case for adjectives, however: they may sometimes surface as adverbs; this even in positions where what is being modified is nominal.

As analyzed by Larson, AdvP is related to AP in basically the same way as PP is related to NP. Just as combination of an NP with a preposition produces an "adverbial" of the category PP, according to Larson, so combination of an adjective with the affix *-ly* produces an adverb of the category AdvP.<sup>21</sup> When an adjective occurs in a position in which it may receive Case transmitted from the noun it

modifies, in English, no inflection need appear on the adjective indicating this transmission. Transmission may occur via concord or agreement with the noun, depending on whether the adjective precedes the noun, or follows it as in predicative constructions like "John painted the barn red".

Now, an adjective may occur in a position in which Case cannot be transmitted, e.g., a construction in which it is not predicated of any Case-bearing elements. Larson suggests that these are precisely the environments in which the morpheme *-ly* is affixed to the adjective. The function of the affix, then, is to Case-mark the adjectival element that requires Case, but has no other means of receiving it. Examples of such constructions are not hard to find. Here are three given by Larson:

- (50) a. John walks quick *\*(-ly)*.  
       b. Eunice placed candidates local *\*(-ly)*.  
       c. Max always talks careless *\*(-ly)*.

(from Larson, 1987)

Hence the adjective receives Case by virtue of its *-ly* affix, and there is no violation of Case requirements.

This analysis can be applied to our structures if we adopt its general motivations. For Larson, the Case problem crops up in environments where the A appears in an adjunct position, but is not predicated of (an) element(s) from which it can receive Case. Suppose an adjective like *mere* or *utter* occurs in a position where it is adjoined to AP--a seeming violation of selection--and thus is not in a

position to receive Case from a Case-bearing element. This is precisely the position we find our transitive adjectives in, in (47) and (49). Adjectives must indirectly receive Case from the nouns they modify, since they are not directly Case-marked themselves. In the case of adjectives adjoined to NP, there is no problem with this requirement since the adjectives govern the modified noun. If the intransitive adjectives iterate, there is still no problem because they are still all adjoined to NP and we can assume that indirect Case-marking can occur iteratively.

But here we have an instance of a transitive adjective that is not sister to an NP. When a transitive adjective's sister is an NP, the noun is governed by the adjective and we can easily assume that allows for indirect Case-marking. But we find that transitive adjectives modifying adjectives that can adjoin to a noun must convert to adverbs. Therefore, I suggest that, in fact, sisterhood is the crucial relation for indirect Case-marking of the transitive adjective.

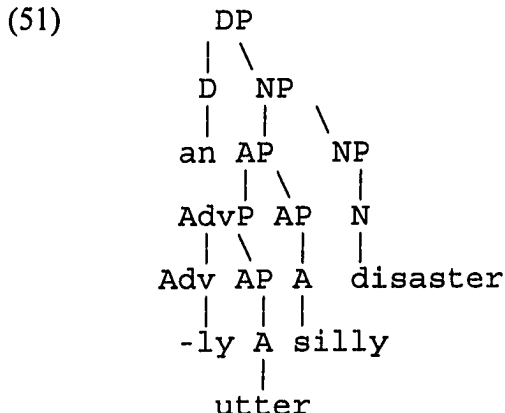
Moreover, sisterhood appears to be the crucial thematic relation for a transitive adjective and what it modifies. Thus, the structure of a string in which the transitive adjective is followed by an intransitive adjective and in which it modifies that adjective, would seem to have to be one in which it is sister to that intransitive adjective. However, as hypothesized in the previous section, obligatorily transitive adjectives require lexical noun complements. So the configuration of a transitive adjective with an adjectival complement would appear to be blocked on thematic grounds; and in addition, the obligatorily transitive adjective must still receive Case.

Therefore, the constraints on the structure we must observe are:

- (a) The transitive adjective must project to AP, but must be adjoined to the AP of the intransitive adjective.
- (b) For indirect Case-marking of the transitive adjective, it must be sister to the Case-bearer.
- (c) The structure must allow for an interpretation in which the transitive adjective modifies the intransitive adjective.

We now find ourselves in a quandary. If the transitive adjective is adjoined to the intransitive adjective, it is not sister to NP, and thus cannot be Case-marked by N. But it cannot take the intransitive adjective as its complement instead.

What is the solution? Happily, we can adapt Larson's analysis to fit our data:



The structure in (51) satisfies all the criteria stated in (a)-(c) above. The transitive adjective *utter* projects to AP and instead of taking an NP complement, is in a projection that is adjoined to the intransitive adjective *silly*. As this adjective *silly* is of the adjoining variety, it may adjoin to NP. The transitive

adjective is not sister to NP, and therefore cannot be indirectly Case-marked by agreement or concord with the noun. It is via  $\text{Adv}^0$ , therefore, that the transitive adjective receives Case, and the transitive adjective moves to  $\text{Adv}^0$  for morphology to take place. Yet the transitive adjective still modifies the intransitive adjective, albeit with an adverbial interpretation similar to that of other members of the class of intensifiers like *extremely*, *completely*, *totally*, etc. The thematic relationship realized between adjectives like *mere* and *utter* and their complements does not hold in cases where this adjective becomes adverbial, leading to the adverbial or intensifier interpretation of such constructions.

One small bit of evidence for the possibility of adjoining obligatorily transitive adjectives (with the result of their becoming adverbial) comes from expressions with the adjective *former*, such as ?? *a former beautiful actress* versus *a formerly beautiful actress*. In this case, the intuition seems to be that if the interpretation desired is one in which *actress* is being modified by *former*, the word order must be *a beautiful former actress*, yielding the interpretation 'someone who is beautiful and used to be an actress'. The intuition is that the actress is still beautiful. Moreover, the complement to *former* must be the noun *actress*.

Yet if the desired interpretation is 'someone who used to be beautiful, and is an actress' the string *a formerly beautiful actress* is perfectly acceptable. In this case, *formerly* modifies *beautiful* and the person in question might still be an actress. The adverb *formerly* does not have a nominal complement and must be,

*qua* adverb, in an adjoined position. It cannot remain an adjective by virtue of its position of adjunction and its lack of a nominal complement.

Hence we have an instance of a transitive adjective modifying another adjective, but only under conditions where it may receive Case under government from the morpheme *-ly*. The specific interaction between selection and Case requirements seems to emerge quite readily in the context of such data.

A remaining question with respect to the structure (51) is that of how the intransitive adjective receives Case. It seems that it is Case-marked by the noun to which it is adjoined, as it would be in any other garden variety example of its adjoining to an NP. One final point worth noting is that in the case of an adjectival string like *a glossy black sedan* on one reading the string-initial adjective is taken to be a transitive (see previous section); and yet it need not become adverbial. But this is because *glossy* is not an obligatorily transitive adjective, hence may take an adjective as a complement, and may also adjoin to NP without any exceptional conditions taking effect.

#### **2.4.0 A structural account of restrictive and non-restrictive adjectives**

Although we have given a structural account of the ordering restrictions on certain adjectival combinations, namely those containing transitive adjectives and intransitive adjectives, we haven't yet addressed the ordering of adjectives with a restrictive reading and those with a non-restrictive reading. Bernstein (1992; 1993)

discusses the distinction between restrictive and non-restrictive adjectival positions in Romance, assigning different adjunction sites for intransitive adjectives depending on whether they are functioning restrictively or non-restrictively. Basically, the analysis goes as follows:

In Romance, adjectives sometimes appear in prenominal and sometimes in postnominal position, as we have already observed. However, we have only considered the noun-adjective/adjective-noun orders with respect to the transitive/intransitive distinction up to this point. There is, however, a variation in the ordering correlated with restrictive and non-restrictive readings, henceforth R and NR readings. Once again, the two positions that surface are post and prenominal. This distinction is not to be confused with the transitive and intransitive distinction, however, according to Bernstein. Both R and NR readings obtain almost exclusively with intransitive adjectives. Yet sometimes these adjectives surface before the noun, and sometimes after.

Assuming with Bernstein that intransitive adjectives must be adjoined whether they occur on a R reading or a NR reading, they cannot adjoin to the same projection. The R reading of *beautiful cheerleader* in a sentence like *Thelma is a beautiful cheerleader* says that Thelma is a member of the intersection of beautiful things and cheerleaders. The NR reading of *beautiful cheerleader* in the sentence *Thelma is a beautiful cheerleader* says that Thelma is a cheerleader and describes all cheerleaders as beautiful, so that *beautiful* does not serve to restrict the class of objects under consideration.<sup>22,23</sup> In the following examples, the prenominal

adjectives have a NR interpretation; the postnominal adjectives have a R interpretation:

- (52) Spanish:  
 a. las olorosas flores  
 b. las flores olorosas  
     'the fragrant flowers'  
 Italian:  
 c. una simpatica persona  
 d. una persona simpatica  
     'a nice person'

(from Bernstein, 1992)

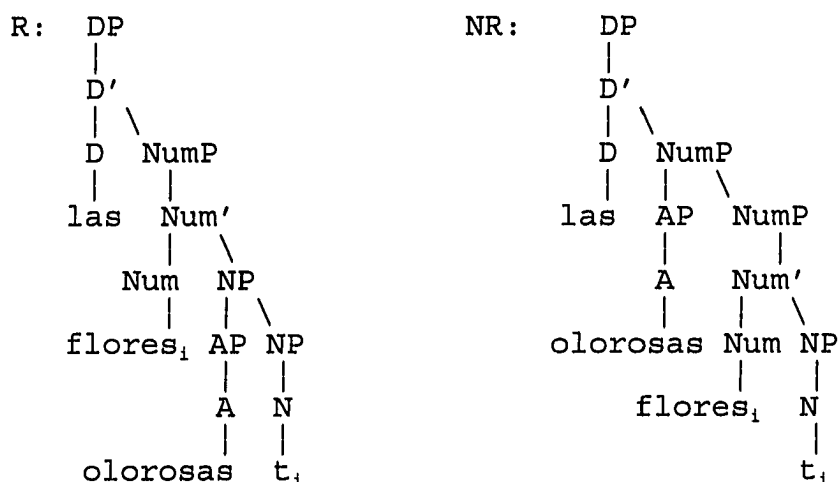
So in (52)(c), for example, the interpretation is 'an inherently nice person (all persons are nice)', whereas in (52)(d), the interpretation is 'a person who is nice (the intersection of nice things and persons)'. Where do the adjunctions of the pre and postnominal adjectives occur?

Bernstein has proposed, along with Picallo (1991) and Valois (1991), that there are projection(s) from functional head(s) between the levels of NP and DP. In particular, Bernstein argues for the maximal projection NumP, or Number Phrase, as part of noun phrase structure, using as evidence data from Romance. Given that this projection occurs between NP and DP, it provides another possible adjunction site for adjectives. Hence an adjective may adjoin either to NP or to NumP in Romance, and it is the site of the adjunction that decides whether the interpretation of the adjective is R or NR.

According to Bernstein, the noun head of NP must move to NumP in Romance. Now if the adjective is adjoined to NP, the noun moves **past** the adjoined adjective to the head of NumP, or Num<sup>0</sup>. However, if the adjective is

adjoined to NumP, the noun moves to the head of NumP, and the adjective still surfaces before it, or prenominally. Hence the R reading of the adjectives, or the postnominal one, occurs when the adjective is adjoined to NP. On the other hand, the NR reading, or the prenominal one, occurs when the adjective is adjoined to NumP:

(53) (from Bernstein 1992)



In English, adjectives surface almost exclusively prenominally, except in special cases such as the one mentioned by Larson ("John painted the barn red"). As noted by many authors, such constructions require an analysis in their own right.<sup>24</sup> Yet, although prenominal surface order is the norm in English, both R and NR readings are available for intransitive adjectives. We might thus assume that even though the R/NR distinction is syntactic in Romance, it is exclusively semantic or pragmatic in English. This despite the attempts of past analyses to show that the R/NR distinction is syntactic in English, via transformational rules deriving the appropriate surface orderings (Vendler, 1968).

If anything, we might take the fact that all of the readings can be obtained from prenominal surface order in English to be evidence that no additional functional projections occur in English between NP and DP. This might be true, but it sheds no light on what S-structure evidence we have at all for the R/NR distinction in English. In fact, unless some transformational operation is in order, we so far have no underlying evidence either for the R/NR distinction in English. It would appear, then, that there may be a learnability problem here. Or, as noted just above, the distinction really is not syntactic and we rely totally on pragmatic factors to clue us in on what interpretation is intended.

But we do have overt syntactic evidence for the distinction in English. We rely on the evidence provided by iterated adjectives involving both R and NR adjectival readings. Adjective-noun complexes involving one adjective preceding the noun may have R or NR readings (although in Romance the postnominal ordering of adjectives is more productive (or the unmarked order)). When iterated adjectives occur, however, the required ordering (with few exceptions) tells us which adjective(s) have R readings, and which NR readings. The ordering restriction, in fact, suggests that all NR adjectives precede R adjectives in a string. Thus in a case like *the new yellow car*, if the innermost adjective, *yellow*, is read as NR, the outermost one, *new*, must also be read as NR. Hence we have at least descriptive syntactic evidence for the R/NR distinction from ordering among iterated adjectives, and the NR adjectives are adjoined higher than the R ones.<sup>25</sup>

Were we to assume Bernstein's Romance analysis as the analysis for English adjectival order, we would have to incorporate NumP into our noun phrase structures. In principle, nothing seems to prevent the adoption of the NumP projection for English; there is what can be taken as overt evidence for the Num head--a plural morpheme on plural nouns in English. Then we could claim that English operates in the same fashion as Romance with respect to NR/R adjectival ordering, with one difference. Although NR adjectives are adjoined to NumP and R adjectives to NP, which yields the correct order, the R adjectives never surface postnominally. Thus we would have to propose that  $N^0$ 's move to Num<sup>0</sup> at LF, in English; and the LF adjectival order has R adjectives occurring postnominally. The benefit of such an analysis is obvious: it allows us to assimilate the structures and movements within nominal constructions of English to those of Romance. However, the adjunction positions of adjectives taken by themselves seem rather weak evidence for the positing of an additional functional projection in a language; and an examination of how English replicates all the evidence for this projection in Romance seems rather tangential at this point. Hence I shall leave the decision as to whether NumP plays a role in English adjectival order unspecified, for now.

Giorgi and Longobardi (1991) claim there are syntactic grounds for the R/NR distinction, based on their Head-Subject Parameter. According to G&L, all predicative adjectives are generated postnominally in Romance, and raise to SpecNP when they assume a NR reading. Yet all predicative adjectives are generated prenominal in English, and may assume either a R or a NR

interpretation. Although the Head-Subject Parameter provides an analysis of why adjectives are postnominal in Romance and prenominal in English, no clear hypothesis as to what triggers movement for the NR adjectives in Romance is stated. Hence the account given in G&L is descriptive, for the most part.

#### 2.4.1 The interpretations of R/NR adjectives

There are two additional questions that might be asked if we were to assume Bernstein's analysis: why it is that order of adjunction, or relative height, in a structure influences interpretation the way it does for predicative adjectives? Moreover, what is the situation of transitive adjectives with respect to the issue of restriction/non-restriction?

Taking the latter question first, it seems that transitive adjectives resist NR uses, so that it is not merely height in the structure that influences whether the interpretation of an adjective will be R or NR, but specifically, height of adjunction.

Of course, on our analysis of transitive adjectives, it stands to reason that they resist NR applications even on **semantic** grounds: if *an old friend* is construed as 'someone whose friendship has existed for a long time', "oldness" cannot be construed as a property of members of the extension of *friend*, but (leaving implications of intensionality aside for the moment,) "oldness" could be construed as a property of a property such members express by being in the extension of *friend*.

Then, however, parallel to the examples in (30) and (31) of this chapter, the prenominal adjectives in (54)(b)-(56)(b) should stand a greater chance of receiving an NR interpretation than those in (54)(a)-(56)(a):

- (54) a. The utter fool began to cry.
- b. His utter foolishness really annoys me.
- (55) a. The sheer disaster was the worst in history.
- b. Its sheer disastrousness eclipsed that of all previous episodes.
- (56) a. The mere fact was enough to shock her.
- b. The mere stability of their marriage impressed Joan.

It seems to me that the possibility for NR interpretations of transitive adjectives is borne out by the examples in (54)(b)-(56)(b). Yet this does not answer our previous question of why its adjunction site in a structure should influence whether an adjective receives a R or NR interpretation, since: (a) transitive adjectives do not adjoin to XPs, and thus, (b) even when they can receive NR interpretations, such cases seem highly irregular, and are influenced by the semantics of the construction. Thus they offer no support for a claim like Bernstein's that R or NR interpretations are due to syntactic factors.

One way to express the R/NR distinction is in terms of the effect of the adjective on the truth conditions of the statement in which it occurs. NR adjectival occurrences show different effects than R occurrences, as shown by the interpretation of (57) as either (a), (b) or (c):

- (57) sweet red cherries

- (a) the intersection of sweet things, red things, and cherries (**both adjectives are R**);
- (b) sweet red cherries, where all cherries are sweet and red (**both adjectives are NR**); or
- (c) the intersection of red things and cherries, where all red cherries are sweet (*sweet* is NR, *red* is R).

Note that the interpretation in which *sweet* is R and *red* is NR is blocked; so that (57) cannot mean:

- (58) sweet cherries, which are red, etc.

We might wish then to ask, what exactly is the nature of the difference between the effects of R and NR adjectives on the truth conditions of sentences, and how does this difference stem from their syntax?

Recall that we analyzed intransitive adjectives as adjectives with a predicate position that theta-identifies with one in the noun. The mechanics of theta-identification are such that it is the adjunction of the adjective to the noun which allows for the identification of the two roles to occur, since the adjective governs the noun within the maximal NP. Moreover, the class of intransitive adjectives maps onto Siegel's class of intersective adjectives, so that interpretations of intransitive adjective-noun combinations are based on intersections between their extensions. Hence, intransitive adjectives are predicative, induce theta-identification, and generally behave "intersectively" with respect to the noun they govern.

Crucial to all this machinery is that the interpretation of the adjective be restrictive. Thus when theta-identification between a position in the noun and the adjective occurs, thereby making an intersective interpretation available, precisely the effect the adjective has on truth conditions is to be restrictive. But why should all this result simply from what the adjunction site of the adjective happens to be?

That theta-identification between the predication positions in the noun and the adjective occur is due to their being in construction with each other in a particular way; namely, their relationship is that of government by the adjective of the noun. Now imagine that the adjective is adjoined to NumP, or more generally, to a projection somewhere outside the maximal NP. It no longer governs the noun, and hence we would expect that theta-identification is off and the intersective reading barred for the adjective-noun combination. And that is exactly the result. But theta-identification appears to be critical to an intersective, restrictive reading of the adjective. Thus the reading achieved cannot be restrictive.

There is the other side of the question, then, of the effect of non-restrictive adjectives on the truth conditions of the sentences in which they occur. Why should adjunction of the adjective outside the maximal NP result in the particular interpretation that it does?

To begin with, the inclusion of a truly NR adjective in a sentence seems to have little or no effect on the truth conditions of the sentence at all. So imagine (57) included in sentence (59):

(59) I ate the sweet red cherries.

On interpretation (b) above, the truth conditions of (59) are no different than those of (60):

(60) I ate the cherries, which are sweet and red.

Or of (61), for that matter:

(61) I ate the cherries.

The adjectives on their NR interpretations seem merely to be describing the class under consideration, but not to be widening or narrowing it in any way. Hence, as noted in Epstein (1980) regarding the old Jespersen example (62)(a), the presupposition on a R reading of the adjective ought to be (62)(b), while the presupposition on a NR reading ought to be (62)(c):

(62) a. The industrious Japanese will conquer in the long run.

b. Some Japanese are industrious.

c. (All) Japanese are industrious. (generic)

Or, in the case of our example (and as alluded to earlier), the presuppositions ought to be as follows:

(63) I ate the sweet red cherries.

(64) a. Some cherries are red and (some cherries are) sweet. (both adjectives are R in (63))

b. (All) cherries are red and sweet. (both adjectives are NR in (63))

c. (All) cherries are sweet and some cherries are red. (*sweet* is NR, *red* is R in (63))

Since the NR adjective is not in the restrictive part of the noun phrase, it does not further restrict the class under consideration. Moreover, since it is not in the restrictive part of the noun phrase, its effect on the sentence might be said to be emphatic, or descriptive, both of which are more likely to affect the pragmatics of the sentence than its truth conditions. Hence the interpretation of NR adjectives stems from their syntax insofar as the locality conditions for restriction in nominals require inclusion within NP, and NR adjectives are generated externally to NP.

This approach to the syntax and semantic effects of NR adjectives mirrors the approach to relative clauses taken by Fabb (1990), in which Fabb uses a predication theory to analyze the syntax and semantic effects of R and NR relative clauses. Fabb's conclusions regarding the syntactic distinctions between the two types of clause are that R relatives are generated as sister to a (non-maximal) projection of N, whereas NR relatives must be generated not only externally to NP, but syntactically disjoint from and yet adjacent to the matrix NP. Hence adjacency is the requirement for interpretation of the NR relative pronoun; and not c-command by the antecedent noun or noun phrase, as it is for R relative pronouns. Fabb's analysis shares with ours the notion that in order to receive a R interpretation, the modifier must occur in some projection of N, but not one higher than the maximal NP. Should the modifier occur externally to NP, it loses its ability to receive a R interpretation.

## 2.5.0 Chapter Summary

In this chapter we have introduced the theory of predication we will be applying to predication NP structures as it pertains to adjectives and the constructions in which they are found. The most important themes we will continue to carry throughout the thesis are that:

- (a) there is a distinction in interpretation between intransitive adjectives that adjoin, and those that are transitive, complement-taking heads of AP;
- (b) intransitive adjectives induce only theta-identification, while transitive adjectives must induce autonomous theta-marking; and
- (c) the structure AP has properties of both lexical and functional projections, such that it at times occurs as the projection from bare adjectival predicates (*Mary is crazy*), and at times as headed by adjectives that may never be (bare) predicates (*mere, utter*).

In chapter 3 we will take up the issue of saturation and predicate nominals, and apply the structural framework and thematic mechanisms to predicate nominals that we have applied to adjectival constructions in this chapter.

## Notes to Chapter 2

1. Non-restrictive adjectives notwithstanding, for the purposes of the use of the expression *modify*. In the later discussion of non-restrictive adjectives, I explain why the notion **semantic modification** is irrelevant to them.

2. Naturally, a zero determiner could be present in the French copular examples. As Higginbotham does not mention this possibility, I shall not explore it here at any length. One factor to note, though, is that the same French examples with an overt indefinite determiner included in them are ambiguous in a way that the absent determiner cases are not:

(i) Jean est un idiot.

According to Pollock (1983) examples like the one in (i) are ambiguous between a predicative and an identificational reading, although without the determiner *un*, the sentence is unambiguously predicational. Hence whatever zero determiner might be present in *Jean est idiot*, it does not seem to have the same interpretive effect as does the overt indefinite article.

3. On the line of argument put forth by Higginbotham, determiners theta-bind nouns just in case the entire noun phrase fulfills the role of argument as defined by Higginbotham. In predicational position, determiners can take on the role of adjectives, and theta-identify with the nouns within their projections. This is to be distinguished from the line taken by Heim (1982) and Diesing (1990, 1992), in which indefinites "have no quantificational force of their own...must receive quantificational force by being bound by some other operator" (Diesing, 1992, p.6). According to Heim and Diesing, indefinites are not represented as existential quantifiers, but rather introduce variables into the derivation bound from outside by an implicit existential operator. The Heim-Diesing argument is directly relevant to the question of the ambiguity of indefinites as potentially either generic or existential. I take note of this feature of indefinites, although for the purposes at hand, I shall continue to assume the analysis proposed by Higginbotham.

4. Arguments for the adaptation of theta-binding into the DP framework are given in Degraff and Mandelbaum (1993).

5. That *a* in English ought to be interpreted as 'one' is not a totally novel idea; a similar suggestion appeared in Perlmutter (1970).

6. I assume along with Bernstein that  $A^0$  complements are NPs, and not DPs, despite the possibility of cases like the following:

(i) ? *How utter a disaster* that was!

- (ii) ? *So utter a disaster* occurs only once in a decade.
- (iii) ? That was *so sheer an accident* the driver could not foresee it.

Cases like those in (i)-(iii) are not highly productive, and appear to exhibit movement of the degree element along with the adjective to a focused position. Hence I assume that these are examples of the form [a [how utter [disaster]]] in which the degree-adjective amalgam moves up to a higher (possibly adjoined to) position than DP.

7. I do not include cases of elliptical constructions such as those that can occur in Romance, in which the adjective is preceded by a determiner but not followed by a noun:

- (i) Spanish: *el rojo* 'the red one'
- (ii) French: *la rouge* 'the red one'
- (iii) Catalan: *el prim* 'the thin one'

(Data from Bernstein, 1992)

These cases might be subject to an extension of the analysis provided in this section, but as their distribution is restricted in a way that differs from the cases at hand, I shall exclude them from consideration.

8. Naturally, bare adjectives can occur as predicates in Small Clause constructions as well:

- (i) I consider John old.
- (ii) Beth considers Lucy stupid.

The point concerning the implications for structure and interpretation of bare adjectival occurrences made in this section can just as easily be extended to bare adjectival occurrences in Small Clauses.

9. Data from various other languages (Romance, Russian) supporting this analysis appear in Degraff and Mandelbaum (1993).

10. Transitive adjectives seem to split along two lines here, where in the case of adjectives like *mere*, *utter* and *certain* the conjunctive reading may apply along with the attributive reading, while in the case of adjectives like *former* and *future* the conjunctive reading is absent:

- (i) he is a mere man  
'he is a man, and is mere with respect to being a man'
  - (ii) he is the former president  
\* 'he is the president, and is former with respect to being the president'
- where \* indicates that the first conjunct is not available in the interpretation of the sentence.

There is a tension between disallowing the predicative thematic position to be available in any of these cases since none of these adjectives ever occur as bare predicates; and hypothesizing that it is available in the cases of *mere*-adjectives due

to the distinction between the interpretations of sentences like (i) and (ii). In any event, autonymous theta-marking must occur in all these cases.

11. As asked by Tony Kroch and George Lakoff, p.c.

12. A similar suggestion, namely that adjectives like *former* can be defined in terms of the extensions of their parts if they are combined with expressions denoting properties instead of predicates, is made in Parsons (1970) and Kamp (1975), and echoed in Dowty, Wall and Peters (1981).

13. As pointed out to me by Richie Kayne, it is an interesting feature of iterated adjectives modifying a single NP that the conjunctive reading obtains despite the lack of the conjunctive morpheme. I note this feature, although I do not have an explanation for it.

14. In light of the earlier discussion of the structural ambiguity assumed for many adjectival constructions of English, it is suggested that many intransitive occurrences of adjectives have open attribute positions allowing an interpretation where the comparison class against which the noun is being compared remains open. Although I do not explicitly notate this open position throughout the remainder of the chapter, it is implicitly present in the instance of all ambiguous adjectives that are adjoined.

15. Note that there is another possible structure for the examples in (32):

[<sub>DP</sub> [<sub>D</sub> a] [<sub>NP</sub> [<sub>AP</sub> [<sub>AP</sub> [<sub>A</sub> glossy]] [<sub>AP</sub> [<sub>A</sub> black]]] [<sub>NP</sub> [<sub>N</sub> sedan]]]]

This structure yields the same interpretation as the one shown in (35). The two structures represent two ways to bracket the same construction; both represent the conjunctive reading of the adjectives in examples such as the ones in (32). The structure in (35) adjoins the adjectives to NP to represent the interpretation of, for example, 'a glossy sedan and black sedan'. The structure represented above adjoins the first adjective to the second adjective, adjoining the entire adjectival complex to the NP. This structure still represents the conjunctive reading; it might be interpreted as, for example, a 'glossy and black sedan'.

16. The noun in each of the final noun phrases of these sentences seems to be semantically empty, present just because a  $D^0$  requires the presence of a noun for proper interpretation. Additional evidence for this requirement can be adduced from the fact that if the noun is dropped, the final adjective in each sentence assumes a nominal interpretation.

17. I argue for this analysis in Mandelbaum (1993).

18. Obviously, what licenses each structure remains unexplained. The structure (37) posits a nominal role for an adjective, seemingly not in violation of saturation principles but unexplained in terms of what **licenses** this role for the adjective.

Furthermore, the structure (38) posits a null nominal construction and what licenses the null NP remains unexplained. Bernstein (1994) analyzes null nominal constructions in Romance as being licensed by phonologically realized **word markers** occurring on the determiner. This analysis, however, cannot apply to the cases we are considering.

19. Additional evidence that the first adjectival occurrence in a (two-)adjective string is a head obligatorily selecting a complement (under the interpretation in which the first adjective modifies the second) can be drawn from the questionable grammatical status of the following:

(i) ?? that car is very glossy black

(ii) ?? those shoes are very bright red

Bernstein argues (as mentioned in section 2) that transitive adjectives usually cannot be modified. If the judgement that the intensifier 'very' modifies only the first adjective in these cases is correct, and the sentences are really rather marginal, these data offer support for an analysis in which the first adjective is taken to be a (non-modifiable) head that requires a complement.

20. Rather than attempt to provide an analysis of conjunction here, or decide when the noun may be elided after the first 'conjunct' (no conjunction actually surfaces) I shall simply assume that a noun complement to each transitive adjective is required.

21. It is unimportant for the purposes of this discussion whether or not we distinguish AP, for Adverbial Phrase, from AP for Adjectival Phrase. Expositorily, it is clearer if we refer to the adverbial category as AdvP.

22. There is no particular semantic theory being alluded to in the discussion given here of the R-NR distinction. I use the explanations descriptively, to provide a rough outline of the R-NR phenomenon.

23. Counterexamples not falling under this particular description of the function of NR adjectives can be found in Ferris (1993).

24. As far as the sentence in (i) is concerned:

(i) John painted the barn red

-note that the predicate of the sentence might be construed as *paint red*. Thus, we could assume leftward movement of [<sub>DP</sub> the barn] in such sentences for reasons having to do with the predicate-argument structure of such exceptional verbs as *paint*. Alternatively, we could assume (Culicover, 1988) that the second portion of the predicate is adjoined to VP; although I believe this unacceptable since it requires right adjunction, against which Kayne (1993a) provides compelling arguments. Despite there being interesting facts pertaining to the lexical (thematic) properties of verbs like *paint*, a discussion would take us too far afield of the point at hand (See Rappaport and Levin, 1988; Culicover, 1988).

A Small Clause structure for sentences like (i) and ones such as (ii) is generally considered appropriate; the Small Clause structure that we will propose for cases involving predicate nominals might be modified to include sentences like (i) and (ii):

(ii) John ate the fish raw.

25. Note that we are discussing only canonical adjectival ordering in this context. Non-canonical orders can occur, but require extra information in their analysis not germane to the point at hand. See Vendler (1968).

## Chapter 3

# Noun Phrases and Saturation

### 3.0.0 Introduction

Among the literature on noun phrases are discussions of the possibility of noun phrases functioning as predicates in the sentence. On any theory of predication, noun phrases can function as arguments. It is also quite uncontroversial that nouns are predicates where they do not co-occur with determiners. Yet the noun phrase literature has also considered the issue of full noun phrases functioning as predicates in the sentence. Evidence for a predication interpretation of various noun phrases comes from (a) their ambiguity in postcopular contexts, and (b) their fulfilling the role of predicate when they co-occur with verbs selecting for predicates in the positions where these NPs appear (*inter alios*, discussed by Geach, 1962; Williams, 1983; Higginbotham, 1987; Partee, 1987; Fiengo, 1988; Heggie, 1988; McCawley, 1981; Stowell, 1989):

- (1) a. John is not [the best cook in town].

- a'. John is not [foolish].
- b. I consider John [the best cook in town].
- b'. I consider John [foolish].
- c. John strikes me as [the best cook in town].
- c'. John strikes me as [foolish].

Although various arguments have been advanced against the notion of **predicate nominal**, to wit those in Ludlow (1986; 1991) to which I return below, the basic idea behind the claim that nominals may function as sentential predicates can be expressed as there being no equivalence or equation between *Mary* and *a lawyer* in (2); nor need *a lawyer* be a referring expression in that example, such that the sentence need not mean *Mary* and *a lawyer* refer to the same person.

(2) Mary is a lawyer.

Rather, the view espousing predicate nominals would claim, *a lawyer* is predicational in (2) and as an indefinite description need not behave as an argument, and can behave as a predicate. More controversial is the claim that definite descriptions such as those in (1) can be predicational; definite descriptions need not be construed as referring expressions but they certainly are quantified--or so it would appear--and hence, *qua* quantifiers, seemingly should have no unbound open positions. Higginbotham (1987) suggests that definite descriptions can be referential, another controversial claim but one that allows him to say that on their non-referential readings, they truly are predicational.

Consistent with the view of predication adopted up until now in this thesis, I shall follow Higginbotham in assuming that statements of the forms in (1)(a), (b), and (c) and in (2) contain predicate nominals and therefore, in assuming that these noun phrases are worthy of examination as predicates (and not only as arguments). Although I do not commit myself to a view on equative statements that insists on definite descriptions (such as that in (3) on its equative interpretation) being referential I continue to assume throughout that there is a predicational interpretation distinct from the equative (or identificational) one available for the sentence:<sup>1,2</sup>

(3) Maxine is the most competent epidemiologist in the lab.

### 3.0.1 Problems with the assumptions: Ludlow (1986; 1991)

Ludlow (1986; 1991) presents several arguments against the notion of **predicate nominal**. *Prima facie*, Ludlow's motivations for arguing against predicate nominals rest on the idea that there would be an uneven mapping from the syntax to the semantics if full noun phrases could operate as syntactic predicates in the sentence, since semantically noun phrases are quantifiers, and not predicates. This idea, however, runs counter to a major claim in the current chapter. I claim that the argument-predicate distinction in noun phrases is based on a distinction in syntax. Thus the truth conditions that apply to a sentence with a nominal as its predicate are due in part to the syntax peculiar to a predicative noun phrase. The claim being made here parallels the thesis in Chapter 2, in which

we argued that the predication structure of adjectival constructions is derived from their syntax.

To restate (for purposes of emphasis), if attribution of a syntactic role to a phrasal category that usually does not have the semantic role associated with that syntactic role "drive(s) a wedge between the semantic and syntactic categories" (Ludlow, 1986, p.31), then the assumption must be that semantic categories are "fixed". More specifically, the semantic category that maps onto a structure is "fixed" by that structure. Thus if predicate nominals are structurally distinct from argument nominals, their semantic category may shift accordingly.

Ludlow presents three arguments against analyzing NPs as predicates. They are directed against Williams (1983) and Higginbotham (1985; 1987). Roughly, they are the arguments that appear in (a)-(c) along with my responses:

(a) That (4)(a) cannot mean (4)(b) (claimed by Williams to be evidence for the predicative status of the post-copular indefinite) can be attributed to a scope island for negation, such that indefinites like *a lawyer* cannot take wide scope in this sort of example:

- (4)    a. John is not a lawyer.  
       b. [a lawyer] John is not e

Ludlow does not provide an explanation for why this island effect applies to predicate nominals, given that the other examples he provides of scope islands for negation do not contain indefinites, and examples like (4)(a) do. But Ludlow's claim here would be that no quantifier may raise to assume wide scope when the

relevant scope island is in effect. And it does seem correct that this applies in the case of indefinites:

- (5) a. John doesn't own a dog.
- b. Peter is not hiring a lawyer.

In both of these cases, just as in the cases provided by Ludlow, shown in (6), the indefinite quantifier does not seem able to assume wide scope.

- (6) a. Not everyone went to the party.
- b. I don't always go to parties.
- c. Sue doesn't love everyone.

Thus the claim made by Ludlow is that *a lawyer* in (4)(a) is not predicative; it simply is subject to a narrow scope stricture.

But based on Ludlow's very own evidence, that *a lawyer* cannot take a specific reading in (4) does not rule out the possibility of its being predicative. If the negative in the examples in (6) prevents the quantifiers *everyone* and *always* from taking wide scope, then the scopal effects of the negative certainly are more widely realized than simply in cases of post-copular indefinites. Hence, even if Ludlow is correct to point out that this argument of Williams' for the predicative status of the post-copular indefinite is insufficient, he hasn't given adequate evidence that the indefinite in post-copular contexts is not predicative; he has merely shown that it cannot take wide scope.

(b) Williams' reason for the unacceptability of (7), namely that *every lawyer in Pittsburg* is in predicate position, is not why (7) does not follow the behavior of standard quantifications.

(7) ?? John is every lawyer in Pittsburg.

If its occurrence in predicate position were what ruled out *every lawyer in Pittsburg* in (7), according to Ludlow, then (8) ought to be less degraded than (7) since *every lawyer in Pittsburg* occurs there in argument position. And it is not less degraded.

(8) ?? Every lawyer in Pittsburg is such that John is him.

Williams' explanation is that QR does not take place out of predicational contexts, so that (9) is not an available interpretation for (7):

(9) [every lawyer in Pittsburg] John is e

But that would not explain why (8) is unacceptable. Higginbotham argues that QR does indeed occur, but LF representations with a trace in predicate position are ruled out. Ludlow is unhappy with this reasoning, though, because all identity (equative) statements have an argument in postcopular position, so that they must contain the *be* of identity--and why then cannot (7) contain the *be* of identity and thus be acceptable? One would then have to stipulate that identity statements must take names and not bound variables in their object positions, and why should that be? Certainly Ludlow is right in saying that Williams' explanation for the unacceptability of (7) does not explain why (8) is no more acceptable. Simply to

say that (7) contains a quantifier in predicate position will not do as an explanation of its awkwardness, since examples like (10) are perfectly natural:

(10) Mr. Brown is some lawyer in Pittsburg.

To resolve the contrast in acceptability between (7) and (10), the idea proposed by Higginbotham that "weak" determiners may operate adjectivally is relevant. This notion will be in the background of much of the discussion in this chapter. Yet Ludlow is unhappy with this proposal too, as evidenced by his third argument against predicate nominals:

(c) Even if we were to accept the idea that full noun phrases can occur in predicate position and indeed, operate as predicates, how can we explain the presence of the determiner in such constructions--it does not have the role of theta-binder, obviously. Assuming à la Higginbotham, Ludlow says, the idea that determiners can be modifiers would yield a bizarre semantics. "It is not clear how this new role for the determiner can be expressed formally within such a framework..." (Ludlow, 1986, p.34). That "weak" determiners have both cardinal and proportional readings is widely accepted in the literature. As we shall see in later sections of this chapter, if Higginbotham is exploiting a dual aspect of "weak" determiners similar to the cardinal/proportional distinction, the machinery for calling the determiners occurring in predicate positions modificational is to some degree already in place in virtue of their standardly assumed properties.

Some final remarks about the arguments presented by Ludlow. In both Ludlow (1985) and in Ludlow (1991) no clear explanation is given for why a sentence like (11)(a) cannot be inverted:

(11) a. John is a student of mathematics

b. ?? a student of mathematics is John

-where (11)(b) is acceptable only in highly literary styles. If there are no predicate nominals, why is (11)(b) so awkward? This point is also made in (among others) Heggie (1988) and Bellert (1969). Furthermore, there are perfectly acceptable **specificational** sentences (terminology from Heggie, 1988) like (12)(a) which are unable to be inverted, and contain quantificational expressions in subject position; so that the phenomenon Ludlow considers idiosyncratic with respect to (7) and (8) generalizes to many acceptable specificational sentences.

(12) a. Most lawyers are the men found in courtrooms.

b. \* The men found in courtrooms are most lawyers.

Hence the restriction against quantified expressions in the object position of specificational sentences must stem from a more general principle, and not some *ad hoc* stipulation about the *be* of identity. In later sections I discuss the general prohibition against proportional readings of quantifiers occurring in predicate positions. As "strong" quantifiers like those introduced by *every* and *most* make available only a proportional, or partitive, interpretation (as opposed to a cardinal one), (7) is barred from the distribution of acceptable predications for the same reason as (12)(b) is. Note that an equative reading where the second expression

refers is unavailable for these sentences since quantifications only assume reference under exceptional circumstances (S-Structure focus, for example. See Heggie (1988), Rochemont (1986), Kayne (1979)).<sup>3</sup>

### 3.0.2 Problems with the assumptions: Neale (1990)

As mentioned in section 3.0.0, Higginbotham (1987) says that definite descriptions can be referential or predicational. But as has been debated in the philosophical literature since the work of Bertrand Russell, it is perfectly felicitous to take definite descriptions as not being referring expressions or as being predicational. According to Russell, definite descriptions are never referring expressions. They are, rather, a species of quantifier. The issue becomes a little complicated when we consider the sentences in (13), which are often described as ambiguous between an equative (or identity) and a predicational reading:

- (13) a. Sarah is the liar in the group  
       b. Bobby is my friend  
       c. Jean is John's lawyer

It is tempting to analyze the equative reading of these sentences as containing a referring expression on the righthand side of *be*. This would stem from the fact that the equative reading contains an argument on each side of *be*, and if definite descriptions can refer then the definite description argument following *be* is referential. The predicative reading of the sentences in (13) would

then be analyzed as containing predication noun phrases on the righthand side of the copula.

However, Neale (1990) has mounted various rather convincing arguments against analyzing definite descriptions as referring expressions. On the account given by Neale (which follows the ideas in Russell's "On Denoting" and Chapter 16 of *Introduction to Mathematical Philosophy*), definite descriptions are quantifier expressions. Basically, according to Russell, definite descriptions can be analyzed as existentially quantified noun phrases with a uniqueness condition built in. It is by virtue of the introduction of a universal operator that the uniqueness implication is captured, so that a sentence of the form 'the  $F$  is  $G$ ' has a logical form:

$$(14) \quad (\exists x)(Fx \ \& \ (\forall y)(Fy \supset y=x) \ \& \ Gx)$$

or,

$$(\exists x)((\forall y)(Fy \text{ iff } y=x) \ \& \ Gx)$$

The issue of whether definite descriptions can be construed as referential or exclusively as quantified is relevant to us in the following way. No matter which account we accept, it is crucial to us to distinguish the predication interpretations from their other possible interpretations. On an account that assumes that definite descriptions can refer, we are distinguishing a predication reading of those expressions from the referential reading. On an account that states that they are quantifiers, we are distinguishing the predicate reading from the quantificational reading. Although I shall not decide whether definite descriptions are referring expressions or not, I follow throughout the claim in Williams and Higginbotham

that there is a distinct predicate reading of a particular distribution of post-copular nominals; and moreover I argue that this reading is rooted in their syntax.

### 3.0.3 Strong and Weak Quantifiers

Herburger (1993) adopts the terminology in Milsark (1974; 1977) that distinguishes between NPs acceptable in There-insertion contexts and those that are not. The terminology has become popular in the syntax and semantics literature regarding NPs; it is Milsark's **weak-strong** characterization. Much of the literature has come to refer to the determiners introducing weak NPs as weak, and to those introducing strong NPs as strong. NPs introduced by weak determiners generally assume a cardinal reading, closest to the sort of reading assumed by those introduced by cardinal numbers.<sup>4</sup>

NPs introduced by strong determiners, on the other hand, are not interpreted as cardinal. They are, so to speak, inherently partitive (*most men* means something like 'most of the (set of) men'), as pointed out by Herburger.

NPs containing both weak and strong determiners, such as *many men*, *some actors*, *every cat*, and *both igloos*, can be semantically analyzed as generalized quantifiers, as demonstrated in Barwise and Cooper (1981). The characterization of "strong" vs. "weak" quantifiers given by Barwise and Cooper differs slightly from that given by Higginbotham. For Higginbotham, whether a determiner introducing an NP is of adjectival character quite closely corresponds to whether

it is weak. This particular characterization of determiners basically relies on whether the determiner in question is **symmetric**:

(15)  $Q A \text{ are } B \text{ iff } Q B \text{ are } A$

(16) *some men are mortals* iff *some mortals are men*

In (15), the  $Q$ s are place-holders for determiners. A determiner is symmetric iff  $Q A \text{ are } B$  is always equivalent to  $Q B \text{ are } A$ . Higginbotham explains that  $Q$  is of **adjectival character** if the truth-value of instances of  $Q A \text{ are } B$  depends only on how many things are both  $A$  and  $B$ . So, for example, in (16) the truth value of *some men are mortals* depends only on how many things are both men and mortals, and therefore *some*, for Higginbotham, is of adjectival character.

Barwise and Cooper characterize **strong** determiners as those that result in automatic validity (or, those that are true in every model) or automatic contradiction (those that are false in every model in which they are defined) for sentences of the form in (17), in which  $D$  is a place-holder for a determiner:<sup>5</sup>

(17)  $D N \text{ is a } N/\text{are } Ns$

If the determiner substituted for  $D$  does **not** achieve automatic validity or contradiction for the entire statement, the quantifier is **weak**. The classification of determiners in such a statement as weak or strong, rather, is contingent on the interpretation. One example of the application of this criterion is the judgement of the statement *both gnus are gnus* in (18) below as valid, leading to the conclusion that *both gnus* is a strong quantifier, and hence, that *both* is a strong determiner. Another example of use of the criterion is the judgement of the statement in (19)

*many gnus are gnus* as true just in case there are many gnus, leading to the conclusion that *many gnus* is a weak quantifier, and hence, that *many* is a weak determiner.

(18) **both** gnus are gnus

(19) **many** gnus are gnus

Barwise and Cooper's results with this classification map onto the description in Milsark (1974) of weak and strong quantifiers as those that respectively occur or do not occur as post-copular subjects in There-insertion sentences such as *There is a gnu in the room*. For Barwise and Cooper pronouns and the NPs containing names are both strong, which will be further discussed in Chapter 4. Naturally, treating proper names (or the NPs to which they project) and pronouns as quantifiers is not uncontroversial. Yet on the analysis in Neale (1990), which treats definite descriptions as quantifiers and does not treat proper names as quantifiers, **genitive constructions** are still subject to the treatment given to definite descriptions. This treatment, and a natural extension of Barwise and Cooper's analysis of names and pronouns as strong to genitives, suggests that genitive constructions are always strong. Yet this is not generally true, as will be shown later in Chapter 4.

### 3.0.4 The distribution of predicative noun phrases

To sum up the introductory portion of this chapter, I will briefly discuss the notion of predication that we are interested in, and then provide what I take to be a description of the distribution of predicational noun phrases.

In Chapter 1 we discussed some of the sorts of theories of predication that linguists and philosophers of language subscribe to. Chapter 2 adopts the theory put forth in Higginbotham (1985; 1987; 1989a) and applies it to adjectival predicates. We shall continue to assume this theory in Chapter 3. Higginbotham's various assumptions about the thematic grids of verbs, nouns and adjectives subsume all these categories under the rubric of predicates in being unsaturated. The proposal in this chapter parallels the one made with respect to adjectives in Chapter 2, namely that mode of thematic discharge maps onto syntactic structure for predicate noun phrases.

Thus we shall continue to assume a theory of predication in which all arguments are saturated and all predicates are unsaturated, and one which takes as a principle that saturation of predicates is constrained by syntactic structure. The entailment of these assumptions is that predicate noun phrases contain an open position that must either be assigned or bound within the sentential structure. As we will discover in later portions of this thesis, the syntactic requirements on such thematic discharge have ramifications for recently proposed DP and DegP structures.

Distribution:

As has been noted by Williams (1983), Higginbotham (1987), Stowell (1989), Fiengo (1988), McCawley (1981) and others too numerous to mention, **indefinite** noun phrases may be predicative:

- (20) a. John is a lawyer  
       b. That is a lovely painting  
       c. Rose and Jane are excellent musicians

In addition, as will be focused upon in the next chapter, **genitive** constructions may be predicative, too:

- (21) a. Maria is my friend  
       b. Philip is Joyce's ex-husband  
       c. Sharon is Sandy's mechanic

Moreover, *pace* Ludlow and perhaps Neale, I will follow Williams and Higginbotham in claiming that occurrences of **the N** may sometimes be predicative, and discuss these constructions in Chapter 5:<sup>6</sup>

- (22) a. Theodora is the finest dressmaker in Jackson Hole  
       b. Bill was not the brightest guy in the world  
       c. Joseph and Tim are not the most courteous boys

Finally, as will become important in subsequent sections of this chapter, certain quantifiers (and determiners) apart from the simple indefinite and definite may operate as predicates:

- (23) a. Brian Teller is some salesman in the Pittsburgh region

- b. The orange groves in Pasadena are few
- c. The apple groves in Vermont are many

### 3.1.0 Determiners as adjectives

In Chapter 2 we discussed the various modes of thematic discharge proposed by Higginbotham in a theory of predication. We also mentioned Higginbotham's suggestion that nouns are simple predicates that have an open position which is subject to theta-binding on the part of determiners, or that can be theta-identified with an open (predicational) position in an adjective. Higginbotham (1985) mentions only the theta-binding possibility for determiners, but Higginbotham (1987) makes the revised claim that determiners can sometimes be interpreted adjectivally (also discussed with respect to cardinal determiners, *many* and *few* in Hoeksema, 1983; similarly in Bellert, 1969).

Examples that Higginbotham uses as evidence for this claim are shown in (24):

- (24) a. John is a lawyer.
- b. They are three friends of mine.
- c. The apostles are twelve.<sup>7</sup>

(from Higginbotham, 1987)

-where *three friends of mine* in (24)(b) is interpreted, for example, as:

- (25) three (*x*) & friends of mine (*x*)

(Note: the variable *x* ranges over a plurality (Higginbotham, 1987, fn. 5)).

On this account, "*three* as a predicate is true of three-member collections, and of nothing else. If it and the head *friends of mine* are both true of the plurality denoted by *they*, then (22) (here, (24)(b)) is true" (Higginbotham, 1987, p. 48). The idea here is that only indefinite, or weak determiners may occur in predication position since they are of adjectival character (are symmetric); and in predicate position they have an interpretation close to, but not exactly like, their quantificational one. Higginbotham provides empirical and theoretical support for the claim that on the "adjectival" interpretations of indefinite determiners, the truth conditions of sentences containing them vary from the truth conditions of those in which indefinite determiners function quantificationally. Hence the entailment of Higginbotham's proposal is that weak determiners, on their adjectival construal, have an open position to theta-identify with one in the noun they introduce; and are not exclusively "theta-binders".<sup>8</sup> The adjectival reading of the determiner here is closely related to what is also called the cardinal reading of this determiner, and it is well established that strong determiners do not have cardinal interpretations; they are partitive, in Herburger's (1993) terms.

### 3.2.0 The structure of predicate nominals

Recall that in Chapter 2, as well as in this chapter, we proposed to follow Higginbotham in interpreting weak determiners occurring in predicate positions as adjectival, instead of as quantificational. Although Higginbotham does not seem to consider whether the adjectival interpretation is a reflex of the syntax of such

determiners, and moreover does not seem to consider whether their syntax assimilates to that of other adjectives, these seem to be important questions. Thus I take these questions as the focus for the remainder of this chapter.

Certain predictions have already been put into place about the syntactic status of these determiners. For one thing, they appear when used adjectivally to more closely match predicative than attributive adjectives, in terms of distribution:

- (26) a. the villains in the book are few  
       b. the lives of a cat are nine  
       c. the heros in the book are many

-despite:

- d. \* the heros in the book are some  
       e. \* the life of a human is a  
       f. \* the wine in the jug is s'm

Although the class of determiners that can occur in predicative position does not map one-to-one onto that of the weak determiners, it seems fair to say that when these determiners occur in predicates, they are more similar to predicative adjectives, which we analyzed in Chapter 2 as intransitive adjectives, than attributive adjectives, which we analyzed in Chapter 2 as transitive adjectives. So, for example, it makes little sense to provide the interpretations in (27)(b) for (27)(a):

- (27) a. two men  
       b. \* 'two for men', or 'two as men', 'two with respect to being men', etc.

And yet on the analysis of transitive adjectives that we provided in Chapter 2, some such interpretation ought to be available for the phrase if *two* is treated as a transitive adjective.

Suppose that weak determiners, on their adjectival interpretations, are syntactically similar to intransitive adjectives. Suppose further that syntactically, (28) has the same status as (29), and that (30) has the same status as (31), with the added feature of English syntax that an article must precede the occurrence of a singular noun (along the general lines of the proposal in Higginbotham, 1987).

(28) that is a coat

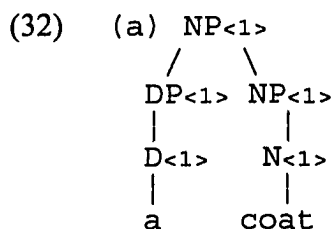
(29) those are coats

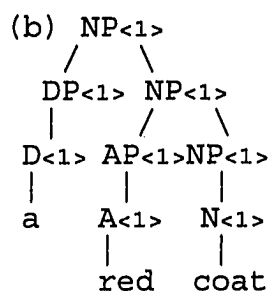
(30) that is a red coat

(31) those are red coats

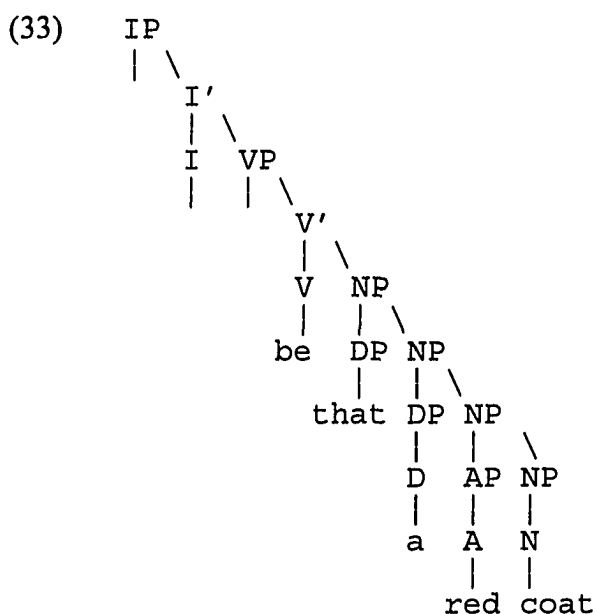
And finally suppose that the **only** distinction in interpretation between (28) and (29), and (30) and (31), respectively, is that in (28) and (30), the interpretation includes that the object being (deictically) referred to is not only red and a coat, but singular in number.

The preceding suppositions lead up to the structure (32)(a) for *a coat* in (28), and (32)(b) for *a red coat* in (30):





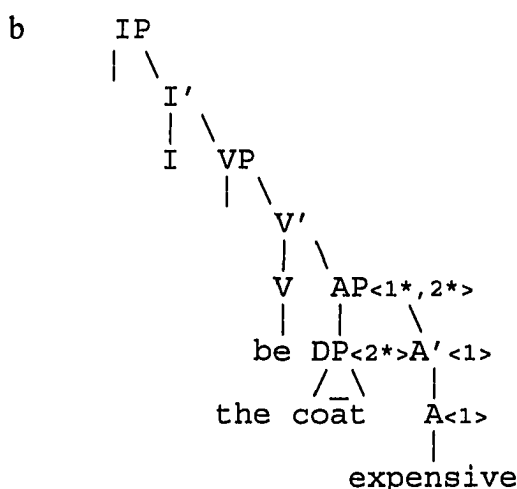
Naturally these structures deviate from the now quite standardly assumed DP-as- $X^{\max}$  structure for nominals. In the next section I take up the broader question of why nominals occurring in predicate positions ought to be syntactically distinguished from argument nominals. At this point, however, I will provide the D-structure for (30), for example, and subsequently explain how the predication works:



Note that *a red coat* in (33) occurs exactly as in (32)(b), and that the subject [<sub>DP</sub> that] is adjoined to the NP predicate [<sub>NP</sub> a red coat]. The subject raises to SpecIP at S-structure, or to the position in which it receives nominative Case. This

structure follows the general structure for predication in Stowell (1978) and Couquaux (1982), as well as the adjoined Small Clause structure proposed more recently in Heggie (1988). Notice that this structure deviates from the structure proposed for examples like that in (34) (shown below) and in Chapter 2 insofar as: (a) the subject is adjoined to NP, and not in SpecAP; and (b) AP is adjoined to NP.

(34) a. the coat is expensive

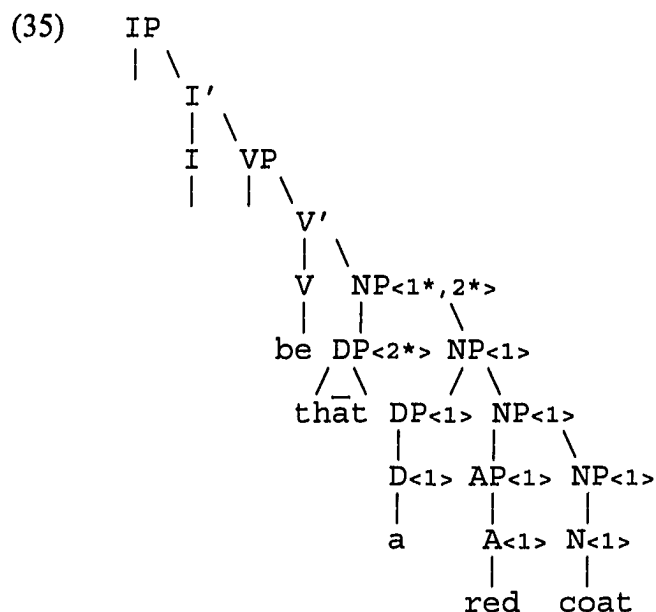


The claim here is that NPs can be predicates just as APs can be predicates; hence the predication structure NP. In addition, the Small Clause structure we are assuming, à la Heggie, is a structure in which the Small Clause subject adjoins to the predicate NP when an adjective is present (similarly to the structure for AP Small Clauses in Chomsky, 1986a), although we have claimed in Chapter 2 that the subject is in SpecAP in the case of AP Small Clauses.

Of course, if we are to propose the structure (33) for predicate nominals, the theory of predication in which we are operating must support it.

Recall from Chapter 2 that within the theory of predication in Higginbotham (1985; 1987; 1989a) an adjective may have two thematic roles to discharge: One predication role which theta-identifies with the predication role of the noun it is in construction with; and one role associated with a position that is discharged by autonomously theta-marking the NP projected from the noun the adjective is in construction with. In Degraff and Mandelbaum (1993) the proposal was made that in a structure like (34)(b) the predication role of the adjective percolates up to A' and theta-marks the subject, much as verbal predicates theta-mark their subjects under the VP-internal subject hypothesis. The further claim was made that autonomous theta-marking proceeds only under conditions of NP sisterhood to A<sup>0</sup>, or, in other words, when the adjective is a transitive adjective to which the NP is complement.

Thus in a structure like (34)(b) predication entails theta-marking by the adjective of the subject exclusively, with discharge of one thematic role. Predication for the structure (33) (repeated as (35)) assimilates to this process in the following way:



On the assumption that adjectives and nouns have predication positions that may theta-identify, the adjective *red* and the noun *coat* have open positions which theta-identify at the level of  $[_{NP} [_{AP} \text{red}] [_{NP} \text{coat}]]$ . As the major claim in this section is that in predicate nominals the determiner functions adjectivally, the determiner *a* adjoined to NP has an open position to be further theta-identified with that from the adjective and noun at the level of  $[_{NP} \text{a red coat}]$ . This leaves one open position to theta-mark the subject  $[_{DP} \text{that}]$  adjoined to the predicate structure.

### 3.2.1 Justifying the proposed structures

Several questions arise with respect to the operation just described:

- (i) What prevents multiple adjunction of subjects to a predication structure like (33)?
- (ii) What triggers theta-marking at the level of the maximal NP, instead of further theta-identification?<sup>9</sup>

- (iii) What prevents an order of adjunction such that the adjective is adjoined higher than the determiner? (In other words, why is the internal ordering of determiners and adjectives in predicative NPs identical to that in argument DPs?)
- (iv) How is the need that *a* has for a following NP to be expressed on this analysis?

Regarding (i), in principle, nothing appears to rule out multiple adjunction of subjects to a predication structure, within a theory that allows multiple adjunctions to XPs. However, a derivation in which there was multiple adjunction of subjects would violate the necessary predication, since there is only one theta-role available to theta-mark a subject in this sort of structure; and thus one or more subjects would appear despite a lack of open positions in the predicate.

To respond to (ii), recall that the mode of thematic discharge operative in the non-adjectival, or quantificational occurrence of determiners is **theta-binding**. In a fully realized DP structure the determiner theta-binds the open position projected from its NP complement, thereby discharging it. Therefore, in the DP subject of any sentence, which is not part of the predicate, D<sup>0</sup> theta-binds an open position projected from the subject-internal NP. Hence the maximally adjoined DP in (33) (also shown as (35)) has no open position to be theta-identified with the predication position, in that it is a fully realized DP with no unbound positions; and thus it must be theta-marked by the predicate.<sup>10</sup>

Question (iii) is couched in such a way that it can be reversed--why is the order of NP constituents the same in arguments as it is predicates?

But presumably if the argument structure is one headed by  $D^0$ , the constituents following the determiner in the noun phrase occur in what is the canonical order on the basis of selection; and if we are adjoining constituents, including determiners, selection cannot be what decides the appropriate ordering.

To say that constituent orderings in structures are the way that they are simply on the basis of "selection" is incomplete in any event. There have been generalizations drawn in the literature about "selection" so that we know at least in general terms how orderings work across languages. The question is what the conditions are on stacking in structures (see Leffel and Bouchard, 1991 and Rothstein, 1991b for discussion of some of the relevant questions).

We can assume at least the following:

- (a) the orderings, hierarchically and linearly, must feed a compositional semantics
- (b) functional categories occur higher in the structure than their associated lexical categories (Abney, 1987; Fukui, 1986; Grimshaw, 1991)
- (c) functional categories do not freely repeat in a structure (Fukui, 1986; Fukui and Speas, 1986)

I also claim that the following condition holds:

- (d) functional categories adjoin higher than lexical categories

But the majority of the problems of how to hierarchically order categories have only been described, and not shown to follow from more general principles anyway. The danger in relying on selection as an explanation is that one runs the risk of begging the question--if, say, we need (as in Chomsky, 1992) for AgrS to be higher in the sentential structure than Tns and AgrO to be higher in the structure than VP so that Case facts can be accommodated consistently across a structure, we can say that AgrS selects Tns and AgrO selects VP to achieve the correct mechanics. Surely there is nothing empirically invalid here, except that it is precisely the cases in which we rely on selection for which we have no other way of explaining why categories have stacked the way they do. The danger of relying exclusively on selection to explain the relationship between two categories is that selection is usually arrived at by stipulation.

Insofar as syntactic selection is part of what feeds a compositional semantics, the notion is probably necessary in some guise. Even in an adjunction structure, however, categories cannot just freely adjoin anywhere. Moreover, it is probably no less valuable, empirically or theoretically, to say that a derivation in which *red* adjoins higher than *a* in *a red coat* crashes at the relevant level of interpretation than to say that in a derivation in which [XP [X *a*]] has as its sister [YP *red*] this ordering is due to selection.

It is therefore, in my estimation, a matter for empirical investigation what the ordering criteria for the head-complement relation and adjunction are respectively, and I leave it open here.

Finally, in response to (iv), as noted in Chapter 2, in various languages such as French the predicative interpretation of a noun phrase does not require a prenominal determiner (*Jean est avocat*), although in English all singular noun phrases require a determiner. Hebrew, for example, has no indefinite determiner at all--in either argument or predicate noun phrases. Hence by hypothesis, in the case of predicate NPs in English the determiner is present not because of a universal generalization that all singular NPs (in any language) must be overtly marked as such, but due to the language-specific requirements of English. We may therefore, as previously noted, assume that *a* occurs in predicate NPs by virtue of the singular-marking requirement in English; and then if it is present in virtue of the presence of the NP to which it is adjoined, what would it represent if it occurred "bare"? Further discussion along these lines appears in later sections.

Relevant to this point is the distinction in interpretation between French post-copular NPs that include the indefinite determiner (*Jean est un avocat*) and those that do not (*Jean est avocat*). Since singular-marking is not in and of itself required in French NPs, the interpretation of these two sentence varieties is not identical: For the version that includes the indefinite determiner there is an ambiguity (Pollock, 1983; M. Degraff, p.c.). The sentence can be interpreted as either predicational, or on the more salient interpretation, as identificational. Pollock (1983) provides the following example:

- (36) Cet homme est mon cousin/le voisin de Paul/Jean/un linguiste qui a obtenu  
les plus haute récompenses, etc.

Lit.: The man is my cousin/the neighbor of Paul/Jean/a linguist who obtained the highest compensation, etc.

The man who received the highest compensation was my cousin/Paul's neighbor/John/a linguist, etc.

Pollock says that use of the indefinite article (*un linguist*) is rather common in contexts such as this one, where the sentence is to be read identificationaly, and not predicationally. Of course in English we use *a linguist* in such contexts too; but even in cases where the relative clause is not present, we use *a linguist*.

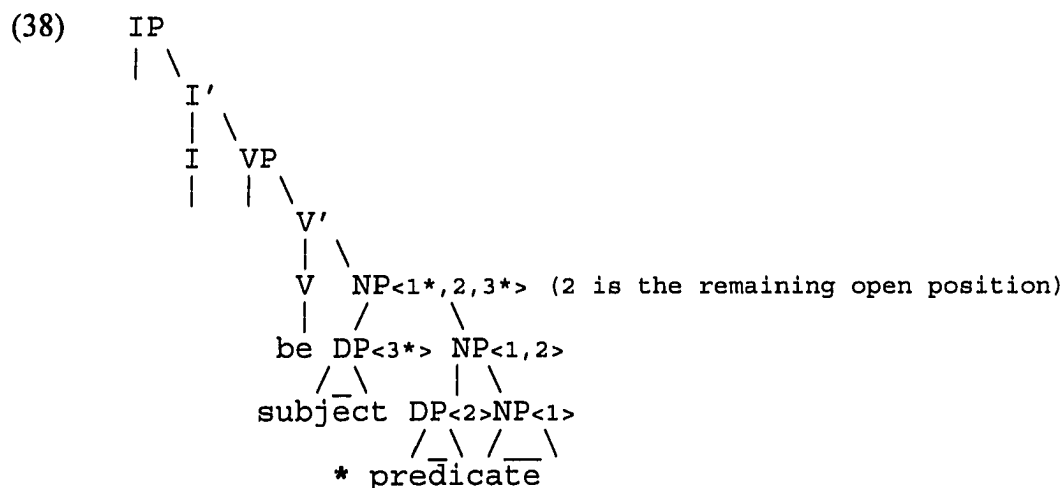
A sentence like *Jean est avocat* ('John is lawyer') is predicative, and unambiguously so, according to Pollock. So in the case of French copular constructions, a post-copular indefinite determiner actually changes the interpretive possibilities of the structure, making available a reading not possible in its English translation. Note too that the French *un/une* is also the form for the numeral 'one'; whereas the English *a* is not the form for the numeral 'one'. Hence we would not expect English *a* to occur "bare", since it is by virtue of a feature of English relating to singular NPs that it occurs in the predicative reading at all.

Note that **selection** would be the obvious recourse in this situation if we posited a DP structure for all NPs: The determiner *a* is present and thereby selects a singular NP complement. But the proposed theory claims that differences in thematic discharge are the result of structural distinctions between phrase structures, and the thematic mechanism in a predicate NP differs from that in an argument NP. A uniform structure for all noun phrases is hence counter to the spirit of the theory.

As a consequence of this analysis, D<sup>0</sup>s adjoined to NPs are to be distinguished from [D+complement NP] structures adjoined to NPs in that the former contain an open thematic position, while the latter do not. This is an important element in the analysis, and it leads to the generalization stated in (37):

(37) **Predicate NPs** can never contain an adjoined [D+complement NP]; for the process of theta-identification cannot proceed any further up a structure than the first such DP encountered, which DP must be **theta-marked** by the predicate.

(The configuration that is disallowed is shown in (38)):



### 3.2.2 DPs as arguments, NPs as predicates

Given the structural analysis of simple predicate nominals, a question receiving quite a bit of attention in the recent literature now arises. The question concerns the issue of whether all noun phrases are to be analyzed as DPs, or if the DP structure applies instead to argument noun phrases exclusively.

Abney (1987) was on the whole concerned with parallels between the structure of the sentence and the structure of the noun phrase. In providing arguments having to do with agreement and inflection in the noun phrase across several languages, Abney proposed that the structure of the noun phrase is not NP, headed by a noun as had been traditionally assumed (with the exception of a few authors mentioned by Abney), but is in fact DP, headed by the determiner commonly found across languages. Of course, not all languages have overt determiners, and not all languages manifest overt agreement within the noun phrase, but the parallels Abney found between IP and DP were sufficient to allow for what has come to be called "the DP hypothesis".

In point of fact, most of the data considered by Abney concern argument noun phrases. In speaking of such noun phrases, Abney mentions in passing that  $D^0$  is the locus of reference. It also appears that the thrust of Abney's claim is that DPs are quantified noun phrases, abstracting away from notable distinctions between reference and quantification. Whether DP is the hallmark of reference, or of quantification, there is an important question as to whether DP is the appropriate structure for noun phrases that are not referential and are not quantified--such as predicate noun phrases.

That  $D^0$  is a head, and heads DP is the central assumption in DP theories. We might want to note at this juncture that positing  $D^0$  as a determiner head has similar structural implications to positing  $A^0$  as a transitive adjective; both necessarily select complements under any conception of X-Bar Theory. Moreover,

Bernstein (1993) has argued that  $A^0$  may be more felicitously construed as a functional head than as a lexical head, for reasons mentioned in Chapter 2, section 2.2. This increases the parallelism between AP and DP, and would give us further reason to believe that they might behave similarly across structures.

The issue of whether to always favor DP over NP has been taken up by both Stowell (1989; 1991) and Longobardi (1991) among others, and they have proposed different responses to it. In the next two sections, I shall contrast the point of view expressed by Stowell with that of Longobardi, and ultimately reject that of Stowell in favor of that of Longobardi.

Stowell (1989) begins by making rather similar assumptions to those in Abney (1986) with respect to the syntactic and semantic nature of  $D^0$ . Some of Stowell's decisions about argument and predicate nominals are changed from the 1989 paper to the 1991 paper. Therefore, some of the questions I raise with respect to Stowell (1989) have responses in Stowell (1991), and I will point out where these departures in Stowell's 1991 analysis occur. In what follows, what will become clear is that the point where our account departs from that in Stowell (1989) will be the point where Stowell makes his ultimate semantic claims about determiners and nouns, and draws his ultimate semantic distinctions between adjectives and nouns.

### 3.2.2.1 NPs or DPs as predicates? Stowell (1989; 1991)

Stowell (1989) uses two major considerations as the foci for his paper. One is the issue of whether there is some syntactic distinction to be drawn between subjects and specifiers, in terms of X-Bar Theory. This issue will not be of central concern to us in the context of this thesis. The other issue Stowell takes up is the one regarding the status as head of nouns or determiners; and what the relationship between determiners and nouns is. It is this latter consideration with which we will be concerned.

Stowell (1989) begins by making the common comparison between adjectives and nouns as predicates. He then goes on, without qualification, to make the more controversial claim that the noun phrases in examples like those in (39) may act as referring expressions, and proceeds to distinguish nouns from adjectives on the basis of the idea that while nouns may refer, adjectives may not:

- (39) a. The woman met those men.  
b. A comet hit the earth.

(from Stowell, 1989)

Independently of whatever syntactic, or for that matter, semantic claims Stowell will make later on in the discussion, there is a problem with this underlying assumption. It can be taken as a serious weakness of Stowell's subsequent argument that it relies on the ability of expressions like *a comet*, *the earth*, *the woman* to be referring expressions. That Stowell (1989) did not consider the opposing position, namely, that such expressions are quantificational and not

referring expressions, allowed room for doubt immediately; especially in the case of indefinite descriptions like *a comet* (for debate on this issue, see Fodor and Sag, 1982; Ludlow and Neale, 1991). Stowell (1991), however, clarifies these assumptions and distinguishes quantified from referential noun phrases, adhering to the claim (with which we will not argue) that both types of expression have the status of argument XPs syntactically; referential expressions as DPs and quantified expressions as QPs. Quantifier expressions (QPs for Stowell) QR at LF for scopal reasons, as is described in May (1985), while referential expressions need not.

In any event, the asserted referentiality of full NPs (including expressions like *a comet*) is what Stowell initially claims requires the presence of a determiner in such expressions. This as against adjectival expressions, which do not refer and hence, require no determiner or syntactic instantiation of their Spec positions.

One can immediately speculate about the claims that would accompany such an approach. Stowell (1989) is led to claim that (a) determiners are obligatory for reference and quantification; and (b) adjectives are distinct in their semantics from nouns in that nouns specify membership in a class that constitutes a **kind**, whereas adjectives need not. Both of these claims rely on assumptions that are considered controversial in the semantics literature, only Stowell nowhere provides arguments supporting those assumptions.

Stowell (1989) continues by providing arguments in support of the DP hypothesis, which I will not describe since we are adopting the basic DP hypothesis in this thesis. Then he reiterates the claim that the paradigmatic noun phrase refers;

and furthermore, that determiners are the referential categories involved, and not nouns, as he had previously hinted. Now the question becomes one of whether the presence of a determiner and reference are biconditionally related; is it that a noun phrase achieves reference iff there is a determiner present (or for Stowell, if  $D^0$  is realized)? As Stowell accepts the phenomenon of predicate nominals, which include determiners, obviously the biconditional is too strong.

### 3.2.2.2 Stowell's syntax and semantics

Stowell (1989) rejects the idea that we are proposing, namely that determiners in a Small Clause predicate are adjoined, do not head the entire noun phrase, and hence do not immediately ensure reference or quantification. He rejects the idea on the basis of (a) the cost of allowing a functional head to serve as an adjunct (while we have already adopted this approach for  $A^0$ ); and (b) the occurrence of prenominal genitives in Small Clause predicates, which Stowell claims cannot be adjoined due to their phrasal status. We will discuss prenominal genitives in predicate nominals in Chapter 4, but it pays to note here that Stowell (1991) is somewhat more complete on the status of prenominal genitives than is Stowell (1989).

Stowell (1991) mentions Abney's claim that there is a null determiner in prenominal genitive DPs licensing them as DPs. But what is the status of this null determiner when the genitive construction functions as a predicate--if the null determiner, as claimed by Abney, is what lends the construction its status as

definite? Stowell (1991) says "The null D seems to be a semantically vacuous predicate head in this context." (Stowell, 1991, p. 48). What does **that** mean? So the determiner is **null**, it's a **head of DP** (which is here a **predicational DP**), and it's semantically vacuous. Why is it supposed to be there at all? For purposes of consistency, I would guess, so that all noun phrases can be DPs even when D<sup>0</sup> is empty or semantically vacuous. A view commonly held, but not necessary, according to this thesis.

And so therefore, if determiners ought always to be heads of noun phrases, and predicate noun phrases do not refer, DPs must not necessarily be referential expressions. *Pace* Stowell (1989), our assumption is that although DPs are not necessarily referential, they are always quantificational when they are not referential. I suppose this argument, as noted above, does not hold against Stowell (1991). But I now return to the argument in Stowell (1989).

Here is where the really questionable semantics gets introduced. How does Stowell adjudicate between the D<sup>0</sup>-for-reference view and the DP-as-predicate-noun-phrase view? He combines them in one fell swoop by suggesting that even in a predicate, the determiner serves to "convert a predicate denoting INSTANTIATION of a kind into a predicate denoting MEMBERSHIP in the kind" (p. 257, cap's Stowell's). This follows the line of reasoning in Carlson (1977), who suggested that bare plurals name kinds.

We might observe that Stowell (1989) provides no analysis of predicational examples from languages that distinguish predicate from argument positions by

virtue of the possible non-occurrence of a determiner in the predicate (ex. *Jean est médecin*, French). Would his claim be that predicate nominals in those languages are still DPs? It turns out in Stowell (1991) that that's not the claim. The force of Stowell's syntactic/semantic generalizations is that there is a structural distinction between classes of predicate nominals in English and in French, for example. The claim is that the syntax/semantics of English and French predicate nominals can be shown to differ, in that in French both the determinerless version of the predicate nominal exists, and the one with the determiner exists:

- (40) a. *Jean est médecin*  
       b. *Jean est un médecin*

This is obviously not the case in English. How Stowell would deal with such French cases would probably take off from the way he deals with German data that are similar (in the 1991 paper), discussed below.

In order to accommodate cases like (41), which do not require prenominal determiners in the Small Clause predicate, Stowell (1989) posits **kinds with only one member**.

- (41) a. We elected John president of the class.  
       b. The queen appointed her lover treasurer of the realm.

(from Stowell, 1989)

Hence "instantiation" of the kind for such kinds automatically denotes "membership in the kind", since the kind is a singleton kind. In other words, no determiner is needed to convert the predicate from denoting "instantiation of the

kind" into "membership in the kind", because the predicate denotes the instantiation of a singleton kind. Once again, our question regarding French arises: Do all determinerless predicate nominals in French denote singleton kinds?

Even if I were to agree with the intuition that these cases differ semantically from their counterparts with prenominal determiners in the Small Clause predicate, it is not clear to me that the distinction is explained through this complex kind ontology:

(42) The president appointed Mark Spitz \*(the) first congressional swim instructor.

In (42) we seem to have an instance of the singleton kind "first congressional swim instructor", yet the determiner is obligatory. Stowell's rejoinder is that in such cases, where the determiner is obligatory, the NP does not denote a true kind like "man" or "king". Having a unique referent is not sufficient for a noun phrase to remain determinerless in such environments; the noun phrase **must** denote a singleton kind. So then the NPs "treasurer of the realm" and "president of the class" denote true singleton kinds, but "first congressional swim instructor" does not? Further evidence against this claim, and a more direct counterexample, is the sentence pointed out to me by Bob Fiengo:

(43) We appointed him vice president.

Or, the sentence (44):

(44) ? The law firm named her partner.

-where there may be more than one vice president of a company or partner in a law firm; and so the felicitousness of the determinerless predicates *vice president* and *partner* cannot rest on their denoting "true singleton kinds".<sup>11</sup>

But now I return to the French data above, in the context of some German data:

In German it is perfectly acceptable to form sentences of the following kind:

(45) a. Hans ist Zahnarzt

Hans is (a) dentist

b. Robert wurde technischer Ingenieur

Robert became (a) technical engineer

(from Stowell, 1991)

I suspect Stowell would analyze the French cases much like he does the German. The basic claim, stripping away unnecessary extras, is that words like *president* and *treasurer* in English may freely be used as titles. In German words like *dentist* and *doctor* may also be used as titles, and more freely used as titles than in English. Now, if title-type nouns form a special semantic class, namely, a class of nouns that are a special type of adjective, that would explain their occurrence as determinerless predicates in sentences like (45)(a)-(b) and also (41), in English.

So the proposal, then, in Stowell (1991) is that although the "Carlson-kind" analysis applies to cases like *John is an idiot*, it does not apply to the title class of nouns occurring in predicate positions (*treasurer* and *president* in English; these

plus titles like *doctor* and *dentist* in German). These are somehow adjectival in that they can appear prenominal, for example, while the *idiot-fool* type cannot. Hence, they may occur determinerless in predicate positions even though expressions like *idiot* and *fool* cannot.

Presumably the same facts hold true for French. I suppose that Stowell saw the need to make some revisions in the theory due to data from a language like German, but these sorts of subtle (theoretical) distinctions are open to counterexamples like:

- (46) a. We all dubbed John "Idiot of the Class".  
       b. I named Kris maker of the birthday cake.

-where "*Idiot of the Class*" and *maker of the birthday cake* surely seem to be titles, but don't seem to fall into the class of titles that *president* or *treasurer* do, or even that *doctor* or *dentist* do in German. For one thing, it would be extremely odd for them to occur prenominal: \**Maker of the Birthday Cake Kris*. I understand the sense in which Stowell means "titles" here, but surely more is needed than he suggests to explain why (47)(b) requires a determiner, and (47)(a) does not:

- (47) a. We elected Gordon president of the club.  
       b. I consider John an idiot.

A complete explanation of the facts would surely take into account differences in the semantics of *dub*, *deem*, *elect* and *appoint*, versus *consider*-verbs (of which there are rather few, anyway).

Finally, Stowell's analysis still does not adequately explain why only some determiners may occur in predicate noun phrases, and not others. What is it about determiners that may occur in predicate nominals that allows only them to convert predicates into membership predicates, as it were? And if there is some inherent quality of these that is doing the work, what is it? *Prima facie*, Higginbotham's explanation is more elegant just by virtue of providing an answer to this question.

I thus leave Stowell and retain my claim that  $D^0$  is not the head of predicate noun phrases, and next consider Longobardi (1991).

### 3.2.3 NPs or DPs as predicates? Longobardi (1991)

In contrast to the analysis proposed by Stowell, Longobardi's theory assumes that predicative noun phrases are not introduced by the category D.

Longobardi's (19) and (20) appear in (48) and (49):

(48) A 'nominal expression' is an argument only if it is introduced by a category D

(49) Reference and quantification (therefore, among other things, the determination of properties like the semantic import of grammatical number) are properties of the D position

(Longobardi, 1991, p.4)

Although Stowell makes no reference to the relationship between quantification and the D position, but rather opts for a Q position as the syntactic basis for quantification, Longobardi does relate D to quantification.

Primarily, Longobardi argues for N-to-D movement in the syntax for languages like Italian and at LF for languages like English, on the assumption that

the D<sup>0</sup> position is available in all languages for instantiation of arguments. As noted earlier, there are languages in which predicative noun phrases do not overtly manifest a prenominal determiner. Italian is one such language:

(50) a. Gianni e tenente

Gianni is [a] lieutenant

b. Gianni e amico di Maria

Gianni is [a] friend of Maria

c. Ti credevo amico di Maria

I believed you [a] friend of Maria

(from Longobardi, 1991)

On the basis of the contrast between these examples and ones in which the relevant noun phrases are arguments, Longobardi proposes (48) above. What Longobardi suggests is that even existentially quantified expressions, which are also determinerless in Italian, are introduced by the category D. The existential interpretation is, according to Longobardi, the default interpretation of any noun phrase occurring as an argument. Generics may be determinerless in English, but not in Italian, and thus are DPs in both languages with N-to-D movement for the noun in English. Proper names raise to D in the syntax in Italian, at LF in English. Most of the results that Longobardi derives are obtained on the basis of a lexical government requirement for empty heads. That is, when D is empty, and if D is not lexically governed, its noun complement raises at some level to the D position.

In light of all the evidence that Longobardi brings to bear, one conclusion he reaches is that DP can be an argument, NP cannot. Hence Longobardi says that

NP was shown not to be able to assume argument function if not introduced by an overt or empty determiner, i.e. if not the complement of a D position. This fact suggests that in a structured utterance (i.e. except from use in isolation, as in vocative and exclamatory expressions) NP can only be licensed through a predicative interpretation. (Longobardi, 1991, p. 7)

Longobardi's analysis, just like Stowell's, takes quite an excursion into the semantics of the constructions he is considering. I take no position on the sort of semantics Longobardi attributes to the sentences of Italian and English he uses as examples. More relevant to us is the fact that especially under the noun movement analysis proposed by Longobardi, predicate NPs are still not to be confused with argument DPs lacking overt determiners. Nowhere in Longobardi's article do I find an analysis of the structure of predicative NPs containing overt determiners. Thus I take it that Longobardi leaves the exact structure of these constructions as an open question, and I will continue to assume the structure proposed in section 3.2.0 for them.

#### **3.2.4 Similarities between $D^0$ and $A^0$**

On the basis of the data and arguments discussed by Stowell and Longobardi, as well as our own proposed theory that since predicate nominals are not referential or quantificational they are not DPs, the structure of predicational NPs assumed throughout the rest of this chapter will be one headed by N.

The analysis of adjectival constructions in Chapter 2 provides a model for the analysis of nominal predication structures. Recall that (following Bernstein (1992; 1993)) adjectives are argued to either project to transitive heads selecting a lexical XP complement or to be intransitive heads adjoined to XPs. We showed in Chapter 2 how a predication theory like Higginbotham's is compatible with this structural analysis, and provided evidence for the structural claims on the basis of the semantic analysis of adjectives in Siegel (1976). In Chapter 4 we will show how Higginbotham's thematic analysis can be extended to genitive constructions occurring in predication positions.

Since we are positing an NP structure to which DP is adjoined for predicate noun phrases, it seems reasonable to examine the syntactic and semantic parallels between the categories AP/A<sup>0</sup> and the categories DP/D<sup>0</sup> at this point. DP is structurally on a par with AP in that both are phrasal categories selected by X<sup>0</sup>s (AP by D and DP by V); and are headed by X<sup>0</sup>s that in turn select other phrasal categories. Bernstein has argued that A<sup>0</sup> can be analyzed as a functional head, which would serve to further the syntactic parallelism between D<sup>0</sup> and A<sup>0</sup>. We are making the additional claim that DP and AP are parallel in that as theta-identificational constituents in predicates, they can be adjoined to the predication XP (for us, NP).

Thus, as a constituent of arguments, D<sup>0</sup> serves to theta-bind an open position in its complement and thereby "close the predicate". In predicates, however, D<sup>0</sup> does not serve that function. We have claimed that adjoined determiners operate

analogously to intransitive adjectives in affecting theta-identification and upward percolation of a theta role for theta-marking of a subject. Similarly, as a transitive adjective,  $A^0$  autonomously theta-marks the NP projected from its complement. As an intransitive adjective, however, its open position is theta-identified with one in the noun--projecting the predicate up to be further unsaturated.

An additional parallelism can be found between transitive adjectives and, what we will call for ease of exposition, **transitive determiners**. Transitive adjectives never occur as sentential predicates:

- (51) a. \* the fact is mere  
       b. \* Harold is other  
       c. \* reconstruction was total  
       d. \* her force was sheer

Neither do transitive determiners:

- (52) a. \* the men were every  
       b. \* students are most  
       c. \* Ben and Sue are both  
       d. \* they are each

This in contrast to determiners like *many* and *few*, as well as cardinal numbers, which may occur as bare predicates:

- (53) a. the people in the room are few  
       b. the students are six  
       c. my family members are many

However, in contrast to *many*, *few*, and cardinal numbers, most weak determiners may not occur as bare predicates:

- (54) a. \* the woman is a  
 b. \* the brunettes are some  
 c. \* the children are a few (where *a few* is considered to be one determiner, on the simplest analysis)

Most likely the contrast between *many/few* and *some/a/a few*, etc. in this regard is related to semantic (probably set theoretic, --see Partee (1988); Higginbotham (1987) fn. 6; de Hoop (1992) Ch. 1) distinctions obtaining between the two sorts of determiner, as will be discussed below. Yet members of the latter class of determiners, that is, weak determiners other than *many* or *few*, are nonetheless found to occur in many predicational noun phrases, as mentioned throughout this chapter:

- (55) a. those are some lawyers  
 b. Mary is a liar  
 c. they are four idiots

### 3.2.4.1 A dual role for determiner

Despite the apparent breakdown in the analogy between the distributional behavior of intransitive adjectives and adjoining determiner heads (as shown by (54)), adjoining determiner heads can be analyzed as ambiguous determiners very

much like the ambiguous adjectives discussed in Chapter 2. Recall examples like those in (56):

- (56) a. Sharon is an attractive dancer.  
       b. Rachel is a beautiful brunette.  
       c. Bart is a good ballplayer.

We analyzed the adjectives in examples like these as occurring in two possible configurations: either as intransitive adjectives adjoined to NP or as transitive adjectives selecting an NP complement. We then said that the two possible interpretations of these kinds of sentence are each contingent upon a distinct structure. And finally, we claimed that on the transitive reading of each adjective, autonomous theta-marking takes place, whereas on the intransitive reading, autonomous theta-marking is unavailable.

Now consider the case of adjoining determiners. In predicational noun phrases we claimed that they effect theta-identification, and yet in arguments we claimed that they induce theta-binding. Well, a distinct reading is associated with each of these operations for determiners just as a distinct interpretation is associated with theta-identification versus autonomous theta-marking for adjectives. Quantificational readings of determiners are derived from a determiner head, theta-binding, structure. The adjectival reading of weak determiners is derived from an adjoining determiner, theta-identification, structure. Despite notable distinctions between the processes of autonomous theta-marking and theta-binding, what they have in common in this theory is that they both occur exclusively under a head-

complement configuration; whereas theta-identification occurs in an adjunction configuration.

Now one might object to this analysis, arguing (and correctly so) that the weak, cardinal interpretation of say, *few* and *many*, is available in argument positions such as those in (57). But although this type of interpretation is pretty closely related to the adjectival interpretation of weak determiners discussed by Higginbotham, it is not identical:

- (57) a. Few illustrious writers attended.  
 b. Many talented musicians played.

A two-fold notion that we are assuming in claiming that there is a predicative interpretation of indefinite, or weak, noun phrases is that:

- (58) a. there are no quantificational predicates,<sup>12</sup> and thus  
 b. there is no quantification and hence, QR at LF, out of the noun phrase predicate.

Therefore, in answer to the question: How can a theta-identification structure be appropriate in argument positions?--the answer is, it cannot. Determiners in argument positions are quantificational (or referential, on some views) and thus are always heads of DP, even when they are heads of weak quantifiers allowing a cardinal interpretation. Notice that this constraint on the distribution of structures works both ways:

The theta-identification structure is invalid in argument positions because it leaves an argument unsaturated. V will theta-mark the argument noun phrase

whatever its structure; but if it is the adjoined, theta-identification structure, a theta position in the NP remains open which needs to be discharged somehow--only there is nothing for it to theta-mark. So our adjunction structures cannot be argument structures.

On the other hand, as we just mentioned, the head structure will not do in predicate positions since it entails quantification and hence, potential QR at LF out.... of a predicate, against which Williams argued in 1983 and Higginbotham presented related arguments--which arguments we already accepted earlier on in this chapter.

### 3.2.5 Cardinal determiners

In fn. 6 of Higginbotham (1987) the following asymmetry is mentioned, which brings us back to the distribution in (51)-(54):

- (59) a. ?? They are few/many lawyers  
b. We met the lawyers, and they were few/many

Higginbotham points out this asymmetry as a "curious distribution" which is not "semantically governed", since all that **seems** wrong with (59)(a) in the sentential context (59)(b) is that the NP [lawyers] would be redundant at the end of the sentence; and (59)(b) as it stands **does** yield an adjectival interpretation of *few/many*. This does not, however, completely cover the curiosity of the distribution since sentences of the following form are unacceptable, and it hardly appears that redundancy is the cause of their awkwardness:

- (60) a. ?? We met the lawyers, and they were many fools.

b. ?? I called the officials, and they were few geniuses.

As against the sentences in (61), which are acceptable:

(61) a. We met the lawyer, and he was a fool.

b. I called the officials, and they were some geniuses.

What then could possibly explain the problem with (59)(a)? Note that, by the same token, what further remains to be explained is structures like those in (59)(b) (or (62)), which are acceptable, since the example in (63), just like those in (54), is unacceptable:

(62) the men are few

(63) \* the man is a

Although it is not clear that we will be able to find a complete explanation for these phenomena, perhaps some suggestions toward one are available.

Partee (1988) makes a principled distinction between cardinals and *few/many*. She proposes that the weak/strong ambiguity in *many* and *few* is attributable to a cardinal and a proportional reading for these determiners.<sup>13</sup>

Possibly, then, when *many* or *few* occur prenominally, they are always interpreted quantificationally, since they are semantically ambiguous determiners. Hence their adjectival interpretation is only available when they occur as bare heads, similar to how intransitive adjectives assume their prenominal adjectival interpretations when they occur as bare heads:

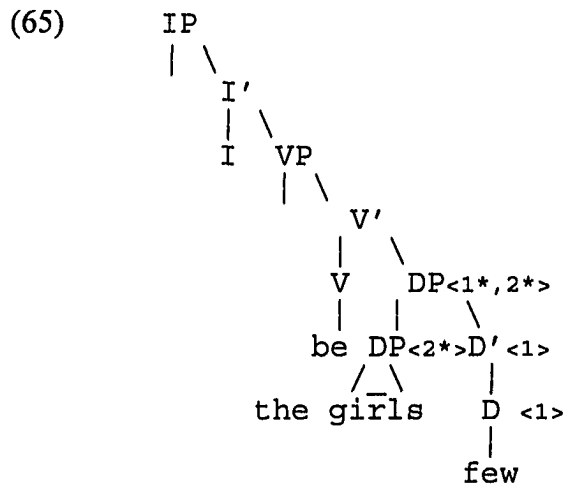
(64) a. Maria is beautiful

b. Karen is not happy

Other weak determiners (*a, s'm, some*), on the other hand, since they are **not** ambiguous determiners **quantificationally** (if Partee is correct), ie. they are always cardinal when quantificational, can be ambiguous prenominally between a quantificational and an adjectival reading. These determiners may not occur as bare heads, however, since their adjectival reading results precisely from their argument vs. predicate syntax; so that the predication syntax must be instantiated for the predicate reading to arise--namely, they must be adjoined (and not heads).

Hence we have the distribution that permits all determiners to occur in arguments, weak determiners other than *many* and *few* in prenominal predicate position, and *many* and *few* as bare predicates. We have so far proposed that the ambiguity that can be represented as a complement-taking determiner role and theta-binding for weak determiners in argument positions, versus an adjoining determiner head role and theta-identification for weak determiners in predicate positions, applies to **all** weak determiners.

But what eliminates (59)(a) seems not to be exclusively a fact about its syntax; and yet what eliminates (63) does seem to be a fact about its syntax. Suppose the structure of (62) parallels those of adjectival predicates (see Chapter 2):



Now recall what we said in Chapter 2 with respect to adjectives: some are transitive heads, and some are intransitive heads that can adjoin; yet those that can adjoin do not have to adjoin. Moreover, there are also some adjectives that are ambiguous between the transitive and intransitive possibilities. This, however, is slightly different from the position we will take on determiners:

Although determiners can **all** be  $D^0$  heads of DP and take complements, **some** may also, as  $D^0$ s, adjoin (*a, s'm, some*). Those that may adjoin, however, have the "complement-taking head" interpretation **unless** they are adjoined, as we suggested earlier. That is, if these determiners were to occur as bare predicates as in (63), the adjunction syntax would not be available, and their head, quantified reading would be forced thereby. Note that crucial to this explanation is the assumption that the ambiguity of determiners like *a, s'm*, and *some* need not rest on there being two lexical items represented by each of these spell-outs; one lexical item can be inserted into various structures, where the syntax of the particular structure decides how the phrase as a whole will be interpreted. Under this

assumption, the theta-identificational position of ambiguous determiners is optional, and is theta-identified with that of another predicative constituent in predicate nominals. Yet when the determiner is head of an argument nominal, it necessarily affects theta-binding and the optional theta-identificational position does not come into play.

*Many* and *few*, on the other hand, are **semantically** ambiguous determiners. Hence, the adjunction syntax need not arise for their ambiguity to become available, and in fact, is ruled out in their case. As a result, *few* and *many* may never adjoin to NP even when they are predicates. Sentences like that in (62) would thus be brought into the scheme in the same way as those in (64), since  $D^0$  is a head in (65) just as  $A^0$  is a head in the structure of the sentences in (64). Yet sentences like that in (59) are unacceptable because the head-complement syntax required in such cases (*many/few* + NP) is unacceptable in predicate position.

As a final remark in this section: In principle, what rules out sentences like those in (66) is that the **weak** determiners in them (when they are heads) must always take a complement:

- (66) a. \* a walked in  
b. \* s'm walked in

Contrasting with these cases, however, are examples like the following, in which the weak determiner has no complement (perhaps it is elided):

- (67) a. some walked in  
b. we adjourned and a few left

And along with these sentences, others with **strong** determiners in argument positions occur without complements to those determiners:

- (68) a. all left  
b. each walked in

This distribution is not explained by our analysis. It is, however, worthy of examination in an analysis of determiners occurring in argument positions.

### 3.3.0 Chapter Summary

The discussion in this chapter has taken into account issues in both the semantics and syntax of predicate nominals.

I have claimed that not all NPs are "referring expressions", or in fact quantifiers, but that some are predicates. This is not an original claim. But the claim that an NP's interpretation as either a quantifier or as a predicate is contingent on its syntax, and that it is contingent on how predication interacts with the placement of its determiner in particular, constitutes the contribution I have tried to make to a well-known problem.

### Notes to Chapter 3

1. Statements of the form in (3) are called Identity statements by Heggie (1988). Similarly, the term Identificational statement seems to have acquired several distinct uses in the literature; some more along the lines of Predicational statement and others more similar to Equative statement.

2. Partee (1987, p. 140, fn. 16) states the following, which directly contrasts with the standpoint adopted in Ludlow (1986) since both assume a Montagovian view of the semantics of noun phrases:

"There is yet another place where it seems evident that we want properties and not sets to play a basic role in what we are calling the  $\langle e, t \rangle$  domain. The **predicate** reading of "the owner of this land" should neither presuppose that the land has an owner nor depend on who the owner is if there is one. Although intensionality will probably complicate the type-shifting picture, I believe it is indispensable for a satisfactory analysis."

3. Notably excluded from this is names, which as NPs are defined as quantifiers in the generalized quantifiers framework of Barwise and Cooper and yet clearly assume reference. As mentioned previously, I remain agnostic on the question of whether definite descriptions (including those introduced by possessives) may assume reference.

4. NPs introduced by cardinal determiners may at times assume a partitive reading, however, as Milsark, Herburger and many others point out; just in case the NP containing the determiner is the subject of a Stage Level (Carlson, 1977; Kratzer, 1989) predicate:

(i) few children are playing

Although they are interesting, I will not discuss these analyses further in this context.

5. I omit the technical definitions of *positive* and *negative strong* given by B&C, since they are not necessary for the purposes of this introduction.

6. Definite descriptions can mostly be predicative when they are superlative, surely a fact about their semantics or pragmatics; and yet the distribution is strong enough that there seems no reason to assume that syntax is irrelevant here.

7. Not all speakers accept these examples of Higginbotham's, just as not all seem to accept examples in which *many* and *few* occur as "bare predicates":

(i)(?) the men were few

(ii)(?) the people in the library are many

Moreover, as Higginbotham himself points out, *many* and *few* are not intuitively symmetric. Yet they do have adjectival construals, "...*few* applying to contextually 'small' pluralities and *many* to 'large' ones" (Higginbotham, 1987, p. 68, fn. 6).

8. *Prima facie*, on Higginbotham's account, the ungrammaticality of the following is unexplained:

(i) \* John is a.

(ii) \* The lawyers are some.

Furthermore, as Higginbotham himself notes in fn. 6 to the 1987 article, the reason for the unacceptability of the following is not clear:

(iii) ?? They are few/many lawyers.

Hence, one note of caution: Even if we accept Higginbotham's proposal w.r.t. indefinite determiners, an overriding generalization that captures all the facts has yet to be proposed.

9. Although in Stowell (1981) subjects uniformly occur in the specifier position of the predicate, Manzini (1983) argues that subjects ought to be adjoined to the predicate. In Degraff (1992) arguments are provided for distinguishing the structures of the subjects of DP predicates from those of NP, AP and PP predicates in this regard. We are forced to deviate from Degraff's argument and claim that even NP, PP and AP predicates may have adjoined subjects, due to the adjunction of elements lower in the structure than the subject.

10. Note that here the DP subject is a one-word demonstrative (*that*), seemingly not comprised of a D-NP combination. Following various analyses in the literature, notably that of Longobardi (1991), we can posit a D-plus-complement structure for demonstratives despite their lack of an overt D-NP combination. Thus, our point still holds true for the sentence *that is a red coat*--the DP subject, in this case [<sub>DP</sub> that], has no open positions to be theta-identified with the one percolated up from the predicate, and is therefore theta-marked by the predicate.

11. It pays to note that speaker intuitions on this point are not consistent. Some speakers can only interpret *we appointed him vice president* as vice president of some specific department, so that it must be a true singleton kind.

12. Although comparatives, superlatives and apparently quantificational PPs may occur in predicate positions, I would argue that when these are in predicate position, although they contain a quantifier, the configuration and thematic mechanisms in the structure furnish an open position for theta-marking of a subject. See Chapter 5.

13. Other cardinal determiners are unambiguously cardinal but seem to have an ambiguity, because sometimes the set denoted by their associated CNP (common noun phrase) is presupposed to be non-empty, and sometimes it is not.

## **Chapter 4**

# **Genitives and Saturation**

### **4.0.0 Introduction**

In Chapter 2 a syntax distinguishing between two different types of adjective was given (from Bernstein, 1992; 1993), where one type is a transitive head of AP selecting a nominal complement, and the other type is an intransitive head of AP adjoined to NP. The saturation effects of the two different structures was shown to give rise to different kinds of interpretations for the two types of adjective. Chapter 3 continues the analysis by attributing similar basic structures and thematic mechanisms to predicate nominals introduced by determiners. In this chapter, I will extend the analyses of the previous two chapters to predicate noun phrases introduced by a genitive form.

#### 4.0.1 Genitives as adjectives

In Chapter 3 we brought the quantificational aspect of names and pronouns to bear on the discussion, in that we alluded to Barwise and Cooper's generalization that pronouns and the NPs containing names are strong. Barwise and Cooper's criterion for a determiner's being strong versus weak differs slightly from the criterion for adjectival character proposed by Higginbotham, and I shall not decide on the validity of either. The correct classification of the most commonly used determiners as either strong or weak is not really at issue, from the point of view adopted here. Our interest in this section is rather in exploring whether genitive constructions have a uniform interpretation no matter whether they are in argument or predicate position. For the sake of convenience, we will begin by classifying genitives as strong in the way that names and pronouns are strong for Barwise and Cooper.

Consider the following sentences:

- (1) a. Those books are Samantha's textbooks.
- b. Sheila is my friend.
- c. Boris is Jackie's lawyer.

Following a long tradition in both the philosophy of language and in linguistics, we now note that a predicative interpretation is available for the post-copular noun phrases in (1). One way of expressing the difference between the argument and the predicative interpretations of such NPs is by paraphrase: (1)(b), for example, has the paraphrases '*Sheila* refers to the same person as *my friend*

does', or 'Sheila is the friend I have' or 'Sheila is the only friend of mine', which, depending on the theory of definite descriptions one holds, (1)(b) might mean on the **argument** interpretation of *my friend*. But Sheila may be one amongst many friends I have, in which case an utterance of (1)(b) would also be true, and the NP *my friend* would function as a predicate.<sup>1</sup>

The example in (2) quite clearly exhibits the predicative interpretation of phrases with possessive forms:<sup>2</sup>

(2) I wouldn't want to be Steve's boss; I'd rather be his colleague.

In (2) the expressions *Steve's boss* and *his colleague* may have predicational interpretations, in that the sentence may mean something like 'I wouldn't want to be the object that satisfies the predicate *Steve's boss*; I'd rather be the object that satisfies the predicate *his colleague*'. On the argument interpretation of the expressions *Steve's boss* and *his colleague* the sentence means something like 'I wouldn't want to be *the actual person who is Steve's boss* (say, it's Dave); I'd rather be *the actual person who is his colleague* (say, it's Marvin)'.

We must once again recall that the sentences in (1) are ambiguous between an equative and a predicative interpretation. (The relevant distinction between the two interpretations is discussed more fully below, in section 4.1.) Hence the question of what allows genitives to occur in predicational position now becomes relevant, given that strong quantifiers are usually not admitted in predicational NPs. One might conclude, therefore, that genitive forms occurring as predicates or in predicational NPs are not strong. Or one might wish to investigate the possibility

that the NP introduced by a **genitive** is not **always** strong; even though the NP projected from a **name**, in Barwise and Cooper's terms, is always strong. Or, finally, the possibility that strong quantifiers may appear in predicative contexts might be examined.

*Prima facie* evidence that NPs introduced by genitives may sometimes be weak comes from facts about There-insertion. As mentioned earlier, one standardly assumed test for the "weakness" of an NP is that of whether or not it is acceptable in There-insertion contexts. The cases in (3) are all acceptable, as opposed to those in (4):<sup>3</sup>

- (3) a. There is [somebody's lawyer] at the door.
- b. There are [some bird's eggs] in that nest.
- c. There was [a woman's portrait] on the table.
- d. There were [two collectors' pictures] on the wall.
- (4) a. \* There are [John's stamps] on the table.
- b. \* There are [his suitcases] in the closet.
- c. \* There are [their favorite recipes] in that book.

The NPs in the examples in (3) seem to be truly weak: They are perfectly acceptable in There-insertion sentences. In fact, their behavior seems strikingly similar to that of other weak NPs that do not include genitives found in There-insertions:

- (5) a. There is somebody at the door.
- b. There are some eggs in that nest.

c. There was a picture on the wall.

d. There were two portraits on the table.

However, each of the post-copular NPs in (3) is introduced by a genitive form consisting of an NP that itself is weak, and yet has possessive morphology (*somebody's*, *some bird's*, *a woman's*, *two collectors'*). These facts are evidence that (a) an NP's having possessive morphology is not sufficient to guarantee that it is strong, and (b) that the strength or weakness of an entire NP can depend on the strength or weakness of an NP it contains. One question that we can ask, now, is whether only the NPs introduced by genitives that are admissible in There-insertion (such as those in (3)) share the property of being able to be predicational; or whether it is possible to find NPs introduced by a genitive where the genitive is a **strong** NP with possessive morphology (more like the NPs in (4)) in predicational position as well.

Now, given Higginbotham's suggestions regarding weak determiners, relevant to the consideration of whether a genitive form can ever be a predicate is the question of whether it ever behaves "adjectivally". Some evidence for the "adjectival" status of genitive proper names can be adduced from the fact that these may have **non-restrictive** interpretations similar to the non-restrictive interpretations of intersective adjectives. Intersective adjectives like *red* and *white* may have restrictive (R) or non-restrictive (NR) interpretations, similar to the interpretations of restrictive and non-restrictive relative clauses in English:

(6) a. There are two wines available: a red wine and a white wine.

(red=R; white=R)

b. There is a wine that is red and a wine that is white available.

(that is red=R; that is white=R)

(7) a. White snow fell on the ground.

(white=NR)

b. Snow, which is white, fell on the ground.

(which is white=NR)

Restrictive adjectives, as predicates, apply to some item or items among a larger class of such items. Non-restrictive adjectives do not do so. Instead, they apply to exactly the class of item(s) that the noun-predicate they modify applies to. The genitive forms in (8) appear to allow an interpretation in which they do not perform a restrictive function, but indeed serve merely to (further) describe the class of item(s) designated by the NP they precede:

(8) a. That's the deadliest insect in all of God's creation. (God's=NR)

b. We are waiting to see what will happen next in Yeltsin's non-Soviet Russia. (Yeltsin's=NR)

c. Apple's Macintosh computers use a different operating system than IBM's PCs do. (Apple's=NR)

Yet our consideration of the R-NR distinction is not complete in this context without a reexamination of the genitive forms in (3). Despite the possibility of NR genitive forms like the ones in (8), notice that the genitive forms introducing the noun phrases in (3) are R (the NR reading is much less salient than for the

adjective in (7), for example). This is not surprising; and in fact is predicted by the analysis of the syntax of R versus NR adjectives given in Chapter 2. Recall that NR adjectives were analyzed, following Bernstein (1992; 1993), as adjoined to a projection above NP in the structure of phrases like *soft white snow*; where if *soft*, for example, is NR in this phrase, it is adjoined outside of NP to a functional projection above NP (perhaps to NumP as suggested by Bernstein; see Chapter 2, section 2.4.0). The structural claim that will be argued for later in this chapter, and indeed, that is in the background of this entire thesis, is that predicate noun phrases (and perhaps post-copular subjects of There-insertion sentences) project to NP, and not to a functional projection (such as NumP). Hence, in parallel to adjectives, if a genitive form introduces a noun phrase and occurs in There-insertion or as a predicate, it cannot occur outside the NP predicate:

- (9) a. There are industrious students in that college.

(industrious=R)

- b. There are someone's pictures on that table.

(someone's=R)

Let us thus assume along with Higginbotham that weak determiners may sometimes be interpreted adjectivally, and note that genitives seem to share properties of weak determiners in their "adjectival" positions.

However, there is a further contrast between the genitive constructions in (3) and those in (8) that must be considered, in that expressions like *Apple's Macintosh computers* seem to be unacceptable in There-insertion independently of

the "no NR adjective" requirement for adjectives introducing There-insertion post-copular NPs. Any expression introduced by a proper name or pronoun is ruled out in There-insertion, no matter whether the proper name or pronoun has genitive morphology. So it is the fact that these are proper names and pronouns that prevents There-insertion for them, and not their genitive morphology, as evidenced by the acceptability of the the sentences in (3) and others containing post-copular expressions introduced by a weak noun phrase with genitive morphology.

A related fact is the (at least marginal) acceptability of the following (see Woisetschlaeger, 1983):

- (10) a. ? There was [the picture of a woman] on the table.  
 b. ? There is [the daughter of a barber] in the waiting room.  
 c. ? There is [the salesman from some shoe store] outside.  
 d. ? There were [the basemen from s'm Little League teams] in position.

These paraphrases of the sorts of NP examples given in (3) are not as acceptable as their prenominal genitive counterparts; yet that they are at all acceptable, in contrast to the examples in (11), shows that even with the definite, *the*, introducing a There-insertion post-copular NP, the NP's containing another indefinite NP allows it to occur in There-insertion.

- (11) a. \* There was [the picture of John] on the table.  
 b. \* There is [the daughter of the barber] in the waiting room.  
 c. \* There is [the salesman from Ferragamo's] outside.  
 d. \* There were [the basemen from those Little League teams] in position.

Thus the phenomenon introduced originally regarding the examples in (3), namely, that a "definite" NP can be acceptable in 'There-insertion' provided it contains a weak NP, is robust enough to allow room for a certain amount of doubt about any superficial method of classifying NPs as weak or strong. This, pushed to its logical conclusion, allows us to say that there is nothing definite about the genitive morpheme itself; it is (a) the NP to which it is attached, and (b) where in the sentence this NP occurs (if in argument or predicate position), that decides if a genitive form is definite or not.<sup>4</sup>

We can then propose that on their equative reading, post-copular noun phrases introduced by genitives follow strong, or definite NPs in being interpreted as definite quantifiers (they are arguments, after all). We can then further propose that on their predication reading, these same noun phrases follow other predication weak NPs in not being quantificational. More precisely, the genitive form occurring within a predication noun phrase is adjectival, in the sense suggested possible by Higginbotham for weak determiners.

#### **4.1.0 The semantics of "adjectival" genitives**

Consider the expression *Harold's tools* as it occurs in the following:

- (12) a. I am pointing at Harold's tools.  
b. Those are Harold's tools.

The difference between (12)(a) and (b) is the following: Whereas the truth of (12)(a) requires that I am pointing at all of the contextually determined members

of the set of Harold's tools, (12)(b), on its predicational interpretation, only requires that **the items in question be tools of Harold's**. Hence, abstracting away from the pragmatic differences between *I am pointing at* and *those*, (12)(b) <sup>^</sup>might be true even when (12)(a) is false. Thus *Harold's tools* in the examples in (12)(a)-(b) might be given the following representations respectively:

- (13) a. *the*(*x*): [Harold's (*x*) & tools (*x*)]  
       b. Harold's (*x*) & tools (*x*)

Now reconsider *Harold's tools* in (12)(b). The expression can be represented as in (13)(b) only on its predicative interpretation. Or, the predicative interpretation of the expression *Harold's tools* is the one represented in (13)(b). Not so for the interpretation of the expression when it is an argument. Then the salient representation is the one in (13)(a); or, in other words, the statement *those are Harold's tools* is true (when *Harold's tools* is not a predicate) if and only if the referent of *those* is identical to the contextually determined unique set (of sets) of Harold's tools.

Thus there is an ambiguity in interpretation for NPs with genitive determiners in post-copular position yielding a definite description reading for them when they are arguments, and an unquantified, modified NP reading for them when they are predicates. The reading of the genitive form on the latter interpretation is parallel to the reading of the adjectives in (14), such that *excellent portraits*, for example, in (14)(c) has the representation (15):

- (14) a. The wines on the table are sweet ones.

b. Those were lousy grades.

c. Sharon's paintings were excellent portraits.

(15) excellent (x) & portraits (x)

Obviously, there are structural implications to differentiating between the readings achieved in (13)(a) and (b), in that we would want to say that there are at the very least distinct logical forms for the two interpretations. Perhaps there is an elided determiner in the case of the possessive form in (12)(a). Abney (1987), in discussing the structural position occupied by 's, argues that "under an analysis in which determiner and possessor occupy the same position, there is no determiner at all, not even a deleted one, making it difficult to explain why possessed noun phrases have a definite interpretation. Under the elision analysis, we can assume that the determiner that has been deleted is definite" (Abney, 1987, p. 82). This statement surely applies to the interpretation of the possessive noun phrase in (12)(a). However, if the possessive noun phrase in (12)(b) does not have a definite interpretation, it seems unnecessary to claim that determiner elision takes place for this case, and the possessive form may occupy the syntactic position of D.<sup>5</sup>

If we take the interpretation of *Harold's tools* in (12)(a) as implying presence of a determiner not present in the interpretation of (12)(b), under the analysis in Barwise and Cooper this determiner fulfills the criteria for being positive strong, and all definite determiners are positive strong. Hence whether we wish to call this determiner definite *per se*, its quantifier expression nevertheless would have a strong interpretation in contrast to the predication, modification

interpretation we are analyzing for the expression *Harold's tools* in (12)(b). In the framework assumed by Neale (1990), based on that of Russell (1905; 1919), the implied determiner is definite, so that the interpretation of (16)(a) is as in (16)(b):

- (16) a. Smith's murderer is insane  
       b. [the  $x$ :  $x$  murdered Smith] (insane  $x$ )

The claim that we are making, then, is that when a genitive is the determiner in a predicate NP, Russell's definite description analysis does not apply and its interpretation does not include the presence of a definite determiner. If it is the case, however, that genitives in predicate positions can be construed as "adjectival" in the sense discussed by Higginbotham regarding weak determiners, we must presume that they have an open "predicational" thematic position similar in nature to the one in other adjectives that may occur in predicate positions:

- (17) a. the sneakers are smelly  
       b. the sneakers are many  
       c. the sneakers are mine

Hence we would imagine that this theta role, say in (17)(c), must be discharged in much the same way as it is in say, (17)(a). In Chapter 2 we analyzed sentences like the one in (17)(a) as Small Clauses at D-structure, with the subject in SpecAP theta-marked by the adjective in its own projection. Suppose we say that the subject in examples like (17)(c) is the subject of a Small Clause at D-structure, and is theta-marked by the genitive in predicate position of the Small Clause. As we will see in section 4.3 where the structures of Small Clauses are

discussed in some detail, the structure of (17)(c) deviates somewhat from that of (17)(a), but not in a way that blocks the interpretation of the genitive form as a predicate.

We also wish to extend the generalization regarding genitive forms as adjectival to sentences like the one in (18)(b), as it parallels cases like the one in (18)(a) which were discussed in Chapter 2:

- (18) a. those are smelly sneakers  
b. those are Harriet's sneakers

Recall that sentences like (18)(a) were analyzed as involving theta-identification between a predicative position in the post-copular noun, and one in the adjective adjoined to NP. Once again, leaving considerations of structure for section 4.3, we might note that theta-identification takes place between an open predication position in the noun with one in the genitive form, leaving one remaining position to theta-mark the subject of the sentence.<sup>6</sup>

#### **4.2.0 A previous proposal for theta-marking by the genitive-- Abney (1986; 1987)**

In Abney's (1987) discussion of the structural position of 's he suggests two possibilities for how to construe the syntactic role of 's: as a determiner which Case-marks through AGR with its subject, or as a postposition which marks Case, assigned through AGR with the noun complement to its subject. Abney discusses various other possibilities for how to think of the role of 's, and discards almost all

of them. Although he states no strong preference for either of these two possibilities, one reason he gives for opting for the latter is that there are languages like Hungarian in which possessors and lexical determiners co-occur, which to Abney's mind makes it difficult to see how the possessive form contains an independent determiner.<sup>7</sup>

Apart from whether 's is a determiner or not, Abney (1986) as cited in Abney (1987) assumed that 's uniformly assigns a theta-role to its subject. I want to distinguish the sort of theta-role that Abney is concerned with from the sort that we are concerned with here. Abney (1986) presented an account in which the role of Possessor is assigned to constructions containing 's where there is "actual possession" (possession in the sense of ownership) involved, and considered constructions like (19) in the framework of such an analysis:

(19) the city's destruction

Although Abney (1987) rejects the hypothesis that 's is a theta-assigning head in DP, I briefly discuss below the details of that analysis in order to show that it does not rule out the considerations we have brought to bear in the previous section.

In a phrase like *John's honesty*, Abney says, if John *qua* Possessor possesses the attribute of honesty, then John is honest. This notion can be captured by a principle of Possessional Entailment, according to Abney:

(20) Possessional Entailment:

Where *a* is an entity, and *b* is an attribute, Poss(*a*, *b*) --> *b*(*a*)

But what happens in a case like (19), where it does not seem that there is possession of some attribute? Abney (1986) as cited in Abney (1987) suggested that derived nominals also denote properties; "namely, that when the noun destruction is formed from the verb destroy, the interpretation of destruction is a property formed by abstracting over one of the two theta-positions of destroy, i.e., either  $\lambda x [\exists e [\text{destruction} (e) \ \& \ \text{Agent} (x,e)]]$  (where e=event position), or  $\lambda x [\exists e [\text{destruction} (e) \ \& \ \text{Patient} (x,e)]]$ " (Abney, 1987, p. 207). Hence, the construal of the phrase (19) is of possession of the property of destruction.

Why does Abney ultimately reject this account? On the account as presented in Abney (1986), *John's honesty* and *the city's destruction* are said to denote something, in that there is possession of some attribute or property by John and the city. The problem, however, is that there are relatively well-formed examples with pleonastics in the subject position of 's, such as *its being likely that John will win*; and Abney's (1986) account would be pushed to say that these phrases denote something, or that at the very least *it* is referential in these examples. As Abney (1987) acknowledges the problem with such an assertion, he rejects the hypothesis that 's is a theta-assigning head of DP.<sup>8</sup>

For the purposes of our suggestion that forms like *Sally's* and *his* can either: (a) theta-mark the subject of a Small Clause, or (b) effect theta-identification with a position in a noun they precede, we need only say that a possessive form (as induced by 's) contains a **predicational** thematic position, on a par with the thematic position proposed for intersective adjectives. Note that this argues for a

different thematic operation from the one proposed in Abney (1986), in which the **subject** of 's was argued to bear the thematic role of Possessor--later acknowledged by Abney to be a "referential" theta-role.

Naturally, it might be controversial to claim that *it* as an expletive can be referential, or the bearer of the thematic role Possessor. Yet this does not seem to be a counterargument to the claim that the thematic role we are positing is discharged by genitives. The theta-role proposed to be discharged from genitive forms via theta-identification with a role in the noun they precede is not open to counterevidence from expletives, since expletives are never found in the position immediately following a genitive:

- (21) a. \* That is Jonathan's it.  
       b. \* I consider the shoe Jonathan's it.  
       c. \* Jonathan's it is in his closet.

In addition, although expletive *it* certainly may occupy the subject of a Small Clause, interestingly, I cannot think of a case in which expletive *it* is subject of a clause in which it would have to be theta-marked by a possessive form. Note the contrast between (22)(a) vs. (b)-(d), and (23)(a) vs. (b)-(d); so that an expletive may be subject of a clause in which the predicate is an adjective (though even this is rather uncommon), but not one in which the predicate is a possessive form:

- (22) a. It's possible.        (*It*: expletive, not pronoun)  
       b. It's Barry's.        (*It*: pronoun, not expletive)  
       c. It's hers.            (*It*: pronoun, not expletive)

- d. It's someone's. (*It*: pronoun, not expletive)
- (23) a. It seems possible. (*It*: expletive, not pronoun)
- b. \* It seems Barry's. (*It*: expletive, not pronoun)
- c. \* It seems hers. (*It*: expletive, not pronoun)
- d. \* It seems someone's. (*It*: expletive, not pronoun)

Although they drive a wedge between the distribution of adjectives and genitive forms (seemingly not exactly desirable to our account<sup>9</sup>), these facts give us evidence for the claim that genitive forms do have a theta-role to discharge. Indeed, that seems possible as an explanation for why sentences like those in (23)(b)-(d) are ungrammatical--**the expletive subject is not able to be a bearer of a thematic role, and saturation is therefore incomplete.**

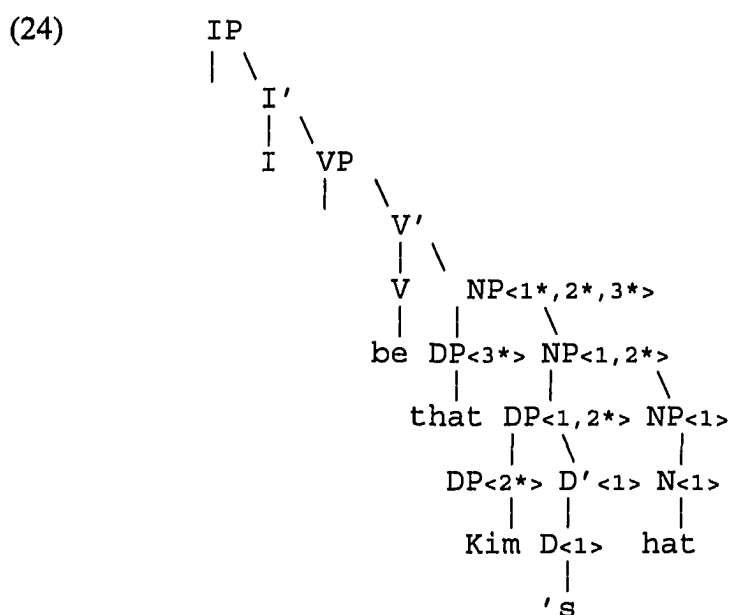
As a result of these considerations, therefore, on Abney's account of the genitive construction the expletive form *its* proves a problem for theta-assignment. On the other hand, however, our account, where theta-assignment is construed to operate by predicative possessive forms to the subject of the sentence, or by theta-identification with a position in the possessed, is not disproven by the behavior of the expletive.

#### 4.3.0 The structure of predicative genitive constructions

The discussion in 4.1 that argues for a predicative genitive construction, taken in conjunction with the discussion of the structure of predicate nominals in Chapter 3, has obvious implications for the structure of predicative genitives. We

can assume that genitives are DPs--the question is one of whether they always subcategorize an NP, or whether they may adjoin to NP in a fashion parallel to intransitive adjectives and adjoining determiner heads. Further, Abney's question (mentioned in section 4.1) of whether the 's morpheme occupies the position of determiner, in light of an elided *the* seeming to be implicit with possessives, would not be germane to predicative genitives, if (a) there is no *the* implicated in such constructions, and (b) the entire possessive DP adjoins to NP.

Let us then assume the structure (24) for possessive genitive cases:<sup>10</sup>



The structure (24) resembles the structure of a sentence like *that is a hat* quite closely. The notable difference between them is that the DP [<sub>DP</sub> Kim's] has a name in its specifier along with the D [<sub>D</sub> 's] as its head. Saturation of all thematic roles would proceed in similar fashion to how it proceeds in a sentence like *that is a hat* (described in section 3.2.0). Note that the open position in [<sub>DP</sub> Kim's] that must theta-identify with the predicate position of the noun projects

from the entire DP--yet it is 's that bears the predicate position which percolates up to the level of SpecNP to theta-identify with the predicate position of the noun. The <2\*> and <3\*> notations represent the closed DP status of proper names and demonstratives, as previously mentioned in Chapter 3.

Crucial to this analysis is the assumption that **argument genitive constructions** include a D<sup>0</sup> selecting a **complement XP**, parallel to transitive adjectives. The claim we are making is that the definite interpretation of argument genitives relies precisely on this head-complement relation for genitive constructions; an adjoined position for the possessive will not yield the argument interpretation, just as an adjunction position does not yield the argument interpretation for other adjoining determiner constructions.

Note, however, that the possessive even more closely than other determiners follows adjectives in its ability to be predicative. Although, as we reviewed in Chapter 3, sentences like those in (25) are ungrammatical, the ones in (26) are not:

- (25) a. \* John is a  
       b. \* Karen is some  
       c. \* those toys are s'm
- (26) a. the red car is Sally's  
       b. that diamond is Mary's  
       c. those toys are mine

Thus the structure of the cases in (26) in one way parallels the structure of various cases in Chapter 2. For sentences such as *the flower in the vase is the dark*

*yellow*, it was suggested that the adjective *yellow* may adjoin to an NP that elides. In the cases in (26), the genitive form is adjoined to NP (as is shown below), just like in (24), but there is elision of the noun head:

- (27) [<sub>IP</sub> [<sub>I</sub> [<sub>VP</sub> [<sub>V</sub> be] [<sub>NP</sub> [<sub>DP</sub> that diamond] [<sub>NP</sub> [<sub>DP</sub> Mary's] [<sub>NP</sub> diamond]]]]]]]

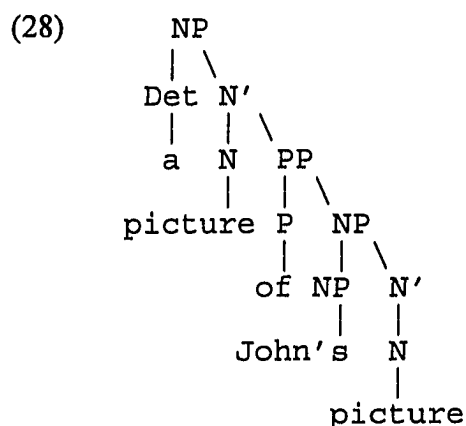
#### 4.3.1 Lasnik and Saito's (1992) proposal

An argument concerning this sort of analysis can be found in Lasnik and Saito (1992), and is based on constructions like *that is a picture of [NP John's [N' e]]*. Various aspects of this construction and others similar to it are discussed by Lasnik and Saito, and one fundamental problem they address is why *John's* in such a construction cannot be the bearer of an object theta role. I leave this problem aside, however, in order to synopsise their argument that is germane to structure (27).

Notice that *a picture of John's picture* is quite different in meaning from *a picture of John's* (although it is predicted by the structure I have given above that *a picture of John's* derives from the fuller structure). The former, fuller structure means something like 'a picture taken/drawn/painted, etc. of John's picture', while the latter means something like 'one of John's pictures'.<sup>11</sup>

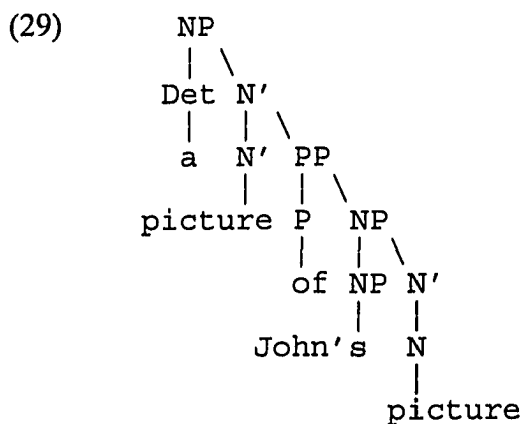
This discrepancy in interpretation is pointed out by Lasnik and Saito. Therefore, in the structure (28) which they give, they claim that N' deletion does not apply, and this is the structure for the reading 'a picture of a particular picture'.

N' deletion may not apply because there is no antecedent N' in the structure for the potentially elided N' at the bottom of the structure.



(Lasnik and Saito, p. 162)

In the structure (29), however, Lasnik and Saito claim N' deletion must apply, and this is the structure for the reading 'one of John's pictures'. With N' deletion that is the only possible reading, so that it seems the problem is solved. Why N' deletion ought to be obligatory in a structure like (29) is suggested by Lasnik and Saito to be due to a Condition C requirement, insofar as it may be that Condition C applies to N's as well as NPs (by hypothesis).



(Lasnik and Saito, p. 163)

I shall not explore the ramifications of this generalization of Condition C-- which, incidentally, Lasnik and Saito do not explore at any great length either. Rather, in order to address the dual interpretation issue raised by Lasnik and Saito, I will say the following: If it is the structure of the first occurrence of *picture* in either of these phrase markers that decides the possibility of N' deletion, based on the structure I have provided (structure (27)), in *a picture of John's* the first occurrence of *picture* would be an NP, allowing the lowest NP to delete due to the presence of the antecedent.

#### 4.3.2 Genitives and adjectives

One other set of facts worth considering is that in (30):

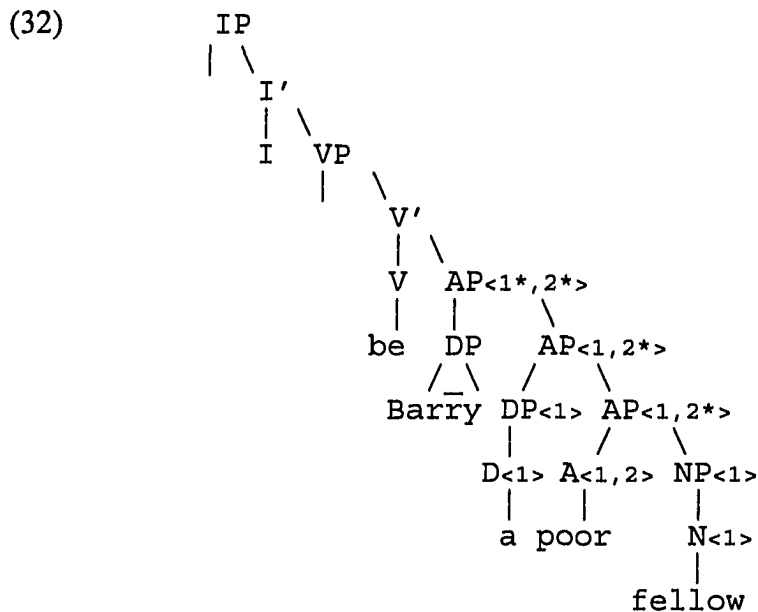
- (30) a. that was John's total destruction  
 b. that was Clinton's mere error  
 c. Barry is Tim's poor friend (poor=pathetic)  
 d. that was Iran's sheer disaster

Notice that in each of the examples in (30) the adjective is a transitive adjective, according to the criteria in Chapter 2. Hence the structure of the adjective-noun string in each case is [AP [A [NP]]], and not [NP [AP [A]] [NP]]. What is the position of the genitive form, however? Notice that the exact same question applies to the determiners in the sentences in (31), where the adjective projects to AP selecting NP, and not adjoined to NP.

- (31) a. that was a total destruction

- b. that was a mere error
- c. Barry is a poor fellow
- d. that was a sheer disaster

Here the predicative structure is the AP. So the determiners in (31) and genitive forms in (30) must be adjoined to AP, as in (32) and (33):



(33)  $[_{IP}[_{VP}[_{V}be][_{AP}[_{DP}that][_{AP}[_{DP}Clinton[_{D'}[_{D}'s]]][_{AP}[_{A}mere][_{NP}[_{N}error]]]]]]]$

The subject is adjoined to AP. Predication proceeds by autonomous theta-marking by the adjective of the NP, and theta-identification of the predicate position in AP with the open position percolated up from the DP determiner or genitive form, at the level of AP just below the maximal AP. This identified position theta-marks the subject adjoined to AP, which is then free to raise to SpecIP to receive Case.

Now as we shall see in the next section, the interpretation of relative adjectives (uniformly analyzed as transitive adjectives in Chapter 2) with respect to their complements is not uniform within genitive constructions. In fact, data from Swedish first brought to my attention by Holmberg (1993) show the unusual effects of relative adjectives in post-copular genitive constructions. What becomes apparent is that: (a) the interpretations of adjectival constructions preceded by genitive forms are subject to the complexity of the internal syntax of the entire construction; and (b) the relative interpretation of an ambiguous adjective may surface differently in such constructions from the interpretations of unambiguously relative adjectives (**obligatorily transitive adjectives**).

#### **4.4.0 Evidence from Swedish: some unsurprising facts and some surprising facts**

Although the syntactic analysis provided by Holmberg (1993) for predicative genitives in Swedish varies somewhat from the analysis given here, the facts mentioned in Holmberg's paper almost entirely parallel the ones for predicative genitives in English:

(34) Per är Johans/min lärare

Per is Johan's/my teacher

(Holmberg's (31))

Holmberg says that phrases such as *Johans/min lärare* in Swedish are ambiguous between an argument and an attributive, predicative interpretation. In

Holmberg's terms, the phrase *Johans lärare* in (34) "denotes a property which can be shared by many individuals" (p. 135). Its interpretation in (34), therefore, contrasts with its interpretation in (35), where the phrase occurs as an argument:

(35) Har du sett Johans lärare?

Have you seen Johan's teacher?

(Holmberg's (30))

This provides us with evidence from at least one other Germanic language that genitive NPs can have a predicative interpretation in post-copular position. The attributive, or actually, predicative interpretation is available in English, I have claimed, due to a structural ambiguity, and is therefore not lexically disambiguated within the genitive phrase. It seems to me that the same facts hold true for Swedish.

But Holmberg provides the following somewhat curious data, germane to the interpretations considered in our discussion. Although a predicative interpretation is allowed for *Johans/min lärare* in a sentence like (34), the expression *Johans nya lärare* is unambiguously an argument in (36):

(36) Per är Johans nya lärare

Per is Johan's new teacher

(from Holmberg's (33))

That is, if non-predicative NPs introduced by genitive forms are definite descriptions, as suggested earlier (throughout this chapter), *Johans nya lärare* seems unambiguously to be a definite description. Following Holmberg, we must

now raise the question of why this is so: Why is it that the intervention of an adjective between a genitive form and a noun prevents a predicative interpretation for the entire construction in Swedish; and in particular, why is it that the same fact holds true in English?<sup>12</sup>

(37) Peter is John's new teacher

*John's new teacher*: argument. Interpretation: seemingly definite

Presumably, if the adjectival construals of genitive forms parallel those of weak determiners, sentences such as (37) should have interpretations parallel to those in (38):

(38) a. that is a red car

b. Betty, June and Philip are three smart students

c. those are some salty peanuts

But the post-copular NPs in (38) are predicational, so there must be some distinction, either syntactic or semantic, between (37) and the examples in (38). Holmberg claims that the lack of ambiguity for (36) is not based on a semantic property of the construction, since (39) is possible:

(39) Per är en ny lärare till Johan, och Lisa är också en ny lärare till Johan.

Per is a new teacher of (lit. to) Johan, and Lisa is also a new teacher of Johan.

(Holmberg's (34))

The relevance of this example is that in virtue of the almost identical content of the conjoined clauses, no uniqueness appears implied in the use of *en*

*ny lärare till Johan*, the way uniqueness (in the sense of definite descriptions) is implied in the use of *Johans nya lärare*. So it is possible to achieve a reading in which (*till*) *Johan* and *ny* both have a predicative semantics, just not as they appear in (36).

Holmberg's analysis of the Swedish sentences is therefore syntactic, and relies on a derivation in which the possessor expression must move to a Spec position. Yet attributive adjectives are also analyzed as occupiers of Spec positions--in particular, SpecNP. Hence, *Johans* cannot move into SpecNP, in (36), since an adjective already occupies this position. The only possible landing site for *Johans*, then, is in the Spec position of a higher, functional projection, thereby closing off the nominal projection and yielding an argument expression.<sup>13</sup>

#### 4.4.1 A similar, yet different approach

The approach I will take in analyzing this data is quite similar in spirit to that of Holmberg's, but relies on the arguments presented in Bernstein (1992; 1993), Degraff and Mandelbaum (1993) and in Chapter 2 that attributive adjectives do not always occur adjoined to NP or in Spec of NP, but may project as heads to AP, selecting an NP complement. That various adjectives are ambiguous between transitive and intransitive occurrences will be crucial to the analysis of why *John's new friend*, for example, differs from *John's friend* in not allowing a predicative reading.

Recall that in the case of adjectives that may occur as "bare" predicates, we are following Degraff and Mandelbaum and Bernstein in assuming an adjunction structure for their prenominal occurrences; whereas in the case of adjectives that may not occur as "bare" predicates, we are following Degraff and Mandelbaum and Bernstein in assuming a head-complement structure for the adjective and its (complement) noun. In analyzing the thematic structures of transitive adjectives, we followed Degraff and Mandelbaum in Chapter 2 in saying that not only does theta-identification (as employed by Higginbotham) apply to the head and its complement noun, but autonomous theta-marking does as well. In autonomous theta-marking, as we said in Chapter 2, the adjective takes the value of the entire NP projected by its complement as the value of an open position it contains. Hence in an example like (40) the value of the autonomous theta-marking position in the adjective *old* is the NP projected from *friend*, yielding an interpretation something like 'old with respect to being a friend'.<sup>14</sup>

(40) [XP an [AP [A old] [NP [N friend]]]]

How is this relevant to the cases in (36)-(37)?

The interpretation of *John's new teacher* in (37) is actually something like 'new with respect to being **John's** teacher'; not 'new with respect to being a teacher, and John's', or 'John's, new, and a teacher'. This fact is critical to the analysis of the example (and others like it) since what we want, now, is a structure that yields the correct interpretation, and not one of the other, incorrect, interpretations. Given the discussion of autonomous theta-marking above, and that

we know that theta-identification yields conjunctive readings, we now must acknowledge that an autonomous theta-marking structure is necessary to achieve the interpretation of the post-copular phrase in (37).

Assuming the structures posited in Chapter 2 we now realize that *new* in (37) is a transitive adjective, and must at D-structure be in a position to autonomously theta-mark the DP projected from *John's*.<sup>15</sup> Thus the D-structure word order for the string is (BE) *Peter new John's teacher*, and the subject is in SpecXP in the Small Clause.

(41) Small Clause D-structure for (37):

[<sub>XP</sub> [<sub>DP</sub> Peter] [<sub>XP</sub> [<sub>AP</sub> [<sub>A</sub> new][<sub>DP</sub> John's]]][<sub>NP</sub> [<sub>N</sub> teacher]]]]

How is the S-structure achieved (abstracting away, for the moment, from the movement for Case purposes of the subject of the sentence)?

At this point, we must say that a movement of *John's* occurs--[<sub>DP</sub> John's] moves up to XP (the nature of XP to be discussed later). The movement is motivated by word order constraints of English and Swedish, and perhaps, Germanic in general. Yet interesting data from both English and Finnish, the latter not a Germanic language, lead me to believe that the word order constraint in effect is more universal than might be supposed.

Intuitively, it seems to be true that at S-structure possessives always precede adjectives in English--and in fact, in Swedish, this does seem always to be the case, as described to me by Anders Holmberg, p.c. Some data that conflict with the

intuition for English, however, are the following (suggested to me by Dan Seymour):

- (42) a. those are womens' new suitcases  
b. those are new womens' suitcases
- (43) a. a womens' new suitcase is expensive  
b. a new womens' suitcase is expensive
- (44) a. a womens' new black suitcase is available  
b. a new womens' black suitcase is available

Notice, of course, that the difference between the (a) and (b) cases in each of these examples is that the genitive-adjective order is reversed between them. Three properties of such constructions that are both interesting and of relevance to us are: (a) the possessive-noun combinations are not compounds, since another constituent may intervene between them (see (44)); (b) the sentences (a) and (b) in each pair may diverge in interpretation; and (c) (probably most relevant to our concerns,) what allows the possessive to be preceded by the adjective is that it is indefinite, so that it is predicted that any possessive construction allowed in There-insertion can occur postadjectivally in a string:

- (45) a. There are two presidents' old portraits on the table.  
b. There are two old presidents' portraits on the table.  
c. There are presidents' old promises to consider.  
d. There are old presidents' promises to consider.

Recall the discussion in Chapter 3 in which we noted that any expression introduced by a proper name or pronoun is blocked for purposes of There-insertion. Now it turns out in the present context that this fact is not an isolated fact, and that the S-structure word order in (37) (*Peter is John's new teacher*) is forced not merely by a "possessive always first" word order constraint, but once again, by the nature of the possessive form involved--ie., it is a **proper name** with possessive morphology. Now we are in a better position to give at least a description of when the movement occurs: If a possessive proper name or pronoun occurs in a string, it must be string initial; and this is most likely true for the same reason as proper names and pronouns are unacceptable in There-insertion.

Anders Holmberg informs me that expressions like *new womens' suitcases* are unacceptable in Swedish unless the possessive-noun combination is a compound; and the non-head in compounds (even if it is possessive) is non-referential. But he further has provided me with the following data from Finnish, which seem to parallel the facts in English:

(46) a. Meille on tullut uudet naisten matkalaukut.

to-us have come new-PL womens' suitcases

b. \* Meille on tullut uudet Liisan saappaat.

to-us have come new-PL Liisa's boots

In (46)(a) the possessive form is indefinite, whereas in (46)(b) it is a possessive proper name, ruling out the sentence. Further, the following is possible, so that *naisten matkalaukut* does not appear to be a compound:

- (47) uudet naisten mustat matkalaukut  
new-PL womens' black suitcases

One final example from Finnish is (48), where once again the adjective *vanha* precedes the genitive expression *vaalean oluen va"ri* ("old" precedes "light beer's color"):

- (48) Vanha vaalean oluen va"ri oli tummempi kuin ta"ma" uusi.  
old light-GEN beer-GEN color was darker than this new (one)

These facts seem to show that the movement of the genitive form in *John's new teacher* is motivated by its nature as a proper name; but we still need to answer the question of how the expression becomes an argument, in contrast to *John's teacher*, which may be a predicate even in Swedish.

#### 4.4.2 Movement yields an argument

And so ultimately, we must ask, how does the movement of the genitive DP to XP yield an argument interpretation for the construction? Recall the portion of Holmberg's analysis suggesting that the movement of *Johans* in (36) to the specifier of a functional projection closes off the projection and thereby yields an argument. I want to suggest that a similar effect arises on our analysis, based on the idea that determiners do not generally move, although here the genitive form (which is in part name, in part determiner,) is forced to move above the NP from which it originates. The nature of XP must be a functional projection such as DP. Similar to the notion of "extending a target" in Chomsky (1992), if [DP John's] has

moved out of its original predication domain and cannot adjoin to NP (since determiners do not usually move for further adjunction), it must move into a higher, functional XP; and thereby close off the post-copular projection yielding an argument interpretation for this construction.<sup>16</sup>

In the spirit of Hudson (1989) in which his "Condition on Saturation" prohibits internally saturated predicates, argument noun phrases are forced to have a position for the determiner (here (*John*)'s) outside the maximal projection NP. If Hudson is correct, cardinal determiners are generated in SpecNP and raise to SpecDP for quantificational use, and thus in our analysis we have maintained the motivations for Holmberg's and Hudson's analyses, while proposing our own reasons for a slight variation on them.<sup>17</sup>

#### 4.4.3 Conclusions from the English and Swedish data

The evidence and considerations we have brought to bear in this section show the contrast between cases from the previous section like *that was Clinton's mere error* and cases like *Peter is John's new teacher*. The former is allowed the interpretation commonly found in predicate positions, while the latter is not. Adjectives like *mere* when preceded by a genitive form autonomously theta-mark the noun that follows them, while adjectives like *new*, when used in their relative sense, autonomously theta-mark the genitive they are in construction with. What is interesting is that adjectives like *old* and *poor* on their transitive, relative readings seem to behave like *mere* adjectives in this regard, suggesting that not all

relative readings of adjectives are uniform in their behavior across constructions. This fact was pointed out in Siegel (1976) in different contexts than the ones with which we are concerned. Yet we can infer (roughly) from this data that argument readings are almost always partitive in some sense, since *John's new teacher* seems to be partitive in that it means something like 'the new one of John's teachers', while *Clinton's mere error*, if indeed a predicate, does not mean anything like 'the mere one of Clinton's errors'.<sup>18</sup> Thus it appears that one conclusion we can draw from this array of data is that if a partitive reading arises from an adjectival construction, it is contingent on what the adjective is syntactically modifying in the construction.

#### 4.5.0 Chapter summary

In this chapter we have extended the analysis of simple predicate nominals given in Chapter 3 to predicate nominals introduced by genitives, claiming that the genitive form may adjoin to NP in a manner akin to the adjunction of determiners to NPs in the case of other predicate nominals.

The next, and final, chapter takes up an issue that crosscuts the questions examined in Chapters 2-4: It is the issue of the syntax of superlative NPs, which are adjectival constructions in some sense, and noun phrases in another.

## Notes to Chapter 4

1. Fiengo and May (1994) discuss the argument-predicate distinction for genitive constructions in the context of their analysis of NP indexing.
2. This example was pointed out to me by Michel Degraff.
3. These facts were brought to my attention by Bob Fiengo.
4. See Woisetschlaeger (1983) for a similar discussion of NPs that are genitive in form yet contain indefinite determiners. Woisetschlaeger's results are similar to the ones here in that he claims that a structural ambiguity is what accounts for the definite/indefinite ambiguity in phrases like *a well-known mathematician's proof*. Yet they differ from the ones here, in that he derives from the paraphrases of expressions like *a Greek team's final news report* the result that this phrase has only one reading--the definite. Where my account varies from Woisetschlaeger's is in more specifically addressing the issue of in what syntactic contexts the structural ambiguity arises, so that an account of some of the idiosyncracies in distribution of the readings may emerge.
5. It is possible to provide a structure for definite genitive NPs in which there is an iterated DP (or PossP for Possessive Phrase in addition to DP), in that the genitive marker 's occupies D (or Poss for Possessive head) and the DP (or PossP) hosting the genitive marker projects to another DP the head of which hosts an abstract definite determiner. This is reminiscent of the structure for possessives in Kayne (1993b), Holmberg (1993), and Szabolcsi (in press). This sort of structure, however, is not the structure proposed in the text.
6. Presumably autonymous theta-marking can be said to occur from the genitive form to the NP projected from the noun in such instances, as well.
7. Abney mentions in passing that possessive noun phrases have a definite interpretation, but in no way qualifies what he means by this.
8. A hypothesis, although rejected in Abney (1987), proposed and maintained by Szabolcsi (in press); who provides a different structure for Hungarian possessive constructions than the structures discussed by Abney. Szabolcsi proposes that a formal ability to assign a thematic role, in order to satisfy the Theta Criterion, is all that is critical to attribute to the possessive morpheme.
9. *Prima facie*, the contrast between *it seems possible* and \* *it seems Barry's* creates a problem for our account if we want to claim that genitive forms are

actually a form of adjective (which may sometimes, due to syntactic position, obtain a definite interpretation).

However, of course, most adjectives may not take expletive *it* as their subject either. The distribution of the adjectives that may take expletive *it* as their subject is limited, so that the adjectives may sometimes occupy prenominal position (*an uncommon idea, a likely case, a possible confusion*); but nevertheless when expletive *it* is the subject of such an adjective, the adjective is not thought to assign it a theta-role (see Davis, 1984, for example):

- (i) a. It's uncommon.
- b. It's likely.
- c. It's possible.

Hence, even if we claim that adjectives and genitive forms are alike in possessing a predication thematic role, sentences such as those in (i) are not counterexamples to the claim.

10. For the purposes of the structures shown, I remain neutral on whether the D<sup>0</sup> 's assigns a thematic role Possessor to the noun phrase in its specifier (see earlier discussion of Abney w.r.t. this question). I therefore do not show a special theta role for the specifier noun phrase, above and beyond that of a closed DP structure, in the representations included here.

11. Relevant to this discussion is the observation (see forthcoming work by Chris Barker) that there are two distinct uses of *of* in the structures *a picture of John's* and *a picture of John's pictures*: *of* in *a picture of John's* is the partitive *of*; *of* in *a picture of John's pictures* is not.

12. Notice that although possessive phrases like (i) are acceptable as predicates in *consider*-sentences, possessive phrases like (ii) are not:

- (i) John's house:  
    I consider that John's house
- (ii) John's big house  
      ?? I consider that John's big house (*big* or *house* must be contrastively stressed to make the sentence acceptable)

13. Holmberg later provides arguments to emend the structure for post-copular genitive examples so that the ultimate structure looks like the following:

- (i) [<sub>NP</sub> Per [<sub>N</sub> n [<sub>POSSP</sub> Johans<sub>i</sub> [<sub>POSS</sub> Poss<sub>i</sub> [<sub>NP</sub> [<sub>N</sub> lärare c<sub>i</sub> ]]]]]]]
- Here PossP represents Possessive Phrase and nP represents a functional projection. Yet the major thrust of the analysis remains the same.

14. I omit the nature of the projection of *an* in this example so as not to distract from the issue at hand; namely that of the behavior of the adjective.

15. In Chapter 2 we said that As could only take lexical complements, and in fact, specifically only lexical noun complements. Note that the structure provided here is in violation of the generalization, but given the nominal contained in a possessive form (that is absent in bare determiners), that DP is a complement of A here does not seem implausible.

16. Note that even in the case of *a woman's new suitcase* the interpretation is specific, so that the expression is an argument--in contrast to *a new woman's suitcase*, which is (I think) undisputably able to be a predicate in *that is a new woman's suitcase*.

17. Arhonto Terzi points out some pertinent facts from Greek:

The facts in Greek (perhaps unsurprisingly) do not follow the same pattern as they do in English and Swedish. Although genitive constructions may have two different interpretations based on two distinct structures in English and Swedish post-copular position, there is no lexical reflex of the analyzed structural distinction. In Greek, distinct syntactic representations giving rise to the two readings are indicated by the presence or absence of the morpheme *o*, the morpheme for *the* in the nominative Case. Hence the distribution shown in (i) and (ii):

- (i) a. O Yiannis ine filos.  
The-NOM John-NOM is friend-NOM  
John is a friend
  - b. \* O Yiannis ine o filos.  
The-NOM John-NOM is the-NOM friend-NOM  
John is the friend
  - (ii) a. O Yiannis ine filos tis Marias.  
The-NOM John-NOM is friend-NOM the-GEN Mary-GEN  
John is a friend of Mary's
  - b. O Yiannis ine o filos tis Marias  
The-NOM John-NOM is the-NOM friend-NOM the-GEN Mary-GEN  
John is Mary's friend
- (interpretation of *o filos tis Marias*: the (x): [Mary's(x) & friend(x)])

(i)(a) contains the Greek predicate nominal form *filos*, which is the noun for 'friend' occurring in the nominative Case. Yet if the definite article is inserted into the sentence, as in (i)(b), the sentence becomes ungrammatical. In (ii), the contrast is shown between the definite form of the genitive and the genitive form expressed without the definite article *o*. Interpretively, the sentence containing the definite article before *filos*, (ii)(b), exhibits the "definite descriptions reading" of the Greek

expression for 'Mary's friend'. (ii)(a), or the sentence not containing the form *o* before *filos*, on the other hand, exhibits the non-definite reading of the Greek expression for 'Mary's friend', which realization I am told is necessary for a predicative interpretation of the NP. Thus what is an ambiguity in genitive constructions in English and Swedish is distinguished by two overtly different representations in Greek.

I leave open the possibility that examples like *Mary's friend* and *a friend of Mary's* are derived from the same structure. Note that the syntactic representation of the predicative interpretation of *Mary's friend* in Greek seems to more closely parallel the English *a friend of Mary's*. The question of whether the two expressions, *a friend of Mary's* and *Mary's friend* are close enough in interpretation to warrant positing the same structure for both is worth consideration, of course. See Kayne (1993b) for discussion along these lines.

18. Notice that there is a definiteness influence on interpretations even of possessive phrases containing adjectives like the color adjectives, which do not lend themselves easily to head, or relative readings:

(i) Those are Mary's red shoes.

Why should this be so?

According to the analysis of intersective adjectives like *red* maintained throughout this thesis, it would adjoin to [NP shoes] in the predicate. If *Mary's* were to further adjoin to NP, the configuration would be [NP [DP Mary's] [NP [AP red] [NP [N' shoes]]]]. Strictly speaking, this should yield the interpretation 'those are Mary's, and red, and shoes', equivalent to 'those are red shoes of Mary's'. This seems to me to be a perfectly felicitous interpretation, just not for the sentence (i).

My hypothesis is that the correct configuration is not the one in the previous paragraph, but one in which *Mary's* adjoins to NP and [AP red] adjoins to [DP Mary's]. Word order constraints would force *Mary's* to move above *red* in the structure, and once again, (à la Hudson) it moves to DP above NP.

## **Chapter 5**

# **Superlative NPs and Saturation**

## **5.0.0 Introduction**

In Chapter 2 we proposed a model for the structural analysis of adjectival constructions, following Bernstein (1992; 1993) in suggesting that some adjectives project to transitive heads selecting XP complements, while others may adjoin as intransitive heads to XP. We further claimed, based on Degraff and Mandelbaum (1993), that the structural analysis is supported by the predication theory in Higginbotham (1985; 1987; 1989a), and the Small Clause theory of predication of Stowell (1978), Burzio (1986), and Couquaux (1982). Chapter 3 applies the model for adjectival structure and predication to predicate nominal constructions containing indefinite noun phrases, and Chapter 4 to genitive noun phrases.

In this chapter, we will further extend the structural theory of predication by applying it to superlative constructions, and to various "partitive" structures. The discussion that follows represents the intersection of the topics of Chapters 2

and 3, in that it is concerned with degree-marked NPs containing adjectives in general, and those found in predicate positions in particular. A running theme, once again, in this chapter, will be that noun phrases headed by a functional projection like  $D^0$  are arguments, while those headed by a lexical projection are predicates. The role of Degree Phrase in these constructions will be shown to be that of a lexical category in some respects, and a functional, quantificational category in others.

A question that we will take up in section 5.2.3 is that of whether the only predicate nominals introduced by the determiner *the* are, in fact, those that are superlative.

### 5.0.1 Superlatives

Recall our claim that only certain structures are appropriate for predication. We have so far given an overview of the structures and thematic applications of adjectival constructions, simple predicate nominals, and genitive predicate nominals. The discussion of thematic discharge up to this point has been applied to complement-taking heads and adjoining heads, among the results being that: (a) saturation of predicates cannot occur under conditions where a transitive adjective has no complement to fill its attribute position; (b) transitives must become adverbial under conditions where there is no means for them to receive Case from a nominal complement, even when thematic discharge mechanisms are in place; and crucially, (c) determiners that are **absolute** in the sense of Higginbotham

(1987) may **thematically** play the role of adjectives in predicate nominal constructions. In this chapter, we will see that the definite determiner occurring in superlative constructions may play this latter role as well. One result that we will derive is that in predicate position, superlative constructions seemingly headed by a  $D^0$  determiner do not project to DP; in fact, they project to an XP that allows for thematic discharge mechanisms other than simply theta-binding to saturate the relevant open positions. Our account will continue to assume the basic structural apparatus proposed by Bernstein and the thematic mechanisms of Higginbotham discussed so far, and will follow a well-known tradition (see, for example, McCawley, 1981; Platts, 1979) in suggesting that superlative constructions are at least in part quantificational. I will therefore explore if they require an extra step in the discharge of all thematic roles.

According to Abney, evidence that comparative and superlative adjectives are quantifiers comes from the fact that (a) they must precede all descriptive adjectives,

- (1)    \* a big fancier car                    a fancier big car  
          \* the big fanciest car                the fanciest big car

(Abney, 1987)

and that (b) they license partitives and missing noun heads:

- (2)    [the better (of the two)] will win  
          [the best (of all)] will win

(Abney, 1987)

These insights will become relevant in section 5.3, but in any event, in addition to the evidence provided by Abney, we might consider comparative and superlative forms quantifier-like in that comparative/superlative forms of adjectives which do not accept the *-er/-est* affix are realized by the introduction of the quantifier *more/most*, as in (3):<sup>1</sup>

- (3) a. Marcy is [the [most beautiful girl]] at the party  
b. John has [the [most incredible laugh]]

Exactly what Abney means in saying that comparatives and superlatives are quantificational is not made clear, however (by him). For example, we can note that distributionally they do not behave exactly like other quantifiers. Comparative and superlative adjectives may appear as complements to cardinal numbers in the noun phrase, even in sentences where garden variety quantifiers are not admitted in this position:

- (4) a. these are [the [three best cooks]] I know  
b. \* these are [the [three most cooks]] I know

This is not a fact simply about cardinal numbers and selection of degree word complements, since the following sentences are perfectly acceptable:

- (5) a. there seem to be [three more cooks] than last night  
b. [three fewer cooks] worked that night than the previous night

Moreover, if a simple adjective (one that is not comparative or superlative) is substituted for the superlative in (4)(a), the sentence is still grammatical:

- (6) a. these are [the [three good cooks]] I know

b. these are [the [three silly cooks]] I know

This simple distribution shows that in (4)(a) the adjective camouflaged in the word *best* makes a contribution to the grammaticality of the sentence; and a contribution is not made exclusively by its quantificational element *-est*. In addition, the distribution demonstrates that there is something special about superlative morphology that distinguishes it from other uses of the morpheme *most*. And finally, the ungrammaticality of (7) demonstrates that there is something special about the use of *the* in superlatives, since the superlative form of the adjective is not enough to rescue the sentence without the appearance of *the*:

(7) \* these are [three best cooks] I know

Thus what Abney must intend is that the *-er* and *-est* suffixes are the quantificational elements in comparative and superlative constructions; and he does conclude that *most* in examples such as (8) quite literally replaces the affix of the superlative. This seems to be based on the possibility of improving examples like (4)(b) by introducing an adjective before the NP in such cases:

(8) these are [the [three most beautiful cooks]] I know

Hence comparatives and superlatives are adjectives that carry a quantificational feature in addition to their other adjectival features. Abney interprets this kind of quantification as degree quantification, so that adjectives, which already have the semantics of carrying a degree feature in and of themselves, are "degree quantified" when they are superlative or comparative. This follows one

semantic tradition regarding degree modifiers (for some recent examples, see Klein (1991) and Larson (1988)).

As stated just above, much of our machinery for evaluating superlative constructions is already in place. We start with the following assumptions:

- (9) (a) There is a syntactic distinction between argument and predicate noun phrases, such that predicate noun phrases do not project to functional projections such as DP that are quantificational in character.
- (b) There is a syntactic distinction between attributive, or relative adjectives and intersective, or predicational adjectives such that the former project as heads to AP selecting NP as a complement, and the latter project to AP and adjoin to NP.
- (c) The saturation of predicates via thematic role assignment must reflect such syntax.
- (d) Obligatory transitive adjectives cannot be degree modified unless exceptional conditions hold.
- (e) Case requirements force transitive adjectives to adopt adverbial morphology under conditions where they modify another adjective.

In order to support these assumptions, we must derive the result that superlative constructions occurring in argument position differ syntactically from those occurring in predicate position. Moreover, the structure of predicative superlatives ought to reflect the structures we have proposed for simple predicate

nominals; this since superlatives may sometimes be considered predicate nominals, being that their distribution mirrors that of the simple cases:

- (10) a. John is [a wonderful liar].  
       b. John is [the most wonderful liar I know].

Various linguists have been misled by the occurrence of the determiner in these constructions (Abney, 1987; Stowell, 1989; 1991), presuming them to be syntactically indistinct from argument noun phrases although semantically forming a special class. Longobardi (1991) has proposed that the DP structure maps onto argument noun phrases and the NP structure onto predicate noun phrases, although he does not consider the cases we are interested in here. I shall follow this line of reasoning, and based on the arguments in Higginbotham (1987) and those appearing in the earlier chapters of this thesis, argue that the determiner appearing in the superlative may occur in two different positions, depending on whether its role is to theta-bind an open position, or to theta-mark a projection contained within the maximal Degree projection.

### 5.1.0 The structure of argument superlatives

In the previous section's discussion we made certain assumptions about the structures of the comparative and the superlative: The morpheme *-est* is taken to be quantificational in nature, and it heads the DegP projection. And although the structures proposed in this section apply only to superlatives occurring in **argument**

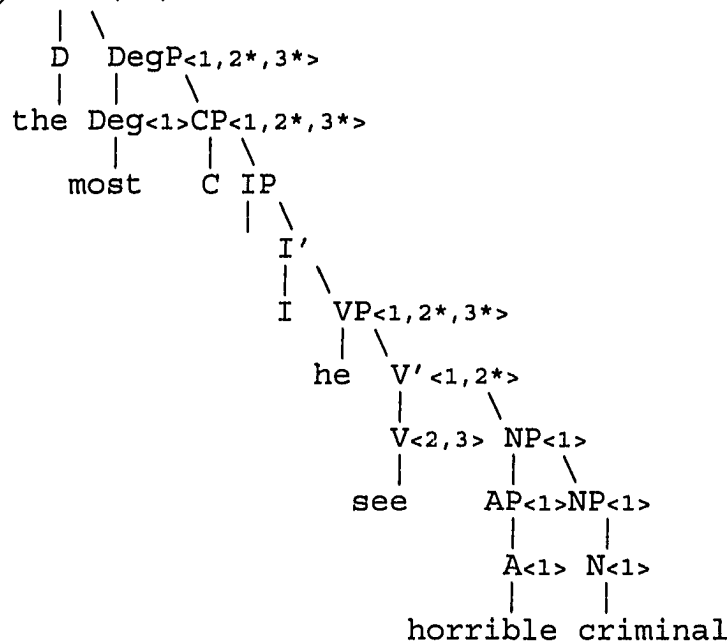
positions, they must reflect the divergent interpretations of transitive and intransitive adjectives.

What I shall call the **superlative complement** occurs as complement to  $\text{Deg}^0$ , and it is often CP, as in (11)(b):

(11) a. The funniest comedian in New York entertained us last night.

b. Batman brought the most horrible criminal he saw to court.

(12)  $\text{DP}_{\langle 1^*, 2^*, 3^* \rangle}$



Of course, an overt complementizer would be fine in (11)(b), so that even if the sentence read: ...*the most horrible criminal that he saw*..., structure (12) would still be the correct one.

This structure is parallel to the one proposed by Kayne (1993a) for the sentence *John bought the pictures of himself that Bill saw*. In that structure, CP *that Bill...* is complement to  $\text{D}^0$  *the*. NP *pictures of himself* originates internally to the clause *that Bill saw* and adjoins to CP to yield the surface word ordering. In

our case, CP ...*he saw*... is complement to Deg<sup>0</sup> *most*. NP *horrible criminal* originates internally to the clause *he saw*, and adjoins to CP to yield the surface word ordering.

What motivates this structure? Basically two general principles: (a) Leftward adjunction is to be preferred over rightward adjunction. This has been assumed throughout this thesis, and I see no reason to alter this assumption at this point, and (b) (echoing Kayne (1993a),) CP cannot plausibly be a complement to NP (in such a structure).

However, we have to ask if the superlative string in (11)(b) has just the one representation (12). It seems to me that the same ambiguity that occurs in the simple adjectival cases occurs in the superlative cases, to wit (11)(b), for example, has both the intersective reading 'the most horrible (that) he saw criminal' (in other words, 'the most horrible person who was a criminal (that) he saw'='the most horrible and criminal (that) he saw'), **and** the relative reading 'the most horrible (person) as a criminal (that) he saw'. This is reminiscent of the transitive/intransitive distinction for an adjective like *horrible* in cases such as (13):

(13) I met a horrible cook today.

a. horrible as a cook [<sub>AP</sub> [<sub>A</sub> horrible] [<sub>NP</sub> [<sub>N</sub> cook]]]

b. horrible and a cook [<sub>NP</sub> [<sub>AP</sub> [<sub>A</sub> horrible]] [<sub>NP</sub> [<sub>N</sub> cook]]]

As may have been noticed by now, the structure (12) is the one representing the intersective reading of the adjective and noun that follows it. The morpheme *most* must apply to the adjective, and not the adjective-noun combination. How is

this engineered? Obviously, affixation cannot occur. Or so it would seem. Let us suppose that the lack of affixation is a factor due to phonological form. It would seem that the interpretation of *most*-superlatives is identical to that of *-est*-superlatives. No constituent, as noted in section 5.0.1, may intervene between *most* and the adjective it modifies: *the three most beautiful women I know* vs. *\*the most three beautiful women I know* or *\*the most of the three beautiful women I know*, etc. Even in a case like (14), the determiner *most* applies to its adjacent adverb, and not the adjective following the adverb:

(14) the three most exceedingly beautiful women I know

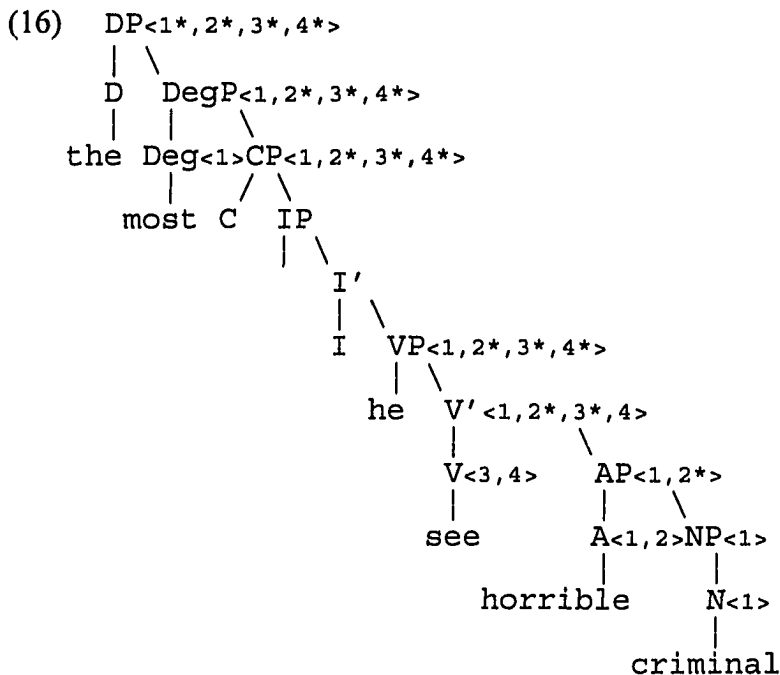
*most*: applies to *exceedingly*<sup>2</sup>

So there is evidence that *most* and the adjective with which it forms a superlative are a constituent, and in fact that the derivation requires that they form a constituent. Thus, after NP *horrible criminal* adjoins to CP, *horrible*, via successive adjunction, adjoins to DegP at LF to yield *the horrible most criminal he saw*, for purposes of (LF) interpretation. The position of the trace c-commanded by Deg<sup>0</sup> is what yields the intransitive interpretation of the adjective, and not the transitive interpretation. Note that this operation applies to all superlatives, including *least*, *most*, and *-est* forms. We can say that in the case of affixes, the adjunction is morphologically/phonologically motivated, as well as syntactically/semantically motivated. But the syntactic/semantic motivation applies to all the free morpheme forms of the superlative, and hence the same adjunction occurs at LF in those cases.

Now we must consider the case of the "relative-adjective superlative".

Given the structural contrast between relative and intersective adjectives, the structure for the relative-adjective superlative is fairly straightforward:

(15) Batman brought the most horrible criminal he saw to court.



Of course, the difference between this structure and (12) is that the adjective is a head with an NP complement. Successive cyclic adjunction allows the phrase [AP horrible criminal] to adjoin to CP and the adjective *horrible* to adjoin to DegP. The position of the trace of the adjective at LF is what yields the relative reading instead of the intersective reading of the adjective.

But, of course, we must describe how the theory of predication so far advanced in this thesis interacts with the structures we have just proposed.

As already mentioned, the structure of the superlative must yield both the interpretations of the adjective-noun combinations and the quantificational aspect

of the superlative morpheme that occurs in them. In the structure (16) autonomous theta-marking by the adjective of its complement NP occurs, to yield a transitive, or relative, reading of the adjective. The AP *horrible criminal* may only then adjoin to CP; and the adjective then adjoin to the degree head, in order to attain its superlative morphology. In the structure (12), autonomous theta-marking does not occur; only theta-identification between the adjective and noun obtains. This is allowed by virtue of the adjunction of the adjective to NP, prior to the CP adjunction of the NP *horrible criminal*, and of the adjective to DegP for its acquisition of superlative morphology.

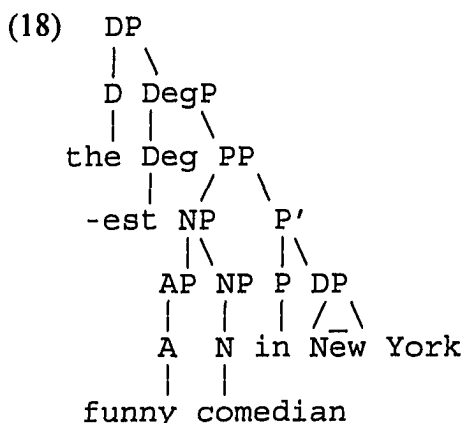
Degree quantification of the superlative requires c-command by the degree marker of the constituents in the structure over which the degree marker has scope. As discussed above, that the two readings for such strings differ in that on one reading, the superlative morpheme applies to a full AP and on the other, it applies to an adjoined AP is determined by the position of the trace of the moved adjectival constituent, and not by whether the post-adjectival NP is internal to the domain of the degree marker. This is because the post-adjectival NP must be internal to the domain of Deg on either reading.

One question that we have so far neglected to raise is that of what structure sentences like (11)(a) have:

- (17) The funniest comedian in New York entertained us last night. (sentence (11)(a) repeated)

Notice that immediately following the noun modified by the superlative is *PP in New York*. *Prima facie*, then, we need not propose a CP structure for the superlative complement; we could posit a simple PP. But how plausible is this, given that we have provided a clausal structure for the whole complement for the superlatives so far analyzed?

We can, actually, posit a PP for the structure of the superlative complement in (17). But it would not be a complement to *comedian*--it would be a Small Clause complement to Deg. This maintains the notion that the complement to the Degree head is clausal; it is, however, either PP, or CP as in the superlatives we've looked at above. The phrase *funny comedian* occupies the specifier of the PP Small Clause, as shown in (18):



What must happen in this structure is that [NP funny comedian] must adjoin to PP, and the remainder of the derivation is as proposed so far. Notice that PP Small Clause subjects can be extracted, as in *who is on the table?* In fact, occasional cases of subject extraction from PP Small Clauses in *consider* contexts may occur:

- (19) a. who do you consider above the age of reason?  
 b. which job do you consider beneath your dignity?

This gives us reason to believe that the movement of *funny comedian* out of Spec PP is a licit movement, allowing the derivation to proceed along the same lines as the other derivations proposed in this section.

### 5.2.0 The structure of superlative predicate NPs

In Chapter 3 we provided a distribution of noun phrases that can occur in predicate positions. Among the distribution were indefinite noun phrases and genitive noun phrases. But we also included superlative noun phrases, such as those in (20):

- (20) a. Billy is the sweetest guy I know.  
 b. Darci is the most gracious hostess in the county.

*Pace* Ludlow and Neale, I am going to claim, as argued in Chapter 3-4, that *the*-phrases may have predicational readings under certain circumstances; despite their seeming to be headed by a strong, definite determiner that does not have a cardinal reading. We have already argued, in Chapter 4, that genitive noun phrases may have a predicative interpretation. Now I will propose that the syntactic and thematic generalizations we have made in this thesis extend to cases of predicative *the*-phrases, and in particular, to predicative superlatives.

### 5.2.1 Superlative predicate NPs

It might seem that we can claim there is a predication reading for superlatives on the grounds that they are acceptable in *consider*-contexts:

- (21) a. I consider Bobby the best cook in town.  
 b. What kind of cook do you consider Bobby?  
 b'. The best cook in town.

I think one would be hard pressed to claim that (21)(b') is an argument; not only because it is the final phrase in a *consider*-sentence, but because it is the answer to a *what kind* question. Nevertheless, relying on the extraction fact is not sufficient, and saying that its occupying final position in a *consider*-sentence is what makes the superlative able to be predication begs the question of whether or not it is a predicate.

One way that I have heard it explained that superlatives like (21)(b') possess a predication interpretation is to say that the role of this phrase in the clause is simply to predicate of the subject of the clause that he/she 'cooks the best in town'. Of course, this will not do, since superlatives like the ones in (22) are equally productive:

- (22) a. the smallest car on the block  
 b. the biggest house in the neighborhood  
 c. the happiest marriage in the group

You certainly could not say that the role of (22)(b) is to predicate of something that 'it houses in the biggest way in the neighborhood'.

It seems to me that we either have to bite the bullet and just follow the conventional wisdom in accepting the superlative as a possible predicate, with no further discussion, or assimilate its analysis to that of simple predicate nominals, which have already been argued to be predicative in Chapter 3 (based on Higginbotham (1987); Williams (1983)):

- (23) a. that is a big house  
b. that is a bigger house

Recall that in Chapter 3 we argued that NPs introduced by indefinite determiners are not only predicational on one interpretation, but that this is due to the determiner's **adjectival character** as described by Higginbotham (1987). In keeping with the differentiation of the semantic class of a category from others by its syntax, we explained that determiners have a different syntactic position when they are functioning adjectivally from their position when quantificational. Yet the same ought now be said about determiners introducing a predicative superlative phrase: their syntax is distinct from the syntax of determiners introducing an argument superlative, if indeed it is the position of the determiner that affords an argument its argument status, and a predicational NP its predicative status. That the determiner introducing a superlative is definite eliminates it from consideration as being of adjectival character, but we can nevertheless justify a different syntactic position for definite determiners in predicative superlatives than in argument ones, as will be shown in the sections that follow.

Cases of **comparatives** introduced by a definite are fairly unusual, but of course do exist:

- (24) a. The better man will win.  
       b. I want the better man to win.  
       c. He is the better man.

Not only do such examples exist, they occur in *consider*-sentences:

- (25) a. I consider him the better man.  
       b. Which man do you consider him?  
       b'. The better man.

Now note that (b') here is the answer to a *which* question, not even a *what kind* question. Yet it is a perfectly acceptable response to the question asked in (25)(b). So the predicative status of these phrases cannot be contingent on what types of extraction they lend themselves to, which we had anyway noted above was probably not sufficient to diagnose them as predicative.

I will leave definite comparatives aside for the moment for reconsideration after we take up superlatives, since the definite article requires its own discussion.

### 5.2.2 Deg<sup>0</sup> and D<sup>0</sup>

Now if we want to propose a syntax for predication superlatives that is similar to that of simple predicate nominals, which we have argued are not headed by D<sup>0</sup>, and yet retain the basic structure proposed for argument superlatives, it is

predicted that the determiner ( $D^0$ ) in predicational superlatives will occupy an adjoined position.

Crucially, the argument version **and** the predicate version of superlatives have a determiner:

- (26) a. The smartest girl in the class raised her hand.  
b. I consider her the smartest girl in the class.

If Deg is really a functional head on a par with  $D$ , why would the determiner be necessary at all in these structures?  $Deg^0$  would theta-bind any thematic position from a lower portion of the structure, in an argument, and that would be that. Yet Deg must be deficient somehow in this regard, and hence, **D is still necessary to "close" the structure in the case of an argument superlative.** Now we have mentioned throughout various portions of Chapters 2-4 that  $A$  has properties of both lexical and functional heads. It would not seem unnatural to make the same claim about Deg, either as an extended projection of  $A$  in some environments (in the sense of Grimshaw (1991)) or as an obligatory projection (like transitive adjectives as analyzed by Bernstein (1993)), in our structures.

If Deg is in fact not entirely capable of functioning as a functional head, the presence of the determiner in argument superlatives is explained, and its presence even in predicative ones is worthy of being analyzed exactly as it is in simple predicate nominals. So what remains here is the determiner, which cannot theta-bind from an adjoined position anyway, as posited in Chapters 2-4. But the

determiner may have an open position which is subject to theta-identification in some configurations, and that theta-marks in others. Here the determiner must carry a role theta-identified with one percolated up from Deg to Deg', a role that **theta-marks the subject of the sentence**, itself the subject of a Small Clause. This might explain why [DP the] is not a head in such a structure, and why it is required at all, in fact, in a predicate with what looks like another functional projection as  $X^{\max}$ .<sup>3</sup>

Notice, of course, that this exactly turns around the question of why the determiner is required in a **predicational** superlative if **it does not theta-bind** any open positions, to the question of why it should be required in an **argument** superlative if **that phrase is headed by a functional head already**, namely, Deg<sup>0</sup>:

(27) \* Smartest student sits in the front seat.

Here, presumably, Deg<sup>0</sup> **cannot theta-bind** any open position percolated up from below within the structure. That is why (27) is unacceptable. Not only is it unacceptable--it is just ungrammatical.

To recapitulate, DegP, just like AP, is ambiguous with respect to whether it is a lexical or a functional projection. As discussed in Bernstein (1993), Mandelbaum (1994) as well as in Chapters 2-4, although maximal AP seems to host a lexical head in sentences of the nature of those in (28), AP also seems to share some properties of functional projections--particularly when it hosts an obligatorily transitive adjective (*mere*, *utter*, *other*, etc.).

(28) a. That artist is creative.

b. Daniel is intelligent.

c. She is funny.

What seems to be in the case of  $A^0$  is that for thematic purposes, it is a lexical head; and yet, as pointed out by Bernstein, for other purposes of the syntax, such as its uniform selection of an NP complement when it has a complement,  $A^0$  seems to be more like a functional head. Abney (1987) suggests that prenominal adjectives are elements that can be thought of as "auxiliary nouns" (p.327), and are therefore somehow functional.

We might wish to say about Deg that it is not a typical functional head, and is furthermore deficient in its quantificational force in arguments in the following sense: It is (a) not sensitive to the singularity or plurality of the noun it precedes, which is highly unusual for a determiner in English, and (b) cannot by itself introduce a definite description. Returning to Higginbotham's idea that the instantiation of the determiner *a* prenominally in the singular represents the notion (roughly) "in the amount one" (my paraphrase), we can say that this marking of singularity is necessary to a **comparative** phrase, for example, even if thematically, one would want to argue that the occurrence of the determiner is vacuous.

In the case of **superlatives**, on the other hand, which co-occur with definite determiners and not indefinite determiners, we might wish to say that the definite determiner is required when the superlative phrase is an argument because in order for the phrase to be a definite description, *the* must be present to introduce it--and not just Deg.

Hence I think the real question is not the question of why we would want to say that the determiner in a comparative or superlative is adjoined; but rather, why is it considered a head in so many other constructions headed by the "functional projection" Deg? The answer to this question, I believe, is that although Deg<sup>0</sup> is quantificational in nature, it is deficient in a way that D<sup>0</sup> is not. It is at least deficient in that it lacks a sensitivity to number, to which D<sup>0</sup> is not insensitive, and in that it cannot introduce a definite description, which *the* is capable of. Hence, although I assume that D is not neutral for the purposes of saturation in argument degree phrases (it is a theta-binder), this idea could be dispensed with, and yet D would still be obligatory for the purposes of number marking and the syntax/semantics of descriptions; and particularly in the case of an argument, it is obligatory for licensing of its noun phrase in order for that phrase to be visible as a legitimate quantifier at LF.<sup>4</sup>

### 5.2.3 *The predicate NPs*

In the previous section we raised the possibility that superlatives and comparatives are not always headed by D<sup>0</sup>. This leads us to the question of the structure of superlative predicates.

Of course, one can take the fairly simple position that all definite descriptions can be predicational, and that it is pragmatics, for example, that filters through certain definite descriptions and makes them less productive in predicative contexts (I believe this is the position that Higginbotham, for example, takes).

Then what we have to say about superlatives is not about any special kind of definite noun phrase, but extends to all NPs introduced by *the*. Or, one can take the extreme opposite point of view, also quite simple, and claim that no definite description may ever be predication, a view favored by Ludlow (1986) and perhaps Neale (1990).

We have already committed ourselves to accepting NPs containing genitive forms as possible predicates, as well as those introduced by indefinite determiners. It would seem in keeping with the majority of this thesis to claim that all NPs introduced by *the* may be predicative, and that there is nothing special about superlatives besides a pragmatics that allows them to be more easily construed as predication than other *the*-NPs.<sup>5</sup>

A form of evidence for this claim is the contrast between the following:<sup>6</sup>

- (29) a. Mary is the person that I like.  
b. Mary is the only person that I like.

Although I will leave research about the syntax, semantics and pragmatics of *only* for future work (but, for example, see McCawley, 1981, pp. 176-182), there does appear to be a contrast between (29)(a) and (b) in that whatever "uniqueness" (b) has it does seem focused by virtue of the occurrence of *only* in the post-copular expression. (29)(b) seems to be able to be paraphrased as 'Mary is the person I like most of all the people that I know' even when (29)(a) need not have this paraphrase--given the contrast, there may be many people whom I like and (29)(a) can still be true. Naturally, we could even go so far as to claim that (29)(b) has

a predicative interpretation as well (I don't think that this is out of the realm), but I will not pursue this here.

So the real contrast might be between (30)(a) and (b):

- (30) a. Mary is a person that I like.  
b. Mary is the person that I like.

I would argue that the descriptions in (30)(a) and (b) both have a predicative interpretation. To see this point, we can incorporate the *the*-description into the following sort of sentence:<sup>7</sup>

- (31) Mary wants to be [the person that I like].

This sentence is similar in form to the sentence in Chapter 4:

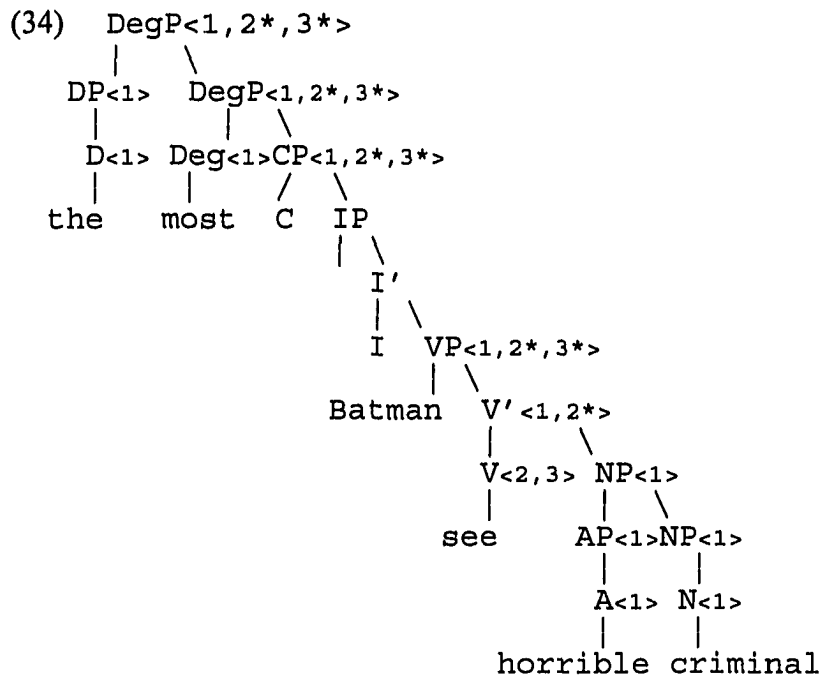
- (32) I wouldn't want to be [Steve's boss]; I'd rather be [his colleague].

Thus I will adopt the approach that all *the*-expressions possess a predicative interpretation when they occur in predicative environments, and that the predicative environment is conducive to the same sort of syntax for these expressions as it is for indefinites and possessives.<sup>8</sup> Since the current chapter is concerned with superlative NPs, however, (being an extension to superlative NPs of the adjective analysis in Chapter 2 and predicate nominal analysis in Chapter 3) I will provide the syntax for superlative NPs in the remainder of this section.

#### 5.2.4 The structure of superlative predicate NPs

Naturally, the following structure for superlative predicates is predicted:

- (33) The Penguin was the most horrible criminal Batman saw.



Not too much need be said I think, regarding the structure, that has not already been said about argument superlative NPs. Of course, the determiner is adjoined. Once again, I would argue that the determiner is still involved in theta-marking of the subject of the entire sentence (here [DP The Penguin]) containing the predicative superlative, via theta-identification with a role projected by Deg<sup>0</sup>.

As already discussed, the question arises with respect to the **argument** superlative: What is the function of D<sup>0</sup> as head of the structure, if Deg<sup>0</sup> can function as theta-binder? The response given in section 5.2.2 seems warranted; namely, **D is necessary to "close" the structure via theta-binding.**

In the case of the determiner *the* we cannot rely on number marking to explain its presence in a predicate the way we could with *a*, since *the* seems just as insensitive to number as Deg. And yet, once again, Deg is deficient in a way

that *the*, as a determiner in quantifier expressions, is not. The determiner *the*, as is widely accepted in Russellian analyses of definite descriptions, carries an existential, and carries a uniqueness implication with it. Now in the case of the predicate superlative NP (or any *the*-predicate nominal), it is precisely these two aspects of the Russellian analysis whose roles are subject to change (see Partee, 1987; McCawley, 1981 as summarized in Chapter 1). But in the case of the argument superlative, the presence of *the* is critical to the entire phrase receiving a standard definite descriptions interpretation, since if *the* is absent, Deg alone cannot provide the definite interpretation.

In summary, then, the claim that we are making is that for an argument superlative, *the* is critical to its receiving a definite descriptions interpretation. For a predication superlative, however, *the* is still necessary; for in providing a position for theta-marking of the subject of the sentence, it is what allows the phrase to be a predicate at all. The relevant generalization, then, alluded to throughout this thesis, is that:

- (35) **Only heads may close a structure for predication; adjoining elements do not.**

So in a sense, although this may seem odd, it is the very presence of *the* that disambiguates the argument from the predicate reading of the superlative--the interpretation is decided by virtue of what position *the* occupies in the structure.<sup>9</sup> Now of course, this explanation is immediately open to the question of why predicative superlatives cannot be introduced by *a*:

- (36) \* Katie is a most beautiful dancer in the company.

But of course, some superlatives can be introduced by *a*:

- (37) a. Katie is a most beautiful dancer.  
b. Erin is a most wonderful cook.

These constructions seem less like superlatives, and more like intensifier constructions. They can almost be paraphrased as 'a very beautiful/wonderful dancer/cook'. Hence I am led to believe that it is due to some deep fact about the syntax of genuine superlatives that they require *the* even when they are predicative, although I do not have a clear insight into why this should be so.

### 5.3.0 "*The-comparatives*"

Recall the examples in (24) and (25), repeated here as (38) and (39):

- (38) a. The better man will win.  
b. I want the better man to win.  
c. He is the better man.
- (39) a. I consider him the better man.  
b. Which man do you consider him?  
b'. The better man.

The first aspect of these constructions one notices is that their "*comparatives*" cannot really be described as "*the-comparatives* with the complement elided", in that they are partitive:<sup>10</sup>

- (40) a. The better man (\*than Paul) (of the two) will win.

- b. I want the better man (\*than Paul) (of the two) to win.
  - c. He is the better man (\*than Paul) (of the two).
- (41)
- a. I consider him the better man (\*than Paul) (of the two).
  - b. Which man do you consider him?
  - b'. The better man (\*than Paul) (of the two).

As pointed out in Abney (1987, p. 340--previously mentioned above, in section 5.0.1), Deg can "license partitives and missing noun heads". This is distinct from D, which cannot license partitives and missing noun heads:

- (42)
- a. \* The of the two will win.
  - b. The \*(pictures) of John are in his pocket.

Although I will not indulge in a lengthy discussion of the syntax of partitive constructions in general--since many of them are truly "strong quantifiers" and cannot be found in predicate positions (\* *I consider them most liars*; see Herburger (1993)), I think it is worthwhile to explain in this context why it is possible to find these "partitives" in predicate positions; a surprising fact due to the strong quantifier nature of most partitives.

Several strands of the preceding analyses must be woven together in an explanation of these facts.

### 5.3.1 Predicative partitives--a contradiction in terms?

I will begin this section by illustration with facts based on those in Mandelbaum (1991):

- (43) a. ?? I consider them most of the best players I know.  
 b. ?? I consider them each of the best players I know.  
 c. ?? I consider them both of the best players I know.
- (44) a. I consider them some of the best players I know.  
 b. I consider them many of the best players I know.  
 c. I consider them a few of the best players I know.

What we will have to concede, by virtue of this discussion, is that not all "partitives" are strong; or at least, that the term **partitive** may not always be appropriate to expressions of the form *determiner OF DP/NP*.

Consider the examples in (43) and (44). The expressions in (43) certainly seem degraded as compared to the ones in (44). The relevant difference between the two types of example is that the ones in (43) contain strong determiners preceding the superlative, whereas the ones in (44) contain weak determiners preceding the superlative. I think the contrast in acceptability is rather striking.

But noteworthy to these examples, is that, of course, they are (*inter alia*) *consider* cases. Which means that the entire "partitive" expression would have to be considered a predicate. The significance of this is that partitives, or at least, expressions that look very much like partitives, can occur in predicate position. Yet they are subject to a restriction: The determiner introducing the partitive must be weak, or the sentence is unacceptable.

Now we can take this in one of two ways: either partitives are not necessarily strong, or these are not genuine partitives. In fact, the "partitive"

expressions in (44) are acceptable even in There-insertion, which environment is what gave rise to the terms **weak** and **strong** in the first place (Milsark, 1974):

- (45) a. There are some of the best players I know on that team.  
       b. There are many of the best players I know on that team.  
       c. There are a few of the best players I know on that team.

The introduction of these expressions by a "weak" determiner seems to quite readily admit them in There-insertion. This is reminiscent of the examples with possessive forms in Chapter 4, also admitted in There-insertion due to introduction by a "weak" determiner:

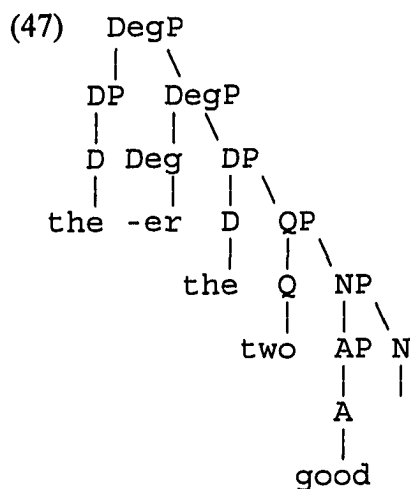
- (46) a. There is [somebody's lawyer] at the door.  
       b. There are [some bird's eggs] in that nest.  
       c. There was [a woman's portrait] on the table.  
       d. There were [two collectors' pictures] on the wall.

Some phrases introduced by genitives seemingly are "weak" just due to the nature of the "weak" genitive constituent introducing them. The same appears true of the "partitive" examples in (44), which although they superficially might seem like they must be "strong" quantifiers, occur in a distribution notoriously only admitting "weak determiner" expressions.

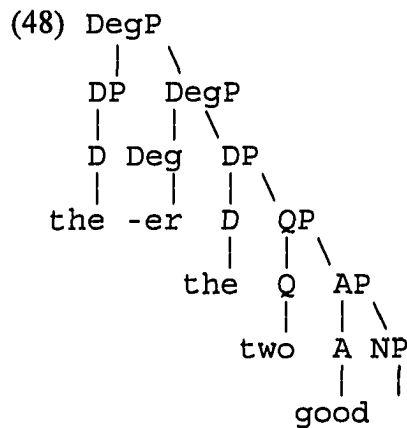
It would require a formal analysis of the set expressions involved to decide if they are true partitives, which I think is not crucial to the point we are concerned with. Rather, we are concerned with the syntax of constructions like the ones in

(39) and (41), which appear partitive according to the criterion that *determiner OF DP/NP* expressions are always partitive.

If the cases in (44) are any evidence for what types of *determiner OF DP/NP* examples are permissible in predication positions, we might want to assume that the "partitives" in (39) and (41) are introduced by the same type of determiner that "garden variety" predication superlative NPs are introduced by: one that adjoins. It is, of course, the degree head that licenses the "partitive", given the examples in (42). But in fact, the contrast between the sentences in (41) and (42) is moot, really, because the determiner is not a transitive head at all in these cases; it is adjoined:



The preposition *of* is inserted for Case. What is different from the cases of the superlative already covered in this chapter is that Deg here does not have a *bona fide* PP complement; NP, after all, can be completely empty even when the transitive/relative interpretation of the adjective occurs (meaning something like 'the better as a \_\_\_\_ of the two'):



If this structural analysis of "partitive" predicate NPs is correct, *the* introducing such cases behaves exactly as it does in other *the*-predicate NPs and does not have the primary syntactic property of the paradigmatic strong determiner; it is not a DP head. Hence whether we wish to call these expressions **partitive** or not, they conform to other NPs that may be predicational in distribution, and therefore, very likely in structure.

#### 5.4.0 Conclusions and further questions

The purpose of this thesis was to explore how saturation obtains in predicate positions, and more specifically, to explore whether a uniform syntactic and thematic distinction could be found to exist between noun phrases occurring in argument and predicate positions. Much work has recently been done on the structure of arguments, particularly since Abney (1987), and there has been much said **in passing** about the structure of noun phrases that are found in the standardly accepted predicate positions. But a project focusing exclusively on the saturation

and structure of predicate nominals seemed necessary to me, and thus I undertook an analysis of these constructions.

I have attempted to show that predicate nominals are not anomalous as predicates, and in fact behave very similarly to the ways in which adjectives behave as predicates. Thus the bulk of Chapter 2 was concerned with the syntax and thematic applications of adjectives, as this provided the framework for all the analyses to follow.

Naturally, many questions remain that are quite germane to the topic of this thesis. An exploration of the role of adverbs and intensifiers in the general scheme of predication is required to complement the arguments put forth in this work. Moreover, although I have touched on the relationship between adjectival predication and verbal predication in Chapter 2, I have not examined, in depth, how closely the two types of predication are related to each other; or conversely, what it is precisely that distinguishes them both syntactically, and semantically.

Chapter 3 contains the primary push for the major goal of the thesis, in arguing for the possibility of noun phrases to function as predicates, and in showing that a uniform syntactic approach to this predication is possible. Certain deeply held convictions of many philosophers of language, and indeed, many linguists, are called into question in the context of claiming, as I did in Chapter 4, that a phrase like "John's book" may be a predicate. A question that I find interesting and in some ways puzzling, raised to me originally by Richie Kayne, is that of why intersective readings of predicational elements including, say, nouns, adjectives,

possessive forms, and "weak" determiners can arise in the total absence of any syntactic form of conjunction at all. If anything, that their predicative, intersective readings can occur without a conjunction or other overt syntactic reflex other than word order is reason to think that: (a) these elements all really are alike in some way, and (b) syntactically, they must all behave in a parallel fashion.

Another question well-deserving of exploration is that of the semantics of non-restrictive adjectives. Their effects on the truth conditions of the sentences in which they occur seems very minor, and yet they are a productive, integral part of language. One possibility, reminiscent of old transformational analyses of these elements, (and raised to me by Dan Seymour) is that there are two sentences involved--but not at D-structure, and rather at LF--for instantiations of non-restrictive adjectives in a sentence; one sentence retaining the restriction of the noun modified by the adjective(s), and the other sentence allowing that noun's predication by the non-restrictive adjective(s). This implementation would be analogous to Davidson's (1984) paratactic theory of indirect discourse, if indeed that theory can be construed as an LF proposal. The derivation of the appropriate LF is a goal not realized between these pages, but one to work toward in the future.

Chapter 5 examined the structure of superlative NPs within the framework of the adjective theory proposed in Chapter 2 and the predicate nominal theory advanced in Chapter 3. Of course there are many degree constructions other than the ones discussed in this chapter, sharing attributes with the constructions covered here, and yet differing from them in various ways. Some of these constructions

include nouns, and others do not. An extension of the ideas proposed here would include an analysis of constructions like "a man as tall as John", which appear not to derive from exactly the structures and mechanisms argued for in the current chapter, but are closely related to these structures.

Although much research on the structure of predicative constituents remains to be done in the future, the proposals made in this thesis have set a framework for their investigation; and it is my hope that those proposals will shed some light on how all predicative elements are to be analyzed.

,

## Notes to Chapter 5

1. For ease of exposition I mention only *more/most* throughout, although *less/least* are obviously included among the quantifiers that form comparatives and superlatives.

2. In such cases the adjective *exceeding(ly)* must become adverbial due to Case factors covered in Chapter 2.

3. And further, perhaps, can serve as an explanation of why a "grace note" (Higginbotham, 1987) in the form of a determiner is present in such constructions.

4. This has obvious implications for the **plural** as a determiner; an issue which I recognize is of due importance, but to which I will not devote the space here.

5. As I am reminded by Bob Fiengo, superlative NPs are very natural candidates for an attributive interpretation (Donnellan, 1966), as in:

(i) the best pool player in this town is rich

-where the speaker may use this statement to indicate 'the best pool player in this town, whoever he is, is rich'. Whether there is a syntactic basis for the attributive/referential distinction is a valid question, and worthy of exploration in the framework of the analysis I propose--but I leave it for future research.

6. I am indebted to Richard Larson, Peter Ludlow, Dan Seymour, Judy Bernstein, and especially to Bob Fiengo and Richie Kayne, for extensive discussion on this issue.

7. For a formal explanation of how to maintain that *the*-expressions have a predicative interpretation without forgoing a Russellian definite descriptions analysis, see McCawley, 1981, pp. 176-182.

8. There are other classic examples of *the*-predicate nominals, such as:

(i) Jerrold is the man for the job.

I think there is something idiomatic about such a case, and therefore will not dwell on it here.

9. Another obvious question to ask in this context is why it is (phonologically) the same element, *the*, in both the case of the argument and of the predicate superlative that decides whether the phrase in fact will be an argument or a predicate.

But in a way this is a strange question--we easily could ask the same sort of question about quantifiers that are ambiguous between cardinal and proportional readings: Why is the same determiner employed whether a cardinal or a proportional reading of the phrase is intended? And hence we start a slippery slope

along which slide all phonologically indistinct elements that have rather different uses from each other.

The critical point being made in this section is that, (to repeat,) adjoining elements open a structure, or at least do not close it. If *the* is adjoined, the structure remains open. The element *the* has many functions; as noted earlier, attributive and referential uses of the same expression may both be introduced by *the*, for example. I therefore do not consider this question particularly interesting, and shall not address it further here.

10. I will ignore for present purposes the possibility of "the man better than Paul", since it is not clear to me that this sort of construction derives from the same structure as the ones at hand.

## Bibliography

- Abney, S. 1986. Functional Elements and Licensing. Presented at GLOW, Gerona, Spain.
- Abney, S. 1987. *The English Noun Phrase in its Sentential Aspect*. Doc. diss., MIT.
- Barker, C. and D. Dowty. 1993. Non-verbal Thematic Proto-Roles. In *Proceedings of NELS 23*, Amy Schafer, ed. GLSA, Amherst, 49-62.
- Barwise, J. and R. Cooper. 1981. Generalized Quantifiers and Natural Language. *Linguistics and Philosophy* 4, 159-219.
- Bellert, I. 1969. The Logico-Semantic Structure of Utterances. In *Studies in Syntax and Semantics* 10, Kiefer, ed. 34-54.
- Bernstein, J. 1992. On the Syntactic Status of Adjectives in Romance. Presented at the annual meeting of the Linguistic Society of America, Philadelphia.
- Bernstein, J. 1993. *Topics in the Syntax of Nominal Structure Across Romance*. Doc. diss., CUNY Graduate Center.
- Bernstein, J. 1994. The Syntactic Role of Word Markers in Null Nominal Constructions. *Probus*.
- Bolinger, D. 1967. Adjectives in English: Attribution and Predication. *Lingua* 18, 1-34.
- Bowers, J. S. 1975. Adjectives and Adverbs in English. *Foundations of Language* 13, 529-562.
- Bowers, J. 1987. Extended X-Bar Theory, the ECP and the Left-Branch Condition. In *WCCFL* 6, Crowhurst, ed. 47-62.
- Bresnan, J. 1973. Syntax of the Comparative Clause Construction in English. *Linguistic Inquiry* 4, 275-344.
- Burzio, L. 1986. *Italian Syntax*. Reidel, Dordrecht.
- Carlson, G. 1977. *Reference to Kinds in English*. Doc. diss., Univ of Massachusetts, Amherst.

- Chomsky, N. 1965. *Aspects of the Theory of Syntax*. MIT Press, Cambridge.
- Chomsky, N. 1970. Remarks on Nominalizations. In *Readings in English Transformational Grammar*, Jacobs and Rosenbaum, eds. Ginn and Co., Waltham, Mass.
- Chomsky, N. 1981. *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, N. 1986a. *Barriers*. MIT Press, Cambridge.
- Chomsky, N. 1986b. *Knowledge of Language*. Praeger, New York.
- Chomsky, N. 1992. A Minimalist Program for Linguistic Theory. *MIT Occasional Papers in Linguistics* 1, MITWPL.
- Couquaux, D. 1982. French Predication and Linguistic Theory. In *Levels of Syntactic Representation*, May and Koster, eds. Foris, Dordrecht.
- Corver, N. 1991. Evidence for DegP. *Proceedings of NELS 21*. Tim Sherer, ed. Univ. of Massachusetts, Amherst, GLSA.
- Culicover, P. 1988. Autonomy, Predication, and Thematic Relations. In *Syntax and Semantics 21: Thematic Relations*, Wilkins, ed. Academic Press, San Diego.
- Davidson, D. 1967. Truth and Meaning. *Synthese* 17, 304-323.
- Davidson, D. 1984. On Saying That. *Inquiries into Truth and Interpretation*. Clarendon Press, Oxford.
- Davis, L. J. 1984. *Arguments and Expletives: Thematic and Nonthematic Noun Phrases*. Doc. diss., Univ of Connecticut, Storrs.
- Degraff, M. 1992. The Syntax of Predication in Haitian. *NELS* 22. Amherst, GLSA.
- Degraff, M. and D. Mandelbaum. 1993. Why is my old friend not old? *CLS* 29. Univ of Chicago, Chicago.
- de Hoop, H. 1992. *Case Configuration and Noun Phrase Interpretation*. Doc. diss., Univ. of Groningen.

- Delsing, L-O. 1993. On attributive adjectives in Scandinavian and other languages. *Studia Linguistica* 47:2, 105-125.
- de Villiers, J. 1991. Why questions? In *Papers in the acquisition of WH: Proceedings of the UMass roundtable, May 1990*, Maxfield and Plunkett, eds. Univ. of Massachusetts Occasional papers, Univ. of Massachusetts, Amherst.
- Diesing, M. 1990. *The Syntactic Roots of Semantic Partition*. Doc. diss., Univ of Massachusetts, Amherst.
- Diesing, M. 1992. *Indefinites*. MIT Press, Cambridge.
- Donnellan, K. 1966. Reference and Definite Descriptions. *The Philosophical Review* 75:3, 281-304.
- Dowty, D., R. Wall and S. Peters. 1981. *Introduction to Montague Semantics*. Reidel, Dordrecht.
- Emonds, J. 1979. Appositive Relatives Have No Properties. *Linguistic Inquiry* 10, 211-243.
- Epstein, E. L. 1980. Non-Restrictive Modifiers: Poetic Features of Language. In *Studies in English Linguistics: For Randolph Quirk*, Greenbaum, Leech and Svartvik, eds. Longman, London.
- Fabb, N. 1990. The difference between English restrictive and nonrestrictive relative clauses. *Journal of Linguistics* 26, 57-77.
- Ferris, C. 1993. *The Meaning of Syntax: A Study in the Adjectives of English*. Longman, London.
- Fiengo, R. 1988. Indexing and Reference. ms., CUNY Graduate Center.
- Fiengo, R. and R. May. 1994. *Indices and Identity*. MIT Press, Cambridge.
- Fodor, J. D. and I. Sag. 1982. Referential and Quantificational Indefinites. *Linguistics and Philosophy* 5, 355-398.
- Fox, B. A. and S. A. Thompson. 1990. A discourse explanation of the grammar of relative clauses in English conversation. *Language* 66, 297-316.

- Frege, G. 1891. Function and Concept. In *Translations from the Philosophical Writings of Gottlob Frege*, Geach and Black, eds., 3rd edition, 1952. Basil Blackwell, London.
- Fukui, N. 1986. *A Theory of Category Projection and its Applications*. Doc. diss., MIT.
- Fukui, N. and M. Speas. 1986. Specifiers and Projection. *MIT Working Papers in Linguistics* 8, MIT, Cambridge.
- Geach, P. 1962. *Reference and Generality*. Cornell Univ. Press, Ithaca.
- Giorgi, A. and G. Longobardi. 1991. *The Syntax of Noun Phrases*. Cambridge Univ Press, Cambridge.
- Giusti, G. 1992. Heads and Modifiers among Determiners: Evidence from Romanian and German. *University of Venice Working Papers in Linguistics*. University of Venice, Italy.
- Giusti, G. 1993. Enclitic Articles and Double Definiteness: A Comparative Analysis of Nominal Structure in Romance and Germanic. *University of Venice Working Papers in Linguistics* 3:1, 83-94.
- Grimshaw, J. 1991. Extended Projection. ms. Brandeis University.
- Heggie, L. 1988. *The Syntax of Copular Structures*. Doc. diss., USC.
- Heim, I. 1982. *The Semantics of Definite and Indefinite Noun Phrases*. Doc. diss., Univ of Massachusetts, Amherst.
- Hellan, L. 1981. *Towards an Integrated Analysis of Comparatives*. Gunter Narr Verlag, Tübingen.
- Herburger, E. 1993. Focus and the LF of NP Quantification. *Proceedings of SALT III*.
- Higginbotham, J. 1985. On Semantics. *Linguistic Inquiry* 16, 547-594. Reprinted in *New Directions in Semantics*, Lepore, ed. Academic Press, London, 1-54.
- Higginbotham, J. 1986. Linguistic Theory and Davidson's Program in Semantics. In *Truth and Interpretation: Perspectives on the Philosophy of Donald Davidson*, LePore, ed. Basil Blackwell, Oxford.

- Higginbotham, J. 1987. Indefiniteness and Predication. In *The Representation of (In)definiteness*, Reuland and ter Meulen, eds. MIT Press, Cambridge.
- Higginbotham, J. 1988. Contexts, models, and meanings: a note on the data of semantics. In *Mental Representations*, Kempson, ed., Cambridge Univ. Press, Cambridge.
- Higginbotham, J. 1989a. Elucidations of Meaning. *Linguistics and Philosophy* 12, 465-518.
- Higginbotham, J. 1989b. Knowledge of Reference. In *Reflections on Chomsky*, George, ed. Basil Blackwell, Oxford.
- Hoeksema, J. 1983. Plurality and Conjunction. In *Studies in Model-theoretic Semantics*, GRASS 1, ter Meulen, ed. Foris, Dordrecht.
- Holmberg, A. 1993. On the structure of predicate NP. *Studia Linguistica* 47:2, 126-138.
- Hudson, W. 1989. Functional Categories and the Saturation of Noun Phrases. *NELS 19*, J. Carter and R.-M. Déchaine eds. Amherst, GLSA.
- Jackendoff, R. 1977. *X-Bar Syntax: A Study of Phrase Structure*. MIT Press, Cambridge.
- Jayaseelan, K. A. 1988. Complex Predicates and Theta-Theory. In *Syntax and Semantics 21: Thematic Relations*, Wilkins, ed. Academic Press, San Diego.
- Kamp, J. A. W. 1975. Two Theories about Adjectives. In *Formal Semantics of Natural Languages*, Keenan, ed. Cambridge Univ Press, Cambridge.
- Kayne, R. 1979. Rightward NP Movement in French and English. *Linguistic Inquiry* 10, 710-719.
- Kayne, R. 1993a. The Antisymmetry Theory of Syntax. ms., CUNY Graduate Center.
- Kayne, R. 1993b. Toward a Modular Theory of Auxiliary Selection. *Studia Linguistica* 47:1.
- Kester, E-P. 1993. The inflectional properties of Scandinavian adjectives. *Studia Linguistica* 47:2, 139-153.

- Klein, E. 1980. A Semantics for Positive and Comparative Adjectives. *Linguistics and Philosophy* 4, 1-45.
- Klein, E. 1991. Comparatives. In *Semantics: An International Handbook of Contemporary Research*, von Stechow and Wunderlich, eds., de Gruyter, Germany.
- Kratzer, A. 1989. Stage-level and Individual-level Predicates. ms. Univ of Massachusetts, Amherst.
- Larson, R. 1987. "Missing Prepositions" and the Analysis of English Free Relative Clauses. *Linguistic Inquiry* 18, 239-266.
- Larson, R. 1988. Scope and Comparatives. *Linguistics and Philosophy* 11, 1-26.
- Larson, R. 1991. The Projection of DP and DegP Structure. Presented in the CUNY Graduate Center Colloquium series.
- Lasnik, H. and M. Saito. 1992. *Move  $\alpha$* . MIT Press, Cambridge.
- Leffel, K. and D. Bouchard. 1991. Introduction. In *Views on Phrase Structure*, Leffel and Bouchard, eds. Kluwer, Dordrecht.
- Lepore, E. (ed.) 1987. *New Directions in Semantics*. Academic Press, London.
- Link, G. 1983. The logical analysis of plurals and mass terms: a lattice-theoretical approach. In *Meaning, Use and Interpretation of Language*, Bauerle, Schwarze and von Stechow, eds. Walter de Gruyter, Berlin.
- Longobardi, G. 1991. N-movement in Syntax and LF. ms. Univ of Venice, Italy.
- Ludlow, P. 1986. *The Syntax and Semantics of Referential Attitude Reports*. Doc. diss., distributed by IULC, Bloomington.
- Ludlow, P. 1989. Implicit Comparison Classes. *Linguistics and Philosophy* 12, 519-533.
- Ludlow, P. 1991. Review of *The Representation of (In)definiteness*. *Journal of Semantics* 8, 277-286.

- Ludlow, P. and S. Neale. 1991. Indefinite Descriptions: In Defense of Russell. *Linguistics and Philosophy* 14, 171-202.
- Mandelbaum, D. 1991. When Nominals are Predicates. *Proceedings of ESCOL 91*. OSU, Columbus, 222-233.
- Mandelbaum, D. 1993. Adjectival Positions in the Noun Phrase: Heads and Adjunctions. *The Penn Review of Linguistics*. Univ. of Pennsylvania, Philadelphia, 165-176.
- Mandelbaum, D. 1994. Genitives in Predicate NPs. Presented at the annual meeting of the Linguistic Society of America, Boston, MA.
- Manzini, R. 1983. *Restructuring and Reanalysis*. Doc. diss., MIT.
- May, R. 1985. *Logical Form*. MIT Press, Cambridge.
- McCawley, J. 1981. *Everything that Linguists have Always Wanted to Know about Logic*. University of Chicago Press, Chicago.
- Milsark, G. 1974. *Existential Sentences in English*. Doc. diss., MIT.
- Milsark, G. 1977. Toward an Explanation of Certain Peculiarities in the Existential Construction in English. *Linguistic Analysis* 3, 1-30.
- Neale, S. 1990. *Descriptions*. MIT Press, Cambridge.
- Parsons, T. 1970. A Semantics for English. ms.
- Parsons, T. 1990. *Events in the Semantics of English: A Study in Subatomic Semantics*. MIT Press, Cambridge.
- Partee, B. 1980. Montague Grammar and Issues of Psychological Reality. *Univ of Mass Occasional Papers in Linguistics* 5, 93-110.
- Partee, B. 1987. Noun Phrase Interpretation and Type Shifting Principles. In *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, Groenendijk, de Jongh, and Stokhof, eds. Foris, Dordrecht.
- Partee, B. 1988. Many Quantifiers. *Proceedings of ESCOL 88*. OSU, Columbus.

- Perlmutter, D. 1970. On the Article in English. In *Progress in Linguistics*, Bierwisch and Heidolf, eds. Mouton, The Hague.
- Picallo, M. C. 1991. Catalan Possessive Pronouns. Talk delivered at the CUNY Graduate Center.
- Pitt, D. 1994. Modification and Thematic Roles. ms. Philosophy Dept., CUNY Graduate Center.
- Platts, M. 1979. *Ways of Meaning*. Routledge and Kegan Paul, London.
- Pollock, J.-Y. 1983. Sur Quelques Propriétés des Phrases Copulatives en Français. *Langue Française* 58, 89-125.
- Pollock, J.-Y. 1989. Verb Movement, UG and the structure of IP. *Linguistic Inquiry* 20, 365-424.
- Quirk, R., S. Greenbaum, G. Leech and J. Svartvik. 1978. *A Grammar of Contemporary English*. Longman, London.
- Rappaport, M. and B. Levin. 1988. What to Do with Theta-Roles. In *Syntax and Semantics 21: Thematic Relations*, Wilkins, ed. Academic Press, San Diego.
- Rijkhoff, J. N. M. 1993. Word order in the languages of Europe: the simple noun phrase (a preliminary report). *Eurotype Working Papers* 5, Siewierska, ed. European Science Foundation, 64-100.
- Rizzi, L. 1990. *Relativized Minimality*. MIT Press, Cambridge.
- Rochemont, M. 1986. *Focus in Generative Grammar*. John Benjamins Pub. Co., Philadelphia.
- Rothstein, S. 1983. *The Syntactic Forms of Predication*. Doc. diss. MIT.
- Rothstein, S. 1991a. Syntactic Predication: a Syntactic primitive or a thematic relation? ms. MIT, Cambridge.
- Rothstein, S. 1991b. Heads, Projections, and Category Determination. In *Views on Phrase Structure*, Leffel and Bouchard, eds. Kluwer, Dordrecht.
- Russell, B. 1905. On Denoting. *Mind* 14, 479-493.

- Russell, B. 1919. *Introduction to Mathematical Philosophy*. George Allen and Unwin, London.
- Safir, K. 1987. What Explains the Definiteness Effect? In *The Representation of (In)definiteness*, Reuland and ter Meulen, eds. MIT Press, Cambridge.
- Santelmann, L. 1993. The distribution of double determiners in Swedish: Den support in D<sup>0</sup>. *Studia Linguistica* 47:2, 154-176.
- Santorini, B. and S. Mahootian. 1994. Code-switching and the syntactic status of adnominal adjectives. ms. Northwestern University, Evanston.
- Siegel, M. 1976. *Capturing the Adjective*. Doc. diss., Univ of Massachusetts, Amherst.
- Sigurðsson, H. A. 1993. The structure of the Icelandic NP. *Studia Linguistica* 47:2, 177-197.
- Smith, C. 1961. A Class of Complex Modifiers. *Language* 37, 342-365.
- Stowell, T. 1978. What Was There Before There Was There? *CLS-14*, 458-471.
- Stowell, T. 1981. *Origins of Phrase Structure*. Doc. diss., MIT.
- Stowell, T. 1983. Subjects Across Categories. *Linguistic Review* 2, 285-312.
- Stowell, T. 1985. Null Antecedents and Proper Government. In *Proceedings of NELS 16*, Univ of Massachusetts, Amherst.
- Stowell, T. 1989. Subjects, Specifiers and X-Bar Theory. In *Alternative Conceptions of Phrase Structure*, Baltin and Kroch, eds. Chicago Univ Press, Chicago.
- Stowell, T. 1991. Determiners in NP and DP. In *Views on Phrase Structure*, Leffel and Bouchard, eds. Kluwer, Dordrecht.
- Stuurman, F. 1983. Appositives and X-bar Theory. *Linguistic Inquiry* 14, 736-744.

- Svenonius, P. 1993. The Structural Location of the Attributive Adjective. *Proceedings of the 12th West Coast Conference on Formal Linguistics*. UCSC, California.
- Svenonius, P. 1993. Selection, adjunction and concord in the DP. *Studia Linguistica* 47:2, 198-220.
- Svenonius, P. 1994. Want-type and Consider-type Verbs. Presented at the annual meeting of the Linguistic Society of America. Boston, Mass.
- Szabolcsi, A. 1987. Functional Categories in the Noun Phrase. In *Approaches to Hungarian*, Vol. 2, Kenesei, ed., JATE, Szeged.
- Szabolcsi, A. in press. The Noun Phrase. To appear in *Syntax and Semantics: The Syntactic Structure of Hungarian*, Kiefer and Kiss, eds. Academic Press, San Diego.
- Tremblay, M. 1991. The Syntax of Possession. In *Views on Phrase Structure*, Leffel and Bouchard, eds. Kluwer, Dordrecht.
- Valois, D. 1991. The internal syntax of DP and adjective placement in French and English. *Proceedings of NELS 21*, Tim Sherer, ed. Univ of Massachusetts, Amherst, GSLA.
- Vendler, Z. 1968. *Adjectives and Nominalizations*. Mouton, The Hague.
- Vergnaud, J.-R. 1974. *French Relative Clauses*. Doc. diss., MIT.
- Warren, B. 1984. *Classifying Adjectives*. ACTA Universitatis Gothoburgensis, Sweden.
- Williams, E. 1974. *Rule ordering in Syntax*. Doc. diss., MIT.
- Williams, E. 1980. Predication. *Linguistic Inquiry* 11, 203-238.
- Williams, E. 1983. Semantic vs. Syntactic Categories. *Linguistics and Philosophy* 6, 423-446.
- Woisetschlaeger, E. 1983. On the Question of Definiteness in "An Old Man's Book". *Linguistic Inquiry* 14, 137-154.
- Zubizarretta, M.-L. 1982. *On the Relationship of the Lexicon to Syntax*. Doc. diss., MIT.