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A Syntactic Treatment of Adjectival Non-Intersectivity in English

Alexander Funk

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A SYNTACTIC TREATMENT OF ADJECTIVAL NON-INTERSECTIVITY IN ENGLISH

by

ALEXANDER FUNK

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

2015
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.

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THE CITY UNIVERSITY OF NEW YORK
Abstract

A SYNTACTIC TREATMENT OF ADJECTIVAL NON-INTERSECTIVITY IN ENGLISH

by

Alexander Funk

Adviser: Marcel den Dikken

Natural language has long been observed to be rife with apparently ‘non-intersective’ modification constructions (false teeth, huge flea, heavy smoker, etc.), whose apparent non-compositionality poses difficulties for formally-articulated theories of language. Bolinger’s (1967) demonstration of the extent and significance of the issue ushered in several lines of investigation, first in semantics (most notably Kamp 1975, Siegel 1976, Partee 2009), but more recently in syntax as well, with the insights of Larson (1998) and Bouchard (2002) informing approaches to the nominal domain such as that in Cinque (2010). However, ‘semantics-only’ accounts of non-intersectivity phenomena have limited explanatory capacity given the clear sensitivity of syntax to intersectivity, and recent syntactic proposals leave many questions about non-intersectivity largely unresolved, particularly the implications of non-intersective adnominal modification (NIAM) for the internal structure of the Determiner Phrase (DP), and for fundamental conceptions of category and predication.

This thesis articulates the alignment of NIAM interpretation patterns based on an enriched typology of both adjectives and nouns. In particular, it exploits non-lexicalist approaches to syntax—the ‘late insertion’ approach of Distributed Morphology (Halle & Marantz 1993, 1994) —as well as non-directional predication structures (den Dikken 2006) to develop an
understanding of interpretation and distribution patterns of English NIAM structures which elude
explanation in simpler, ‘bivalent’ approaches to non-intersectivity. By outlining analyses for
reference examples from a wide range of NIAM types, it demonstrates the potential for this line
of analysis to capture putative ‘non-intersectivity’ intersectively, and to develop a unified
understanding of predication and modification.
Acknowledgments

The extent to which I may be hereby characterized as a scholar should be qualified by the observation that I am a very lucky scholar, in various senses.

I am lucky to be a scholar. My parents grew up in families that loved words, science and education: the distilled knowledge and curiosity of the Welses, the Schusters, the Harrises, Adts, and Funks were passed on to me by my grandparents and by my parents Nancy and Ted, both of whom hold advanced degrees. I have seen in students and colleagues the difficulty of academic trailblazing; my own trail was in many ways pre-blazed, albeit in different fields. Without this privilege, without the freedom and security bestowed by a stable home, community and nation, without the guidance and encouragement of many teachers along the way, I surely would never have made my way into a doctoral program, let alone completed one. I am very grateful.

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my committee chair and mentor for years before that, is quite simply an inspiration—as a reader, a listener, a questioner and a guide, as a role model among the remarkable role models that make up my dissertation committee. My deepest thanks to Marcel and my committee.

To call myself a **lucky scholar** might also be to say that I have been lucky as a scholar, and this is surely true. The rich, diverse, often maddening ecosystem of CUNY has nurtured my intellectual growth in countless ways, not all of them theoretical or linguistic. Space and mercy do not permit a comprehensive list, but Alberta Gatti, Kate Menken, Chris Warnasch, Dianne Bradley, Danielle Wetmore, Ylana Beller-Martino, Ofelia García, Chase Robinson, Janet Fodor, Greet Van Belle, Ricardo Otheguy, Sam Al-Xatib, Elizabeth Pratt, and Jose del Valle all stand out as mentors and colleagues—I mix the two designations precisely to reflect the sense I have had of a community of scholars—whose collaboration, teaching, conversation and support have broadened my horizons, and will hopefully continue to do so. Teresa O’Neill bears special mention, a newly-minted (minting?) scholar in syntax and semantics whose knowledge, acuity and unflagging good humor have proved something of a lifeline to me during the years in which we have defended qualifying exams, proposals, and now dissertations within days or even hours of each other. I began graduate school thinking myself hard-working, kind-hearted, possibly brilliant: the comparison class formed by the scholars above shows such self-flattery to be an obvious—if perhaps ameliorable—delusion.

I would like to send a deeply felt thank you to the talented, conscientious and enlightened staff of the Graduate Center Child Development and Learning Center, who collaborated on the most important projects of my life while I toiled at secondary ones. Linda Perrotta, Liang Lin,
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Finally, no one has shoulderered a greater burden on this project than Federica, my wife, who somehow managed to juggle three boys, a full-time job teaching middle school English, and the daily insults and insanities of life in New York City—all with no parents or inlaws in our time zone—during my virtual absence. Fede, your love and support are indispensable, unquantifiable, and deeply reciprocated: you, above all, make me a lucky scholar in the intersective sense.

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<table>
<thead>
<tr>
<th>Chapter 1</th>
<th>Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Linguistic Alloys</td>
</tr>
<tr>
<td>1.1.1</td>
<td>Linguistic Compositionality</td>
</tr>
<tr>
<td>1.2</td>
<td>Empirical scope</td>
</tr>
<tr>
<td>1.3</td>
<td>Preview of Proposal</td>
</tr>
<tr>
<td>1.4</td>
<td>Organization of Thesis</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter 2</th>
<th>The Problem(s) of Non-Intersective Adnominal Modification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Theoretical Foundations</td>
</tr>
<tr>
<td>2.1.1</td>
<td>Historical Treatments of (Non-)Intersectivity and Adnominal Modification</td>
</tr>
<tr>
<td>2.2</td>
<td>Adjectives in Generative Grammar to Bolinger (1967)</td>
</tr>
<tr>
<td>2.3</td>
<td>Montagovian analyses</td>
</tr>
<tr>
<td>2.3.1</td>
<td>Siegel (1976)</td>
</tr>
<tr>
<td>2.3.2</td>
<td>Partee’s Extensions</td>
</tr>
<tr>
<td>2.4</td>
<td>Syntactic Encounters with Non-Intersectivity</td>
</tr>
<tr>
<td>2.4.1</td>
<td>Postnominal Adjectives and the Head Final Filter</td>
</tr>
<tr>
<td>2.4.2</td>
<td>The Phrasal or Non-Phrasal Status of Prenominal As</td>
</tr>
<tr>
<td>2.4.3</td>
<td>The Extended Nominal Projection: N-movement and Modification Domains</td>
</tr>
</tbody>
</table>
4.1.1 Intersectivity Diagnostics 107
4.1.2 Confounding Factors 113
  4.1.2.1 Idioms and Collocations 113
  4.1.2.1 Figurative Speech 115
  4.1.2.3 Overlapping Types 117
4.2 Adnominal Modification by Non-Adjectives 117
  4.2.1 X=N(P): Modification by Nouns and NPs 118
  4.2.2 X=P(P): Modification by Prepositions and PPs 120
  4.2.3 X=V(P), X=S, X=Adv(P) 122
4.3 Types of English NIAM-by-Adjective 126
  4.3.1 Exocentric NIAM 127
    4.3.1.1 Privative NIAM (fake notary): Diagnosis & Elements 128
    4.3.1.2 Reference NIAM (possible cop): Diagnosis & Elements 131
    4.3.1.3 Dispositional NIAM (hopeful parent):
      Diagnosis & Elements 133
  4.3.2 Endocentric NIAM 135
    4.3.2.1 Associative NIAM (muscular expert):
      Diagnosis & Elements 135
    4.3.2.2 Comparison Class NIAM (huge flea):
      Diagnosis & Elements 138
    4.3.2.3 Subjecthood NIAM (proud uncle): Diagnosis & Elements 139
    4.3.2.4 Situational NIAM (irritable patient):

xi
Diagnosis & Elements 140

4.3.2.5 Event NIAM (*beautiful writer*): Diagnosis & Elements 142

4.3.2.6 Transferred Epithet NIAM (*tough mountain*):

Diagnosis & Elements 146

4.3.2.7 Q-modifying NIAM (*the precise speech*...):

Diagnosis & Elements 149

4.3.2.8 Stroboscopic NIAM (*the odd Samoan*...):

Diagnosis & Elements 150

4.4 Key Elements 152

4.4.1 Adjective Types 153

4.4.1.1 Gradable (vs. Non-Gradable) Adjectives 154

4.4.1.2 Episodic (vs. Non-Episodic) Adjectives 155

4.4.1.3 Dispositional and Emotional As:

Bipartite (vs. Monopartite) As 156

4.4.1.4 (Most) Participial ABNIs are Privatives 160

4.4.1.5 Temporal, Degree and Modal As:

Functional (vs. Lexical) Modifiers 161

4.4.1.6 Relational As: Class Heads 165

4.4.1.7 Summary of Adjective Typology 169

4.4.2 Noun Types 170

4.4.2.1 NIAM Resistant Forms: Light Nouns as Superordinates 171

4.4.2.2 Role (vs. Essence) Nouns 172
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.2.3</td>
<td>Agentive (vs. Non-Agentive) Nouns</td>
<td>175</td>
</tr>
<tr>
<td>4.5</td>
<td>Omissions</td>
<td>177</td>
</tr>
<tr>
<td>4.6</td>
<td>Summary</td>
<td>178</td>
</tr>
<tr>
<td><strong>Chapter 5</strong></td>
<td><strong>Syntactic Analysis of NIAM-by-A</strong></td>
<td><strong>180</strong></td>
</tr>
<tr>
<td>5.1</td>
<td>Exocentric NIAM Structures</td>
<td>180</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Privative NIAM Structures</td>
<td>181</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Dispositional NIAM Structures</td>
<td>183</td>
</tr>
<tr>
<td>5.1.2.1</td>
<td>Dispositional Twins</td>
<td>183</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Reference NIAM Structures</td>
<td>193</td>
</tr>
<tr>
<td>5.1.3.1</td>
<td>Reference Twins</td>
<td>196</td>
</tr>
<tr>
<td>5.2</td>
<td>Endocentric NIAM Structures</td>
<td>199</td>
</tr>
<tr>
<td>5.2.1</td>
<td>Associative NIAM Structures</td>
<td>199</td>
</tr>
<tr>
<td>5.2.1.1</td>
<td>Associative Twins</td>
<td>201</td>
</tr>
<tr>
<td>5.2.2</td>
<td>Comparison Class NIAM Structures</td>
<td>206</td>
</tr>
<tr>
<td>5.2.2.1</td>
<td>Comparison Class Twins</td>
<td>212</td>
</tr>
<tr>
<td>5.2.3</td>
<td>Subjecthood NIAM Structures</td>
<td>215</td>
</tr>
<tr>
<td>5.2.3.1</td>
<td>Subjecthood Twins</td>
<td>216</td>
</tr>
<tr>
<td>5.2.4</td>
<td>Situational NIAM Structures</td>
<td>218</td>
</tr>
<tr>
<td>5.2.4.1</td>
<td>Situational Twins</td>
<td>220</td>
</tr>
<tr>
<td>5.2.5</td>
<td>Event NIAM Structures</td>
<td>221</td>
</tr>
<tr>
<td>5.2.5.1</td>
<td>Event Twins</td>
<td>228</td>
</tr>
<tr>
<td>5.2.6</td>
<td>Transferred Epithet NIAM Structures</td>
<td>230</td>
</tr>
</tbody>
</table>
5.2.7 Stroboscopic NIAM Structures 233
5.2.8 Q-modifying NIAM Structures 236
5.3 Summary 240

Chapter 6 Mixed Analyses and Extensions 244

6.1 Multiply Categorized Elements and NIAM / NIAM Ambiguities 245
6.1.1 Dispositional / Event NIAM (reluctant driver) 246
6.1.2 Subjecthood / Situational NIAM (happy companion) 251
6.1.3 Event / Associative NIAM (lyrical contributor) 253
6.1.4 Event / Situational NIAM (nasty pitcher) 254
6.1.5 Reference / Situational NIAM (dubious referee) 257
6.1.6 Reference / Associative NIAM (practical authority) 260
6.1.7 Event / Reference NIAM (clear orator) 262
6.1.8 Interim Summary 264

6.2 Multi-Adjective Mixed Modification Types 264
6.2.1 Relational Adjectives 265
6.2.2 Dispositional Adjectives 269
6.2.3 Emotional Adjectives 272
6.2.4 Manner Adjectives 273
6.2.5 Modal and Temporal Adjectives 274
6.2.6 Interim Summary 275

6.3 Postnominal IAM 275
6.3.1 Relative Clauses (a frog which she kissed) 276
1 Introduction

This thesis analyzes ‘non-intersective’ modification in English, particularly adnominal modification by adjectives. After reviewing evidence that this well-known semantic issue is also a syntactic one, it uses tools from the linguistic approaches known as nanosyntax (Starke 2010, 2011) and Distributed Morphology (Halle & Marantz 1993, 1994, Marantz 1997, Harley & Noyer 1999) to structurally articulate the key elements of several under-studied types of non-intersective modification, illustrating how those elements combine in the syntax to derive modification structures which permit ‘intersective’ semantic interpretations, and showing how these structures in turn continue to yield predictable interpretations when built into more complex forms. In addition to a richer typology than has previously been outlined in the literature, and relatively wide empirical coverage of non-intersectivity in English, this study offers an ‘interstitial’ approach to the representation of nouns, adjectives, and their composed phrases that should extend to other phenomena and other languages.

The remainder of this chapter introduces the notion of non-intersectivity and its relevance to modern linguistic study (§1.1), presents the types of data to be analyzed (§1.2), previews the details of the proposal (§1.3), and outlines the organization of the ensuing chapters (§1.4).

1.1 Linguistic alloys

Humans use chunks of pre-understood language to build and communicate novel concepts, much as they use chunks of pre-existing matter—copper, tin, carbon, iron—to forge

---

1 Single quotation marks are used throughout to indicate terms whose meanings are taken to be unsettled—possibly unfamiliar to the reader, used in a novel sense herein, or favored by other analysts while not endorsed by the author—as well as to gloss non-English and/or ambiguous expressions. When used to flag unfamiliar and/or novel usage, these will be subsequently omitted from the ensuing discussions in order to minimize visual clutter. Underlining is reserved for emphasis, double quotation marks are reserved for direct quotation, and italics for language mentioned (rather than used) outside of the numbered examples.
new materials like bronze and steel. This investigation analyzes a number of word combination
types which may usefully be thought of as alloys, in that, like bronze and steel, they (a) are of
near ubiquitous use by humans around the world, (b) clearly involve the combination of two or
more independent and typologically-constrained elements, and (c) exhibit properties which
challenge our basic assumptions about the nature of the elements involved, as well as how such
things combine. A glimpse at the intellectual history of metallurgical alloys helps clarify the
thrust of the approach that will be proposed here for the linguistic variety.

In the fifth millennium BCE, people realized that mixing copper with arsenic or tin
produced a composite metal that was much harder than either of its components. The utility of
bronze’s hardness greatly affected the course of human history, but what merits our attention is
its exceptionality. When juxtaposed with that of arsenic, tin and copper, the hardness of bronze
led humans to overthrow a (presumably) previously held conviction that the physical properties
of mixtures were determined by those of their components. Armed with a revised principle (“the
properties of mixtures are not determined by those of their components”) and an inaccurate
theory of natural elements—typically fire, air, earth, and water—an ambitious group of
descendants drew a pair of logically sound but empirically false conclusions that fueled a

thousand-year research program:

(1.01)   a. the substance gold is not a natural element
         b. all substances other than the natural elements are mixtures
         c. gold is a mixture
         d. the properties of mixtures are not determined by those of their components
         e. components with very un-gold-like properties may combine to make gold
Only in the past century or two have we been able to see with some clarity where it was that the alchemists went wrong. Broadly speaking, it was not in their aims or their methodology, but their assumptions. ‘Natural elements’ were not elemental, gold wasn’t a mixture, and the physical properties of mixtures were in fact determined by those of their components—we just didn’t understand how. In the case of alloys, variations in atomic-molecular structure (‘allotropes’ like α- and β-tin) enable compositional processes such as atom exchange and interstitiality to build unique properties for the composite metal. This level of understanding has taken centuries to develop and only now begins to boast something like predictive power.

When analyzing language, a logically inclined group of humans have developed a view that common nouns like bus denote sets—either of real-world objects or mental projections thereof—and that adjectives like blue possibly do as well. Such assumptions lead to an appealing analysis of modification as the intersection of sets, with the composition blue bus denoting the elements common to the sets blue and bus. However, like so many appealing linguistic analyses, intersective modification is not very robust, undermined by ‘non-intersective’ forms such as heavy smoker and possible cop, in which the individuals denoted by the composed expression do not necessarily fall within the set of heavy (things), or within the set of cop(s). In these cases, one of the two conjuncts in (1.02), presumed by naive theories of adnominal modification to hold, may be untrue:

(1.02) \[ [AN] \subseteq [A] \land [AN] \subseteq [N] \]

Structures like heavy smoker and possible cop are the subject of analysis in this thesis: they are the linguistic alloys whose surprising properties call for a finer-grained accounting of the elements involved, and of the way they come together.
1.1.1 Linguistic Compositionality

As in the metallurgical case, faulty assumptions surely lie behind the upset expectations of (1.02). One possible culprit is the notion that linguistic expressions compose in a uniform or predictable way, that natural language is algebraic. To philosophers of language, this is the notion of compositionality. Compositionality may be defined weakly, strongly, and many ways in between; Szabó’s (2013) overview in the The Stanford Encyclopedia of Philosophy presents a range of possibilities. On the weakest side:

\[(1.03) \quad \textbf{Compositionality: Weak Definition} \]

\[
\text{The meaning of a complex expression is determined by its structure and the meanings of its constituents. (from Szabó (2013))}
\]

It is doubtful that assuming (1.03) is where we err with (1.02), for natural language is clearly compositional in this weak sense: for proof, we need look no further than our own ability to interpret novel utterances. Even a banal string like *a blue bus arrived* may be unattested in the reader’s prior experience; if we hazard to believe that it nonetheless means something consistent even in such contextually-impoverished settings as a doctoral dissertation, we are forced to conclude that this meaning comes from somewhere within the expression itself, confirming (1.03). Put another way, reasonable arguments against compositionality are in fact arguments against the details, feasibility or utility of compositional analysis, for just as copper and tin do form bronze; human language is compositional.

However, we may want to hold our definition of compositionality to a higher standard. We would not, for instance, tolerate the determining in (1.03) to come about via magic, divine intervention, or fate; instead, linguists often assume Frege’s (1891) principle of Functional Application to hold. But how many functions there are, and their nature—whether they exhibit
the full range of possibilities imagined by theoretical mathematics or are more narrowly
constrained—remain unanswered questions. Do different natural languages possess different
functions with which to compose their expressions, or is there just one set, or even just one
function? Szabó articulates some other restrictions that might be incorporated into a stronger
definition of compositionality: the type of meaning expressed (e.g., sense vs. reference), and the
structural locality within which the determining must occur. Adding these restrictions to (1.02)
yields a far stronger definition of compositionality (emphasis has been added here to indicate
language substituted for or added to that of Szabó’s definition):

(1.04) **Compositionality: Strong Definition**
The reference of a complex expression is functionally determined through a single function for all human languages by its immediate structure and the references of its immediate constituents.

Evidence that natural language does not live up to this standard abounds:

(1.05)  a. it’s a cop! (Contextual Anaphor)
b. They got married. [She’s beautiful.] (Cross-sentential Anaphor)
c. her kicking the bucket shocked us all (Idiom)
d. tofu, I would never cook for you (Displacement)
e. Kim ate broccoli, and Jim kale (Ellipsis)

As (a) and (b) illustrate, anaphors without antecedents recoverable from the linguistic context are one type of challenge: any functional determination of *it* and *she* in these cases will require extra-
linguistic mechanisms. Idioms like (c) bring into question the status of the word as the unit of
compositional analysis; this is a central issue which we return to in Chapter 3. The desire to
analyze displacement (d) and ellipsis (e) compositionally has motivated a great deal of
generative linguistic theory: the constituents [VP cook tofu] and [VP eat kale] allow such analysis,
but by introducing abstract entities which the theory must carefully constrain on an empirical basis.

The present investigation adopts the viewpoint that careful examination of the broad spectrum of apparently non-compositional expressions may pinpoint exactly how strong we might understand natural language composition to be. In other words, we will not start with a precise definition of ‘compositionality’ that we know to hold for human language, but instead assume something at least as strong as (1.03) to hold, and explore how far toward (1.04) a definition can be supported by empirical facts. For Partee (2006), “a central principle of formal semantics is that the relation between syntax and semantics is compositional”; we take this to be a central principle of formal syntax as well. The feasibility and utility of compositional analysis is our fundamental, motivating assumption.

In contrast to the forms in (1.05), expressions of adnominal modification (e.g., huge flea) have every appearance of being straightforwardly compositional, even strongly so. They exhibit no obvious evidence of anaphor, displacement, ellipsis, or null matter. Nouns quite reasonably may be understood to take sets of individuals as their referents (i.e., \( \llbracket \text{flea} \rrbracket = \{\text{flea}_1, \text{flea}_2, \ldots \} \)), and enter into clearly asymmetrical relationships with modifiers, which, as builders of category-preserving structures (nominals), look very much like functions. Thus, the compositional analysis of such constructions is a pressing concern.

Of course, the failure of two words or phrases to transparently compose via set intersection only poses a problem for compositionality in so far as (their) compositionality is understood to be set intersection, which is not obviously so. Indeed, Frege’s proposal that linguistic composition takes the specific form of functional application in principle leaves the
door open to many different forms of composition, not just intersection; however, modification in natural language quite often instantiates or approximates the characteristic function, a mapping from set A to a subset of A, on the basis of whatever property the functor denotes (Heim & Kratzer 1998). As Dowty, Wall and Peters (1980) point out, this effectively reduces the functional application involved in adnominal modification to a notational variant of set intersection.

These issues are examined more carefully in Chapter 2. For now, it will suffice to say that, while an analysis of non-intersectivity that maintains compositionality quite obviously needs to expand beyond the type of functional application that is straightforward set intersection (i.e., beyond what is expressed in (1.02)), non-intersectivity is prima facie non-compositionality, pending more precise treatment.

1.2 Empirical Scope

The discussion here centers on the purportedly non-intersective modification of nouns, or ‘non-intersective adnominal modification’ (henceforth ‘NIAM’). After brief consideration of non-adjectival forms of NIAM, the focus will narrow to NIAM by adjectives, arguably the best-known and most intriguingly constrained type of non-intersectivity.

We will strive for empirical breadth by establishing a working typology of adjectival NIAM, analyzing each variety and its key components, and proposing an explanatory approach that sharpens our understanding of several types without blurring our view of others. This breadth will come at the expense of cross-linguistic analysis; the data used for exemplification and illustration are drawn almost exclusively from English. The patterns discussed exist in other languages as well, often in a more easily distinguished fashion; e.g., French une intelligente élève
(‘an intelligent student’: meaning ‘one who is intelligent qua student’) and une élève intelligente
(‘a student intelligent’: meaning ‘a student who is (generally) intelligent’) embody non-intersective and intersective modification, respectively, with the difference transparently reflected in the surface word order. It is a fairly common assumption of generative linguistics that semantic phenomena such as functional application, intersectivity, and event structure are cross-linguistically universal, and that their superficial realizations, filtered through an individual language’s morphology, syntax and phonology (among other modules and in whatever layering or ordering one’s theory calls for), are what define the differences between natural languages. This is, obviously, a theoretical position that should be tested empirically whenever possible. However, other than a brief discussion of Italian NIAM varieties in Chapter 7 to illustrate the generalizability of the project, serious cross-linguistic exploration of the mechanisms proposed in this thesis must await further research.

For each type of English NIAM, a reference example will serve as the basis for extended analysis in Chapters 5 and 6. Detailed criteria for each selection will be given in Chapter 4; here we merely note that each clearly exhibits the relevant semantic behavior and is not a well-worn collocation. The examples, with paraphrases of the relevant non-intersective meaning, are:

\[(1.06)\]

a. fake notary  
   (‘not actually a notary’)
b. hopeful parent  
   (‘not yet a parent’)
c. possible cop  
   (‘only possibly a cop’)
d. huge flea  
   (‘not huge generally, just for a flea’)
e. proud uncle  
   (‘not proud generally, just to be an uncle’)
f. irritable patient  
   (‘not irritable generally, just when a patient’)
g. beautiful writer  
   (‘not a beautiful person, but one who writes beautifully’)
h. tough mountain  
   (‘not tough as an entity, but part of an event that is tough’)

8
As our discussion unfolds, we will attempt to correlate these phrases to as many ‘chestnuts’ from the literature as possible, cases which have stimulated discussion for decades, and whose inclusion allows for coherent comparison of this analysis to others before and those that follow.

1.3 Preview of Proposal

Under a microscope, metals are seen to have crystalline structures, lattices with empty space between the vertices. Some alloys, such as steel, form when the molecular structure of the base metal (iron) allows the alloying element (carbon) to penetrate these empty spaces; the resulting interstitial mesh is one reason these alloys can be exceptionally strong.

The current investigation argues for a similarly fine-grained treatment of the language elements exemplified in (1.05), an ‘interstitial’ analysis of several varieties of non-intersective modification that affords compositional, set-theoretical analysis of the phenomena. This type of linguistic analysis is by no means novel: precedents range from Generative Semantics to Distributed Morphology and nanosyntax; however, the present proposal breaks new ground in extending these approaches deeply into the realm of non-intersectivity, and articulating the mechanism of post-lexical Vocabulary Insertion in a relatively original fashion, though one by no means incompatible with the last two programs.

For instance, the adjective proud will be analyzed as bipartite, i.e. composed of both a root √PRIDE and a separate adjectival head, notated as -FUL. Its criteria for insertion, meanwhile,
will be both configurational and discontinuous; it will feature interstices which other linguistic elements may enter. Thus, the following insertion instructions express spaces, notated as ‘…’:

(1.07)  
\[
\begin{array}{c}
proud \\
\text{DegP} \\
\text{Deg} \\
\text{aP} \\
\text{a} \\
\text{a-FUL} \\
\sqrt{\text{PRIDE}}
\end{array}
\]

A similar analysis of nominal elements is also proposed. Words like \textit{cop} (‘policeman’) are analyzed as lexicalizations licensed by the configuration of a root √\textit{COP} c-commanded by a ‘light noun’ head, with interstitial space in between:

(1.08)  
\[
\begin{array}{c}
cop \\
\text{NumP} \\
\text{Num} \\
\text{nP} \\
\text{n} \\
\text{-PERSON} \\
\sqrt{\text{COP}}
\end{array}
\]

This approach will help explain the ordering restrictions that hold when multiple versions of an adjective appear before a noun (first pointed out by Larson 1998, 2000):

(1.09)  
\begin{enumerate}
\item a. MUSCULAR muscular expert
     ‘STRONG person who knows a lot about muscles’
\item b. BEAUTIFUL beautiful dancer
     ‘ATTRACTIVE person who dances gracefully’
\item c. PROUD proud American
     ‘person PROUD TO BE proud to be an American’
\item d. FORMER former cop
     ‘EX ex policeman’
\end{enumerate}
In addition to the intensificational reading widely available for repeated prenominal adjectives in English (cf. *cruel, cruel world*), these structures submit to differentiated readings, in which each of the two adjectives performs a different function. For (a) and (b), only the second adjective can behave non-intersectively: the only *muscular* that can mean ‘about muscles as a subject matter’ is the one in lowercase letters, likewise the *beautiful* that can mean ‘who dances gracefully.’ In (c) both As can behave non-intersectively (with the ‘proud to...’ meaning), and in (d) both must. While treatments of NIAM commonly assume such differently-behaving adjectives to involve different lexical items merged into stipulatedly separate domains, our analysis will treat these ‘Doppelgängers’ as ‘twins,’ and their ordering as an organic consequence of their structure and that of their noun modificands.

It will also account for interactions between potential NIAM of different types. For instance, *elegant, mechanical* and *possible* share an ability to behave non-intersectively, but their behavior in complex constructions varies:

(1.10)  

|   | a. elegant mechanical designer  
|----|--------------------------------|
| b. | mechanical elegant designer  
| c. | elegant possible designer  
| d. | possible elegant designer  
| e. | mechanical possible designer  
| f. | possible mechanical designer  

*Elegant* can modify designing events in (a), (b) and (d), but not in (c): *possible* blocks this modification—the referent must be elegant as an individual. *Mechanical*, in contrast, can behave non-intersectively (i.e., mean ‘related to mechanics as a subject matter’) only in (a) and (f): both *elegant* (b) and *possible* (e) block its doing so from a distance, forcing (awkward) readings in
which the referent is robotic. Finally, possible can behave non-intersectively in all four phrases that contain it (c.-f.). Complex interactions like these have eluded previous analyses.

Finally, we will develop a structural understanding of the unavailability of non-intersective readings across the copula:

(1.11) a. the writer that was elegant died
b. *the cop is possible

In (a), elegant can only apply to the dead writer as a whole individual, not to his or her writing.

It should be emphasized that this thesis does not propose a unified analysis of non-intersectivity, but rather advocates for an approach that has been insufficiently explored in the extant literature. Despite the one-size-fits-all aspect assumed by many casual discussions of it, non-intersectivity is a complex cluster of phenomena, not all of which are amenable to the configurational type of analysis expounded here. Rather, what is argued below is that too much of our current understanding has been relegated to the murky realm of lexical semantics, and that a syntactic approach along the lines articulated here deepens our understanding of the cluster. Explicit analyses are proposed for each of the amenable phenomena, but under no illusion that these represent conclusive discoveries about English or Universal Grammar, but rather in the hope that they might serve as concrete starting points for future analyses to refute or refine.

The discussion will occasionally return to the conceptual metaphor of non-intersective modification as alloying, under the view that “our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature” (Lakoff & Johnson 1980:1). That is, if the difference between literal language and metaphor is tenuous, even illusory, then the
proposal below is that many non-intersective adnominal modification structures are, like steel, interstitial alloys.

1.4 Organization of Thesis

The subject of non-intersective modification has a rich history in the recent linguistic literature, careful consideration of which must precede any serious investigation. In Chapter 2, we look at the insights and limitations of two lines of generative analysis: described in broad strokes as the ‘Montagovian’ program and the ‘syntactic’ program. The present proposal may be characterized as, in harmony with the work of Larson (1998, 1999, 2000, a.o.), and Bouchard (2002), an attempt to synthesize the insights of both.

Chapter 3 introduces, motivates, and articulates the tools to be deployed. These are: Late Insertion, discontinuous Vocabulary Insertion, the syntactic representation of predication, and a structural distinction between lexically-constrained complements on one hand, and configurationally-assigned theta roles on the other. Several sample derivations illustrate how these tools apply to garden-variety modification structures.

With the theoretical apparatus in place, Chapter 4 develops a working typology of NIAM by adjectives—each exemplified by a different form in (1.05)—and analyzes the nominal and adjectival elements required to build each type. Each element is associated with structural aspects connected to morphology and semantics, and with syntactic reflexes as well. We will see that Relational, Dispositional, Emotional and Modal adjectives are distinguished by both lexical semantic and syntactic characteristics, as are Role and Eventive nouns; precise structural representations are given for each element.
Chapter 5 analyzes the NIAM types developed in Chapter 4: for each type, how the alloying takes place, given our structural understanding of the elements.

More complex extensions of the approach are elaborated in Chapter 6, including the existence and analysis of ‘mixed type’ adjectives (theoretical); the interaction of different adjective types when jointly preceding a noun which each has the potential to modify non-intersectively (beautiful hopeful writer).

Finally, Chapter 7 considers a handful of loose ends and possible directions for future research.
2 The Problem(s) of Non-Intersective Adnominal Modification

In 2015, any extended discussion of U.S. immigration policy conducted in a local variety of English will likely involve one of the following three noun phrases, to the exclusion of the other two:

(2.01) a. illegals  
       b. undocumented immigrants  
       c. illegal immigrants

The roughly complementary distribution of the three forms is conditioned by where their embedding discourse sits on the political spectrum: (a) is used by public figures and media outlets generally understood to be conservative or reactionary,¹ (b) is used by those typically seen as politically liberal or progressive,² and (c) might be considered the ‘elsewhere’ or ‘unmarked’ variety,³ though proponents of one or both of the others may succeed in changing that. Advocates for replacing (c) with (b) often make a linguistic argument to the effect that “people cannot be illegal” (cf. fn. 1), a concrete instantiation of the appealing but non-robust intuition expressed in (1.02), reproduced here as (2.02):

(2.02) \[ [AN] \subseteq [A] \wedge [AN] \subseteq [N] \]

It is not the place or ambition of this thesis to argue for or against any of the alternatives in (2.01); the ubiquity of non-intersective adnominal modification (NIAM) and its relevance to

¹ Fox News, the Washington Times, Joe Arpaio, Ric Keller, and many others on the right of American discourse use this term. On the evening of January 7-8, 2015, the offices of the (politically conservative) Santa Barbara News-Press were vandalized with graffiti in response to its use of illegals in a January 3rd headline (Illegals line up for drivers’ licenses). Both the speech act and content of the graffiti (which read the border is illegal not the people who cross it) speak to the real-world relevance of the linguistic issue considered here.

² This is the current term of choice for President Obama, the New York Times, the Washington Post, the Nation, and many others regarded as left of the political center.

³ All four Presidents preceding Obama employed this term while in office, including George W. Bush throughout his presidency; the New York Times preferred it as late as 2002 (cf. Susan Sachs’ “A Nation Challenged: Illegal Immigrants”).
the immigration debate have already been shared with the wider academic community by Pullum (2012), and in any case will not likely make much difference in a matter so charged with issues of identity, politics, race and class. However, as the debate around (2.01) clearly shows, linguists may be cognizant of the fact that adjectives do not merely compose with nouns via the function of set intersection, but we have not adequately accounted for how else they modify nouns, let alone done so in a way that might be effectively communicated as part of a standard, non-specialized education. The aim of the present proposal is to move a small step closer to that goal.

Many steps have already been taken. After establishing the basic intellectual context in which the subsequent inquiry takes root (§2.1), we will consider early generative accounts of adjectival modification and Bolinger’s (1967) disruption of them (§2.2), the subsequent attention brought to non-intersectivity by Montague, Siegel and Partee (§2.3), the treatment of the topic within the frameworks of Principles-and-Parameters-era syntax (§2.4), and the efforts of Larson and Bouchard (§2.5) to synthesize the two avenues of inquiry. An interim summary concludes the chapter (§2.6) by detailing the specific areas of remaining difficulty that the present investigation aims to address.

2.1 Theoretical Foundations

This is a dissertation in the field of linguistics, and accordingly reflects the field’s emphasis on objectivity and the scientific method, on speech as primary data, on synchronous language systems, and on the equal inherent validity of all human languages, ancient and modern. It takes the sub-fields of syntax and semantics as its focus, and will follow recent work within the realm of linguistic scholarship known as ‘generative grammar’ in embracing:
a) formal explanations for natural language syntax and semantics;
b) abstract, hierarchical, and transformational accounts of syntactic phenomena;
c) compositional, truth-conditional, intensional approaches to the study of semantics;
d) theories of linking between semantic and syntactic representations

None of this falls outside the mainstream of current linguistic research, but each item represents a parting of ways with fertile and highly-regarded realms of language scholarship. Historical linguists and philologists ascribe less value to synchrony, while many critical theorists in the humanities might find the ambitions of objectivity and scientific method naive or disingenuous. Functionalist linguists and some philosophers take issue with (a); researchers in a number of formal syntactic frameworks (Head-driven Phrase Structure Grammar (Pollard & Sag 1987, Pollard 1994), Lexical-Functional Grammar (Bresnan 1982, Kaplan & Bresnan 1982), etc.) disprefer transformational accounts (b) for reasons both principled and practical; various approaches to semantics differ from (c) in how they deal with meaning; and (d) is transparently at odds with assumptions of autonomy for either grammar or meaning. Alternative perspectives notwithstanding, the research proposed here will presuppose these to be useful lenses through which we may attempt to better understand the complexity of human language.

2.1.1 Historical Treatments of (Non-)Intersectivity and Adnominal Modification

Explicit concern about non-intersective modification necessarily post-dates the emergence of set theory (Cantor 1874). However, the assumption of something equivalent to intersectivity, a rigorous notion of compositionality, has infused the history of logic from the earliest syllogisms onward. For Socrates to be reliably a man and mortal, then mortal and man should be predicates with discrete arguments; sets provide a sturdy mathematical tool with which to formalize this intuition. Indeed, Boole (1854) refers to ‘classes’ and ‘collections’ in his treatise.
on the algebra of thought (as expressed in language): “from the conceptions of two distinct
classes of things we can form the conception of that collection of things which the two classes
taken together compose.” Like Frege and Russell after him, Boole is a logician not a linguist, and
sees natural language as a defective exponent of the pure ‘laws of thought’ that might be expressed through such rigorous mathematical concepts as set intersection. Non-intersective modification, viewed from this perspective, is just the type of deviance that careful logico-
philosophical analysis might steer humanity away from.

Few writers explicitly address NIAM head-on until the twentieth century. Discussions of Aristotle in translation encounter the issue when pondering whether a good citizen is necessarily a good man (e.g., Adkins 1970); Aristotle himself, however, uses two different adjectives to ask this—spoudaios for the citizen, agathos for the man; see Develin (1973) for discussion of the differences—and his students have mined the question more for its ethical and political implications than for its linguistic intrigue. The Port-Royal grammarians (Arnauld & Launcelot 1660) admit a subtle distinction in the pragmatics of adjective meaning between attributive (a) and predicate (b) position in French:

\[(2.03) \quad \begin{array}{ll}
a. & \text{Dieu invisible (a créé le monde visible)} \\
& \text{‘invisible God (created the visible world)’} \\
& \\
& \text{b. & Dieu qui est invisible (a créé le monde visible)} \\
& \text{‘God who is invisible (created the visible world)’}
\end{array} \]

This difference, however, which Arnauld & Launcelot label that between a proposition incidentale (a) and a proposition principale (b), basically amounts to non-restrictive vs. restrictive modification, an issue possibly related to and easy to conflate with NIAM (see discussion of Cinque (2010) below), but not the same thing at all.
A mid-20th century understanding of English adjectival modification might be characterized in the following way:

(2.04) **Mid-20th-Century Baseline Understanding of English Nominal Modification**
Most of the time, As precede Ns, and most of the time, $AN$ means the characterization of $N$ as $A$.

The prioritization of formal rigor ushered in by Chomsky’s Transformational-Generative Grammar (1957) made the ‘most of the time’ all but unpalatable, while the insights of Ordinary Language Philosophers (e.g., Austin, Searle, Vendler, Grice) led to a growing sense that—rather than nudging natural language further towards the rigor and purity of formal logic—linguists and philosophers should work to sharpen our formal tools in order to better understand natural language. It is within this intellectual context that the serious examination of non-intersective modification becomes relevant.

2.2 **Adjectives in Generative Grammar to Bolinger (1967)**

The analysis of adnominal modification in English within the generative tradition has traced a trajectory which might be seen as disheartening: from an elegant starting point at which three rules could “produce all [English] sentences that contain adjectives and exclude ungrammatical sentences” (Smith 1961:348), the field has come to a point where “there is no adequate treatment of adnominal adjectival modification in English... neither the full complexity of the data nor the fundamental nature of the problems are usually appreciated” (Sadler & Arnold 1994). In truth, what has changed is not the quality of the analysis, but rather how much we ask of it, and this should be seen as a positive development.

---

Smith (1961), working closely with Chomsky, proposes the following three transformational rules to derive sentences with attributive modification structures such as *blue buses arrived*, illustrated here:

(2.05) Smith’s (1961) ‘**Embedding Rules**’:

a. Relative formation

\[ \textit{buses}_1 \text{ arrived} + \textit{buses}_2 \text{ are blue} \rightarrow \textit{buses which are blue arrived} \]

b. (‘Whiz’) Deletion\textsuperscript{5}

\[ \textit{buses which are blue arrived} \rightarrow \textit{buses blue arrived} \]

c. Order Change

\[ \textit{buses blue arrived} \rightarrow \textit{blue buses arrived} \]

The Reduced Relative analysis has much to recommend it. First, though neither Smith nor Chomsky exploits the possibility, it offers a potentially elegant parametric understanding of cross-linguistic variation, as a language with exclusively post-nominal As might be understood to have Rules (2.05a) and (2.05b), but not (2.05c). Second, it allows two (presumably) synonymous sentences to be derived from the same kernel sentences:

(2.06) \[ \textit{blue buses that are ___ arrived} \approx \textit{buses that are blue arrived} \]

The appeal of this is dampened somewhat by the fact that the two sentences in (2.06) are not fully synonymous, as the lefthand (surface) version allows for the possibility that the buses in question are no longer blue. However, Smith’s approach also offers a unified account of participial adjectives and their verbal correlates:

(2.07) \[ \textit{a shrieking ghost that is/was ___ \approx a ghost that is/was shrieking} \]

\textsuperscript{5} Whiz Deletion takes its name from the surface form of the elements deleted: a relative pronoun and a form of the verb to be, or wh- and is. The transformation applied—or applies, since it continues to crop up in the literature—only for subject relatives, i.e. when the wh and is are not separated by any overt intervening material.
Setting aside the issue of tense from (2.06), which crops up again, the derivational relationship suggested in (2.07) allows us to simplify the lexicon significantly, positing a single *shriek*(-*ing*) which becomes adjectival through the optional application of the rules in (2.05).

Arguably the greatest strength of the Reduced Relative account, and what likely explains its continued relevance today, is that it accounts for the complementary distribution of ‘light’ and ‘heavy’ adjectival modification in English:

(2.08)  

a. a school that is bigger than mine / *a that is bigger than mine school  
b. a school bigger than mine / *a bigger than mine school  
c. *a school bigger / a bigger school  
d. *a school extremely big / an extremely big school

Full relative clauses (a) and post-modified adjective phrases (b) only appear after the nouns they modify, while ‘bare’ (c) and pre-modified (d) APs only appear before their modificands. This is one of the rare occasions when syntax appears to display the patterning famously revealed by phonemic analysis: we can propose a single form underlying both pre- and postnominal APs. Transformational analysis could thereby amend (2.03) to “English As precede Ns whenever possible,” and have a decently rigorous idea of what is meant by “whenever possible.”

Bolinger (1967) presents a litany of evidence that seriously undermines the Reduced Relative approach. In distributional terms, Smith’s account overgenerates: while Relative Formation (2.05a) can form the sentences in (2.09a), the derived sentences in (b) and (c) are ungrammatical.

(2.09)  

a. the child that was asleep/afraid/awake whimpered  
b. *the asleep/afraid/awake child whimpered  
c. *the child asleep/afraid/awake whimpered

---

6 That the connection to phonology is so strong hints that the pattern may not be syntactic after all.
The rules also undergenerate, as grammatical forms (b) surface despite lacking a well-formed relative structure from which to derive (a):7

(2.10)  a. *the pirate that is former/alleged/soi-disant surrendered
b. the former/alleged/soi-disant pirate surrendered

Furthermore, Bolinger shows that many attributive structures are starkly unsynonymous with their predicative (putative) forebears. We illustrate with some of our reference examples:

(2.11)  a. vascular experts ≠ experts that are vascular
b. huge fleas ≠ fleas that are huge
c. hopeful parents ≠ parents that are hopeful
d. proud uncles ≠ uncles that are proud
e. irritable patients ≠ patients that are irritable
f. beautiful writers ≠ writers that are beautiful
g. the odd Samoan stopped by ≠ the Samoan that is odd stopped by
h. the precise speech we wanted ≠ the speech that was precise we wanted
i. possible cops ≠ cops that are possible
j. the visible stars ≠ the stars that are visible

This observation is fatal to any lexicalist version of the Smithian analysis taking transformations to be meaning-preserving (e.g., assuming Katz & Postal’s 1964 hypothesis). Meanwhile, Chomsky (1970), though he does not assume this, no longer countenances the generalized transformations necessary to combine kernel sentences or different D-structures, and dismisses patterns such as those in (2.11) as so much lexical idiosyncrasy. Thus, the Reduced Relative analysis falls by the wayside, and ‘lexical idiosyncrasy’ becomes a standard way to treat non-

---

7 The Reduced Relative analysis also over- and under-generates for Romance, should we assume the family to differ from Germanic in the way suggested above:

(i) (Catalan)  un mal exemple / *un exemple mal
‘a bad example’
(ii) (Portuguese)  um suposto criminoso / *um criminoso suposto
‘a supposed criminal’
(iii) (Spanish)  un mero accidente / *un accidente mero
‘a mere accident’
intersectivity, even for linguists who view the paradigm in (2.11) as a serious challenge to compositionality.

2.3 Montagovian Analyses

Montague’s (1970a) rekindling of set-theoretical, truth-conditional approaches to natural language brings semantic compositionality to the fore just as Chomsky’s (1970) reaffirmation of syntax’s autonomy is setting it aside. The phrase *non-intersective adjective* first appears in Montague (1970b:242), credited to unpublished work by Parsons and Kamp; the term is unfortunate, as it conflates a relation (non-intersective adnominal modification) with one of its terms (the adjective), and we will steadfastly avoid it.\(^8\) Chapter 4 demonstrates that the stubbornly non-intersective behavior of the few adjectives possibly deserving of the label can be connected to other, less mysterious properties.

The terminology reflects Montague’s view that adjectives are functions, that they (may) access the *intensional* semantics of the nouns they modify, and that non-intersectivity arises due to this. His approach allows one to analyze some NIAM phenomena compositionally, even set-theoretically, so long as intensional semantics can be represented through sets of times and possible worlds. To sketch one such analysis: *former* accesses the set of all world/time/individual triplets intensionally denoted\(^9\) by its modificand—in the case of *president*, maybe \{Real/’01-’09/Bush, Alternate/’01-’09/Gore, Real/’09-pres/Obama, etc.\}—and restricts that set to those triplets indexed as real and bearing time interval endpoints prior to the relevant temporal referent. As a

\(^8\) ‘Non-intersective adjective’ continues to see favor in pedagogical writing (Kearns 2011) as well as scholarly works (Leu 2008, Truswell 2009, Leffel 2014).

\(^9\) This phrasing may appear oxymoronic to those for whom ‘sense’ and ‘denotation’ are interchangeable with ‘intension’ and ‘extension’; here ‘denotation’ is used to indicate a set-theoretic function, with no claim as to the nature of the set(s) or function. ‘Intensional denotations,’ then, are merely sets, elements, and functions that actively engage time and world indices.
consequence, the resulting noun phrase former president denotes only Bush out of the given set, pending identification of the relevant temporal reference point.

This is surely a breakthrough, yet far from the full story. Consider alleged, which Montague identifies as ‘non-intersective,’ presumably on the basis of its non-acceptability across the copula, and/or its undergoing so-called ‘substitution failure.’ Mere manipulation of possible worlds and their relative accessibility cannot yield the right denotation of alleged president: despite the high accessibility of a world in which Al Gore was elected and served as president, he is not and never has been (to my knowledge) an alleged president. Instead, there is an entailed alleging event (cf. he’s an alleged murderer despite the lack of allegations) which is linguistically active, modifiable, as seen when we contrast the behavior of alleged with its fellow ‘non-intersective adjective’ possible:

(2.12) a. their (recently) alleged communication with poltergeists
    b. their (recently) possible communication with poltergeists

The only reading available in (a), that in which an alleging event happened recently, maintains the non-intersectivity of adjective phrase and noun, while the two possible readings in (b)—one in which communication became possible recently, another in which it was possible until recently—both involve intersective modification of the noun. Are there are two forms of possible, one intersective and one not, the latter of which is for some reason incompatible with recently?

Oddly enough, the Reduced Relative analysis has an easier time with this pattern:

---

10 In abbreviated form: an alleged murderer is not (?)an alleged individual, even though all murderers are individuals. Montague does not offer any diagnostics for (non)intersectivity, but Siegel’s (1976) development of his ideas formalizes the ‘substitution’ diagnostic, which we return to in Chapter 4.

11 The case can be made that he was briefly an alleged president-elect, but this is different.
If we take (a) and (b) to underlie the respective phrases in (2.12), the complexity is reduced to that of whiz-deletion, albeit an expanded one that can target elements similar to *exist* and *become* rather than only the verb *to be*, as well as an embedded infinitival phrase in its entirety.\(^{12}\)

Meanwhile, the semantics of *alleged* and *possible* remain relatively stable.

There are good reasons not to fully resurrect the Reduced Relative analysis, but its marginal viability suggests that, rather than relying exclusively on intensions, we might consider argument structure and syntactic complementation also to be implicated in non-intersectivity.

After all, the two adjectives do not behave the same way across the copula or with complements:

\[
\begin{align*}
(2.14) & \quad a. \text{ *that outcome was alleged} \\
 & \quad b. \text{ that outcome was possible} \\
 & \quad c. \text{ that assassination is alleged to have started World War I} \\
 & \quad d. \text{ *that assassination is possible to have started World War I} \\
 & \quad e. \text{ *that scenario was alleged to avoid} \\
 & \quad f. \text{ that scenario was possible to avoid}
\end{align*}
\]

We will argue in Chapters 4 and 5 that a nanosyntactic representation of these verbs and their modificands leads to a more cohesive understanding of the issues in (2.12) and (2.14), as well as a straightforwardly compositional analysis of both *alleged murderer* and *possible cop*. For now, it will suffice to observe that Montague’s adjective-centered approach to non-intersectivity, though unquestionably a step forward, does not capture the full complexity of the phenomenon.

---

\(^{12}\) Smith’s (1961:348) formulation specified only the verb *is*: “\(S (\ldots \text{Indef or Det N wh is} \text{ + A-phrase} \ldots) \rightarrow S (\ldots \text{Indef or Det N wh is} \text{ + A-phrase} \ldots)\).” Reasonable adoptions of whiz-deletion need to expand on this, so it is not unreasonable to imagine *become* and *exist* fitting the bill.
2.3.1 Siegel (1976)

One complexity Montague sidesteps is that few adjectives behave only intersectively or only non-intersectively; instead, ambiguity between NIAM and IAM abounds (as Bolinger observes, albeit from a non-set-theoretical perspective). Siegel’s (1976) dissertation refines Montague’s program by elaborating a ‘doublet theory’ to account for this. Siegel claims that “only if each English adjective is taken to be either a CN/CN, a t///e, or both, depending upon its behavior in certain diagnostic tests, does adjective behavior become largely predictable” (1976:vi). To illustrate: Siegel proposes that beautiful comes in two versions, one able to take CNs as arguments and modify them non-intersectively:

\[(2.15)\]

\[
\begin{array}{c}
\text{beautiful}_1 \text{ dancer (CN)} \\
<s, <e, t>> \\
\lambda x.\text{beautiful}^\uparrow \text{dancer}(x)^{15} \\
\end{array}
\]

\[
\begin{array}{c}
\text{beautiful}_1 \text{ (CN/CN)} \quad \text{dancer (CN)} \\
<<s, <e, t>>, <s, <e, t>> > > \\
\lambda P.\text{beautiful}^\uparrow P \quad \lambda x.\text{dancer}(x)
\end{array}
\]

The same version of beautiful is unable to compose when in predicate position (2.15a), as it does not have a CN to take as an argument. Its t///e Doppelgänger, however, has no problem, for it has a type <e> expression (Marya) with which to compose (2.16b):

\[\]

---

13 Cf. Montague (1970a:211): “The denotation of an adjective phrase is always a function from properties to properties.”

14 These formalisms, which (in our view) amount to notational variants of [± intersective], indicate the functional nature of ‘non-intersective As’ (taking C(ommon)N(oun)s as arguments and returning the same type) and the ‘simple predicate’ nature of ‘intersective As’ (taking an e(ntity) as an argument and returning a t(ruth value)). Siegel rejects (p. 59) the idea of such features, but—as a means of identifying two (and only two) classes of adjective—they differ from the labels she proposes only in their nomenclature.

15 This structure is presented to encapsulate Siegel’s analysis, but does not correspond to any composition tree in her work. All notations are consistent with her analysis, except for the semantic representations with lambda operators, which have been added for the purpose of illustration.
Siegel defends her theory’s double-listing of nearly every adjective in the English lexicon by juxtaposing English with Russian, a language in which every adjective is doubly listed, coming in two morphologically unpredictable (i.e. non-inflected) forms, long and short. English intelligent, for instance, corresponds to Russian umnaja (long form) and umna (short):

\[(2.17) \begin{align*}
\text{a.} & \quad \text{ona} \quad \text{umnaja} \\
\text{b.} & \quad \text{ona} \quad \text{umna}
\end{align*} \]

‘she (is) intelligent’ (Siegel’s (45, 46))

Intriguingly, the two Russian forms are syntactically and semantically restricted in different ways: short-form As cannot occur prenominally and “have an absolute meaning; are intersective,” while long-form As cannot take infinitival complements and “have a relative meaning; are non-intersective” (Siegel 1976:21). Speakers report a difference in meaning between (2.17a) and (2.17b), with the (a) form interpreted as, roughly, “an intelligent something” (Siegel 1976: 12), and the (b) form as ‘generally intelligent.’ When a noun provides a linguistic comparison class (e.g., the student is intelligent), speakers report a ‘relative’ reading of umnaja, i.e. that the student is intelligent in his/her role as student, but may act like an idiot the rest of the time. At first glance, then, Russian presents strong evidence for a lexical feature [± intersective] (or [± predicative]: the duality is what matters, not the label (cf. fn. 10)) as its adjectives appear to be morphologically marked as such (e.g. by -aja in (2.16a).
Unfortunately, matters are not so simple. Larson (1999, Lecture 2) reports that the phrase *krasivy tancer* ‘beautiful dancer’ exhibits the same ambiguity in Russian that it does in English, without shifting the long-form adjective to the short-form *krasivo*. Closely related but unaddressed by Siegel are phrases such as *krasivo / krasivy object* ‘beautiful object’ in which the same reading—an absolute one, as the comparison class supplied by *objekt* does little to restrict the domain—obtains for both long and short versions of the (prenominal) adjective, each robustly attested. These are critical problems for her clean division of the adjectival class.\(^\text{16}\)

Siegel’s analysis has the potential to connect the inaccessibility of non-intersective post-copular readings to the copula itself. However, given Montague’s proposal that copular *be* is inserted post-syntactically, with no semantic load, Siegel must instead blame the compositional mismatch on the non-predicative (type <e> or <<e,t>,t>) NP subject of copular predication, as above. This is entirely reasonable, but leads to serious difficulty with her analysis of Russian, as both long and short As can appear across the copula (cf. 2.17). To accommodate this, Siegel proposes a null CN with which long-form As in predicate position compose; while far from a fatal flaw, this complicates the account in no small way.

The ordering restrictions on multiple prenominal ‘Doppelgängers’ (alluded to Chapter 1) raises a compositional issue that Siegel’s doublet analysis cannot account for:

\[
\text{(2.18) BEAUTIFUL beautiful dancer}
\]

\(^{16}\) As Siegel (pp. 27-28) says: “It would take a special meaning postulate to make a CN/CN extensional. Such a meaning postulate would have to have the effect of changing the semantic type of the CN/CN to that appropriate to a t/e adjective. Such a meaning postulate could be written, but only because no explicit constraints on meaning postulates have yet been formulated... It seems a reasonable beginning to say that they may not undo the compositional semantics by converting a phrase of one category into a semantic type appropriate to another.” Even before we consider the problems mentioned above, this appears to dismiss as stipulative any attempt to derive intersective As from non-intersective ones in the compositional semantics, while doing just that (or vice versa) in the lexicon.
Setting aside the intensificational reading, the two *beautifuls* in (2.18) may engage in IAM and NIAM with *dancer*, but they must do so in that order, i.e. the first *beautiful* must behave intersectively, and the second non-intersectively. If we assume, with Montague and Siegel, that both *dancer* and *beautiful dancer* are CNs no matter which *beautiful* is involved, then there is no way to rule out either structure in (2.19):

(2.19)  a. beautiful₁ beautiful₂ dancer (CN)  b. beautiful₂ beautiful₁ dancer (CN)

Neither syntax nor semantics can help, as both versions of *beautiful dancer* are exactly the same syntactic type, and the intensional semantics of *beautiful₁ dancer* must be fully accessible, as ‘intersective’ *beautiful₁* has no ability to meddle with the intension of *dancer*. Yet (b) must be ruled out.

Finally, Siegel’s analysis paints all non-intersective semantics with the same brush. This is odd, for quite clearly *events* are what is modified in *beautiful dancer*, while *reference* is modified in *possible murderer*, and the non-intersectivity of *intelligent student* involves either the relevant *comparison class* by which *intelligent*’s truth conditions are evaluated, or the (episodic) temporal window in which *intelligent* holds of the referent. These variations in meaning point to (among other things) a greater role for the noun.

If the above issues argue convincingly against the strong version of Siegel’s thesis, i.e. that there are exactly two types of adjective, intersective and non-intersective, corresponding precisely to Russian short and long form adjectives, then a weaker version—that adjectives are not a unified category, that their differences in lexical type may contribute to non-intersectivity,
and that the lexicon can tolerate double-listing of adjectives without overloading memory capacity or violating some principle of non-redundancy—is difficult to deny, and represents formidable progress in the analysis of non-intersectivity.

2.3.2 Partee’s Extensions

Over the ensuing decades, Partee (2006; Partee & Borschev 1998, a.o.)\(^{17}\) has extended the Montagovian analysis to address some of the complexity that escaped earlier work; several of Partee’s innovations may be singled out for their particular relevance to the present study. First, she analyzes privativity (e.g., *fake notary*) to essentially stand outside the realm of non-intersectivity, analyzable, instead, as a special type of intersective modification (Partee 2009, 2010). As we note in Chapter 5, this jibes with syntactic evidence that similarly suggests privativity to be a lexical semantic issue. Secondly, Partee expands the typology of nominal expressions to include “‘Transitive Common Noun’ (‘TCN’), a type of noun which requires another argument to achieve saturation, e.g. *friend*:

(2.20)  
\begin{align*}
\text{a.} & \quad \text{look at the boat!} \\
\text{b.} & \quad ??\text{look at the friend!} \\
\text{c.} & \quad \text{look at Jill’s friend!}
\end{align*}

The paradigm in (2.20) illustrates that nouns like *friend* require an internal, complement-like argument—though not necessarily in the syntactic position traditionally associated with the terms ‘complement’ or ‘internal argument’—in order to achieve saturation, while others like *boat*

---

\(^{17}\) Partee’s work on non-intersectivity is scattered among various articles, chapters, and lectures, so her approach to them must be assembled type by type. On one hand, this makes conceptual sense, as the label ‘non-intersective’ applies to a broad range of very diverse phenomena, a point belabored in these pages. On the other hand, the pervasiveness of the label, particular as a modifier of *adjective*, motivates efforts like the present one to consider the phenomena from a unified perspective, and a ‘one-stop’ compendium of Partee’s non-intersective work would be of great value,
do not. By expanding the inventory of types to recognize this, Partee opens the door to clearer analysis of more complex patterns, such as that of the adjective *new*:

\[(2.21) \]
\[a. \ \text{[new}_1\text{]}_{\text{CN}}: \text{“hasn’t existed long” (a new movie)} \]
\[b. \ \text{[new}_2\text{]}_{\text{CN}}/ \text{CN}: \text{“hasn’t been a CN long” (a new movie star)} \]
\[c. \ \text{[new}_3\text{]}_{\text{TCN}/\text{CN}}: \text{“hasn’t been TCN-of long” (my new friend)} \]
\[d. \ \text{[new}_4\text{]}_{\text{TCN}/\text{CN}}: \text{“hasn’t been (free) R}_{1}\text{-of long” (John’s new car is an old car)} \]

(Partee & Borschev’s 1998(14))

This expansion represents a vital pivot towards recognizing nominal complexity’s role in non-intersective behavior, and—while the approach elaborated in Chapters 3, 4 and 5 will use different tools to describe nominal complexity, and argue for more of it—Partee’s refinement takes things in much the direction advocated for by this study.

A closely related development is the recognition of adicity distinctions in *adjectives*, exemplified by *favorite*, a word which requires not only a ‘favored,’ but also a ‘favorer’ (cf. #the favorite dog). We can see the interplay of adjectival and nominal adicity in *favorite friend*:

\[(2.22) \]
\[a. \ \text{Alan is my favorite friend of George’s} \]
\[b. \ \text{Bettina is George’s favorite friend of mine} \]
\[c. \ ?\text{Carla is my favorite friend of mine} \]
\[d. \ \text{Carla is my favorite friend} \]
\[e. \ ?\text{Danielle is his favorite friend of his} \]
\[f. \ ?\text{Danielle is George’s favorite friend of his} \]
\[g. \ \text{Danielle is George’s favorite friend} \]

In (a) and (b), the grammatical subject (*Alan, Bettina*) realizes the external argument\(^{18}\) of both *favorite* and *friend*, while the ‘high’ genitive marks the internal argument of *favorite*, and the ‘low’ applicative of *marks the internal argument of friend*. The unmarked quality of (d) and (g) indicates that—when the two arguments co-refer—the preference, at least in these English

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\(^{18}\) Though it is somewhat unorthodox to refer to the ‘external argument’ of an adjective, it is quite common to refer to its \(\theta\)-role (e.g. ‘Theme’). In the ensuing chapters we will adopt an analysis involving syntactic projection of that \(\theta\)-role, which will indeed look like an external argument.
contexts, is to delete (or not insert) the lower copy. However, (c), (e) and (f) are all marginally acceptable, fully so when either argument is given contrastive focus. Clearly, then, there is evidence for two-place adjectives and nouns; Partee formally represents the status of two-place As as those which yield TCNs rather than CNs. Thus, \textit{favorite} is either TCN/TCN (as in \textit{favorite friend}) or TCN/CN (\textit{favorite fish}) (Partee 2006, Lecture 9).

A possible consequence of such an analysis is that the unacceptability of \textit{favorite}—and possibly other adjectives, e.g. \textit{former}—in post-copular/predicate position might be understood to follow from the unavailability of its internal argument within a certain structural domain:

\begin{enumerate}
\item[(2.23)] a. that car in John’s driveway is new
   b. *that movie we saw is favorite
\end{enumerate}

Though \textit{new} in (a) is grammatical, it must have the meaning of (2.21a); the car has not existed for long. In other words, if \textit{new} is listed four times in the lexicon, only the t/e version is permitted post-copularly; alternatively, something about \textit{new} allows it to be shifted to t/e. The unacceptability of \textit{favorite} in (b) may arise because, though the DP \textit{that movie} can merge with \textit{favorite} post-copularly (presumably raising to Spec, TP), there is nothing else in its local domain to fill the second argument position. This can be remedied with a pronoun, just as a more complex type of \textit{new} can be supported:

\begin{enumerate}
\item[(2.24)] a. that car in John’s driveway is newly \underline{his}
   b. that movie we saw is \underline{my} favorite
\end{enumerate}

This isn’t a clean fit with Partee’s analysis, however, as she understands \textit{former} to differ from \textit{favorite} in being able to shift to (or be listed as) a one-place form, i.e. CN/CN, as evidenced by its ability to occur without a genitive in its nominal (a), yet like \textit{favorite}, \textit{former} is resolutely ungrammatical after the copula:
We leave the matter open, as the approach outlined below will come at the issue from a different angle.

In sum, Partee’s richer typology allows for the successful analysis of some complex phrases (*former favorite teacher*), but, though newly sensitive to the adicity of both adjectives and nouns, and continues to treat all non-intersectivity as essentially monolithic, and does not address issues of word order in complex structures.

### 2.4 Syntactic Encounters with Non-Intersectivity

Though Chomsky has repeatedly insisted on the autonomy of syntax, a position which in absolute form leaves no room for interest in the semantic notion of compositionality (cf. Chomsky 1975), linguists working within his frameworks of Government & Binding and Minimalism (1981, 1995) have been unable to avoid non-intersectivity, as it exhibits subtle yet real syntactic reflexes. Empirical concerns of word order and theoretical questions of the phrasal or non-phrasal nature of one-word modifiers have guided much of the relevant research, while in many cases the conflation of non-intersectivity with adjectives and the dubious assumption of monolithic non-intersectivity have limited the findings.

#### 2.4.1 Postnominal Adjectives and the Head Final Filter

Of glaring concern to syntacticians is the limited acceptability of English adjective phrases in post-nominal position. As with NIAM, postnominal modification in English appears to

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19 This label is a shorthand, and an admittedly crude one. The nature of non-intersectivity phenomena makes it all but inevitable that an analysis operating in the tradition of formal semantics will be quite syntactic, as Montague’s, Siegel’s, and Partee’s work is. Similarly, the research discussed in this section, though falling within the ‘Principles & Parameters’ framework of syntactic inquiry, cannot help but touch on semantic issues.
be a complex, multiply-determined cluster of phenomena, likely involving more than one of the traditional linguistic modules (i.e. phonology, semantics, syntax). Williams (1982) proposes a Head Final Filter (‘HFF’) that bars post-head material in prenominal modifiers, accounting for patterns like the following:

\begin{align*}
\text{(2.26)} & \\
\text{a.} & \text{ *taller than the children cornstalks} \\
\text{b.} & \text{ cornstalks taller than the children} \\
\text{c.} & \text{ quite remarkably tall cornstalks} \\
\text{d.} & \text{ *cornstalks quite remarkably tall}
\end{align*}

Attempts to more satisfyingly explain this stipulative if sound bit of machinery have not met with overwhelming success (cf. Escribano 2004). And even with the help of that heavy machinery, patterns like those in (2.26) do not obviously fall out:

\begin{align*}
\text{(2.27)} & \\
\text{a.} & \text{ *told people} \\
\text{b.} & \text{ people told (about the outbreak will be asked to call ten friends each)} \\
\text{c.} & \text{ *told stories (are better than written ones)}^{20} \\
\text{d.} & \text{ stories told}
\end{align*}

Williams ascribes the unacceptability of (a) to the (obligatory) presence of an object trace, presuming a base structure along the lines of \textit{people who were told [t]}; (c) he takes to be acceptable because \textit{told} in this case is adjectival, and thus does not have a post-head trace. This analysis is supported by the practically universal acceptability of prenominal -\textit{ing} forms—\textit{crying man, ringing bell, shrieking ghost}—as these standardly involve subject traces.\(^{21}\) In Chapter 3 we will propose a different version of the HFF, the application of which does not rely on the claim that silent post-head material can rule out raising to a prenominal position.

\begin{footnotes}
\footnote{Williams glosses this as fully acceptable; some speakers report otherwise. However we choose to notate its marginality, the form is well-attested in corpora, and the contrast with (a) is strong enough to support the analysis.}
\footnote{Exceptions like \textit{dying dream} (‘dream while dying’) do not pose a problem either, but are limited enough to suggest a lexical explanation.}
\end{footnotes}
Leu (2005) accounts for the pattern in (2.28)—noted by Smith (1961), but addressed only stipulatively—by splitting forms like *something* and *someone* into two closed classes (Determiners and Indefinite Pronoun Restrictors) which both merge higher than adjectives:

(2.28)  
   a. *scary something*  
   b. something scary

This still leaves a number of difficulties. Certain types of adjective—perhaps co-extensive with the class of Relational As discussed in Chapter 4—occur post-nominally to achieve something of a poetic style (b), while others are not permitted:

(2.29)  
   a. philosophical matters  
   b. matters philosophical  
   c. *education physical*  
   d. *topics serious*

This is occasionally ascribed to the contact influence of French and Latin, but as (2.29) illustrates, acceptability judgments do not align with etymological word origins. Finally, a number of adjectives with the *-able/-ible* suffix may appear in either position, though with subtle distinctions in meaning (cf. Bolinger 1967, Larson 1999, a.o.):

(2.30)  
   a. (we studied) the visible stars  
   b. (we studied) the stars visible  
   c. the possible outcomes  
   d. the outcomes possible

In these cases, the postnominal adjective has a temporary quality that is lacking in the prenominal variant: this leads, e.g., to a smaller group of stars studied in (b) than in (a).

The obligatory presence of the definite article in (b) and (d) strongly suggests a Reduced Relative analysis, as does the difference in tense between (a) and (b). There is, in fact, something

---

22 Postnominal modification in phrases like *a scary something-or-other* goes unaddressed by Leu’s analysis.
of a consensus that postnominal As of the -able type should be analyzed as Reduced Relatives, but a successful explanation of why those adjectives and so few others are able to be so reduced has not yet surfaced.

2.4.2 The Phrasal or Non-Phrasal Status of Prenominal As

Abney (1987) makes novel proposals about the structure of noun phrases with prenominal determiners (a) and adjectives (b):

(2.31)  

<table>
<thead>
<tr>
<th></th>
<th>a. DP</th>
<th>b. AP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>D       NP</td>
<td>A    NP</td>
</tr>
<tr>
<td></td>
<td>the proposal</td>
<td>new proposal</td>
</tr>
</tbody>
</table>

The structure in (a)—with the determiner head projecting ‘over’ the NP in its complement—has become more or less standard in generative syntax, and is assumed here. The structure in (b) has much to recommend it as well. For starters, it derives the HFF in one fell swoop: prenominal As cannot take post-head material precisely because they have NPs as their complements. It is also exploited by Delsing (1993) to explain (via the Head Movement Constraint) the unavailability of suffixal determiners in Danish when an adjective intervenes (c):

(2.32)  

<table>
<thead>
<tr>
<th></th>
<th>a. forslag-et ‘proposal-the’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b. det nye forslag ‘the new proposal’</td>
</tr>
<tr>
<td></td>
<td>c. *nye forslag-et ‘new proposal-the’</td>
</tr>
</tbody>
</table>

(Danish)

---

23 The first part of the overview given in this sub-section (up to the discussion of Bernstein (1993)) closely follows those in Alexiadou et al (2007) and Alexiadou (2014); our familiarity with the individual works in question does not lead to any significant divergence from Alexiadou’s summary.

24 These have explicit antecedents in the work of Brame (1982) and Szabolcsi (1983), but receive their first full treatment in Abney’s dissertation.

25 Perhaps inevitably, this has in turn come to be seen as an oversimplification, see e.g., Aboh (2004), Laenzliger (2005), Leu (2008). Nevertheless, Abney’s structure provides the basis for these analyses, which may be characterized as refinements rather than refutations.
Finally, the structure in (2.31b) is architecturally harmonious with that in (2.31a) as well with that of the clause: all three are right-branching maximal projections of functional heads.

However, the head analysis of prenominal As runs into serious difficulties, and has not been widely adopted, though analyses continue to exploit the possibility. Svenonius (1994) demonstrates that, even in English, at least some—arguably, most—prenominal adjectives must be phrasal:

(2.33)  (barely) hot black coffee

\[\text{AP} \quad / \quad \text{A} \quad \text{AP} \quad \text{hot} \quad / \quad \text{A} \quad \text{NP} \quad \text{black} \quad | \quad \text{N} \quad \text{coffee}\]

Though the Abneyian structure in (2.33) is semantically coherent, it does not remain so if barely is introduced as a head c-commanding it, for we interpret barely as modifying only hot, not black or coffee. Short of an analysis in which barely incorporates with hot, we are forced to posit an AP in prenominal position. This problem all but rules out the possibility of analyzing any modifiable (to the exclusion of the N) prenominal A, quite a large class.

Bernstein (1993) explores the possibility of a mixed analysis in which some prenominal As merge as adjoined phrases, and others directly as heads (A°s, in Bernstein’s notation). Here non-intersectivity rears its own head, as the adjectives she proposes as A°s have two things in common: they cannot take modifiers, and they like to behave non-intersectively:

(2.34) *a very mere man  (Bernstein’s 1993 (179))
As in Siegel’s analysis, we see non-intersectivity alluringly connected to a linguistic structure: in this case, to a functional (rather than lexical) head, as Bernstein takes these A°s to be a closed class. Unfortunately, her claim is applied to only a handful of adjectives (other, mere, poor), and a closer look reveals that many adjectives behaving non-intersectively (henceforth ‘ABNIs’) can, in fact, be modified by very (and, thus, presumably be phrasal) while maintaining their non-intersective readings:

(2.35)  
  a. a very fake notary  
  b. a very proud uncle  
  c. a very beautiful writer  
  d. a very mean drunk  
  e. a very reluctant conscript  
  f. a very clear insult

If we open the door to modification by other adverbials, the number of unmodifiable attributive adjectives dwindles further:

(2.36)  
  a. my presumably former girlfriend  
  b. his repeatedly alleged malfeasance  
  c. her supposedly favorite activity

Note that the adverbials capable of modifying these non-gradable As are all derived themselves from adjectives likely to behave non-intersectively.

The facts above do not completely undermine Bernstein’s analysis26, as the use of very as a diagnostic for phrase-hood seems reasonable, and therefore the words she identified may well merge as functional heads: we will also view these as structurally simpler than the ungradable type. What the data above point to, rather, is complexity: this ‘mixed’ analysis must be further

26 In fact, Bernstein comes short of making the strong claim disputed here. Nonetheless, there is more than a slight suggestion that the A° analysis extends to all ABNIs. “Although English does not exhibit the word order variation of Romance, interpretation facts support the proposal that two types of adjectives must be distinguished” (Bernstein 1993:82).
mixed, and attempts to divide the class of adjectives into intersective and non-intersective camps may be considered a starting point only.

### 2.4.3 The Extended Nominal Projection: N-movement and Modification Domains

Buttressed by cross-linguistic morphosyntactic patterns, the continued theoretical pursuit of analogies between the DP and the clause has led to an increasingly articulated extended nominal projection, containing not only D and N, but intermediate functional projections such as Num(ber), Gen(der), K(ase), and Agr(eement) (cf. Alexiadou 2014:83). This expanded architecture has been exploited, in turn, to propose that DP-internal N-movement (analogous to clause-internal verb raising) accounts for patterns such as Scandinavian affixal determiners (cf. (2.32a) above), Det+ProperN structures in Catalan and Italian (el Joan, la Fede; cf. Longobardi 1994), and postnominal As in Romance (Bernstein 1993, Cinque 1994, a.o.). The last type of analysis bears directly on the study of non-intersectivity, for if one adopts Bernstein’s A° proposal for ABNIs, then NIAM structures in Romance, which can involve pre- or post-nominal adjectives, might involve movement of the noun to a higher position in the clause.

Recently, however, proponents of the N-movement analysis (most notably, Cinque 2010) have eschewed using N-movement to account for patterns related to non-intersectivity, as what is consistent cross-linguistically is that ABNIs occur closer to the noun modified than non-ABNIs, rather than just lower. Were the latter the case, N-movement would cleanly account for things; as it stands, however, a more complex account is required.

The observation that non-intersectivity occurs in structurally predictable alignments with respect to the noun modificand—a critically important point, as it confirms that NIAM is a syntactic as well as semantic issue—emerges in the work of Sproat & Shih (1988, 1991), who
note that Mandarin adjectives followed by the particle *de* are uniformly intersective, and likely represent Reduced Relatives, as *de* also marks Mandarin relative clauses:

(2.37)  a.  na  hong  de  shi-ben shu  (Chinese)  
that red  DE  ten-CL book  
‘those ten red books’  
b.  na  meiren yao  de  shi-benshu  
that nobody like  DE  ten-CL book  
‘those ten books that nobody likes’  

(Aoun & Li 2003:147)

Sproat & Shih call these *de*-marked forms (like *hong-de* ‘red’ above) ‘indirect As,’ and the *de*-less forms ‘direct As,’ and observe that indirect As must appear ‘outside’—in Mandarin’s case, before—direct As, which must undergo ordering restrictions. Examination of other languages confirms that the issue is closeness to the noun, rather than precedence. Once again, we face the tantalizing possibility of a language in which intersectivity is morphologically marked, and now associated with a particular syntactic domain as well. Unfortunately, Sproat & Shih’s division of ‘A’ turns out to be not so clean: Paul (2005) notes that the clearly non-intersective-behaving adjective *yiqian* ‘former’ must take the -*de* suffix in some adnominal contexts:

(2.38)  
Beijing  daxue  yiqian  de  xiaozhang  
Beijing  university  former  DE  president  
‘the former president of Beijing University’  

(Paul 2005, cited in Cinque 2010:96)

Note that this phrase does not submit to a reading in which the denotee is definitely a current president of some institution, but served in an unspecified role at Beijing University (i.e. ‘president, formerly of Beijing University’), an interpretation which would suggest an intersective, relative-like structure in line with the analysis outlined above. The clear compatibility of Mandarin *de* with non-intersectivity is further underscored by its co-occurrence
with *yiqian* in single-noun nominals, e.g. *yiqian de xiaozhang* ‘former president,’ *yiqian de tongxue* ‘former classmate,’ etc. (Chun-Yi Peng, p.c.).

Despite duly cataloguing such empirical holes in morphological doublet analyses (e.g. the compatibility of ABNIs with Greek determiner spreading, cf. Leu 2008), Cinque (2010) assumes Sproat & Shih’s direct/indirect division, making surprisingly strong claims about the semantic correlates of the two types:

\[
\begin{array}{ccc}
\text{Indirect (reduced RC) modification} & \text{Direct modification} \\
\text{stage-level (or individual level)} & \text{individual-level} \\
\text{restrictive} & \text{nonrestrictive} \\
\text{implicit relative clause} & \text{modal} \\
\text{intersective} & \text{nonintersective} \\
\text{relative (to a comparison class)} & \text{absolute} \\
\end{array}
\]

... ... 

(abridged from Cinque 2010:27)

Though the term Cinque uses to connect these traits is ‘associated,’ it is very hard to see the observations in (2.40) as more than the very broadest generalizations: to take just one issue from the list above, the notion that individual adjectives (or the merger site thereof; Cinque suggests that there are two lexical classes which then merge into two different sites) may only be either intersective and restrictive, or neither, is untenable right from the start; Siegel (1976:52) actually makes the opposite prediction, that only intersective As can be used nonrestrictively. This itself is a questionable claim, but the relationship between the two phenomena is clearly not as simple as what is depicted in (2.39).

Cinque also follows Sproat & Shih in identifying two domains of prenominal modification in English: a higher one for indirect As (indicated by iAP in 2.41 below), and a lower one for direct ones (dAP):
(2.40) \[
\begin{array}{c}
\text{DP} \\
/ \ \ \ \ \ \ \ \ \ \ \ / \\
\text{D} \quad .
\end{array}
\]
\[
\begin{array}{c}
\text{NumP} \\
/ \ \ \ \ \ \ \ / \\
\text{IP} \quad \text{XP}
\end{array}
\]
\[
\begin{array}{c}
\text{PRO} \quad \text{dAP} \\
/ \ \ \ / \\
\quad \quad \quad \text{X NP}
\end{array}
\]
\[
\begin{array}{c}
i\text{AP}
\end{array}
\]

(Cinque 2010: 55)

Little is given, however, to motivate this structure, or ground it within other architectural aspects of syntactic theory.

While Cinque’s monograph represents one of the clearest acknowledgments to date of the syntactic reflexes of intersectivity phenomena, it continues the unhappy tradition of blaming the Adjective and ignoring the Noun, and the structural analysis of English sketched above does little more than echo the empirical observations made by Sproat & Shih. In sum, linguists’ understanding of non-intersectivity has expanded from its mid-20th century version to include the ideas that functional application involving intensional logic may be involved, that adjective morphology in some languages is related (but not directly correlated to) the phenomenon, and that ABNIs tend to occur closer to the nouns they modify than do their intersective-behaving counterparts. This represents definite progress, but clearly leaves room for more.

2.5 Steps Toward Synthesis

Bouchard (2002) breaks free from some of the assumptions that hampered prior non-intersectivity research, and his work is (with Larson’s, discussed below) relatively unique in treating both the syntactic and semantic aspects of NIAM. Most notably, Bouchard
acknowledges greater semantic complexity by characterizing intensional modification as targeting one of four variables: time intervals, possible worlds, the characteristic function, and the value assignment function. This is a positive development, given the tendency of less careful analyses to broadly describe all non-intersective modification as ‘intensional,’ with no further consideration of the different mechanisms that may entail. Bouchard also strives to account for word order differences between adjectival modification in English and French by reducing them to (essentially) the interplay of Linearization and Juxtaposition parameters. Throughout, he views word order as an inherently limited (i.e., simple) reflex through which complex combinations of semantic phenomena—intensional modification, ‘atomization’ of the nominal—must be expressed.

Bouchard explicitly rejects the possibility of what he calls “technical solutions,” whose inadequacy he blames on the addition of “various covert elements and operations to the theory” (2002:26). Though his critique of the shortcomings of technical solutions are largely on the mark—he, too, laments the tendency to account for interpretation and ordering variation through features connected only to those elements—his avoidance of technicality (essentially, of any analysis below the surface) leads him to come short of an analysis that is in our view explanatory. In concluding his analysis of French, he writes:

(2.41) By studying several ADJ-N pairs and cross-referencing between pairs, we can determine what kinds of features a particular N has, and what kinds of features a particular ADJ can modify. Second, when a noun phrase built from the same ADJ and the same N can receive more than one interpretation, it is because the ADJ is in a position to combine with different components of N. (Bouchard 2002:154)

This is exactly what is needed, and precisely the aim of this investigation. However, Bouchard’s analysis does not delve very far into this last combination with the components of N, which cries
out for sub-lexical analysis. Instead, his observations center on the fact that prenominal As “apply semantically to a subelement of the network of the N and typically assign properties presented as being inherent, while postnominal ADJs combine with the whole network of N and assign properties presented as contingent” (2002:153). While this is broadly true, it does little more than echo Sproat & Shih unless more is said about the network.

Despite his skepticism of technical approaches, Bouchard refines an intriguing (and somewhat technical) proposal of Larmarche’s (1991) that identifies the source of the split between Germanic and Romance adjective ordering as the realization of Number, with French realizing it on D, and English on N. He thus aims to ground theoretical moves such as Longobardi and Cinque’s N-raising in what he claims to be “legibility conditions of the CI or SM interfaces,” though the connection is somewhat obscure.

Bouchard’s strongest claims of “exact prediction” of word order from “logically anterior” principles are not supported by his argumentation, but his expansion of the semantic landscape is very much in line with the typology we will develop in Chapter 4, and both his skepticism toward simplistic accounts and emphasis on ambiguous forms and comparison of behavior types in no small way inspire the present investigation. In short, though we will part ways with the details of Bouchard (2002) from very early stages in his analysis, particularly in pursuing technical, non-lexicalist analysis of English, his work puts important pressure on a number of previous assumptions and must be considered a significant development in the study of non-intersectivity.

Larson’s (1998, 1999a, 2000, a.o.) work on non-intersectivity is consonant with the traditions of both Montague grammar and Principles & Parameters syntax, but stands apart from
the lines of research discussed above in a number of ways. First, Larson insists that the noun
plays a critical role; his (1998) ‘Davidsonian analysis’ proposes that:

(2.42) - the intersective/nonintersective ambiguity arises from the semantic structures
of N, not that of A;
- there are in fact no truly “non-intersective” readings. It [is] simply a matter of
intersecting the A denotation with different sets (dancers versus dancings);
...
- we “recapture” the adjective. No semantic division of the category AP arises;
they’re all predicates, but they are predicated of different things.

(abridged from Larson 1998:10-11)

The idea is that some nouns—‘agentive’ ones like dancer, but possibly others like president as
well—possess a hidden event parameter (cf. Davidson’s 1967 event variable) which is able to be
modified by adjectives in attributive position. Thus, beautiful, which can be predicated of either
individuals or events, has the choice of modifying two variables for such a noun (a), while those
without such flexibility (aged and former, for Larson) are restricted to just one choice each (b,c),
and therefore modify unambiguously:

(2.43)  

<table>
<thead>
<tr>
<th></th>
<th>a. DP</th>
<th>b. DP</th>
<th>c. DP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>/ \</td>
<td>/ \</td>
<td>/ \</td>
</tr>
<tr>
<td>D</td>
<td>NP</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td>/ \</td>
<td>/ \</td>
<td>/ \</td>
</tr>
<tr>
<td>an</td>
<td>AP</td>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td>NP</td>
<td>NP</td>
<td>NP</td>
</tr>
<tr>
<td>A</td>
<td>N</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Aged</td>
<td>president</td>
<td>former president</td>
<td>beautiful dancer</td>
</tr>
<tr>
<td>\</td>
<td>&lt;x,e&gt;</td>
<td>&lt;x,e&gt;</td>
<td>&lt;x,e&gt;</td>
</tr>
</tbody>
</table>

(adapted from Larson 1998:9)

As should be clear from the preceding historical overview, this ‘N analysis’ represents a very
significant shift, as even Partee’s expansion of noun typology—the lone consideration given to
nouns above—only indirectly factors into her later accounts of non-intersectivity, essentially by serving to increase the inventory of ‘non-intersective adjectives.’

The strongest versions of the declarations in (2.42) cannot be taken to apply to all NIAM phenomena; indeed, it is not clear how broadly Larson meant them to. On one hand, the Davidsonian analysis is presented as a counterproposal to Siegel’s (1976) account, which covers non-intersectivity broadly, and Larson mentions forms like *intelligent student* and *old friend* in building up to his account (1998:2). On the other hand, his subsequent analytical discussion focuses almost exclusively on *beautiful dancer*, an example of a type of NIAM for which the statements in (2.42) seem particularly appropriate. Even if the focus is restricted to Event NIAM (narrowly construed), the notion that the semantics of adjectives are not involved is dispelled by the illustration in (2.43): adjectives are directly implicated in non-intersectivity, just not to the exclusion of nouns. However, Larson (1998) conclusively demonstrates that it takes two to tango: that non-intersectivity is a property of modification, not adjectives or nouns.

Subsequent work (Larson 1999 Lecture 4, Larson & Cho 2003) further confronts the syntactic reflexes of NIAM. Like Cinque (2010), Larson advocates a ‘two-domain’ approach, but grounds the domains both semantically and syntactically. Semantically, a Generic Event Quantifier (cf. Chierchia 1995) partitions the two, while syntactically, ‘D-shells’—analogous to the more familiar ‘V-shells’ (Larson 1988)—articulate the extended nominal projection. Thus, *a former vase* and *a broken vase* differ in their base configurations: *former* merges directly with *vase*, while *broken* merges as a complement of D, which subsequently raises above *vase*:

---

27 We identify this as ‘Event’ NIAM in Chapter 4.

28 Larson (2014) presents both current and historical explorations of this approach.
Larson accounts for the prenominal word order in (b) by having *broken* raise for agreement purposes to a ‘second Spec’ of DP.\footnote{Cf. Larson & Cho (2003:242,fn. 21). The details of this raising as stated face problems related to ordering and Kayne’s (1994) Linear Correspondence Axiom, but the intuition expressed—that some modifiers may start at a remove from their modificands, only to later move to an agreement-friendly structural configuration—is taken up in the analyses of Chapters 5 and 6.}

Again, there is some tension with regard to the generalizability of this proposal, which focuses on (and titulary specifies) Temporal Adjectives—*former* being the test case—but also makes the broader claim that “nonintersective modifiers are constituents of D-complements” (Larson & Cho 2003:242). As with the approaches discussed in §2.3 and §2.4, there are difficulties in maintaining a ‘one size fits all’ position. For instance, *beautiful* and *former* exhibit a number of asymmetries, most notably contrasting behavior when taking wide scope:

(2.45)  
\[
\begin{align*}
\text{a. } & \#\text{beautiful former dancer} \quad (\text{*beautiful* = only intersective}) \\
\text{b. } & \text{former beautiful dancer}
\end{align*}
\]

If both adjectives modify the same ‘part’ of *dancer*—the event variable—then both should have the same access to that part when modifying a complex nominal headed by *dancer*. Yet *beautiful* cannot access it in (a), while *former* can in (b). Unlike the iterability contrasts in ‘Doppelgänger’
forms (*beautiful beautiful dancer* and *former former dancer*30), which can be accounted for by (commonly assumed) negational element in *former*, semantics appears to be of little help in explaining (2.46), as we have no problem with the paraphrase *one who formerly danced beautifully*, and *beautiful* fails to event-modify no matter what adjective intervenes. Intuitively, what seems to be off is the idea that *former* is modifying the same thing as *beautiful*: though perhaps both modify *eventualities*, *beautiful* seems to modify ‘dancing’ events (cf. Larson 1998), while *former* modifies a state of ‘dancerhood.’ In short, we need another variable, and if there are to be different syntactic structures responsible for its modification, we will have to dig deeper into the structures of these words.

More of Larson’s views on non-intersectivity will inform the discussion of the ensuing chapters, but it is useful to encapsulate here the elements of his analyses most relevant to the present study. First, the Doppelgänger effects he observes represent clear, concise evidence for the syntactic nature of non-intersectivity, as well as something that successful analyses must account for. Second, the noun is implicated in some if not all NIAM, as is the adjective (in adjectival NIAM). Third, a finer-grained structure of the nominal domain can explain a good deal of the semantic and syntactic patterning, but should be grounded in other principles or facts of linguistic analysis. Finally, “ambiguity has often provided a window into linguistic structure” (Larson & Cho 2003:245); the challenge of deriving different structures for adnominal modification ambiguous between intersective and non-intersective readings should help us better understand all of the elements involved.

---

30 ‘A dancer who used to be an ex-dancer, i.e. is now a dancer once more.’
2.6 Summary

Larson and Bouchard’s work notwithstanding, we have seen that, from the identification of non-intersectivity as a linguistic problem in the 1960s down to the present day, linguists have suffered from an abiding impulse to treat (non-)intersectivity as a binary feature located in the lexicon, the morphology, or the syntax. Though Occam’s Razor justifies such a starting point, half a century of Manichean approaches—morphologically marked vs. unmarked adjectives, head vs. phrasal modifiers, high vs low domains of modification—have failed to capture the full complexity that NIAM represents. Though the divisions just mentioned are quite obviously connected to non-intersectivity, they plainly do not neatly reduce to it (nor vice versa). We believe a reasonable, clear-eyed look at the history of investigation into non-intersectivity leads inexorably to several conclusions, which inform the remainder of this thesis:

(1) non-intersectivity does not arise from the adjective or noun alone\(^{31}\), but through the complex interaction of different sub-types of these categories;

(2) non-intersectivity is not the exclusive manifestation of any other singular phenomenon (restrictivity, ‘low’ or ‘closest to N’ merger, functional head status, non-derivation from a reduced relative, etc.) but is multiply determined, as indicated by its clearly varied syntax and semantics;

(3) satisfactory analysis of non-intersectivity must begin with careful articulation of the types of modification (rather than the types of noun or adjective), and proceed from there by identifying the component elements that yield and don’t yield a particular type. It is useful to recall that we are speaking of alloys.

Much of the language used to describe the complexities of NIAM—‘subsective’ modification, modifying ‘into’ the noun, etc.—suggests sub-lexical analysis, yet very little has been explicitly done in this vein. Superficially, such an approach is straightforward:

\(^{31}\) We will see more evidence of this in Chapter 4, when we consider instances in which non-adjectives engage in NIAM.
(2.46)  beautiful dancer (naive non-lexicalist analysis)
a. NIAM reading
   NP
     / \
    N   VP
   -er /
      Mod
    beautiful
      V
  dance

b. IAM reading
   NP
     / \
    AP   NP
   beautiful
     / \
    N   VP
   -er |
    V
  dance

However, (2.46)’s relatively innocuous appearance belies the fact that serious pursuit of such a sub-atomic analysis—which we demonstrate in Chapters 5 and 6 to be of serious value in understanding NIAM—quickly raises a host of critical theoretical issues. Therefore, before analyzing the various types and elements of NIAM, we begin by establishing certain ground rules with regard to words and predication.
3 Theoretical Underpinnings

The set of undisputed linguistic universals is extremely small, but for the moment words and predication are secure members. Definitions of the two terms vary in non-trivial ways, but no human language does without conventional chunks of associated sound (or gesture) and meaning, nor does any pick out real-world or conceptual referents without also classifying them in some way. How these foundational elements are represented in the syntax is a less resolved matter, and one of central importance to the current study. The ensuing pages briefly introduce and discuss the notions of late insertion (§3.1, §3.3), syntactically-determined category (§3.2), syntactically-represented predication (§3.4), and lexically-determined complement selection (§3.5), each of which plays a starring role in the chapters that follow. Several specific assumptions—all with precedents in the literature, but none universally adopted—will be motivated: (i) that lexical roots have underspecified semantic types corresponding to predicates of entities and states, (ii) that roots are syntactically active with regard to the selection of complements, (iii) that vocabulary items—the phonological profile and encyclopedic aspects of meaning—are ‘inserted’ post-syntactically, at the head of specified syntactic configurations, and (iv) that predication is always syntactically mediated by a functional head—a Relator—which may have different secondary syntactic and semantic properties. A final assumption, (v) that so-called ‘complements’ merge in the specifiers of root-predicate Relator Phrases, will be shown as a natural and desirable consequence of the above-mentioned theoretical apparatus, after which a derivation with multiple attribute adjectives is used to illustrate the approach (§3.6).
3.1 Late Insertion

The analyses discussed in the preceding chapter share a lexicalist approach to linguistic composition: they take words to be the smallest units manipulated by the combinatorial/computational system of human language. As a default hypothesis, this is patently reasonable, if not inevitable: all languages appear to have words\(^1\) and arrange them in rule-governed ways. On the other hand, the fact that words are the most obviously manipulated chunks does not mean they are the smallest ones, for there are indeed meaningful units of language below the word level which combine productively with other units in highly constrained fashion. This observation, taken together with the elusiveness of a sharp definition for ‘syntactic word’\(^2\) and the intractability of so many issues in morphosyntax and semantics, motivates approaches that do not share the lexicalist assumption. Distributed Morphology, introduced in Halle & Marantz (1993, 1994), is the source of several key concepts, terms and notational conventions used below; the approach outlined is also accordant with the more recent paradigm of nanosyntax, broadly summarized in Starke (2010, 2011).

The concept of late insertion is straightforward: rather than serving as the building blocks of syntactic trees, phonologically realizable units—‘Vocabulary Items’—are inserted after the syntactic structure has been built. For a monotonic theory of grammar, i.e. one without derivations or transformations, the choice would be trivial, but for most current theories of generative grammar, in which derivation is key (cf. Chomsky 1999), this distinction matters.

---

\(^1\) Dixon & Aikhenvald (2003) consider the claim that Chinese has no words (citing Hockett 1944), but follow Chao (1968) in concluding that, although the zi ‘character’ has greater “social status,” the Chinese language does indeed have words. They do point out that not every language has a word for word.

\(^2\) See, for instance, DiSciullo & Williams (1987), itself an influential defense of lexicalism.
Suppletion phenomena illustrate the potential utility of late insertion. Under standard assumptions, tense is syntactically represented in a terminal node above the Verb Phrase. Abstracting away specifier content, vP layers and the left periphery, the basic structure of the clause is the following:

(3.01)  
TP   
/ \  
TP   
/ \  
Tₐ  VP   
/ \   
VP   
/ \   
V₀

Under a lexicalist approach, any item inserted into the terminal node V₀ must already have morphological exponence, before T merges at all: /go/ cannot merge as V₀ only to become /wɛnt/ when a [+PAST] T head is merged above it. The ungrammaticality of go in past-tense contexts, then, must arise from a post-syntactic (i.e., PF) filter. In Distributed Morphology, this late procedure is insertion rather than filtering: the lowest head in (3.01) merges as a bundle of features which we will notate in small caps as GO to indicate that it does not yet have exponence until a later point in the derivation. This in turn allows the derivation to proceed without danger of crashing later. If a [+past] T head merges, the associated V head will be pronounced as /wɛnt/, while if [−past] is merged, the Vocabulary Item inserted will be /go/ or /goz/, depending on φ-features and/or other considerations.

3.1.1 PF and LF

Distributed Morphology adopts the ‘Y’ model of recent generative linguistics: syntactic derivations are ‘spelled out’ to the Sensorimotor Interface for pronunciation, and to the
Conceptual-Intentional Interface for interpretation. What differs between lexicalist and non-lexicalist approaches is the nature of what the syntax delivers to each interface: with Late Insertion, LF structures are not constrained by the boundaries of syntactic or phonological words—a fact the present investigation exploits in analyzing non-intersectivity phenomena—but analyses face the challenge of articulating how these structures are converted into words in a consistent, rule-governed manner at PF.

### 3.2 Syntactically Determined Word Categories

Another critical assumption of DM is that GO does not enter the derivation as a V\(^0\), but rather as a category-free root\(^3\), notated as √GO. This item’s word category is subsequently determined by its syntactic environment: conventionally, raising of a root to a c-commanding ‘n’ head yields a noun, raising to a ‘v’ head yields a verb, to an ‘a’ head, an adjective or adverb. In many cases this extra layer of structure appears vacuous:

\[
(3.02) \quad \begin{array}{c}
\text{hot} \\
\text{aP} \\
/ \quad \quad \quad \quad \\
\text{a} \\
\sqrt{\text{HOT}}
\end{array}
\]

In others, however, the syntactic composition of category aids analysis:

---

\(^3\)This term will be used interchangeably with ‘acategorial root,’ as both appear with some frequency in the literature, typically without conceptual distinction. For present purposes, the choice is entirely stylistic.
(3.03)  \[ John \text{ opened the door (omitting TP level)} \]

\[
\begin{array}{c}
\text{vP} \\
/ \quad \backslash \\
\text{DP} \quad \text{vP} \\
\hline \\
\text{John} \\
/ \quad \backslash \\
v \\
\text{SC (small clause)} \\
\text{CAUSE} \\
/ \quad \backslash \\
\text{DP} \quad (\sqrt{\text{OPEN}}) \\
\hline \\
\text{the door} \\
\end{array}
\]

(adapted from Harley 2009 (11))

In standard approaches to Distributed Morphology, OPEN attains its categorization as ‘verb’ by raising to the v head above it. This head raising, however, is only possible in an environment of local c-command. We might therefore reframe the analysis as stating that in (3.03) the verbal status of OPEN is established through c-command of the root by ‘v,’ while word order and availability to establish a local relation with a subsequently merged T head might be established via head-movement or other phenomena.

3.2.1 The Nature and Notation of Category-Assigning Heads

Standard DM notations of ‘n,’ ‘v’ and ‘a’ for category-determining heads\(^5\) will be employed herein; however, several problematic aspects are worth noting.

First, there is a danger of circularity when these heads make no specified semantic contribution: ‘doing’ morphology in the syntax has little value when syntactic structures exist only to get the morphology ‘done.’ The categorizing node ‘v’ receives the bulk of attention in this regard: it is commonly analyzed as coming in two or more varieties: e.g., DO and BECOME,

\(^4\) Harley (2009) analyzes OPEN as no longer a root in the position indicated here; under the approach outlined in §3.4 below, it may be analyzed as a root, but with slightly more structure above it.

\(^5\) Though ‘p’ is included as the fourth lexical category in some architectural formulations, it has yet to receive a thorough treatment in Distributed Morphology.
i.e. light verbs with relatively well-articulated semantics and hierarchical relations in the syntax.\textsuperscript{6} Less consensus exists as to the semantics of nominalizing ‘n’: some approaches hold that it exists as a precursor to subsequent merger of inflectional heads like Num(ber), Agr(ee), or Gen(der), while others (Alexiadou 2001:19) assume that the inflectional heads themselves assign category\textsuperscript{7} and eschew empty nominalizers and adjectivizers. The present approach shares Alexiadou’s concerns, but will argue for the presence of ‘light nouns’ such as PERSON and THING which nominalize expressions they are merged with: for instance, the ‘v’ head CAUSE will thus have a nominal analog in the ‘n’ head PERSON. In the absence of one of these heads, Num and Tense may be assumed to assign the respective word categories. The status of ‘a’ is murkier still, but we will posit ‘light adjective’ heads such as ‘a’ -FUL and ‘a’ -ABLE that make consistent semantic contributions, while in the absence of morphological or semantic complexity, the ‘a’ head will introduce syntactically nominal subjects. In short, taking seriously the minimalist notion of Full Interpretation, we avoid proposing heads merely for morphology’s sake.

Although these should be considered functional heads, we must avoid the temptation of demanding excessively structured input to them. The categories ‘n,’ ‘v,’ and ‘a’ are structuralizers: they (can) package unstructured input—roots, with clusters of associated individuals, times, perhaps places, flavors, etc.—in ways that are compatible with the hierarchical, logical-algebraic structures of grammar. In our view, it is a fundamental error to demand of these light elements a rigidly typed logical representation: on one hand, they produce

\textsuperscript{6} Marantz (2013) provides a recent overview of event and argument structure from a DM perspective. Though the present analysis does engage with the verbal domain, it does so somewhat tangentially, so we will not take a strong position on the inventory, hierarchy or nature of ‘v’ heads.

\textsuperscript{7} Alexiadou’s non-adherence to this view of categorization is one of several differences between her work and the mainstream DM program, but her views on decomposition in the nominal domain are very much compatible with the questions and assumptions central to DM.
eminently categorial structures (adjectives, type $<e,t>$, $\lambda x...$, etc.), but on the other they do not demand such clearly-defined arguments, and this fuzziness is a crucial aspect of our understanding of them, for without it, we push the structural demands of linguistic systems back into our sensory-conceptual systems (cf. Fodor’s 1975 Language of Thought), presumably from there onward into the external reality they allow us to understand. At some point in the system, linguistic structure must emerge: lexical roots give us a likely conduit.

A related but distinct conceptual issue lurking behind the ‘n’/‘v’/‘a’ notation is that it reifies a monolithic understanding of word category, one that separationist approaches such as DM have the potential to transcend,$^8$ by implying a single core semantics for each of the traditional lexical categories. Here again, the verbal domain has made the most progress in overcoming the problem: since Hale & Keyser (1993), the category of ‘V’ (more recently, ‘v’) has come to be seen as a label for a group of sub-categories with different semantic properties, assembled and related in the syntax. Though the eventuality domain (in Rothstein’s (1999) terminology) does not play a big role in follows, we will follow Ramchand (2008:39) in understanding ‘v’ to come in at least three variations, $\text{CAUSE}$, $\text{COME}$ and $\text{BE}^9$. Less clarity attends the ‘n’ and ‘a’ labels, but we will understand these to represent groups of functional heads with meanings like $\text{NUMBER}$, $\text{DEGREE}$, $\text{PERSON}$, $\text{ABLE}$, and so on. Following the conventional (in DM) understanding that English Vocabulary Items traditionally labeled Noun, Verb and Adjective are licensed in the domains of NumP, TenseP, and DegP, respectively, we will use these last labels to mark their somewhat special status as highest-level lexicalizers, but it should be borne in mind

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$^8$ Harley & Noyer (1999): “DM denies that syntactic categories necessarily stand in any simple relation to traditional parts-of-speech such as nouns and verbs.”

$^9$ The last two of these directly correspond to Ramchand’s $\text{process}$ and $\text{result}$; the English representation has been shifted here to facilitate easier reading of the structures.
that these are merely variants of ‘n,’ ‘v’ and ‘a,’ and insertion to lower heads may also be licensed in the case of mass nouns, unaccusative verbs, non-gradable adjectives, and others.

In sum, ‘n,’ ‘v’ and ‘a’ notations will appear in what follows, but with the explicit understanding that each is shorthand for a different set of functional heads associated with a traditional lexical category, that in every case they perform a structuralizing function with some semantic restriction, indicated in subscript. Word category is typically assigned by Num, Tense, or Deg, but may also be assigned by other instantiations of ‘n,’ ‘v’ and ‘a.’

3.2.2 The Nature and Notation of Acategorial Roots

Having established non-vacuity as a requirement for category-determining nodes, we turn to the status of the lexical roots they associate with. The syntactic and semantic profile of roots is a thorny matter, but one upon whose satisfactory delineation any fleshed-out account depends. Early accounts described roots as bundles of “semantico-syntactic features” (Harley & Noyer 1999), but both kinds of feature have subsequently been called into doubt.

“To mean or not to mean?” is the first question: whether it is preferable to assign roots particular features or denotations that predispose them to particular categories—and in doing so undermine DM’s celebrated acategoriality—or instead strip roots of all meaning whatsoever, leaving linguistic items that bear no sound or meaning features as the building blocks of composition. Some recent work (Acquaviva 2009, Borer 2009) takes things in the latter direction, and the arguments against allowing roots to bring meaning into the syntactic derivation are worth considering.

---

10 Indeed, so too is the phonological profile of roots: Embick & Noyer (2007) argue for the ‘Early Insertion of Roots.’ We will continue to assume that roots lack phonological features.
First, how can acategorial roots have categories? “Quite simply, if a root has a feature that presupposes a category, then it is not really category-free,” says Acquaviva (2009), but this amounts to something of a play on words. The apparent contradiction in terms is easily mooted via modification, for a root that is word-category free at the beginning of a syntactic derivation may nevertheless have a semantic feature assigned to it, even one traditionally correlated with a word category. This duplication of semantic intentions, rather than constituting an unacceptable anomaly, finds clear analogues in other domains of linguistics; it is displacement, much as we find in phonology with the phoneme(phone distinction, and in syntax with movement chains. In all three cases, a speaker has one idea —[event], or /t/, or [wh- in situ]—which, for reasons related to externalization, gets transformed into a superficial form—[noun], [r], [moved wh—]—only to be reconstructed by the interlocutor into its original form. Rather than an argument against the possibility of semantically-categorized roots, in other words, this displacement might be taken as just the opposite.

We might also observe that DM essentially separates the lexicon from the grammar, and therefore as a system is watered-down by the presence of any lexical semantics in the syntax. This theoretical purism puts a fine point on a perennial, fundamental and (for the moment) unanswerable question of linguistics: does syntax externalize semantic composition, or provide empty molds for us to ‘pour’ meaning into?

Marantz (2001) points out that some suffixes, e.g., -ity, combine with bound roots (feroc-, atroc-, felic-) as well as derived forms (electric-, automatic-, exocentric-), a fact that he takes—in conjunction with the straightforward categorial selection that the suffix exercises over its derived partners—to indicate that roots come in different types. The non-intersective forms we
examine in the chapters that follow will give us reason to believe that roots do have semantic features; the question then becomes: what kind? Marantz (2001) and Harley (2011) converge on a reasonable set: three or four ontologically ‘basic’ elements of meaning. These differ slightly: in Marantz (2001:20(66)), it is states, manners, entities and (possibly) relations; Acquaviva (2009) characterizes Marantz’s group as entities, states, and events; Harley (2011:15) calls for entities, properties and events, and provides illustrations for each type of root:

(3.04) a. entity-denoting roots: calve, saddle...
b. property-denoting roots: open, melt...
c. event-denoting roots: run, dance...

(from Harley 2011)

Let us take the tentative and divergent nature of these proposals as license to modestly alter things once more by eliminating the ‘event-denoting’ roots in Harley’s list, a move roughly in line with more nano-syntactic approaches such as Ramchand’s (2008) to the verbal domain, which take events to be syntactically constructed via the composition of state-denoting elements and functional heads such as CAUSE and BECOME. We will also use ‘state’ instead of ‘property,’ a distinction usually considered one of inherentness or alienability, on the view that we will more often refer to alienable states; this difference will not factor into the subsequent analysis. Thus, for the present:

(3.05) Roots are semantically (under)-specified as entities or states.

Predication is the fundamental compositional function of language, and its two key elements are subject and predicate: we take these logical notions to have quintessential but not obligatory correlates in the concepts of entity and state. Though empirical coverage will ultimately determine the usefulness of such theoretical typologies, our root categories lay as much of a claim to basicness as any of the others we have considered. Again, if we bear in mind
the ubiquity of displacement in linguistic patterns, the correlation between root categories and
the traditional syntactic ones is no drawback, and possibly appealing.

Careful DM analysis must also delineate the syntactic behavior of roots. Borer (2009)
considers them syntactically deficient, arguing on the basis of synthetic compounds that they
have no argument structure:

(3.06)  
a. structure generating
b. ship sinking
c. *tree falling  (exs. (b,c.) from Borer 2009 (69a,c))

DM accounts standardly analyze verbal forms like generat(e) as derived (from √ GENER and -ATE), so structure in (a) cannot merge as the complement of a root √ GENERAT, but must instead be the complement of either √ GENER or a v⁰ GENERAT (Borer’s preference). Borer notes that the only available reading of ship in (b) is as direct object of transitive sink, which only follows if the latter has adjoined to some ‘v’ head (e.g., CAUSE), while in (c), the internal argument of an unaccusative verb cannot participate in compounding, even though it should be able to merge as sister of √ FALL if roots projected internal arguments.

This pattern calls out for explanation, but does not constitute a direct blow to the
syntactic vitality of roots: minimally, it points to lacunae in our understanding of compounding
and gerunds, particularly why it is that the combination of a non-causative ‘v’ and a root cannot
be nominalized with -ing. To say that roots have complements does not, for instance, commit one
to the First Sister Principle (Roeper & Siegel 1978), or to the view that compounds are formed
by raising from the complement of a root to the root itself. We will, in fact, argue below that
roots take complements, but not in the structural ‘sister’ position.
Harley (2011) counters Borer with evidence from one-pronominalization showing that roots can in fact merge with complements, and project. English one can substitute for student in the student with long hair, but not in the student of chemistry. The basic observation is that of chemistry is structurally ‘closer’ to student than is the adjunct with long hair. In X-bar terms, one was seen as anaphoric for a secondary N' level—i.e., N” (Jackendoff 1977)—but this requires a non-branching N' node for the student with long hair, an unacceptable state of affairs under Minimalist assumptions. Instead, Harley (2005, 2011) proposes that the distinction is between merger with the root (3.07), and merger with the categorized noun (3.08):

(3.07)   DP
    /    \  
   D    nP  
  the /   \  
 n0    \  \  
   -ent  \  \  
      \  \  \  
     √STUD DP
      /  /  /  
     (of) chemistry (Harley’s 2011 (22))

(3.08)   DP
    /    \  
   D    nP  
  the /   \  
 nP    PP  
 /   /   /  
 /  /  /  /  
 n0    \  \  \  \  
   -ent √STUD with long hair (Harley’s 2011 (23))

Under this analysis, one is anaphoric for nP but not √P—a cleaner distinction than the G&B-era N' vs N'', but one that hinges crucially upon roots being able to take complements and project.

The reader is referred to the papers in question for further argumentation. The choice is consequential for the present investigation: a central tenet of the approach to non-intersectivity outlined in Chapters 4, 5 and 6 below is that, pace Borer, roots can merge with (something like)
complements, and indeed that Vocabulary Items such as *hope* are licensed in root positions with certain types of complement, while others such as *red* and *happy* are not. Thus, we follow Harley loosely in understanding roots (‘List 1 roots,’ in her terminology\(^1\)) to be semantically underspecified but nonetheless denotational, and syntactically active, in that they can select complement types. After establishing more of our theoretical foundation, however, we will outline an approach to root complementation that occupies something of a middle ground between Borer and Harley, as roots will not project to the phrasal level.

The manner in which roots are notated also merits careful regard. By longstanding convention, DM practitioners indicate roots in the fashion followed above, with radical signs and small- or full-caps to represent the item in question. Occasionally, mention is made that a more precise representation would be that of an index (Halle & Marantz 1994, Acquaviva 2009, Harley 2011, a.o.), and in some cases the advice is followed. Thus, Harley (2011:15) converts ‘√TAPE’ to ‘√279’, with the following entries at PF and LF:

\[
\begin{align*}
(3.09) & & \text{PF Instructions (List 2)} & & \text{LF Instructions (List 3)} \\
\sqrt{279} & \leftrightarrow /\text{tejp}/ & & \sqrt{279} & \leftrightarrow \text{‘tape’}
\end{align*}
\]

In spirit, this notation is well-grounded, as it aims to emphasize the phonetic and semantic inertness of roots during the derivation, while maintaining unity between proposed roots such as Semitic √BXN, realized by different forms with sharply divergent semantics, and Uto-Aztecan √MEA~SUA, a semantically cohesive unit meaning ‘kill’ in both instances, but with

\(^1\) Harley (2011, 2012) refers to three lists: List 1 contains individual lexical roots, List 2 contains insertion instructions for individual lexical items, and List 3 contains interpretation instructions. We will use Harley’s architecture and terminology, while differing in the technical details, particularly with regard to List 2.
starkly different (effectively suppletive) phonological exponents. Upon further consideration, however, the indexed-root notation inevitably bleaches either too much or too little. For Harley and Marantz, who differentiate between state- and entity-denoting roots, it obscures too much: we need some way to know that the ‘a’ probe -ity cannot combine with goals like √279 but can combine with others like, say, √167 (should that be the index number for √ATROC); a more apt notation, under such assumptions, would be √ENTITY and √STATE, to which we might reasonably add index numbers, should that aid our understanding of the individual members that these categories represent. Meanwhile, for Acquaviva, who takes a more stringent position on the semantic vacuity of roots, there is no reason to differentiate between √167 and √279 at all until vocabulary items are inserted and truth conditional matters considered; a better notation for this approach would be √ROOT for all roots.

In light of our presumption that roots come in syntactically distinct types, the view (articulated in §3.4 below) that roots lexically select certain types of phrasal material as their ‘complements,’ and the lack of any existing, coherent (sub-)typology of roots based on complement selection, we will continue to represent roots with their orthographical form throughout the derivation, understanding this device to be shorthand for a semantic type bearing certain selectional requirements, with all other semantic—and all phonological—information left inert or unspecified.

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12 An a priori issue with trying to unify these roots is that the Semitic requires a DM that does late insertion of semantics into a root with phonological features, while the Uto-Aztecan requires late insertion of phonological features into a root with semantics.

13 Obviously, many exponents of √STATE fail to compose with -ity: hot- and big-, for instance. There are various ways to account for this—other syntactically active features, blocking (heat, bigness), the listing of derived forms—but the precise manner in which this suffix attracts/probes is tangential to the current investigation.

14 Levin’s (1993) landmark study breaks enormous swathes of ground, but is—as the title indicates—preliminary, and both lexicalist and verb-centric in its outlook.
3.3 Vocabulary Insertion

The mechanisms of Vocabulary Insertion also remain largely unsettled in the DM literature, particularly with regard to the structural site of insertion, and the local domain within which it applies.

3.3.1 Configurational and Discontinuous Insertion

Typically, DM analyses hold that Vocabulary Items are inserted ‘into’ a node which contains at least a category-determining head and a root that has raised to adjoin to it. Thus, according to the conventions established above, either of the structures in (3.11) might license the insertion of book:

\[
\begin{align*}
\text{(3.10)} & \quad \text{a.} & \quad \text{nP} & \quad \text{b.} & \quad \text{VoiceP} \\
& & \quad \text{n}^0 & \quad \sqrt{P} & \quad \sqrt{BOOK} & \quad \text{Voice} & \quad vP & \quad \text{CAUSE}^{15} & \quad \sqrt{VP} \\
& & & \quad \emptyset & \quad \sqrt{BOOK} & & & \quad \sqrt{BOOK} & \quad \sqrt{BOOK} \\
& & & & \quad v & \quad \sqrt{VP} & \quad \text{COME} & \quad \sqrt{VP} & \quad \sqrt{BOOK} \\
& & & & & \quad t_i & \quad \sqrt{VP} & \quad \text{BE} & \quad \sqrt{BOOK} \\
& & & & & & \quad \sqrt{PP} & \quad \sqrt{BOOK} & \quad \sqrt{IN}
\end{align*}
\]

The conventional story is that leftward movement assembles a complex head—BOOK-n\(^0\) in (a), and BOOK-IN-BE-COME-CAUSE in (b)—which occupies the site of insertion: the ‘top-node’ approach. An alternative would be to insert the Vocabulary Item in its root position (i.e. for BOOK

\[^{15}\text{Though many split-VP analyses associate CAUSE with the projection that introduces the external argument—VoiceP, in Kratzer’s (1996) influential proposal—there are empirical arguments for splitting this as well (Harley 2013). The present investigation’s focus on modification within the nominal domain will lead us to follow the simpler, conventional account, but nothing about the present approach hinges upon a particular splitting of VP, merely upon its being split.}\]
in each of the two examples), with post-insertion movement to the phase-head yielding the
proper word order in (b). Finally, we might insert book for a phrase: nP in (a), VoiceP or vP in
(b), a nanosyntactic approach along the lines of Starke (2010, 2011).

Each of the three approaches comes with challenges. Inserting at the bottom node
requires head movement to the Voice head in (b), which starts to negate any possible advantages
it had over top-node insertion. Phrasal insertion raises the question of the post-insertion internal
structure of those phrases: the VoiceP containing gig in (b), for instance, would either leave word
order indeterminate (book a gig vs. a gig book) or implicitly insert book for the Voice head, once
again resulting in de facto top-node insertion. There are problems with the top node approach as
well. One difficulty comes in the form of simple English sentences with VoiceP-level (e.g.,
manner) adverbials:

\[(3.11)\]

```
TP
/ \       
/ \       
TP       
/ \       
DP      / \ 
/ \   / \ 
Paul / \ VoiceP
/ \ V oiceP
/ \ DegP
/ \ QUICKLY
/ \ ti
/ \ VoiceP
/ \ vP
/ \ vm\textsuperscript{0}
/ \ VoiceP
/ \ vP
/ \ vm\textsuperscript{0}
/ \ t\textsubscript{m}
/ \ vP
/ \ \ANSWER\textsubscript{j}
/ \ vk\textsuperscript{0}
/ \ tm
/ \ vP
/ \ tk
/ \ tj
```

\[16\] The internal structure of this DegP is left unspecified here, but is addressed in our discussion of adverbs in §7.4.
The structure in (3.11) depicts the sentence *Paul quickly answered* in mid-derivation, assuming raising of the root to the closest c-commanding head. The problem here is how the past-tense inflection gets ‘below’ the adverb *quickly*, bearing in mind that the verb raising to T is not an option (Emonds 1978, Pollock 1989, Chomsky 1995). No generative theory of language has dealt with this elegantly: Affix-Hopping is an unpleasantry that dates back to Chomsky (1957), while DM’s Lowering (Embick & Noyer 2001) is of fresher provenance but little more charm. Insertion at the ‘bottom node’ does not overcome the issue of the intervening adverbial, and insertion at the phrasal level (say, TP) raises the question of how to ‘wrap’ a phonological word around another word or phrase.

Also problematic for top-node insertion are idioms. If the grammar assembles a structure with the elements of *kick the bucket*, how does the LF component interpret it? We might imagine a listing of [VoiceP kick [DP the bucket]] as ‘die,’ but what about discontinuous idioms such as *show DP the ropes*, or *clip DP’s wings*? Or the fact that we can insert material inside idioms, as in *heads will in all likelihood roll tomorrow*, or *haul DP slowly and painfully over the coals*? Many attempts have been made to analyze phrases like these transformationally, with the fixed idiomatic material forming one constituent at an underlying level of representation. The present approach is harmonious with such analysis, but our aim is not to examine idioms—indeed, the goal is to avoid even collocations. Instead, we will take the behavior of idioms to suggest *discontinuous listings*, in the following vein:

---

17 See Svenonius (2005:9) for numerous other examples. Marcel den Dikken (p.c.) points out that seemingly continuous idioms containing operators (*you don’t have a leg to stand on*) present similar difficulties.
This is a sketch, not an analysis, an illustration of the flexibility we will require of the post-syntactic apparatus. The substitution rule in (3.12) allows for a sentence like *I’d like to see heads roll for corruption just this once* to be compositionally interpreted as *I’d like to see people punished for corruption just this once*.¹⁸ The ‘...’ notation is used in a technical and relatively precise sense, not merely to indicate ellipsis broadly construed. Instead, ‘...’ in List specifications (cf. Harley’s List 2, List 3) should henceforth be read as follows:

(3.13) **‘...’ Notation in List Specifications**
For ‘...’ insert any well-formed projections (and their dependents) that do not interfere with the well-formedness of the macrostructure. We will not propose any further LF rewrite rules like that in (3.13), but corresponding instantiations of ‘...’ on either side of the arrow would obviously need to be identical.

Further complicating matters are questions regarding the status of head movement.

Though a great deal of morphological evidence supports the validity of head movement (Baker 1988), it is not entirely clear—particularly under the view that morphology is inserted late—that

¹⁸ Among many other possible adjustments, we might consider there to be too few ‘...’s in this diagram. One in the DP would enable the idiomatic interpretation of *I’d like BIG heads to roll for corruption just this once*.
head movement is a syntactic operation which comforms to central Minimalist assumptions of
terminality and maximality, as discussed by Chomsky (1995:249), Matushansky (2006) and
many others. The possibility that remnant movement could provide an alternate explanation for
head movement has been explored (Mahajan 2003).

For the reasons above, and others that will become clearer further on in the analysis, we
adopt a configurational approach to the post-syntactic component, a possibility that has been
entertained since the earliest days of Distributed Morphology (Harley & Noyer 1999). Acquaviva
(2009) argues that “viewing lexical information as a property of constructs rather than roots is
empirically more successful. The crucial difference from earlier approaches is that meaning
arises in a construction, not in a root.”19 This is not the same as a Construction Grammar
(Goldberg 1995): the Minimalist engine of Merge and Move remains in place, and—with
recursion—the grammar is capable of generating infinite structures. However, rather than
considering the components of a word to have moved to the highest head, we will consider the
entire chain—subject to a version of Minimal Link / HMC / Relativized Minimality (see 3.18
below)—to represent the word, which is inserted into the highest head. This is similar to
‘spanning’ in nanosyntax (cf. Dékány 2009, Svenonius 2009, Starke 2011), but differs in several
respects, most crucially in that the nanosyntactic program reduces heads to features, an aim not
incompatible with the approach taken here, but more easily accomplished in the grammatical
realms (e.g. case inflections) typically explored in nanosyntactic treatments than in the heavily

---

19 This proposal differs from Acquaviva (2009) in assigning semantic content to roots, as well as in proposing an
explicit articulation of how such structures might be interpreted.
lexical domains considered here\textsuperscript{20}. Thus, though the broad insights of Construction Grammar and nanosyntax are quite concordant with the configurational approach taken here, we will lean more toward the terminology and assumptions of Distributed Morphology, with the variations and differences noted herein.

To illustrate, the sentence \textit{Matt hit the ball} will be analyzed as having the following syntactic structure:

(3.14) \[
\begin{array}{c}
\text{Matt hit the ball} \\
\text{TP} \\
\text{/} \\
\text{DP}_{i} \\
\text{TP} \\
\text{Matt} \\
\text{T} \\
\text{VoiceP} \\
\text{[+past]} \\
\text{t}_{i} \\
\text{VoiceP} \\
\text{/} \\
\text{v} \\
\text{Voice} \\
\text{[+act]} \\
\text{DP}_{j} \\
\text{vP} \\
\text{the ball} \\
\text{v} \\
\text{COME} \\
\text{t}_{j} \\
\text{vP} \\
\text{v} \\
\text{BE} \\
\text{\sqrt{HIT}} \\
\end{array}
\]

At Spell-Out (see below), PF checks this structure against portions of the Vocabulary List:

\textsuperscript{20} Starke (2011) identifies the difference between DM and nanosyntax as that of “two lexica” vs. one: “Nanosyntax stands alone in claiming that “no, there is no lexicon before syntax.’’’ In our view, this claim is either hasty or disingenuous: when the full set of features (or parameters) that nanosyntax identifies as pre-syntactic has been isolated for a given language—and this is certainly a long way off—the result may end up looking suspiciously like a lexicon. That said, the goal of stripping the pre-syntactic lexicon to its minimal requirements is shared by DM, nanosyntax, and the present study alike.

\textsuperscript{21} We might understand this as an aP rather than a vP. The differences are minimal: both are Relator Phrases with minimal-to-null semantic contribution from the ‘R’ head.
The instructions in (3.15) license the insertion of the word *hit* as the head of the VoiceP in (3.14), with all other terminals in the instructions—in this case, the ‘v’ heads COME and BE and the root—rendered unavailable for insertion, and all unspecified ‘...’ material (*the ball*) left untouched. This yields the expected surface word order.

We might question whether the insertion of *hit* must target the Voice head. After all, other configurations might require specification. For instance:

(3.16)  
a. *those new Spaldings hit well*  
b. *the hit ball sailed over the fence*

Though many current proposals for the active and middle voices avoid constructional differences (cf. Fábregas & Putnam 2014, Alexiadou & Doron 2012), we could understand middle voice constructions like (3.16a) to represent insertion into a lower head than Voice (ignoring the superficial contradiction in terms), and those of deverbal adjectives like *hit* in (3.16b) to involve a lower head still, with the paraphrases ‘those new Spaldings come to be hit well’ and ‘the be-hit

---

22 Alexiadou & Doron do propose different derivations for different voices, but all based on different functional elements merged into the Voice head. Theirs is thus less of a constructional difference between the voices, and more of a derivational one.
ball’ indicating the direction such an analysis would take. This would permit an ‘insert into
highest head’ indication to limit the Vocabulary Insertion instructions for verbal (and adjectival)
*hit* as only that given in (3.15), i.e. viewing the arrow as able to slide down in the absence of
higher heads.

Extending this line of thought just a bit further, we might then view TP, rather than
*VoiceP*, as a natural configurational domain for the insertion of verbs (matching the derivational
story, discussed in the ensuing sub-section), but with the insertion arrows for modern English
lexical verbs having ‘slipped’ down a notch compared to those for, say, French:

\[(3.17)\]

\[
{\text{TP}} \quad {\text{V oiceP}} \quad \dots
\]

\[
\text{COME} \quad \text{BE} \quad \sqrt{FRAP}
\]

This is just an alternative way of expressing the verb raising (and lack thereof) proposed by
Pollock (1989) to account for the strong evidence that English lexical verbs do not occupy the
‘T’ head, while French verbs do. Beyond dispensing with another need for head movement, it
also allows us to consistently view the operation of insertion as targeting the highest head
available, given parametric limitations (e.g., the recent 'slippage' of English non-auxiliaries). For we will follow many DM analyses in inserting words from the lexical categories N and A into Num and Deg heads, respectively, so long as those layers of the respective projection are merged.

(3.18)  a. box  b. red

<table>
<thead>
<tr>
<th>NumP</th>
<th>DegP</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Num</td>
<td>Deg</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>↖</td>
<td>↖</td>
</tr>
<tr>
<td>nP</td>
<td>aP</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>n √BOX</td>
<td>a √RED</td>
</tr>
</tbody>
</table>

In these cases, quite obviously, both an affix and a lexical word may be inserted into the same structural position—the Num and Deg heads if we inflect the forms in (3.17) to boxes and redder. This may not be prima facie appealing, but no matter what theory of grammar we choose, the two will have to end up together somehow. The discomfort recedes when we consider inflectional morphemes to have their own licensing conditions for insertion. For example, the English plural and comparative morphemes may look something like the following:

(3.19)  a. /z/ (+AFF)  b. /ar/ (+AFF)

<table>
<thead>
<tr>
<th>NumP</th>
<th>DegP</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Num</td>
<td>Deg</td>
</tr>
<tr>
<td>[+plur]</td>
<td>[+comp]</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(exceptions: ox, deer, etc.)

The lack of pleonastic hosts for these inflections we take as an indication that English lexical adjectives and nouns are inserted into the inflectional head that defines the category, while verbs
—their insertion arrows having slipped in comparison to earlier incarnations of the language—require the Affix Hopping and ‘dummy do’ to accommodate the inflectional affixes.

We proceed, then, understanding Vocabulary Insertion for Ns, As and Vs to target the Num, Deg, and Voice heads, respectively, with the last fact a somewhat eccentric trait of English, at least compared to French and historical variations of the language. The critical relationship in Vocabulary Insertion is local c-command: the material collapsed under ‘...’ in (3.16), for instance, should not contain an ‘intervening’ head which could lexicalize $\sqrt{\text{HIT}}$. Insertion of $hit$ into the Voice head for the following structure is ruled out:

\[
\begin{array}{c}
TP \\
/ \ \\
T VoiceP \\
/ \ \\
t_i VoiceP \\
/ \ \\
Voice [+act] \\
/ \ \\
D nP \\
/ \ \\
n vP \\
THING \\
/ \ \\
DP vP \\
the ball \\
/ \ \\
v $\sqrt{\text{HIT}}$
\end{array}
\]

Though there may likely be a separate instruction that allows the insertion of (nominal) $hit$ for an ‘n’ head that c-commands $\sqrt{\text{HIT}}$, the fact that this head is unspecified in the verbal Insertion instructions renders a [Voice n $\sqrt{\text{HIT}}$] structure illicit under our system. The lack of a ‘v’ head also rules out this insertion for Voice. These constraints form a principle that essentially rearticulates the Head Movement Constraint without movement, or the Lexical Integrity Hypothesis without lexicalism:
No Intervening Functional Heads for Vocabulary Insertion

All functional heads specified by a Vocabulary Item’s insertion instructions must be present in a structure for insertion to be licensed, and no unspecified functional heads may intervene.

We will want to allow some leeway for the meaning of ‘intervene’; what we are articulating lies somewhere between the strictness of government and the laxness of c-command alone. This allows for the listing of complex derivational forms, an unavoidable necessity even for approaches representing morphology in the syntax. To illustrate one possibility:

PF Instructions for representational
/re.pri.zen.tei.fən.ə/23
  aP
    /   \
    a ... 
    -AL  nP
        / \
        n ... 
        -TION  
            \  vP
                / \  v ... 
                -ATE  \  AspP
                    / \  Asp ... 
                    RE-  \  \ PRESENT

23 Nothing here hinges upon the phonological particulars of this representation; for our purposes, what matters is that some phonological string is available for insertion into the structure specified.
This, in turn, allows for interceding modifications: adverbs such as *gracefully* can combine with *representational*, but might best be thought of as modifying the nP or vP.24

3.3.2 NumP and TP as Spell-Out Domains

The stage(s) in the derivation at which morphology (i.e. Vocabulary Insertion) takes place is a critical aspect of Distributed Morphology. Distribution can be wide—e.g., with insertion occurring whenever a category assigning head is merged—or limited, with only one or two categories triggering it. Wide distribution is particularly useful for those theories aiming to limit Lists 2 and 3 (the PF and LF instructions, respectively), as it requires insertion only of ‘bare stems’ (i.e. roots with a single associated head) and affixes. Limited distribution, on the other hand, allows for the listing of complex forms with idiosyncratic compositional semantics, and avoids the issue of syntactically well-formed but unacceptable constructions like *representate* in (3.22) above.

We will adopt a limited distribution scheme here, with the merger of NumP and TP the only intermediate triggers for morphological insertion; higher domains such as CP may also trigger spell-out, but this is less consequential to word-level morphology. This departs from the assumptions not only of ‘wide’ distributionists, but also Kramer (2009) and others who also hold that the DegP triggers insertion. On the other hand, it broadly aligns with the ‘single phase’ hypothesis (Marantz 2013), which holds that syntactic phase heads are also the domains at which

---

24 Teasing out these semantic distinctions can be tricky, but compare the meaning of the two underlined noun phrases here:

i) after two hours among the abstract Impressionists, we moved to a gallery full of mercifully representational pieces from the 19th century

ii) after two hours in the ancient and medieval wings, we moved to a gallery full of gracefully representational pieces from the 19th century

In (i), it is clearly the representationality that is merciful, while in (ii) the representation (be it verbal, the likely choice, or nominal) is graceful.
Vocabulary Items are inserted, though we depart from many early versions of phase theory (Chomsky 2000, 2001, Legate 2003) in identifying NumP and TP as phases, rather than CP and vP, and/or DP. The consensus around vP as the propositional phase head has long been a matter of some dispute (see den Dikken 2007), with Chomsky (2014) exploring the possibility of Tense as a derived phase head (when CP is “dephased”) in recent work.

3.4 RP: the Syntactic Representation of Predication

In addition to the DM-associated assumptions and mechanisms described above, the present analysis exploits syntactic representations of predication, which—though grounded in the earlier insights of Arnauld & Launcelot (1660), Williams (1980), and others—find their clearest exposition in the work of Bowers (1993) and den Dikken (2006), briefly summarized below.

Bowers (1993) argues that small (non-matrix) clauses in sentences such as *John considers Mary a genius* are headed by a functional element which he calls Pred. Under his approach, such a sentence has a full maximal projection in the complement of *consider*:

(3.23)

\[
\begin{array}{c}
TP \\
/ \backslash \\
DP_i \quad TP \\
\quad / \backslash \\
\quad John \\
\quad / \backslash \\
\quad T \quad VoiceP \\
\quad / \backslash \\
\quad ti \quad VoiceP \\
\quad / \backslash \\
\quad Voice^0 \quad \sqrt{P} \\
\quad / \backslash \\
\quad \sqrt{j} \quad Voice \quad tj \quad PredP \\
\quad / \backslash \\
CONSIDER \quad / \backslash \\
\quad DP \quad PredP \\
\quad / \backslash \\
\quad Mary \\
\quad / \backslash \\
\quad Pred \quad DP \\
\quad \emptyset \quad a \ genius
\end{array}
\]

25 The notation in this structure illustrates PredP as it fits within the DM-esque system outlined above; Bowers did not subscribe to Late Insertion, and had *consider* heading a VP rather than VoiceP.
Though it introduces new structure—and null structure at that—the PredP offers several theoretical advantages over the SCs (small clauses), APs, NPs, and VPs of previous analyses. It allows for unified c-selection on the part of CONSIDER, which can take small clauses with both nominal and adjectival predicates (a genius, sillier than a goose). It also provides uniform structural treatment of subjects as specifiers, and an excellent morpho-syntactic identity to forms like as in Mary sees John as an impediment to her happiness, and of in an idiot of a doctor.

Den Dikken (2006) refines the syntactic representation of predication in two significant ways. First, he recognizes that Pred—or R(elator), in his terminology—is not a distinct head in and of itself, but a second-order category, a type of functional head, which may be realized by T(ense), P(reposition), Top(ic), Foc(us) or others. Thus, under current assumptions we might understand unaccusatives in the following way (cf. den Dikken’s (19a), and fn:255):

(3.24)  
TP
   / \ 
  DP_i TP
 the tree / \ 
  T vP
 [past] / \ 
ti vP
   / \ 
v P
  / \ 
√FALL ti

In this representation, both Voice and T count as relators, as they syntactically link subject and predicate; there is no call for additional structure.
Den Dikken takes the view that roots assign $\theta$-roles only to their complements\textsuperscript{26}, a perspective that aligns well with the semantic and syntactic non-vacuity of roots articulated above, as well as with the general decompositionality of DM, as it insists that any predicate with adicity greater than one have its argument structure ‘assembled’ in the syntax. From these assumptions, it follows that all Relators have specifiers and complements, and that no root ever projects a specifier (cf. den Dikken 2006:22).

This in turn permits an articulation of word categories similar to that proposed by Baker (2003), who views ‘ability to project a specifier’ and ‘ability to bear a referential index’ as the core traits of Verbs and Nouns, respectively, with Adjectives lacking both traits. Baker does not write from a DM perspective: he calls these ‘lexical categories,’ while the present analysis favors ‘morpho-syntactic categories’; nevertheless, there is much common analytical ground. The category-assigning ‘v’ heads (including Voice, and arguably Tense), though they introduce different semantic functions (\texttt{CAUSE}, \texttt{COME}, etc.), form a natural grammatical class by dint of their projection of specifiers: they are all Relators. Noun-categorizing ‘n’ heads (including Num, possibly Det) do not project specifiers and may (eventually) bear referential indices; presumably this second trait manifests itself as being c-selectable by (or actually being) a D head. They are functional heads and designate arguments; they are not Relators. For the category of ‘a,’ however, we will take a different position than Baker’s: ‘a’ heads (Deg and others) \textbf{do} project

\textsuperscript{26} The precise wording is “a lexical head must assign a $\theta$-role to its complement” (2006:21(16)); we will assume that any complements of lexical heads must be assigned $\theta$-roles by those heads. The nature of complements under the current approach is discussed further in §3.5 below.
specifiers, and can be selected by a Num head: they are Relators, but in some cases (Relational Adjectives) show strikingly nominal traits.27

The second key difference between Relator and Pred heads is the non-directionality of the former: den Dikken (2006) shows that predicates are not restricted to the complement position, but may also appear in what he calls Predicate Specifier configurations. We will indeed analyze some predication as taking Predicate Specifier form. Thus, for the reasons indicated above, mediation of predication via a Relator head will be assumed throughout.

3.4.1 Modification as Predication

The longstanding relegation to the lexicon of differences between attributive and predicate As, or between ‘intersective’ and ‘non-intersective’ As, was cited in Chapter 2 as a motivation for more careful analysis of modification phenomena. Another potential benefit of den Dikken’s approach is the unified representation of modification and predication: essentially, the analysis of both as R-mediated predication. This theoretical pursuit motivates the analyses that follow, and brings with it some concomitant shifts in syntactic assumptions.

Most germane to the present investigation, of course, is the representation of attributive adjectival modification: how we might analyze a phrase like the red box. As a null hypothesis (lexicalist, and signatory to Abney (1987)), only the minimal elements suggested by word boundaries come into play:

---

27 Baker identifies prepositions as functional and omits them from his analysis. Though there is good reason to defend P’s status as not merely functional (Koopman 2000, den Dikken 2010), the present investigation will join the vast majority of DM analysts in setting the category aside.
In Chapter 2, we considered phrase-structural arguments to the effect that red must be an AP (e.g. its ability to be adverbially modified), and that it may be a reduced relative clause that has raised from the complement of box. We also examined the reasons why it is preferable to have N(P) project rather than A(P), though analyses proposing the opposite have been articulated. None of these variations on the default hypothesis, however, relate red and box under the same maximal projection. An RP with a Predicate Specifier does this while maintaining surface word order (a), while a ‘canonical’ RP merges red post-nominally (b).

(3.26)  a. DP               b. DP
        / \                     / \                  
       the   RP                the   RP
               / \                 / \            
              red    RP            box    RP
                     / \                 / \      
                    R    box        R    red

Two issues arise immediately with (3.26): (i) what is the nature of the elements related by R (e.g. ‘red’ and ‘box’), and (ii) what is the nature of the RP itself? Some answers follow from the assumptions outlined above. On the first note: the elements related by R may be as small as roots, though they need not be. Given the skeletal semantics we have allotted them, their semantics of predication should be roughly determinable, though we might also expect idiosyncratic selectional criteria to obtain were roots are merged. The merger of category-

---

28 Though the possibility that ‘D’ is relational should also be kept in mind, our focus here will be on the interplay of noun and adjective. The left periphery of the nominal projection does arise in the discussion of two NIAM types in Chapters 4 and 5.
assigned structures within RP will be more straightforward. As for the second question: since any
category which engineers modification/predication is a likely candidate for Relatorhood, the
most natural one here is an adjectival projection. To spell this assumption out clearly:

(3.27)  ‘a’ and ‘v’ heads are Relators; ‘n’ heads are not\textsuperscript{29}

Our discontinuous approach to Late Insertion allows (3.27) to hold without raising the specter of
projection issues touched on above.

To illustrate, let us propose the following simplified List 2 (PF Instruction) entries for \textit{red}
and \textit{box}, for the moment abstracting away from higher heads Deg and Num, which will be
considered presently.

(3.28) \textbf{Vocabulary Insertion conditions for red and box}

\begin{align*}
\text{a. red} & \quad \text{b. box} \\
\text{aP} & \quad \text{nP} \\
\text{a} & \quad \text{n} \\
\text{THING} & \quad \text{\text{-THING}} \\
\text{\sqrt{RED}} & \quad \text{\sqrt{BOX}}
\end{align*}

The roots of \textit{red} and \textit{box} may combine in the following RP configurations (recall that ‘n’ does
not project a specifier):

(3.29) \begin{align*}
\text{a. RP} & \quad \text{b. aP} & \quad \text{c. RP} \\
\text{\sqrt{BOX}} & \quad \text{RP} & \quad \text{\sqrt{BOX}} & \quad \text{aP} & \quad \text{\sqrt{RED}} & \quad \text{RP} \\
\text{R} & \quad \text{\sqrt{RED}} & \quad \text{a} & \quad \text{\sqrt{RED}} & \quad \text{R} & \quad \text{\sqrt{BOX}}
\end{align*}

\textsuperscript{29} We will run into one functional head that breaks the mold, with phrasal distribution of nominals, but relator-like
internal syntax (i.e. Specifier projection) of adjectives.

\textsuperscript{30} The semantic function of this ‘a’ head is to take the under-structured features of the root, and make the state/
property elements visible to the combinatorial system. This includes the availability of a temporal index, and
assignment of a Theme role to the Specifier position.
Of the three, we can rule out (a) as a (less specific) notational variant of (b). Though (c) at first glance offers the advantage of expressing the surface word order, it would maintain this word order only through judicious merger of the ‘a’ and ‘n’ heads; consider how (3.29b) and (3.29c), which both contain bare roots, can complete their lexicalization:

(3.30)  a. nP  b. nP  c. aP

The positions marked by ✪ in (b) and (c) are problematic: PRO is unlicensed by a phrasal antecedent in either case; our understanding of adjectives as RPs, however, does not allow us to project a subject-less aP. The option of re-merging the root √BOX into the higher position is both unhelpful and unappealing: it yields a vacuous variant of (a) when applied to (b), and an unlexifiable structure when applied to (c). Of the three, then, we should strongly prefer (3.30a), with word order remaining a question; (b) and (c) do not merit further consideration.

As an alternative to relating the two roots (3.30c) and lexicalizing the adjectival root while relating it to the nominal root (3.30b), we can also derive the following sub-trees, which relate the lexicalized nominal to the ‘a’ root (a), and non-root to non-root (b):
The (b) form, obviously, is a vacuous expansion of (a), and can be discarded. The structure in (3.31a), however, is lexicalized as \([aP \text{ box} [aP \text{ red}]]\), an attractive companion to (3.30a), though now both the word order and the category status of the composed phrase are a concern.

Recall, however, that the full PF instructions for garden-variety As and Ns like \textit{red} and \textit{box} will include Deg and Num heads, respectively, with spell-out occurring ‘into’ these heads. Assume, for the time being, that both are distinct from the ‘a’ and ‘n’ just considered: if we do merge a Num head over the two viable sub-trees from above, both structures are well-formed, and the composed phrase is a NumP, which aligns with intuition:

\[
\begin{align*}
\text{(3.32) a. NumP (cf. 3.30a) b. NumP (cf. 3.31a)} \\
\text{aP} & \quad \text{aP} \\
\text{nP} & \quad \text{nP} \\
\text{aP} & \quad \text{aP} \\
\text{√BOX} & \quad \text{√BOX} \\
\text{√RED} & \quad \text{√RED} \\
\end{align*}
\]

Merging DegP above NumP will guarantee the correct word order, but will also guarantee that the phrase we intuit (and very widely analyze) as a nominal is really an adjectival, which raises a

\[31\text{ Rather then writing out the entire c-commanded copies of structures that have been deleted—we will henceforth utilize the trace notation, though the notion of movement should be taken as metaphorical.}\]
host of distributional issues. If, instead, we presume that DegP merges above the aP—a very routine assumption—the result looks very similar to (3.32):

\[(3.33)\]

\[
\begin{array}{c c c}
\text{a.} & \text{NumP (cf. 3.30a)} & \text{b.} & \text{NumP (cf. 3.31a)} \\
/ & / & / & / \\
\text{Num} & \text{nP} & \text{Num} & \text{DegP} \\
/ & / & / & / \\
\text{n} & \text{DegP} & \text{nP} & \text{DegP} \\
/ & / & / & / \\
\text{?} & \text{BOX} & \text{i} & \text{DegP} & \text{n} & \text{BOX} & \text{Deg} & \text{aP} \\
/ & / & / & / \\
\text{Deg} & \text{aP} & \text{t} & \text{i} & \text{aP} \\
/ & / & / & / \\
\text{t} & \text{i} & \text{aP} & \text{a} & \text{RED} \\
/ & / & / & / \\
\text{a} & \text{RED}
\end{array}
\]

In (3.33a), we again face the unappealing prospect of a re-merging (or moving) root, compounded now by the question of how to understand the semantic compositionality of a phrase with an unbound root in it (see discussion immediately following); we will disprefer such left-branch-root structures for both reasons. Thus, from a wide number of conceivably generable structures, late insertion into an RP can be observed to be quite constrained: barring other complexity, garden-variety attributive modification will have the structure of (3.33b).

### 3.4.2 Word Order: The Head Final Filter and RP Raising

All four of the structures in (3.32) and (3.33) generate the wrong word order. As mentioned in Chapter 2, there have been many attempts to capture Williams’s (1982) Head Final Filter (HFF) by other, less-stipulative means, none (it is reasonable to say\(^{32}\)) having carried the day. Pending a successful explanation, which this analysis will not endeavor to generate, we

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\(^{32}\) See Escribano (2004) for an overview of attempts, as well as a novel one.
assume the HFF to hold, and to work in conjunction with one other straightforward structural
mechanism to yield the proper word order for English adjectival modification:

\[(3.34)\]  \textbf{English Light RP Raising}

Light RPs not in canonical predicate position raise to adjoin phase
boundaries at PF.

By “light” we mean structurally head-final, by “RPs” we mean vPs, aPs and all of their variants
\footnote{An appealing name for this would be Light Predicate Raising; however, this term has already been claimed by Larson (1991, 2014) for a different mechanism. Since these are all RPs, i.e. predication structures, we utilize the expression ‘Light RP Raising’ instead.}

(VoiceP, DegP, etc.)\footnote{Deg(re) is widely considered an operator from a semantic perspective, but has been treated as a functional head in many syntactic analyses dating back to Abney’s (1987) dissertation. Since the precise semantics of degree are not of direct importance to the investigation, we will assume (following Corver 1997, among others), that Deg is an instantiation of a Relator Head, in keeping with the aforementioned perspective that there are different types of ‘v’ head, ‘n’ head and ‘a head,’ with Deg being one of the latter. The availability of Degree modification appears quite lexical, though there are intriguing cases such as 	extit{hopeful parent}, in which comparative morphology is available for intersective but not NIAM readings (Richard Larson, p.c.).}

By “canonical predicate position” we mean ‘sister of R,’ the canonical
position in den Dikken’s system,\footnote{The relatively careful pruning of options outlined in the preceding sub-section left us with the only viable trees involving predicate-complement structures. It would be hasty to claim, however, that DegPs cannot merge in as predicate specifiers, which would involve them being sisters of RP.} and by “phase boundaries” we mean NumP and TP, as well as
DP and CP, though it is the first that plays a significant role in our analysis\footnote{The possibility that TP does not trigger Light RP Raising is considered in Chapter 7.}. Light RP Raising is
an operation on lexicalized material, i.e. words, and therefore must follow Vocabulary Insertion,
though both are triggered at phasal Spell-Out.

To the author’s knowledge, no studies of the nominal domain have noted the fact that
assuming both (1) the HFF and (2) DegP as the maximal domain for gradable As leads to the
conclusion that all prenominal gradable As \textbf{must be} either Deg heads or raised to a position
higher than Deg: any lower position violates the HFF. Late insertion models centering on the top
node derive this. With NumP established as a spell-out domain, the structures in (3.33) lexicalize to identical forms:

(3.35)  

\[
\begin{array}{c}
\text{a. } \text{red box (cf. 3.33a)} \\
\text{NumP} \\
/ \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad 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At first glance, Light RP Raising has much to do with the NumP phase boundary, and less
to do with the clausal phase boundaries (TP, CP), as these are full RPs and thus provide predicate
positions to at least the phrases they immediately dominate. However, we do find evidence for
TP in the nominal domain. Consider, first, an intransitive sentence like *the angels are smiling*
which will have a first-phase syntax like the following:

(3.38) \[ \text{VoiceP} \]
\[ / \quad \text{DP} \quad \text{VoiceP} \]
\[ \quad \text{the angels} \quad / \quad \text{Voice} \quad \text{vP} \]
\[ \quad / \quad \text{[+act]} \quad / \quad \text{t} \quad \text{vP} \]
\[ \quad / \quad \text{v} \quad \text{vP} \]
\[ \quad \text{COME} \quad / \quad \text{t} \quad \text{vP} \]
\[ \quad / \quad \text{v} \quad \sqrt{\text{SMILE}} \]
\[ \text{HAVE} \]

Spell-out occurs when Tense merges above this; PF instructions allow insertion of *smile* at the
Voice head, condensing the structure into a relatively traditional-looking VoiceP:

(3.39) \[ \text{VoiceP} \]
\[ / \quad \text{DP} \quad \text{VoiceP} \]
\[ \quad \text{the angels} \quad / \quad \text{Voice} \quad \text{smile} \]

As there is only one RP, and it is itself the phase boundary, no raising is required or possible.
The derivation continues with the merger of Asp and T:

\[
\begin{array}{c}
\text{(3.40)} \\
\text{TP} \\
\text{/} \\
\text{TP} \\
\text{DP} \\
_\text{the angels} \\
\text{TP} \\
\text{TP} \\
\text{T} \\
\text{Asp} \\
\text{[+pres]} \\
\text{Asp} \\
\text{Asp} \\
\text{Voice} \\
\text{Voice} \\
\text{smile}
\end{array}
\]

Spell-out is triggered again. There are now three distinct RPs, but only the bottom one (VoiceP) is light, and it is already in predicate position, as sister to the Relator Aspect head. No raising is necessary, and the structure lexicalizes as \textit{the angels are smiling}.

However, we can analyze the DP \textit{the smiling angels} in a minimally different way (recalling the appeal of Reduced Relative approaches a la Smith 1961), one that triggers raising. Rather than a lexicalized DP, the subject of \textit{smile} is an nP \textit{ANGEL}:

\[
\begin{array}{c}
\text{(3.41)} \\
\text{NumP} \\
\text{/} \\
\text{Num} \\
\text{Asp} \\
\text{[+plu]} \\
\text{nP} \\
\text{ANGEL} \\
\text{Asp} \\
\text{Voice} \\
\text{Voice} \\
\text{smile}
\end{array}
\]
This is a lexical spell-out domain, and when this structure is lexicalized (a), we now have the conditions for required raising (manifested in (b)):

(3.42) a. NumP → b. NumP
     / \        / \     
    Num  AspP   AspP  NumP
   / \      / \     
  angels AspP smiling angels
  / \        / \     
 smiling t i
  / \     
 AspP VoiceP
  / \     
 -ING   VoiceP
  / \     
 t i    Voice
     \        \ 
   Voice
     \         \ 
   smile

Finally, let us consider the DP the angels smiling, which we have observed to bear tense properties lacking in the prenominal counterpart (cf. the stars visible vs. the visible stars). Our understanding of spell-out domains and RP raising allows the word order and tense properties to follow from each other. The derivation of the angels smiling begins identically to that of the smiling angels, but crucially differs in the merger of (null) Tense above the AspP:

(3.43) TP
     / \        / \     
    nP  TP    AspP VoiceP
   / \      / \     
  ANGEL TP  VoiceP
  / \      / \     
 T AspP   Voice
  / \      / \     
 ∅ Asp    Voice
  / \      / \     
 t i Asp  Voice
  / \      / \     
 Asp Voice
  / \      / \     
 -ING Voice
  / \      / \     
 t i Voice
     \        \ 
   Voice
     \         \ 
   smile

TP is a Relator Phrase, and thus the material in its structural complement does not undergo Light RP Raising. Eventually (e.g. with the subsequent merger of Comp), the structure above reduces to the following:
Merger of Number above this does not trigger RP Raising either, as the lower RP (AspP smiling) is in predicate position, and the higher RP, a TP headed by T, but with smiling following it, is not light.

3.5 The Nature and Selection of Complements

The term ‘complement’ means different things to different grammarians. The assumptions above predispose us to an understanding of complement that is relatively unorthodox, even prima facie counterintuitive: a phrasal element selected for by a lexical root, and which merges in the Specifier position of an RP containing the root in (structural) ‘complement’ position. It will be shown that—once we have moved beyond the superficial contradiction in terms—the ‘complement as specifier’ analysis is a natural outgrowth of recent work in syntactic theory, and in fact assumed by a number recent analyses. First, however, we must dismiss two common restrictions on the term which will not apply here.

3.5.1 Complements are not Obligatory Followers

Both the etymology and early use of the term ‘complement’ invoke a sense of ‘completing’: a complement may be viewed as an obligatory ‘saturator’ of an unsaturated expression. This finds its clearest exemplification in transitive verbs like kill, or prepositions like...
at: these words appear to require the merger of another expression in order for grammaticality to be maintained. In non-transformational, English-focused grammatical analysis, ‘complement’ has come to mean, roughly, “that which must follow a transitive verb (or preposition).” Under this traditional view, subjects of verbs and figures of prepositions, though arguably obligatory as well (more so, even), are not considered complements, as they are merged ‘externally,’ i.e. further away from—and before—the lexical item in question.

The Unaccusative Hypothesis (Perlmutter 1978) muddies this water by proposing that some English verbs traditionally labelled ‘intransitive’ (arrive, fall, etc.) take arguments in complement position that subsequently raise to subject position. Are these unaccusative subjects complements? They are obligatory, but they don’t follow the verb, at least at spell-out. And what about the optional objects of kill in we’ve killed (roaches) and will kill (roaches) again? Does the optionality illustrated here overturn the status of roaches as complements? These issues are not always addressed directly, but most generative analyses understand complements to be neither obligatorily present (Grimshaw 1979) nor obligatorily post-verbal (or post-prepositional), as the relation is transparently hierarchical to any theory that admits hierarchical structures. This definitional flexibility is adopted here.

3.5.2 Complements are not Sisters of X⁰ (X ∈ {N, V, A, P})

In the G&B era, the different bar levels of X-bar theory enabled a clean (in principle) structural distinction between complements and adjuncts (cf. Jackendoff 1977): complements would merge as sisters of X⁰, while adjuncts merged as sisters of X’. For instance:
(3.45) a. VP / \ b. V'' / \ NP V' PP
we / \ | / \ V NP V with gusto
kill roaches kill

Under Minimalist Assumptions, however, the structure in (b) is incoherent: in the absence of other material, *with gusto* must merge as sister to *kill*, at least as a null hypothesis. Thus, a helpful structural view of complementation loses credibility. This loss cannot be considered an achievement, for despite the fact that complements are not strictly obligatory, they do differ from adjuncts in having close ties to the lexical material they associate with: under a relatively modest view, they are assigned θ-roles by local lexical heads.

3.5.3 Complements are Specifiers of Root RPs

Similar to its ability to account for *one*-pronominalization illustrated in §3.2.2 above, the root/stem distinction of DM offers a means of recapturing the notion ‘complement.’ Under Harley’s view, complements merge directly with roots, which are lexical and can assign θ-roles, to form a √P: by extension, complements cannot be assigned θ-roles by derived stems and words. Adjuncts, on the other hand, merge with derived expressions (as in b), and cannot merge directly with roots. Thus, a Harleyan take on roach-killing might look as follows:

(3.46) a. VoiceP / \ b. VoiceP / \ DP VoiceP VoiceP PP
we / \ | / \ with gusto
Voice0 √P Voice0 √P
/ \ / \ / \ ti
i Voice0 ti DP i Voice0
KILL DO roaches KILL DO
This gives us a plausible structural definition of ‘complement’—“merged as sister to $\sqrt{\_}$”—as well as consistent structural articulation of pro-form anaphor: in (3.46), *do so* can substitute for VoiceP, but not Voice$^0$.

The direct merger approach raises some questions, though. Primarily: how do lexical roots select for their complements? Is this c-selection, s-selection, or both? Presumably, the ability to merge with complements, and to assign them lexically determined $\theta$-roles, distinguishes sub-classes of each root type; though we start with two types—entity- and state-denoting—each in principle comes in transitive and intransitive varieties, as well as in sub-varieties defined by further formal and thematic restrictions upon those complements. And on one hand, we expect the relationship between roots and their complements to be somewhat idiosyncratic, as it is lexically determined: the entity-denoting root BOX may assign the role of ‘contained’ to its complement (cf. *box of rice*) while another, *man*, may assign several different roles (*man of steel, man of the future*, etc.), and another still—*Baltimore*—may take no complement at all. On the other hand, there are patterns present—argument-filling, argument identification—that suggest some kind of structural relationship.

Several facts encourage an adjustment to the direct merger approach. The first is the overwhelming preponderance of four syntactic types among the objects traditionally considered complements: DP, NP (in traditional notation), CP and TP:

(3.47)  
\begin{align*}
a. \text{eat... the pig / one / *that John died / #to be healthy} \\
b. \text{box... the pig / one / *that John died / #to be healthy} \\
c. \text{sad... *the pig / one / that John died / to be healthy} \\
d. \text{claim... the pig / one / that John died / to be healthy}
\end{align*}
Here the symbol # indicates a phrase that is an adjunct under standard assumptions (e.g., can be combined with an established complement). Compare the behavior of these diverse, morphologically simplex heads with (traditionally labelled) APs, VPs, and PPs:

(3.48)  
<table>
<thead>
<tr>
<th>Phrase</th>
<th>Complements</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. eat...</td>
<td>#proud / *die / #on the terrace</td>
</tr>
<tr>
<td>b. box...</td>
<td>#proud / *die / ##on the terrace&lt;sup&gt;37&lt;/sup&gt;</td>
</tr>
<tr>
<td>c. sad...</td>
<td>*proud / *die / #on the terrace</td>
</tr>
<tr>
<td>d. claim...</td>
<td>*proud / *die / on the terrace</td>
</tr>
</tbody>
</table>

What we see is an asymmetry between arguments and predicates: the phrases that merge as complements are exactly those that can merge as syntactic subjects. While this might be unsurprising under the view of verbs as lexical items with multiple argument slots to fill, it is not predicted by the DM approach taken in Harley (2011), which merely allows roots to combine freely with complements, whatever their form.

Secondly, root projection ‘over’ lexicalized material to form √Ps raises questions about the nature of these phrases. For instance, under Harley’s approach, we label as √P the structure formed from the direct merger of the root KILL and the presumably lexicalized DP the bastards who kidnapped those kids from the orphanage:

(3.49)  
\[ √P \text{KILL} [CP \text{the bastards who kidnapped those kids from the orphanage}] \]

Though this makes sense in (traditional) terms of θ-assignment, precisely what syntactic features project up to the phrasal level? In the case of (3.49), we have assumed KILL to have the feature [+state], and no other visible features once its complement has been selected; what syntactic elements will select or probe for this phrasal goal from higher in the tree? Certain affix heads like -ity might probe for [+state] elements, but plainly the phrasal nature of kill the bastards... directly

---

<sup>37</sup> The ## notation indicates that this putative complement phrase is acceptable only as a reduced relative clause, which is a) syntactically a CP, not a PP, and b) arguably not a complement to the head noun at all (cf. Kayne 1994).
impedes raising to -ity. What pro-forms might substitute for this constituent, given that we’ve just seen evidence that one and do so are out? Do we find evidence for this phrase undergoing phrasal movement? Though we are obviously in too murky a theoretical realm to make sweeping claims about the viability of √Ps, their presence undeniably raises critical definitional issues.

Recall, too, that the current approach identifies the semantics of verb-related roots such as eat and claim as property-denoting; Baker (2003) similarly sees adjectives/states as structurally at the root of verbs, with (roughly) ‘eaten’ and ‘claimed’ forming the semantic base of structures such as those in (3.50) below. The semantic relationship between ‘the pig’ and ‘eaten,’ then, like that between ‘that John died’ and ‘claimed,’ is straightforwardly intersective, predicational (Stowell 1981 was the first to make such a claim about claim). And given our commitment to representing predication syntactically, this relationship should be mediated by an R head:

(3.50) a.   RP   b.   RP
      / \      / \  
     DP RP CP RP

the pig / \ that John died / \  
R √EAT R √CLAIM

This constrains the lexical selection that roots can perform on their ‘complements’ in exactly the same way that predicates select for subjects: property-denoting roots like EAT select DP/NP themes; roots like CLAIM select for CP/TP arguments (and, in CLAIM’s case, DP/NP themes as well; selectional profiles vary greatly, as we expect them to).

38 Den Dikken (2006:244) proposes much the same structure for claim + that-clause structures, only with a lexicalized NP claim as sister to R. Under his account, the nominal claim that John died derives from predicate inversion, i.e. claim raising to the Spec position of a Linker head. Under the present account, it is derived by merging ’n’ and Num over the RP, and lexically inserting claim into the Num slot.
Given the requirement of roots to be c-commanded by category-determining functional heads, the highest of which in a listed configuration provides the site for lexical insertion, the phrasal elements merged in [Spec, RP] inevitably surface as complements in the more traditional sense (i.e., phrases following heads). For instance, in (3.38a), the word *eat* is inserted for Voice; while in (b), claim is inserted for ONE:

(3.51)  

a. *eat the pig* 

b. *claim [n] that John died*  

As den Dikken suggests, we should expect Relators—even null ones—to make semantic contributions beyond that of the copula; at this level, something prepositional may convert entity-denoting roots into state-denoters. For instance:

(3.52)  

*box the pig*  

(non-pugilistic reading)  

The lexical idiosyncrasy of *IN* arises in the root RP (a PP) of √BOX, but rather than being projected, it is listed as a condition on vocabulary insertion for (verbal) *box*:

---

39 Under our assumptions, these RPs may for all intents and purposes be considered aPs, with the Rs morphologically realizable as -en and -ed.
Pro-form anaphora is accounted for in a slightly different way than before: *one* still represents the composed meaning of an nP, as *do so* represents a vP, but the forms themselves are inserted into the Num and T heads, forcing ellipsis of the nP and vP material. The insertion instructions for pronominal *one* indicate that the entire c-commanded nP will no longer be eligible for insertion:

(3.54) \( \text{one (pronominal)} \)

\[
\begin{align*}
\text{NumP} & \\
\text{Num} & \\
\text{nP} & \\
\end{align*}
\]

To illustrate this at work, let us reconsider Harley’s students from above under the current adjustments. In the ‘complement’ case, the root \( \sqrt{\text{STUD}} \) enters into a predicational relation with *chemistry*: 

\[
\begin{align*}
\text{VoiceP} & \\
\text{Voice} & \\
\text{vP} & \\
\text{v} & \\
\text{COME} & \\
\text{vP} & \\
\text{BE} & \\
\text{RP} & \\
\text{R=P} & \sqrt{\text{BOX}}
\end{align*}
\]
Insertion of one into the Num head wipes out the Spell-out possibility of chemistry along with student; one of chemistry is impossible. Alternatively, √STUD does not enter into a complement relation with anything; thus, no RP under nP:

(3.56)  

One-insertion now works just fine, leaving with long hair available for pronunciation.

The perspective we will pursue here is that lexical roots—typically analyzed as predicates by DM linguists for whom they are not semantically null (Pfau 2009, Harley 2011)—select their ‘complements’ as subjects in [Spec, RP], with the same restrictions that hold generally between predicates and subjects. This entails re-evaluation of traditional structural perspectives on θ-assignment, an acknowledged consequence of similar approaches going back to Larson (1988)

40 Though morphology does not directly support it, there is some support for more structure here—perhaps AspP—merged above the RP. At this point in the discussion, the difference is unimportant, but it will of course be of direct interest to our investigation: if careful student has an event reading, there should be event-denoting structure.
and Hale & Keyser (1993) (cf. Chomsky 1995:63), many of which re-analyze complements as specifiers in the verbal domain.\textsuperscript{41} The advantages of this approach over that sketched by Harley (2011) are largely theory-internal: it gives a coherent syntactic name and structure (RP) to the domain in which roots select complements, it constrains the nature of root complements both syntactically and semantically, and—understanding complementation to be predicational—it maintains a consistent syntactic representation for all instances of predication.

3.6 Multiple Prenominal Adjectives

The ‘XP-internal Subject’ hypothesis adopted here comes with a number of concomitant challenges. One of the most immediate is that fully projected aPs structurally remind us of the fact that multiple adjectives modifying the same noun presumably discharge their $\theta$-roles to the same linguistic item. This is, of course, much the same problem faced in the verbal domain with vP-shells, and only requires a policy of deletion under c-command by an identical structure. Nevertheless, the technical details are worth clarifying; brief consideration of a phrase like big blue wolf will allow us focus on these without being distracted by questions of intersective interpretation. We assume, for simplicity’s sake, that the adjectives here have nested semantics, i.e., that big scopes over the composed form blue wolf.\textsuperscript{42}

We will see that the interstices allowed in our PF insertion instructions are of use even in such a simple construction:

\textsuperscript{41} Escribano (2006:4) reports that “all non-dependents, even traditional ‘complements,’ are specifiers under current minimalist analyses.” How true this is depends, of course, on what exactly is meant by ‘(non)-dependent,’ but broadly speaking, the observation is apt. Bowers (2010) takes the position that all arguments are specifiers, while Van Craenenbroeck (2014:367) entertains the notion proposed here in a DM-oriented discussion of roots.

\textsuperscript{42} The color word blue is chosen here to avoid any concerns that we are dealing with a single noun, as would be the case for grey.
The roots √BLUE and √WOLF combine in an nP (cf. (3.31a) and accompanying discussion):

(3.58) nP
      / \                          / \      
    n  DegP                        n  Deg
   THING /  \
      / \      / \      / \      / \ 
   nP_i  DegP  n √WOLF Deg  aP  THING
      /  \
    t_i  aP
      /  \
  a √BLUE

This, in turn, serves as the subject of √BIG, which in turn is embedded in an nP. Merger of

Number above this triggers Spell-Out:

(3.59) NumP
      / \                          / \      
    Num  nP                        Num
      /  \
    n_i  DegP                      n_i
   THING /  \
      /  \
   nP_i  DegP  n √WOLF Deg  aP  THING
      /  \
    nP_j  DegP  t_i  aP  THING
      /  \
  n √WOLF Deg  aP  a √BIG  THING
      /  \
    t_j  aP
      /  \
  a √BLUE
Insertion at Spell-Out proceeds from the most deeply embedded element upwards. Inserting the three words into the relevant heads and deleting the abstract exponence as specified by the PF instructions yields the following:

(3.60) \[
\begin{array}{c}
\text{NumP} \\
/ \quad \setminus \\
\text{Num} & \text{DegP} \\
\text{wolf} / \quad \setminus \\
\text{n}_i & \text{DegP} \\
/ \quad / \quad / \\
\text{n} & \text{DegP} & \text{Deg} & \text{aP} \\
\text{THING} / \quad \big / \quad \setminus \\
\text{n}_j & \text{DegP} & t_i & \text{aP} \\
/ \quad / \quad / \quad / \quad / \quad / \quad / \\
\text{n} & \text{WOLF} & \text{Deg} & \text{aP} & \text{a} & \text{BIG} \\
\text{THING} & \text{blue} / \quad \setminus \\
& t_i & \text{aP} \\
/ \quad / \\
& \text{a} & \text{BLUE}
\end{array}
\]

Note that there are two copies of the ‘n’ THING, only one of which is specified in the PF instructions of (3.57c). We assume that the lower copy is deleted in the presence of an identical c-commanding item (cf. Gulli 2003, Leu 2008).

It is readily apparent that in such a system, post-lexical movement operations cannot occur until all insertion for a phase has taken place; moving the embedded DegP with a root inside would bleed the insertion context for the word wolf, for instance. Once insertion is complete for the phase, we see that the DegP headed by blue is light (i.e. has no post-head lexical material) and not in a predicate position; it raises to adjoin the NumP. The DegP big out of which it has raised meets the raising requirements as well, and completes the derivation by raising to produce the surface string big blue wolf.
3.7 Summary

This chapter has enumerated a set of theoretical assumptions that undergird the analysis of the chapters that follow. Unlike the preliminary matters outlined in §2.1 above, these positions are far from universal within the generative framework. Nonetheless, they come with empirical and theoretical motivation, as well as precedents in the literature.

Following the spirit and many specifics of Harley (2011), it is from here on out assumed that lexical roots merge as abstract linguistic items bearing semantic and syntactic properties, namely denotational type (entity and state) and selectional restrictions on complement type. In the course of the derivation, these roots must be assigned morpho-syntactic category (a.k.a. ‘word category’) by functional heads ‘n,’ ‘v’ or ‘a’: category-determining heads which differ in their ability to project a specifier (‘v’), bear a referential index (‘n’), or do both (‘a’). There are two domains for Vocabulary Insertion: TP and NumP, but not DegP, while predication is syntactically mediated in the minimal domain of a Relator head (following den Dikken (2006)), which may manifest itself as ‘v,’ ‘a,’ P, or left-peripheral elements such as Top, Fin, and Foc, among other possibilities. Light RP Raising will be critical for deriving attributive structures. Finally, lexical roots and their so-called ‘complements’ are merged in an RP, with an assumed canonical configuration of Predicate Complement, i.e. ‘root-down.’
4 The Types and Elements of English NIAM

In Chapter 2, we saw the limitations of binary attempts to account for NIAM, and determined that finer-grained analysis is required to capture both the varied semantic patterns of NIAM and the syntactic reflexes of the phenomena. In Chapter 3, we articulated the mechanisms with which we might pursue such analyses, the theoretical underpinnings of an interstitial approach to non-intersective alloys. With these in place, we now endeavor to articulate the different NIAM types and analyze their elements, for just as the alloying process for bronze is different than it is for steel, and just as an understanding of this difference depends on an understanding of iron, carbon, copper, and tin, so are the various types of NIAM different in ways that depend upon their component elements. Any absolutist ambitions for the typology of such a complex set of patterns would of course be quixotic, but it is hoped that a carefully elaborated starter set of types and elements will be of use to this and future analyses, if only to more clearly describe their empirical scope.

After establishing some methodological preliminaries in §4.1, we briefly look at English NIAM by non-adjectives in §4.2, which helps bring the role of word category into sharp relief. The types of English NIAM by adjectives are set out in §4.3, while the adjectival and nominal elements identified for each type are analyzed structurally in §4.4. A summary (§4.5) considers the empirical coverage of our working typology.

4.1 Methodological Preliminaries

The literature on non-intersectivity implicitly recognizes a fairly rich typology of non-intersectivity through its scattered use of terms such as ‘Comparison Class,’ ‘Event Modification,’ ‘Reference Modification,’ etc., but the Manichean and A-centered habits
delineated in Chapter 2 have blocked the careful development of a NIAM typology: while adjective typologies abound in the literature (e.g. Dixon 1982, Mallen 2002), no explicit precedent for a NIAM typology exists, with the exception of Huddleston & Pullum’s (2002) reference grammar. Though just about every researcher in question labels adjectives rather than modification, an overview of the terms that major works have employed provides a useful point of departure:

(4.01) **Sampling of Terms Used in Non-Intersectivity Research**

<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Label for Adj / A-N Relation</th>
<th>Example(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quine (1960)</td>
<td>syncategorematic</td>
<td>dubious honor, real money</td>
</tr>
<tr>
<td>Bolinger (1967)</td>
<td>temporary</td>
<td>flush (‘having a lot of money’)</td>
</tr>
<tr>
<td></td>
<td>reference-modification</td>
<td>an eager student</td>
</tr>
<tr>
<td></td>
<td>reference mod. ‘of N itself’</td>
<td>true poet</td>
</tr>
<tr>
<td></td>
<td>the intensifiers</td>
<td>the precise reason</td>
</tr>
<tr>
<td></td>
<td>blending</td>
<td>friendly policeman</td>
</tr>
<tr>
<td></td>
<td>established in discourse</td>
<td>criminal lawyer</td>
</tr>
<tr>
<td></td>
<td>stroboscopic</td>
<td>occasional sailor (strolled by)</td>
</tr>
<tr>
<td>Kamp (1975)</td>
<td>privative</td>
<td>false, fake</td>
</tr>
<tr>
<td></td>
<td>affirmative</td>
<td>big, round, bright</td>
</tr>
<tr>
<td></td>
<td>non-extensional</td>
<td>affectionate, skilfull</td>
</tr>
<tr>
<td>Montague (1970)/Siegel (1976)</td>
<td>non-intersective (CN/CN)</td>
<td>beautiful dancer</td>
</tr>
<tr>
<td>Higginbotham (1985)</td>
<td>θ-identification</td>
<td>white wall</td>
</tr>
<tr>
<td></td>
<td>θ-identification &amp; -marking</td>
<td>big butterfly</td>
</tr>
<tr>
<td></td>
<td>θ-marking</td>
<td>alleged Communist</td>
</tr>
<tr>
<td>Beard (1991)</td>
<td>relational</td>
<td>nuclear physicist</td>
</tr>
<tr>
<td>Larson (1998)</td>
<td>event modification</td>
<td>stray bullet</td>
</tr>
<tr>
<td>Chierchia &amp; McConnell (2000)</td>
<td>subsective</td>
<td>large</td>
</tr>
</tbody>
</table>

1 Huddleston & Pullum (2002) cover non-intersectivity with impressive breadth, and their work will be referred back to quite often in what follows. However, they neither commit to a theoretical framework nor make any reference to precedents in the literature; in a certain sense, they share with Bolinger (1967) an immunity to reductionism which unfortunately accompanies an unwillingness to pursue deeper explanation. The present approach shares these researchers’ sensitivity to the varied nature of NIAM, but not their hesitancy to analyze.
A glance at these labels illustrates how divergent and theory-dependent they are: not a single label in the above list is repeated\(^2\), and the choice of what to call *alleged*, for example, depends greatly upon one’s abstract theoretical choices: is it modifying the ‘value assignment function’ (Bouchard 2002), or it an exclusively ‘θ-marking’ form (Higginbotham 1985)? While it would be quite presumptuous to propose a standardization of terminology in such a theoretically unsettled subject area, the argument against continued terminological confusion needs to be made, and is expressed here through the endorsement of a set of *transparent, clearly defined, non-theory dependent* labels for *modification* types. That is: though we have already established the relatively narrow theoretical parameters of the approach that will be pursued in analyzing NIAM, every attempt will be made in this chapter to keep the *typology* ecumenical:

\(^{2}\) This is not to say that there is no overlapping use of these terms, just a surprising dearth.

<table>
<thead>
<tr>
<th>Label</th>
<th>Modification Type</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huddleston &amp; Pullum (2002)</td>
<td>degree and quantifying</td>
<td><em>complete fool, crashing bore</em></td>
</tr>
<tr>
<td></td>
<td>temporal and locational</td>
<td><em>new friend, right eye</em></td>
</tr>
<tr>
<td></td>
<td>associative</td>
<td><em>clerical duties, criminal law</em></td>
</tr>
<tr>
<td></td>
<td>process-oriented</td>
<td><em>big eater, strong advocate</em></td>
</tr>
<tr>
<td></td>
<td>modal</td>
<td><em>probable result, mock trial</em></td>
</tr>
<tr>
<td></td>
<td>particularizing, primacy</td>
<td><em>certain house, chief reason</em></td>
</tr>
<tr>
<td></td>
<td>expressive, expletive</td>
<td><em>poor father, bleeding nitwit</em></td>
</tr>
<tr>
<td></td>
<td>hypallage</td>
<td><em>nude photo, drunken brawl</em></td>
</tr>
<tr>
<td>Bouchard (2002)</td>
<td>time-interval (i) modification</td>
<td><em>future</em></td>
</tr>
<tr>
<td></td>
<td>characteristic function (f) modification</td>
<td><em>perfect</em></td>
</tr>
<tr>
<td></td>
<td>possible world (w) modification</td>
<td><em>false</em></td>
</tr>
<tr>
<td></td>
<td>value assignment function (g) modification</td>
<td><em>alleged</em></td>
</tr>
<tr>
<td></td>
<td>existence modification</td>
<td><em>this alleged spy (does not exist)</em></td>
</tr>
<tr>
<td>Cruse (2004)</td>
<td>relative descriptors</td>
<td><em>large mouse</em></td>
</tr>
<tr>
<td></td>
<td>negational descriptors</td>
<td><em>former President, fake Ming vase</em></td>
</tr>
<tr>
<td>Partee (2006)</td>
<td>TCN/TCN</td>
<td><em>favorite</em></td>
</tr>
</tbody>
</table>
categorization will avoid \emph{a priori} presumptions other than the traditional syntactic (a.k.a. ‘lexical’) categories, the notion of analytic truth, and the theoretical and psychological reality of discrete semantic readings; the labels attached to these categories will attempt to strike a balance between adherence to convention and theory-neutral transparency.

As we will see, there are a number of challenges involved, roughly clustering around the topics of diagnosis—i.e., how to rigorously define semantic phenomena while avoiding omission, overlap, and excessive ‘lumping’ or ‘splitting’—and conflation, i.e. how to determine if/when multiple types are possible or present. The latter problem we might consider as parallel to metallurgical impurity: how to isolate uncontaminated bronze or iron. Under the view that superficial measures are less likely to commit us to explicit or implicit biases, \textit{syntactic frames} will be used wherever possible to distinguish types, though semantic formalisms will be employed as shorthand to clarify and summarize.

4.1.1 Intersectivity Diagnostics

Precise delineation of (non-)intersectivity is not straightforward. Siegel (1976) presents the following influential diagnostic for non-intersectivity (see Larson 1998 for a critical view):

\begin{equation}
\text{(4.02) Siegel’s (1976) Surface Diagnostic for Non-Intersectivity (of Adjectives)}
\end{equation}

If, for some CN\textsubscript{1} and CN\textsubscript{2}, and for some noun phrase X and a determiner det\textsubscript{i}, the sentences
\begin{enumerate}
  \item X is det\textsubscript{i} CN\textsubscript{1}
  \item X is det\textsubscript{i} CN\textsubscript{2}
  \item X is det\textsubscript{i} ADJ\textsubscript{j} CN\textsubscript{1}
  \item X is not det\textsubscript{i} ADJ\textsubscript{j} CN\textsubscript{2}
\end{enumerate}
are consistent, that is, they could all be true at once, then ADJ\textsubscript{j} has a non-intersective reading of the kind we are looking for. (Siegel’s (2))\textsuperscript{3}

\textsuperscript{3} Siegel further restricts the sentences used in (4.02i-iv) to those non-paraphrasable as ‘X is ADJ for a CN, or as CN’s go,’ which effectively eliminates a sub-group from consideration by fiat.
To illustrate, the English adjective *brown* qualifies as ‘intersective,’ and the English adjective *beautiful* as ‘non-intersective’:

\[(4.03)\]

a. Siegel-diagnostic for *brown*
   i. Nibbles is a horse
   ii. Nibbles is a mare
   iii. Nibbles is a brown horse
   iv. Nibbles is not a brown mare (\(\Box F\) given i.-iii.)

b. Siegel-diagnostic for *beautiful*
   i. Marya is a dancer
   ii. Marya is a woman
   iii. Marya is a beautiful dancer
   iv. Marya is not a beautiful woman (\(\Diamond T\) given i.-iii.)

The critical sentences are the (iv) forms: (4.02a.iv) cannot be true in the same world as (4.02a.i-iii), whereas all four sentences in (4.02b) can be simultaneously true, in the case that Marya is a physically unattractive person but a talented dancer.

Unfortunately, this diagnostic presupposes non-intersectivity to be a property of adjectives. Though billed as a “Diagnostic of Non-Intersectivity,” it specifically identifies which adjectives are non-intersective, never which nouns. However, given the symmetricality of set intersection, we might just as easily construct a Siegel-esque diagnostic for non-intersective nouns:

\[(4.04)\] **Siegel-esque Surface Diagnostic for Non-Intersectivity (of Nouns)**

If, for some \(\text{ADJ}_1\) and \(\text{ADJ}_2\), and for some noun phrase \(X\) and a determiner \(\text{det}_i\), the sentences
   i. \(X\) is \(\text{ADJ}_1\)
   ii. \(X\) is \(\text{ADJ}_2\)
   iii. \(X\) is \(\text{det}_i \text{ADJ}_1 \text{CN}_j\)
   iv. \(X\) is not \(\text{det}_i \text{ADJ}_2 \text{CN}_j\)

are consistent, that is, they could all be true at once, then \(\text{CN}_j\) has a non-intersective reading of the kind we are looking for.

By this new diagnostic, the English noun *horse* is intersective, and *dancer* non-intersective:
(4.05) a. Siegel-esque diagnostic for *horse*
i. Nibbles is lean
ii. Nibbles is beautiful
iii. Nibbles is a lean horse
iv. Nibbles is not a beautiful horse (\(\square F\) given i.-iii.)
b. Siegel-esque diagnostic for *dancer*
i. Marya is lean
ii. Marya is beautiful
iii. Marya is a lean dancer
iv. Marya is not a beautiful dancer (\(\Diamond T\) given i.-iii.)

Of course, we will get different results if we use different adjectives, just as we will get different results with different nouns in (4.02): *runaway* is diagnosed as intersective when considered with most pairs of English common nouns—*horse* and *animal*, for example—but non-intersective when diagnosed with *horse* and *winner*: Nibbles may be a *runaway horse* but not a *runaway winner* (and vice versa).

Should we use both diagnostics, then, or neither? In point of fact, far more modifiers than modificands participate in non-intersectivity according to joint application of these two diagnostics, which in effect makes an indirect, post hoc case for (4.02)’s relative superiority to (4.04), but a far stronger conclusion to draw is that the entire enterprise of defining a single lexical category as (potentially) non-intersective is misguided, that intersectivity is true of modification structures, and not the elements that enter into them. *Beautiful dancer* as a unit presents a challenge to compositionality; the two words independently do not.

‘Never attributive’ adjectives like *asleep* or *alive*—i.e., those ungrammatical when alone across the copula—present another problem; Siegel’s diagnostic shuts down for them at sentence (iii.), unable to diagnose non-intersectivity at all, admittedly a minor concern since these adjectives do not appear to behave non-intersectively. Logically speaking, however, we would
want to ascertain whether these adjectives, too, can enter into non-intersective dyads, rather than assuming that they do not; the diagnostic proposed below does just this.4

We should also question why the non-intersectivity of \{A, N\} dyads excites considerably more discussion than does other adnominal non-intersectivity, such as that of world economy.

There is no significant semantic difference between the global economy and the world economy, or between a wood bat and a wooden bat, yet (4.02) can only identify global economy as non-intersective, a strange outcome indeed. Consider, too, paradigms like (4.06):

(4.06)  a. Modifiers related to kill
   i. kill zone; kill command (VInf-N)
   ii. killed soldier; killed project (PtPartA-N)
   iii. killer virus; killer aim (N-N)

   b. Modifiers related to die
      i. death zone; death sentence (N-N)
      ii. dead soldier; dead project (A-N)
      iii. deadly virus; deadly aim (A-ly-N)

The phrases in (a.i) and (b.i) present clear cases of NIAM as far as the familiar entailments apply, and arguably the second phrases of (a.iii) and (b.iii) do the same. Of greater import is the matching intersectivity patterns between dyads with syntactically distinct modifiers, patterns which echo the familiar harmony between clausal the enemy destroyed the city and nominal the enemy’s destruction of the city. In both cases, there appears to be a pre-syntactic identity of semantics that—while not grounds for a leap to assumptions of identical origins—calls for

---

4 An analysis of these adjectives as prepositional phrases is outlined in Chapter 6; as instantiations of intersective modification, they remain tangential for the time being, but of course successful analysis of NIAM must be compatible with that of these forms as well.
attention to be focused on adnominal modification in general, rather than on one syntactic variety of it.\textsuperscript{5}

A broad and thorough diagnostic for adnominal intersectivity, then, should (a) apply to any conceivable modifier-modificand pair \( \{X, N\} \) in any modification configuration; (b) be a priori agnostic as to the locus of intersectivity; and (c) indicate which, if any, conjunct in (1.02)\textsuperscript{6} fails to be true for that pair in that configuration. The diagnostic proposed in (4.07) does this for each syntactic arrangement of \( \{X,N\} \):\textsuperscript{7}

\begin{equation}
\text{(4.07) \textbf{Comprehensive Surface Diagnostic for Intersective Adnominal Modification}}
\end{equation}

For any modifier \( X \) and noun \( N_i \) the composed unit \( <X,N_i> \) is intersective—i.e., \( [X \cap N_i] \subseteq [X] \land [X \cap N_i] \subseteq [N_i] \)—iff for all \( N_2 \supseteq N_i \textsuperscript{8} \), all of the following sentences that are grammatical are also necessarily true:

\begin{align*}
\text{a. } XN_i & \quad \text{i. } det\, XN_i \text{ is } det\, N_i \\
 & \text{ii. } det\, XN_i \text{ is } det\, XN_2 \\
 & \text{iii. } det\, XN_i \text{ is } X \\
\text{b. Pred}_X & \quad \text{i. } det\, N_i \text{ that is } X \text{ is } det\, N_i
\end{align*}

---

\textsuperscript{5} One might well extend this line of reasoning to question whether adnominal modification should be studied in a vacuum, or whether it would be better to consider all modification in general. The present study cannot adequately tackle the latter topic, but careful comparison of NIAM and non-adnominal intersectivity is surely warranted.

\textsuperscript{6} The naive presumption of intersectivity is repeated here for the sake of convenience: \([AN] \subseteq [A] \land [AN] \subseteq [N]\).

\textsuperscript{7} Siegel argues against the viability of such a positive diagnostic, stating:

Unfortun[atel]y, there is no positive test like [Siegel’s] (2) that will identify intersective readings. The closest thing to such a test would be to ask whether, for instance, “Marya is a beautiful dancer” could entail that Marya is beautiful in some absolute sense. If so, then beautiful would surely have an intersective reading, but such judgments are hard to make.

Taken together with the details of her diagnostic in (4.02), this argument implies that judgments for \( X \text{ is an } N \) are easier to make than \( X \text{ is } A \), as are judgments for \( X \text{ is an } AN \), since both of the forms with N-headed predicates feature prominently in Siegel’s diagnostic. But surely this cannot be right: no informant that struggles with the truth value of \textit{Nibbles is brown} will be able to judge \textit{Nibbles is a brown horse} with ease.

\textsuperscript{8} This logical relation can straightforwardly be assessed through a surface diagnostic:

(i) a \( N_1 \) is necessarily a \( N_2 \), but a \( N_2 \) is not necessarily a \( N_1 \),
Two caveats are in order. First, the number of sentences from the seven above that may be grammatical for a particular \( \{X,N\} \) pair may be quite small: for \( \{\text{former, jockey}\} \) there is just one:

\[ \text{a former jockey is a former athlete} \] (a.ii), which is not necessarily true, proving non-intersectivity. Second, the diagnostic’s use of noun substitution but not adjective substitution reflects a theoretical assumption about which we must be transparent: that at some level (e.g. when inserted), nouns denote sets, while adjectives may denote functions that do not reduce to sets.

The dyad \( \{\text{easy, procedure}\} \) is always intersective according to this diagnostic:

\[
\begin{align*}
\text{(4.08)} & \quad \text{a.} \quad & \text{i. an easy procedure is a procedure} & (\square \text{T}) \\
& & \text{ii. an easy procedure is an easy thing} & (\square \text{T}) \\
& & \text{iii. an easy procedure is easy} & (\square \text{T}) \\
& \quad \text{b.} \quad & \text{i. a procedure that is easy is a procedure} & (\square \text{T}) \\
& & \text{ii. a procedure that is easy is a thing that is easy} & (\square \text{T})
\end{align*}
\]

The pair \( \{\text{criminal, lawyer}\} \) is not always intersective. The diagnostic in (4.07) specifically indicates that the non-intersectivity arises in \( AN \) alignment only (by virtue of an (a) sentence being potentially false), and that the NIAM type is the composed pair’s denotation does not subsect that of the adjective (by virtue of a (ii.) sentence being potentially false):

\[
\begin{align*}
\text{(i) (Spanish)} & \quad \text{un sistema nervioso es un sistema} & (\box T) \\
& & \text{‘a nervous system is a system’} \\
\text{(ii) (Spanish)} & \quad \text{un sistema nervioso es nervioso} & (\lozenge \text{F}) \\
& & \text{‘a nervous system is nervous’}
\end{align*}
\]

9 Frames (bii) and (cii) are given here to acknowledge the logical impetus for their consideration. To my knowledge, no English sentence that is grammatical in these two fails to also be necessarily true. Obviously some of these, e.g. (cii), are vital for diagnosing non-intersectivity in other languages:
The application of (4.07) to even a moderate number of \( \{X,N\} \) pairs confirms several relatively well-known facts about English. First, \( \{N_2,N_l\} \) pairs are wildly non-intersective; intersective noun compounds are relatively uncommon (e.g., \textit{student teacher}), while non-intersective ones abound (\textit{science teacher, teacher talk, teacher teacher}, etc.). Second, non-intersectivity occurs almost exclusively in X-N alignments, with a few exceptions, most notably noun-preposition combinations—e.g., \textit{a down moment, a glance behind, the tunnel out}—about which we will have slightly more to say in §4.2.

4.1.2 Confounding Factors

Though the diagnostic in (4.07) should allow us to more carefully agree upon which \( \{\text{Mod, N}\} \) pairs are and are not intersective, there remain a number of issues which, if left unaddressed, threaten to yield both false negatives and false positives. To the greatest extent possible, we will attempt to control for idioms, collocations, the figurative use of language, and overlapping types in developing the typology below.

4.1.2.1 Idioms and Collocations

That a \textit{hot dog} may be frozen and should not be \textit{dog} does not mean the structure is non-intersective or a problem for compositionality; the English lexicon lists it. Less clear are forms like \textit{former owner}, which no dictionary lists as a single item, but which in 1970 appeared more
frequently in Google’s English book corpus than *hot dog*. Justification for listing one but not the other, then, is a question not of frequency but of compositionality: there is no established modification pattern that gets you to ‘sausage’ from ‘very warm’ and ‘canine,’ while we can point to many other structures in which *former* appears to behave as it does with *owner*. In fact, whether or not *former owner* is lexically listed is not enormously important, though in principle the more successful linguists are at analyzing NIAM, the fewer such phrases will need to be listed. However, in developing analyses, we must be careful to avoid well-worn collocations, as it is widely known that high-frequency use is a prime cause of semantic eccentricity. Thus, *former owner*—despite surely being a NIAM structure of the Temporal Reference variety—will be declared ineligible for use as a reference example.\(^1\)

There are different perspectives in the corpus analysis literature on where and how to draw the line for collocations (see Bartsch 2004:58-64 for an overview). As collocations are not the central emphasis here, we will employ an informal, straightforward method: a frequency threshold in the Google Books corpus. Roeper & Siegel (1978) “know that *feelable* is not a word,” but Google’s nGram viewer—which was not at Roeper & Siegel’s disposal but is at ours—reports the form to have occurred at a 0.0000005324% frequency level that year. This fact is presented not to attack the claim (which matches the author’s own intuitions) but to establish a

---

\(^1\) Google’s nGram Viewer reports a corpus frequency of 0.00002247% for *former owner*, against a frequency of 0.00001627% for *hot dog*. Note that these are both well over the ‘6 zero’ threshold for collocations discussed below.

\(^1\) This is not to claim that such a phrase is listed, merely that if its interpretation diverges from that which would be expected from the behavior of the individual elements in other combinations—essentially our basis for isolating NIAM and its different sub-types—we want to make sure that this is not a consequence of its familiarity. In the case that phrases exhibit patterns paralleled by less common constructions, we will understand the first to be instantiations of the type for which the second serves as our reference example. In the (at the moment completely hypothetical) case that a collocational form exhibits a pattern unique to itself, we will take this to be an outlier. The closest instances, discussed at the end of §4.3.2.3 below, are *hopeless romantic* and *desperate alcoholic*, which are rare examples of Non-Dispositional NIAM: by the nGram assessment used here, the first is a collocation (barely, and only recently), the second not. Our position is that, were it not for the parallel behavior of *desperate alcoholic*, it would be reasonable to set *hopeless romantic* aside as a sui generis phenomenon.
reasonable cutoff for ‘below the radar’: any two-word form whose frequency in the Google corpus is of the same order of magnitude as *feelable* in 1978, i.e. a percentage that starts with six zeros to the right of the decimal point, will be considered safely non-collocational; we can ‘know’ that it, too, isn’t a word. Phrases whose frequency percentages contain five or fewer zeros after the decimal point for any year after 1978 will be passed over as a reference example.\(^{12}\) Lexical listing in a standard (i.e., non-technical) dictionary naturally disqualifies any form as well, regardless of corpus frequency.

It should be emphasized that we are not exempting collocational forms from analysis in general, as they have to have been composed at some time or another, but instead avoid their use as reference models for our typology, under the fear that their active compositionality is a thing of the past, no longer part of the synchronous syntax and semantics of English.

### 4.1.2.2 Figurative Speech

Indeed, *hot dog* was compositional at a fairly recent point in time, but the process through which it came to denote ‘sausage sandwich’ was figurative usage. Metonymy and metaphor—the use of words and expressions to denote non-elements of the set conventionally denoted, yet contiguous or similar to such elements—pervade both imaginative literature and everyday speech, and the occasional artful, lucky creation becomes enshrined in the lexicon. As Geeraerts (2002) notes, the composition of figurative expressions can work in a number of ways. The following possibilities warrant our attention:

\[(4.10)\]

a. [literal *X* + figurative *N*] taken literally = *XN* (*litigious weasel, Parcheesi god*)
b. [figurative *X* + literal *N*] taken literally = *XN* (*fatal typo, scorching style*)
c. [literal *X* + literal *N*] taken figuratively = *XN* (*rabid dog, decapitated turkey*)

\(^{12}\) The filter errs on the strict side: the classic (and intuitively non-collocational) *beautiful dancer* is ruled out, while *beautiful writer* qualifies.
In each of the three cases, the figurative shifting of denotation must take place at the appropriate juncture. The sets of literally litiginous literal weasels and similarly conceived Parcheesi gods are presumably empty, but once the Ns are expanded to include mortal humans (of nasty and talented stripes, respectively), they can then compose quite literally with the conventionally interpreted X’s to denote non-empty sets: this is also presumably the way hot dog came to mean ‘Frankfurter.’ The pattern in (b) shifts the figurativity to the modifier; again the literally composed phrase is empty (or exceedingly close) unless X is shifted first. Finally, the figurativity in (c) applies after the composition of literal X and literal N: we first conceive of the set of literally rabid literal squirrels and literally decapitated literal turkeys, and only then expand the composed denotation to figuratively apply to a human referent.

Failure to bear this in mind can lead to a mis-diagnosis of non-intersectivity. For instance:

(4.11)  
- a litigious weasel may not be a weasel  
- a fatal typo may not be a fatal error  
- a rabid dog may not be a dog and may not be a rabid creature

If, however, we understand each component as bearing an index of ‘literal’ (the default), or ‘figurative’ under a particular reading, and the figurativity of a composed phrase as distributing to each component interpreted in isolation, such miscategorization is avoided:

(4.12)  
- a litigious weasel_{fig} is a weasel_{fig}  
- a fatal_{fig} typo is fatal_{fig}  
- a [rabid dog]_{fig} is a dog_{fig} and rabid_{fig}

In other words, none of these are cause for compositional concern.

This type of modification has for the most part been avoided in the literature on non-intersectivity (though a number of Bolinger’s examples may be figurative, as he acknowledges (1967:28)), but should be borne in mind as a potential confounding factor in evaluating other
types. And of course, neither intersectivity nor non-intersectivity is incompatible with figurative usage.

4.1.2.3 Overlapping Types

Many phrases are more than two ways ambiguous, including multiple NIAM readings. A phrase like *cheerful emancipator*, for instance, could have any of the following interpretations:

\[(4.13)\]

\[
\begin{align*}
\text{cheerful emancipator} \\
\text{a. one who is cheerful and also an emancipator (IAM)} \\
\text{b. one who is cheerful about being an emancipator (Subjecthood NIAM)} \\
\text{c. one who is cheerful when an emancipator (Situational NIAM)} \\
\text{d. one who emancipates cheerfully (Event NIAM)}
\end{align*}
\]

The case for these readings being structurally distinct is made below; here we merely note that use of a form like *cheerful emancipator* to exemplify any one of the readings will not aid in articulating their distinctions. Similarly:

\[(4.14)\]

\[
\begin{align*}
\text{beautiful drunk} \\
\text{a. one who is beautiful and also a drunk (IAM)} \\
\text{b. one who is beautiful when a drunk (Situational NIAM)} \\
\text{c. one who is beautiful at being a drunk (Modal Reference NIAM)}
\end{align*}
\]

These mixed-type forms both aid and hamper analysis. On one hand, the availability of multiple readings can inform analysis, as we will want to have structures and rules capable of generating them. On the other hand, we will need to seek out and analyze isolable instances of each NIAM type—the goal of this chapter and the following one—before we grapple with the complexity of such ‘overlapping’ types in Chapter 6. It is worth noting that morphological complexity typically triggers such overlap (cf. *occasional*, discussed in §4.3.2.8 below), a fact which supports the DM and nanosyntactic approach outlined in Chapter 3.
4.2 Adnominal Modification by Non-Adjectives

Attempts to analyze complex phenomena necessarily face the fundamental question of analyzability: do the phenomena in question have internal structure, discrete elements, predictable patterns? Comparison of NIAM by adjectives to NIAM by non-adjectives makes very clear the comparatively constrained nature of the former,\(^{13}\) as well as offering valuable insight into the distinct contributions of semantic and syntactic type; we briefly consider the different non-A possibilities for \(X\) in \(\{X, N\}\) modification dyads.

4.2.1 \(X=N(P)\): Modification by Nouns and NPs

In English, both noun compounds (dóg park) and noun-modified nominals (world péace)—generally distinguishable by their stress patterns, the latter taking primary stress on the head noun—appear to flagrantly violate linguistic compositionality. The two nouns are interpreted as arguments in some logical relationship, but it is unclear to what extent the relationship is constrained by semantics or pragmatics. One position holds that relationship between the two Ns is constrained only by the boundaries of human thought, not by grammar (Zimmer 1971), and when we put two typically unassociated nouns together, the resulting interpretations appear to confirm this:

(4.15) potato flea, squirrel outlet

The flea in question may like to eat potatoes, or be shaped like a potato, or live near potatoes—the outlet may be used by squirrels, shaped like a squirrel, a receptacle for squirrels, and so on. The one well-established syntacto-semantic constraint we see at work even in these mind-stretching constructions is a strong tendency to project the second element (in English), for \(N_2N_1\)

\(^{13}\) The juxtaposition by no means proves the latter to be unconstrained, merely that the constraints on non-adjectival NIAM are less clear.
to be in the set of $N_1$ things. Other than this right-headed endocentricity, however, constraints on interpretation for these phrases appear exclusively pragmatic: we cooperate in a Gricean sense, plumbing the real world and discourse contexts to come up with the most typical relationship between the Ns, almost palpably asking ourselves “what can so-and-so be thinking?” rather than “how do the rules of my language relate these words?”

All the same, certain patterning might be discerned. Levi (1978) proposes seven abstract predicates, while Barker (1998) identifies the following 21 categories for noun modifiers:


It is not difficult to generate examples of every one of Barker’s roles as played by or modifying a single N *car*:

(4.17) a. AGT *designer car*  i. OBJ *car theft*  l. OBJ *car theft*  
 b. BENF *car care*  m. POSS *cop car*  
 c. CAU *car anxiety*  n. PROD *car factory*  
 d. CTN *car seat*  o. PROP *economy car*  
 e. CONT *baggage car*  p. PURP *stunt car*  
 f. DEST *beach car*  q. RESU *car production*  
 g. EQUA *pet car*  r. SRC *office car*  
 h. INST *car chase*  s. STAT *sale car*  
 i. LED *car lot*  t. TIME *weekend car*  
 j. LOC *car phone*  u. TOP *car talk*  
 k. MATR *fiberglass car*  

While these categories undoubtedly run the risk of overlap and fuzzy boundaries, attempts to significantly whittle the list down bump into ordered pairs like <*car fight*>, in which *car* can play at least seven distinct roles:
(4.18) a. AGT Lightning and Mater are going to duke it out in a car fight
b. LOC nothing’s worse on a trip with kids than a backseat car fight
c. INST backed into an alley, our hero turns the car chase into a car fight
d. OBJ Bernie’s greasy because he picked a car fight with the wrong Fiat
e. POSS car elegance was less important to McQueen than car fight
f. PURP my prom campaign is finally won, but my car fight has just begun!
g. TOP a Ford kid got his nose bloodied by a Chevy kid in a car fight

In all likelihood, Barker’s list is too short: phrases like budget car do not fit any of the categories; budget being a property not of a car, but of its potential buyer, while the phrase strawberry car can quite easily mean ‘car that smells like strawberry’ given a little context.

Possibly no such list can be made, as Quine (1960) suggests: “… for the most part the compounds thus [i.e., from substantives in attributive position] formed are best seen rather as irrelevantly similar condensations of multifarious phrases” (p. 103). Insofar as these similarities are indeed irrelevant, the ontology of N-N interpretations can only be captured by a compositional semantics that introduces hidden or unspecified elements—whether finite or infinite, linguistic or otherwise—into the computation (cf. Dowty 1979:316 for a formalization of this relating). The two parts of the dyad are by no means intersective, then, but perhaps inevitably supersective, i.e. intersecting with a set larger than but containing the other element.

4.2.2 X=P(P): Modification by Prepositions and PPs

Non-idiomatic adnominal modification by a preposition is relatively rare in English:

---

14 The fight in this sentence stands apart from the others, most obviously because it can and must be an uncountable noun—one might argue that this is a separate lexical entry, the ‘pugnacity’ reading. Note, though, that this reading/entry of fight does not appear to have any kind of theta grid: there is no AGT modifier, no OBJ, etc. This strongly suggests that some nouns have linguistically active sub-events, while others do not.

15 This difficulty can be circumvented by listing a separate adjectival definition of budget as ‘suitable for someone who is on a budget,’ as Merriam-Webster does (Merriam-Webster’s online dictionary, 2015).

16 By means of contrast, Quine goes on to describe non-intersective (his “syncategorematic”) A-Ns as belonging “to a more sophisticated phase in the learning of language than now concerns us” (p. 103).
(4.19)  
| a. \textit{PN} | i. a down moment  
|         | ii. the off button  
| b. \textit{PredP} | i. a relationship that is over  
|         | ii. the light that is on  
| c. \textit{NP} | i. a glance behind  
|         | ii. the tunnel out |

Some of these are non-intersective (\textit{a down moment, the tunnel out})\footnote{Some speakers find this intuitively intersective; however, the sentence \textit{a tunnel out is out} can be grammatical, but only under an 'out of the question' reading of the predicate \textit{out}. Analyses allowing for null motion verbs (e.g., \textit{GO}) can capture this intersectively (cf. den Dikken 2010b), and are entirely in line with the approach developed for NIAM-by-adjective here.}, others intersective (\textit{a relationship that is over}). An interesting pattern emerges: P-N phrases tend to be exclusively non-intersective, and tend to involve unspecified functional elements:

(4.20)  
| a. a \textit{down moment} is a moment \textbf{WHEN SOMEONE} is down  
| b. the \textit{off button} is the button that \textbf{TURNS} a \textbf{MACHINE} off |

\textit{PredicateP} phrases tend to be intersective. N-P phrases are unique among X-N dyads, as stated above, in exhibiting non-intersectivity with postnominal modifiers. Note, though, that the type of non-intersectivity is quite different than that of N-N phrases: it involves an unspecified nominal object of the preposition, but no functional (i.e. prepositional/case-like) elements and little room for nouns of surprising or varied roles:

(4.21)  
| a. a \textit{glance behind} is a glance \textbf{BEHIND US} / *\textbf{THE SHELF} / *\textbf{OUR FRIENDS}  
| b. the \textit{tunnel out} is the tunnel \textbf{OUT OF HERE} / *\textbf{OF OPTIONS} / *\textbf{OF MONEY} |

Expanding our scope to phrases, we find that prenominal PPs tend to be exclusively adverbial in English, while in postnominal position PPs tend to be interpreted adjectivally:

(4.22)  
| a. on \textit{the job training}  
| i. ??that training was on the job  
| ii. that training was \textbf{COMPLETED} on the job  
| b. in your \textit{face attitude}  
| i. ??his attitude is in your face  
| ii. his attitude jumps in your face |
c. around the clock news
   i. the news is around the clock
   ii. the news is broadcast around the clock

Also notable is the lack of ambiguous P-N doublets. One can of course construct contexts in
which some vagueness arises:

(4.23) stuck in a dungheap under the dome in Drax’s lair, Bond calmly found a tunnel out

This ambiguity, though—whether Bond’s tunnel leads out of the lair, the dome, or the dungheap,
—is a question of the unspecified element’s precise identity, not of the modifying term’s role.

Compare this to the behavior of the N-N doublet car fight:

(4.24) a. AGT a car fight is a fight AMONG / BY cars
     b. LOC a car fight is a fight IN a car
     c. INST a car fight is a fight WITH (USING) cars
     d. OBJ a car fight is a fight AGAINST a car
     e. POSS car fight is the fight OF a car
     f. PURP a car fight is a fight FOR a car
     g. TOP a car fight is a fight ABOUT a car

Recall, too, that some NNs require a null argument and a case/preposition-like functor or two:

(4.25) a budget car is a car FOR a PERSON WITH/ON a budget

Nevertheless, both N-N and P-N dyads involve the relating of two Ns, with the relator
omitted/unspecified in the first case, and the related (non-head) N omitted but somehow more
precisely specified in the second case. In any case, there are no (or vanishingly few) P-N
doublets for our consideration.

4.2.3 X=V(P), X=S, X=Adv(P)

Instances of non-lexical, clearly verbal modification of Ns are relatively rare in English.\textsuperscript{18}

Possible examples include:

\textsuperscript{18} Following traditional categorization conventions, participial forms are considered in our discussion of adjectives.
There is a strong tendency, particularly in informal registers, to morphologically convert prenominal modifying Vs to adjectives:

(4.27)  a sippy cup, touchy-feely stuff, a sucky film, melty cheese

The V-Ns in (4.26a) feature privative modification, and are therefore non-intersective, but—like other privatives—unambiguous in attributive position. Those in (4.26b) are intuitively non-intersective—it’s difficult to construe a *kill clause as being a member of the set of kill things—but difficult to assess as such with the diagnostic in (4.07). The forms in (4.26c) are intersective, which may be related to the indisputably phrasal status of the modifiers. Prenominal S(entential) modifiers are also clearly phrasal, and the SN structures they create appear to be intersective, though—like the phrases in (4.26b)—many are ungrammatical in predicate alignment.

(4.28)  a come-hither look; the what-have-you-done-for-me-lately issue; her nothing-really-matters attitude; a dog-eat-dog philosophy

Postnominal S modifiers intersect with their (typically propositional) head nouns when functioning as noun clauses (4.29a), and do as well when they function as relative/adjective clauses (4.29b). Adverbial clauses can modify nouns, but the structures seem quite certainly to involve elided verbal forms (4.29c):

---

19 This phrase has recently appeared in a number of fast food commercials, presumably rooted in the notion that some cheese slices are born with drippy malleability rather than having it thrust upon them. If this is indeed the difference between *melted* and *melty* cheese, this would indicate—beyond certain unhappy gastro-psychological truths about America—that participial and non-participial English adjectives may have different capacities for event roles, further support for Larson’s (1998) approach.

20 Assessing this is touchy: the ungrammaticality of *a look that is come-hither* does not mark it as non-intersective; the only testable sentence from the diagnostic—*a come-hither look is a come-hither gesture*—appears to be necessarily true.
(4.29)  
  a. suggestion (that) Karen eats dogs; rumor (that) people are unhappy  
  b. car I drive; thing that bugs me; people Jack knows; crowd she runs with  
  c. wheels when you need them\(^{21}\)

In all likelihood, the rarest form of adnominal modification is Adv-N; there are practically no clear-cut examples of Adv-N constituents in English. Fu et al (2001) report that speakers accept the following marginal N-AdvP cases:

(4.30)  
  a. (While) the removal of evidence *purposefully* (is a crime), the removal of evidence *unintentionally* (is not).
  b. ?His explanation of the problem *thoroughly* to the tenants (did not prevent a riot).
  c. ?Protection of children *completely* from bad influence (is unrealistic).
  d. (I disapprove of) Jane’s resignation so *suddenly*.
  e. Collaboration of the witnesses *voluntarily* (has greatly sped up the process).

Only (d) gives us an AdvP directly adjacent to the N that it modifies; all of the other cases involve an intervening PP, without which the sentences sharply decline in grammaticality. Even the (d) sentence seems to need the intensifier so in order to maintain grammaticality:

(4.31)  
  a. *While removal *purposefully* (of evidence) is a crime, removal *unintentionally* is not.
  b. *His explanation *thoroughly* to the tenants (of the problem) did not prevent a riot.
  c. *Protection *completely* (of children) from bad influence is unrealistic.
  d. *I disapprove of Jane’s resignation *suddenly*.
  e. *Collaboration *voluntarily* (of the witnesses) has greatly sped up the process.

In short, even accepting the grammaticality of the other forms, we still find precious few examples of direct (i.e. adjacent) modification of a N by a bare adverb. Huddleston & Pullum (2002) argue for the treatment of words like *downstairs* as adverbs. The adnominal modification structures that they enter into are intersective:

\(^{21}\) This slogan for ZipCars stands alone on some recent advertisements. Embedding these N+AdvCl structures into larger sentences tends to coerce the AdvCl into modifying the verbal material rather than just the N (e.g. *it’s important to have wheels when you need them*).
Similarly, time adverbials such as *now*, *sometimes*, and *forever* occasionally compose with
nouns, albeit in a stylistically marked register characteristic of ad copy, and perhaps echoing the
iconic phrase *it girl*:

(4.33)  
  a. the *Now* dress is revealing, stimulating a change in mood, spirit and awareness
         (*Schenectady Gazette* 9/17/69)  
  b. are there drawbacks to the *forever* stamp? (*New York Times* 5/12/08)  
  c. a cookie is a *sometimes* food (*Sesame Street*)  
  d. a woman is a *sometimes* thing (*Porgy and Bess*)

These are possibly non-intersective, but reminiscent of noun compounds in apparently needing a
lexical predicate to relate the two elements (*the dress is popular now; the stamp lasts forever; a
food to eat sometimes*). This is unsurprising, as English time adverbials bear more than a passing
resemblance to nouns (cf. *life is just a bunch of nows; I can’t wait 'til the end of forever*, etc.).

For the time being, we will set aside Adv-N modification as inconsequentially non-intersective,
though the data certainly merit further exploration.

We can summarize non-adjectival NIAM in English as essentially dual in nature. On one
hand, N-N structures are wildly non-intersective, exhibiting massive ambiguity in attributive
position, with the two nouns relatable by either a large set of possible relators, or as many
concepts as the human mind can generate, given the pragmatics. On the other hand, adnominal
modification by prepositions, verbs, and other parts of speech can be non-intersective but very
rarely ambiguous; it appears to involve implied/deleted elements, typically arguments (objects)
of P or V.
We will see that adjectival NIAM occupies an intriguing middle ground; much more constrained than NIAM by nouns, but far more prone to ambiguity than NIAM by other categories.

4.3 Types of English NIAM-by-Adjective

The conjunctive proposition whose violation standardly defines NIAM by adjectives—\[[A_N] \subseteq [A] \land [A_N] \subseteq [N]\]—offers two ways of exhaustively and non-redundantly splitting the phenomenon: forms that do and don’t violate the first conjunct, or forms that do and don’t violate the second. As endocentricity is expected of the head noun in a nominal expression, and as failure of the second conjunct is more easily assessed (English nouns (properly determined) are all grammatical across the copula), we will use the divide between nominal exo- and endocentricity as the first slice of our NIAM typology.

Recalling that English NIAM occurs nearly exclusively in attributive alignment—and that any non-intersectivity in other alignments is also found attributively—we may safely whittle down the ‘comprehensive’ diagnostic in (4.07) to a more compact, practical one aimed at adjectival NIAM in English:

(4.34) **Practical Diagnostic for English NIAM-by-Adjective**
For any English modifier \(A\) and noun \(N_i\), the composed unit \(<A,N_i>\) is non-intersective—i.e., \([A_N] \not\subseteq [A] \land [A_N] \not\subseteq [N]\)—iff for all \(N_2 \supseteq N_i\), any of the following sentences that is grammatical is also possibly false:

a. \(XN_i\)  
   i. \(DET\ AN_i\ is\ DET\ N_i\)  
   ii. \(DET\ AN_i\ is\ DET\ AN_2\)  
   iii. \(DET\ AN_i\ is\ A\)

Any ordered pair \(<A,N_i>\) for which (4.34a.i) is false will be considered exocentric; any for which (i) is true but (ii) and/or (iii) grammatical but false will be considered endocentric. For
each sub-type, we will identify characteristics, diagnostics, and the compositional elements that yield it. Further analysis of the most important and/or unusual of these elements is saved for §4.4, as the same element type often contributes to different varieties of NIAM.

4.3.1 Exocentric NIAM

As possible non-Ns, exocentric ANs may be understood, from a Montagovian perspective, to have head nouns with ‘accessible’ intensions, allowing the modifier to take non-real worlds and non-current times as arguments or selectional criteria. These are basically second-order structures, wherein the categorization of the referent as $N$ is or is part of what the adjective means. This is supported by the observation that exocentric NIAM breaks down when the noun modified is a ‘top-level’ hyperonym, e.g. thing, object, concept, notion. Thus, fake object, possible scenario, and hopeful individual are all intersective, though the adjectives involved quite commonly behave non-intersectively.\(^{22}\)

The most oft-discussed type of exocentric NIAM is Privativity (§4.3.1.1), in which AN’s status as $A$ dictates that it not be (an) $N$. We circumscribe this type as the only to fail just the (a.i) diagnostic; two other exocentric types may be distinguished, both of which fail one or both of diagnostics (a.ii) and (a.iii). We follow Bolinger in using ‘Reference Modification’ (§4.3.1.2) to label ANs whose indeterminate status as an $N$ is characterized as $A$, and introduce a type that has gone all but unnoticed in the literature: ‘Dispositional’ NIAM structures (§4.3.1.3), ANs whose non-factive status as an $N$ makes them $A$.

\(^{22}\) Though the concern might arise that the attention given here to the hyponym/hyperonym relation is an artifact of the diagnostic’s similar specification for $N_1$ and $N_2$, note that this class of NIAM is identified without the use of $N_2$, i.e. by ascertaining if ‘a/an/$\emptyset$ AN is a/an/$\emptyset$ N’. Thus, we can diagnose the intersectivity of \{fake, object\} on the basis of the (necessary) truth of a fake object is an object and a fake object is fake; this assessment is no way a consequence of the diagnostic’s utilization of the hyperonym/superset relation.
4.3.1.1 Privative NIAM (*fake notary*): Diagnosis and Elements

‘Privative’ is typically used to label adjectives and/or modification in which the composed term must not be an *N*, i.e., for which \( \square [AN] \not\subseteq \square [N] \). This presents a plausible semantic basis for distinguishing between (possibly) Privative NIAM (a,b) and other types (c,d):

\[
\begin{align*}
(4.35) & \quad \text{a. fake diamond} \\
 & \quad \text{b. false ending} \\
 & \quad \text{c. real train} \\
 & \quad \text{d. true patriot}
\end{align*}
\]

When it comes to the interaction of interpretation with syntax, however, the forms in (a) and (c) present a natural class in opposition to (b) and (d):

\[
\begin{align*}
(4.36) & \quad \text{a. that diamond is fake} \\
 & \quad \text{b. #that ending is false} \\
 & \quad \text{c. that train is real} \\
 & \quad \text{d. #that patriot is true}
\end{align*}
\]

The adjectives *false* and *true* do not maintain their non-intersectivity across the copula, while *fake* and *real* comfortably do. Given the present study’s direct interest in ambiguity and the syntax and semantics interface, this distinction is critical. Modification like that in (a) will be of less interest to us, as it shows very little in the way of either prenominal ambiguity or post-copular semantic shift: this is the type we will define as ‘Privative,’ using two parts of our diagnostic:

\[
\begin{align*}
(4.37) & \quad \text{Diagnostic for Privative NIAM} \\
 & \quad \text{a form } AN \text{ exhibits Privative NIAM iff, under a reading } \rho: \\
 & \quad \text{i. } DET \ AN \text{ is } DET \ N \text{ is necessarily false,} \\
 & \quad \text{and} \\
 & \quad \text{iii. } DET \ AN \text{ is } A \text{ is grammatical and necessarily true.}
\end{align*}
\]

This is a narrow definition; the diagnostic identifies *fake diamond* as Privative NIAM, but excludes all three of the other forms in (4.35): *a false ending* is not Privative, because it is not
necessarily true that a false ending is false. The forms in (4.35b,c,d) will be captured as Reference Modification.

Though discussion of privativity has tended to focus on adjectives like fake, many participial forms meet the same entailment qualifications:

(4.38)  a. defrocked priest  
b. disbarred lawyer  
c. disqualified champion  
d. overturned touchdown  
e. discredited expert  
f. deleted paragraph  
g. coming apocalypse  
h. nonexistent codpiece

These adjectives—which we will comfortably label Privative Adjectives, as they are capable of contributing to structures that pass our tests—are acceptable in predicate position, where they show no shift in semantics other than any tense introduced by a copula. Their oddness appears to be a question of lexical semantics: these modifiers effectively seek out the subset of $\llbracket N \rrbracket$ that is not in $\llbracket N \rrbracket$ at all, at least not in the time/world pair of the utterance. Indeed, Montague’s intensional logic effectively accounts for the fact that, in essence, the words contain in their meaning something like “not here/now but there/then”; by shifting the adjectival function from one of entity-entity mapping, to (roughly) property-property mapping, we can locate the denotation of these NPs in non-real, non-current world-time indices. Just as it is not particularly distressing that $\llbracket$no Jack Kennedy$\rrbracket$ in you are no Jack Kennedy fails to intersect with $\llbracket$Jack Kennedy$\rrbracket$, we should not consider these problems for compositionality; the difference in

---

23 Partee (2010) examines the issue of privatives in greater detail, arriving at a more nuanced conclusion about the semantics of these adjectives and the modification structures they enter into, arguing that the difficulty of paradoxes like Is that gun fake or real? dissipates if the nominal semantics can be ‘coerced’ into expansion (i.e. to include near members). She maintains an A-centered approach that differs somewhat from that of the present study, but the basic conclusion that “no adjectives are actually privative” is much in harmony with the view of the category argued for here; we briefly return to this perspective in Chapter 5.
category between a presumptive adjectival determiner (Oxford’s online English Dictionary, 2015), and a presumptive adjective should have little *a priori* bearing on basic notions of compositionality.

Again, this analysis refrains from attaching the Privative label to forms like *alleged* and *false*, which (intuitively) take propositions rather than individuals as their arguments.

(4.39)  

| a. it is false/alleged/possible that these are diamonds |
| b. *it is fake/unreal/inauthentic that these are diamonds |

This is surely related to the difficulties *false* has with concrete nouns:

(4.40)  

| a. fake cat, fake butter, fake teeth, fake enthusiasm, fake modesty, ??fake hopes |
| b. *false cat, *false butter, false teeth, false enthusiasm, false modesty, false hopes |

Presumably, this is also related to the degraded acceptability and semantic shiftiness of these forms across the copula.

There are constraints on the nouns that can participate in Privative NIAM. As noted above, ‘high hyperonyms’ resist non-intersective readings. We would expect the forms below to be necessarily false in the *a AN is a N* frame, but this is not the case:

(4.41)  

| a. fake stuff (fake stuff is still stuff) |
| b. discredited people (discredited people are still people) |
| c. coming events (coming events are still events) |

Other than that, however, the constraints on nouns tend to be specific to the particular adjective. In the case of the participial forms above, this is just the selectional criteria that the verb requires of its object: only written things can be *forged* (in the relevant sense), only potential artifacts can be *counterfeit*, only priests can be *defrocked*, etc.
The identifiable elements of Privative NIAM, then, are Privative Adjectives, including *fake, forged, and counterfeit*, which are capable of directly negating $N$ status even when in predicate position:

(4.42) a. that tree is fake  
    b. the document is forged  
    c. the doubloon is counterfeit

On the nominal side, it is the set of nouns which the adjectival root can select for, with ‘high hyperonyms’ excepted. Our reference example of Privative NIAM will be *fake notary*.

4.3.1.2 Reference NIAM (*possible cop*): Diagnosis and Elements

Bolinger (1967) contrasts ‘reference modification’ with the more traditionally-understood (and intersective) ‘referent modification.’

(4.43)$^24$ a. she considered the Berlin Wall a *clear affront* to human dignity (Reference)  
    b. we need a *clear window* to properly watch for vagrants (Referent)

In cases of Reference Modification, the referent is not directly modified (i.e., it’s not the case that *the Berlin Wall is clear*), but its status as $N$ is *(that the Berlin Wall is an affront is clear)*. We will superficially define the pattern thus:

(4.44) **Diagnostic for Reference NIAM**  
    a form $AN_1$ exhibits Reference NIAM iff for all $N_2 \supseteq N_1$ under a reading $\rho_i$:  
    [it is $A$-ly the case that $DET \ AN$ is $DET \ N$] or$^25$ [it is $A$ that $DET \ AN$ is $DET \ N$] is grammatical and necessarily true;  
    (ii.) $a/an/\emptyset \ XN_1$ is $a/an/\emptyset \ XN_2$ is not necessarily grammatical or true;  
    and (iii.) $DET \ AN$ is $A$ is not necessarily grammatical or true.

---

$^24$ Bolinger’s examples, e.g. *rural policeman* and *eager student*, do not actually pass our diagnostic for Reference NIAM; we therefore follow his broad observation and labeling, but exemplify here with (in our view) a clearer instance of the type.

$^25$ This or should be read inclusively: the fact that *possible cop* fits into both frames is an endorsement, not a disqualification.
This diagnosis distinguishes between *fake* and *false*, with only the latter contributing to Reference NIAM.

Though all can be diagnosed with (4.44), there are a number of semantically distinct sub-types:

(4.45)  
(a) true hero; total buffoon, complete idiot (Degree)  
(b) current plan; old friend, present governor (Temporal)  
(c) possible solution; probable answer, believable villain (Modal/Epistemic)

The Degree type appears to entail the intersection of \([\text{AN}]\) and \([\text{N}]\) while the other sub-categories, though intuitively distinct, are not as easily diagnosed by superficial means. Adding phrases such as *to an A degree*, *at an A time*, or *in an A world* for *A-ly* to the above diagnostic does a messy job of differentiating the sub-groups. Moreover, despite the categories’ resonance with recent directions in semantic theory, it is unclear what import they have in a theory-agnostic initial typology, nor if they differ syntactically from each other at all.

A distinct Poss-Modifying sub-type of Temporal Reference NIAM involves modification of an explicit possessor, e.g. *Jesse’s new car* and *my old school*. Though successful analysis of these must deal with an overt element not present in the examples of (4.45b), it seems prima facie appropriate to view them as minimally different.

Bouchard (2002:66-67) distinguishes two non-intersective readings of the following French phrase, both of which obtain in English as well:

(4.46)  
présumé espion (French)  
‘alleged spy’

(4.47)  
a. I defected to Iceland with an *alleged spy*  
‘I defected to Iceland with [someone who was allegedly a spy]’  
b. the source of the virus was an *alleged spy*  
‘the source of the virus was allegedly [someone who was a spy]’
The sentence in (a) features Reference Modification, while that in (b) does not denote any definite individual at all, but rather one whose very existence is presumed. These doublets exhibit a scopal ambiguity between Existence and Modal readings when the N is a role N, and do not tend to behave intersectively at all.

(4.48)  a. a supposed girlfriend lives in the Niagara Falls region
        i. → somebody lives in the NF region who supposedly is a girlfriend
        ii. → supposedly, somebody lives in the NF region who is a girlfriend
        iii. *his girlfriend is supposed

b. the alleged gun never materialized
c. he claims to have been bitten by a purported Pekinese

As with the other sub-varieties, however, there is little evidence to suggest that Existential NIAM has any syntactic uniqueness to set it apart from other Reference NIAM.

It is a straightforward consequence of the diagnostic that any adjective participating in Reference Modification must be broadly able to modify Propositions or Predications; this is discussed further in §4.4.1.5 below. The Nouns required appear to vary by the sub-type in (4.46), but the last two types appear to be more restrictive, requiring Role Ns and Event Nominals. Our reference example of Reference NIAM will be possible cop.

4.3.1.3 Dispositional NIAM (hopeful parent): Diagnosis and Elements

Like Reference NIAM forms, the following structures differ from Privative NIAM in that their exocentricity is both nominal and adjectival: it is not straightforwardly the case that ⟦AN⟧ ⊆ ⟦A⟧. This sub-type, which has not previously been isolated in the literature\(^{26}\), we call ‘Dispositional’ for reasons presently made clear:

(4.49)  a. they found some willing martyrs
        b. Jeannine looks like a reluctant bride

\(^{26}\) Bolinger (1967:12) mentions reluctant and unwilling together, but does not articulate any way in which they might be considered different.
c. we can count on Mark as a ready participant in our schemes
d. Kay is the hopeful recipient of a liver transplant

Jeannine is not yet (necessarily) a bride; Mark may not have yet participated; Kay has not yet received a liver transplant. Furthermore, (b) does not commit us to a ‘generally reluctant’ reading for Jeannine, nor to a ‘reluctant as far as brides go’ reading; this is different from IAM and Comparison Class (§4.3.2.2 below). The As involved do obligatorily take their referents as an arguments, but in a complex way: they express the subject’s disposition toward a future eventuality; thus the name (also cf. Stark 1988, who appears to have created the label for these adjectives).

We may superficially diagnose Dispositional NIAM as follows:

(4.50) **Diagnostic for Dispositional NIAM**
a form \(AN\) exhibits **Dispositional NIAM** iff, under a reading \(\rho_i\):
\(\text{DET } AN\) is \(A\) to be \(\text{DET } N\) is necessarily true;
and \(\text{DET } AN\) is \(\text{DET } N\) is not necessarily true.

The first three examples in (4.39) may appear to involve straightforward ‘adverbial modification’ along the lines broadly suggested in Larson (1998). Upon reflection, however, they are ambiguous, denoting two distinct non-intersective situations. Typically, if used in past-tense, factive reporting, we conceivably have Event NIAM (cf. §4.3.2.5 below):

(4.51) a. Chris self-immolated willingly; he was a willing martyr
b. Jeannine got married reluctantly; she was a reluctant bride
c. Mark participated readily in our schemes; he was a ready participant

However, the occurrence of these events is not clearly entailed in more neutral contexts, allowing non-eventive examples like on the way to the volcano, Carrie managed to talk the willing martyr out of his sacrifice. Nor does every Subjecthood Modification dyad submit to an Event reading:

---

27 The sentence is true even in the case that every single bride-to-be feels this way.
she received her liver transplant hopefully

While the sentence may be pragmatically acceptable (anesthesia permitting), it subverts the original semantics.

In addition to a Dispositional A, Dispositional NIAM requires a noun from a constrained set:

(4.53)  a. #Jem is a willing man
        b. #Keiko was a reluctant diabetic
        c. #Paul is a hopeful kid

This is not the ‘high hyperonym’ required for Privative NIAM; all of the nouns in (4.53) are hyponyms of ‘person,’ ‘individual,’ and ‘human being.’ Instead, the class of nouns picked out appears to be that of Role Nouns, discussed further in §4.4.2.2 below. Our reference example of Dispositional NIAM will be \textit{hopeful parent}.

\subsection*{4.3.2 Endocentric NIAM}

As with ‘non-intersective,’ the labels ‘endocentric’ and ‘exocentric’ do not offer any real analytic insight: Reference Modification, in particular, contains a sub-variety (Degree) which is in a certain sense fully endocentric. Nevertheless, we continue our typology with forms for which $\llbracket AN \rrbracket \subseteq \llbracket N \rrbracket$ is obligatorily true, observing an even greater variety than in exocentric NIAM.

\subsubsection*{4.3.2.1 Associative NIAM (\textit{muscular expert}): Diagnosis and Elements}

The NIAM type most ‘blamable’ on A is Associative NIAM, illustrated here:

(4.54)  a. lyrical hackery; grammatical treatise
        b. vascular expert; regular patient
Informally, what appears to go on is that the merger of an adjective type commonly known as ‘associative’ or ‘relational’ (we will use the latter label for the adjectives, as distinct from the modification type) leads to a pattern of non-intersective behavior much like that of \{N, N\} dyads. Relational adjectives in English bear the suffixes -al, -ar, -ary, -ive, and -ory\(^{28}\) and usually mean ‘related to N or V-ing’ for some morphologically salient N or V.

In attributive position, Relational Adjectives exhibit much the same semantic flexibility as nouns. For instance, the adjective *automotive* can occur in all the same \{X, N\} dyads as its nominal counterpart *car*, in each case with nearly identical semantics, albeit with different relative frequencies:

\[
\begin{array}{l|l|l}
(4.55) & \text{Google hits}\textsuperscript{29} & \text{Google hits w/} \text{car} \\
\hline
a. automotive care & 5.5 M & 56.1 M \\
b. automotive anxiety & 1,000 & 41,600 \\
c. automotive phone & 177,000 & 3.1 M \\
d. automotive lot & 43,600 & 10.7 M \\
e. automotive chase & 14,000 & 6.1 M \\
f. automotive seat & 2.7 M & 9.7 M \\
g. automotive theft & 311,000 & 484,000 \\
h. automotive factory & 325,000 & 1.8 M \\
i. automotive production & 1.3 M & 1.5 M \\
j. automotive talk & 228,000 & 7 M \\
\end{array}
\]

Unlike *car*, of course, *automotive* can appear in predicate position:

\[
(4.56) \begin{align*}
a. \text{the talk at the garage is mostly automotive} & / *\text{car} \\
b. \text{the number one brand in the world is automotive} & / *\text{car}
\end{align*}
\]

\(^{28}\) The phrase *nervous system* seems an isolated instance of an *-ous* word engaging in Associative Modification, and its stress pattern hints at lexicalization (cf. *?nervous malady, ?nervous syndrome, ?nervous disorder*). Several others —*dubious, obvious, marvelous*—engage in different types of NIAM (Reference Modification in these three cases). The composed meaning of N+*-ous* words is usually narrower than the ‘relating to/pertaining to’ typical of the other suffixes, including a sense of possession or ‘full of’ (per Oxford’s online English Dictionary, 2015) that only occurs with the others when they are post-copular, and then inconsistently. A *pompous, ridiculous or scandalous discussion* must itself contain pomp, silliness, or scandal fodder, and is not merely about the concept in question. Thus, *-ous* words do not consistently exhibit behavior typical of Associative modification structures, and are accordingly left off the list.

\(^{29}\) Searched 1/29/2012.
However, predicate Relational As become quite restricted in their semantics, and unpredictably so. For instance: *muscular* narrows from ‘related to muscles’ in *muscular decay* to ‘having muscles as property’ in *that decay is muscular*; *regular* narrows from ‘related to rules’ in *regular patient* to ‘moving bowels according to rules’ in *my patient is regular*.

The cleanest way to diagnose Associative NIAM in English is to use morphology as a filter:

(4.57) **Diagnostic for Associative NIAM**
a form \( AN \) exhibits **Associative NIAM** iff, under a reading \( \rho_i \):
\[
\text{DET } AN \text{ is DET } N \text{ is necessarily true;}
\]
\[
\text{DET } AN \text{ is } A \text{ is not necessarily true;}
\]
and \( A \) ends in suffixal -al, -ar, -ary, -ive, or -ory

The adjectival element required is dictated by this diagnostic: we discuss Relational As further below. And though we may blame Associative NIAM on these adjectives, it still takes two to tango, as certain nouns tend to resist Associative Readings, depending on the adjective in question. For instance, *boy* behaves intersectively in (a) and (b), but not in (c); if we substitute the word *genius*, we get non-intersectivity in all three cases:

(4.58)    

a. lyrical boy vs. lyrical genius
b. muscular boy vs. muscular genius
c. regular boy vs. regular genius

As with Privative As above, we will take this idiosyncratic behavior to indicate a closeness between adjectival root and noun (or nominal root); no type-wide noun class is distinguished here as an element. Our reference example will be *muscular expert*. 
4.3.2.2 Comparison Class NIAM (*huge flea*): Diagnosis and Elements

Far and away the most commonly occurring type of NIAM, and also one of the most commonly discussed, finds something of a grey area between intersectivity and non-intersectivity:

(4.59)  

a. big pebble; small planet; scrawny lineman; huge jockey  
b. grey skin; dark paper; light ink  
c. cool coffee; warm ice cream  
d. dumb linguist; smart chimp

This is ‘Comparison Class’ NIAM, in which the scale by which AN’s referent is evaluated as A is determined by N: in each of these cases, the sentence *(an) AN* is A only achieves analytic truth with the appended qualification ‘for an N,’ and doesn’t necessarily hold for any superset N’s. A *big pebble* is big for a pebble, but probably smaller than a *small planet*, and certainly not *big* in unqualified contexts. We may diagnose Comparison Class NIAM as follows:

(4.60)  

**Diagnostic for Comparison Class NIAM**

a form *AN* exhibits **Comparison Class NIAM** iff, under a reading ρ;  
*DET AN* is *DET N* is necessarily true;  
and *DET AN* is A is not necessarily true;  
and *DET AN* is A for *DET N* is necessarily true.

The ingredients required for this type of NIAM in English are ubiquitous: any gradable A, and any N whatsoever, possibly excepting high hyperonyms, here for the obvious reason that the comparison class of *object, substance, notion, or concept* will be universal by definition. Thus, we may observe that to analyze Comparison Class NIAM is to analyze a huge percentage of the possible {A, N} dyads. Our reference example will be *huge flea*.
A closely related but distinct variety is illustrated below, with sentential context to bring into clear relief the non-intersectivity:

(4.61)

a. that beggar under the bridge is the proud father of twin girls
b. newly focused on his mistress, Jim was an indifferent candidate for chair
c. the grateful heirs saw the will as a beacon of kindness in a cruel, dark world

Note that in these sentences, the adjective does not apply to the referent within the narrow context of a comparison class named by the noun: the proud father is not within the upper 49% of fathers in terms of general proudness, nor is Jim necessarily a particularly indifferent nominee (they may all have been, but not generally as individuals). In each case, there was an event of feeling, and it is characterizable as the adjective in question.

This emotion is caused by the compositional reference itself: we are dealing, in other words, with a de dicto phenomenon of sorts, as it is being a father that makes the proud father proud, and being a nominee that makes Jim indifferent. We will have more to say about the critical elements—Role Ns and Emotional As—in §4.4., but the task of differentiating Subjecthood NIAM from the more familiar Comparison Class may be done as follows:

(4.62) Diagnostic for Subjecthood NIAM

A form \( AN \) exhibits **Subjecthood NIAM** iff, under a reading \( \rho \):

- \( \text{DET} \ \text{AN} \ \text{is} \ \text{A} \ \text{to be} \ \text{DET} \ \text{N} \) or \( \text{DET} \ \text{AN} \ \text{is} \ \text{A} \ \text{about} \ \text{being} \ \text{DET} \ \text{N} \) is nec. true;
- \( \text{DET} \ \text{AN} \ \text{is} \ \text{DET} \ \text{A} \) is not necessarily true;
- and \( \text{DET} \ \text{AN} \ \text{is} \ \text{DET} \ \text{N} \) is necessarily true.

A lightly attested but intriguing variant of these two types involves \( A \) modifying the negation of the referent’s status as \( N \), what we might call Non-Subjecthood or Non-Dispositional Modification. Examples are hard to come by, but the pattern does seem somewhat productive:
(4.63)  

a. a hopeless romantic is hopeless about NOT being a romantic  
b. a desperate alcoholic is desperate NOT to be an alcoholic  

On the view that this Non-Subjecthood sub-type does not represent a radically different type of structure, we will for the time being consider it a sub-type of Subjecthood NIAM, of which proud uncle will be our reference example.  

4.3.2.4 Situational NIAM (irritable patient): Diagnosis and Elements  

Another subtle variation involves the qualification ‘as a N’ or ‘when a N.’  

(4.64)  

a. cantankerous patient  
b. peaceful drunk  
c. gracious emcee  
d. visible host  

A cantankerous patient is cantankerous when a patient; a peaceful drunk is peaceful when a drunk; a gracious emcee is gracious as emcee. These phrases very closely resemble other non-intersective types—among those already discussed, Subjecthood and Comparison Class NIAM. However, there are distinctions: cantankerous patients may be cantankerous about being patients, but on another (more accessible) reading, they are not cantankerous about their status as patients, but about most everything (nurses, doctors, bedsores, etc.) when they are playing the role of patient.  

Nor is this Comparison Class modification:  

(4.65)  

Jerod is a supportive colleague, but unfortunately not a supportive spouse  

Under the Situational reading of both conjuncts, there is no single degree of supportive-ness that applies to Jerod throughout the sentence. Though he may be in the top half as far as colleagues go, and may be in the bottom half as spouses go, his failure to qualify as supportive in the second case primarily arises because the speaker is evaluating him only in the role of spouse. Thus,
(4.65) can be true even if being a supportive spouse is easier than being a supportive colleague, for Jerod can have different properties as one than he does as the other.

Diagnosis is straightforward:

(4.66) **Diagnostic for Situational NIAM**
a form $AN$ exhibits Situational NIAM iff, under a reading $\rho$: $\mathit{DET AN}$ is $A$ when $\mathit{DET N}$ is necessarily true; and $\mathit{DET AN}$ is $A$ is not necessarily true.

As indicated in the preceding discussion, Role Ns are necessary for Situational NIAM. The A type required is peculiar. Given the temporary nature of the relation, we might guess that the type would be that known as ‘Stage-Level,’ a well-known and widely discussed category (Carlson 1977, Chierchia 1995, Kratzer 1995, a.o.). However, Stage-Level chestnuts strikingly resist Situational NIAM readings:

(4.67) a. #an available fireman  
(≠ person who is available when a fireman)
b. #a drunk patient  
(≠ person who is drunk when a patient)
c. #a sick coach  
(≠ person who is sick when a coach)

In each of these cases, there is a strong inclination to interpret the adjective as holding now, rather than only when the episodes of Role inhabiting do. Some classic Individual-level adjectives fail as well, unsurprisingly perhaps:

(4.68) a. #a tall fireman  
(≠ person who is tall when a fireman)
b. #an American patient  
(≠ person who is American when a patient)
c. #a handsome coach  
(≠ person who is handsome when a coach)

However, some of the most oft-cited examples of Individual-level As participate very clearly in Situational NIAM:

(4.69) a. altruistic patient  ‘a person who is altruistic when a patient’
b. intelligent fireman  ‘a person intelligent when a fireman’
c. charitable coach  ‘a person charitable when a coach’
These adjectives, like irritable, appear to have three qualities: they are Individual-level but episodic, and they appear to all denote attitudes or mental states. For lack of a clear terminological precedent in the literature, we will henceforth refer to these as Episodic Adjectives. Both Episodic As and Role Ns are necessary for Situational NIAM:

(4.70)  
   a. irritable patient  (Role N + Stage-Level A = Situational NIAM)  
   b. altruistic patient  (Role N + Individual-Level A = IAM)  
   c. irritable bowel  (Non-Role N + Stage-Level A = IAM)

These elements are discussed further in 4.4; our reference example will be *irritable patient*.

4.3.2.5 Event NIAM (*beautiful writer*): Diagnosis and Elements

A well-known type of NIAM involves the A modifying an event that seems in some sense inherent to the N; we will follow Larson (1998) in referring to this as Event Modification.

(4.71)  
   a. heavy smoker  
   b. beautiful dancer  
   c. big talker

We might ask if the inherent element in these forms is an entity rather than an event, given the morphological availability of the nouns *smoke, dance, and talk*. This seems unlikely, however, in light of the evidence from combination with present and past participial adjectives, which are known to engage their modificands as subject and object arguments, respectively; we cannot interpret the nouns *smoke and dance* as subjects in (a) or objects in (b):

---

30 The fact that these tend to be Individual-level predicates (ILPs) and undergo something of a generic reading—e.g., *a mean drunk is generally mean when a drunk*—brings to mind Chierchia’s (1995) proposal that ILPs bear inherent Gen operators. Other than to adduce this evidence in support of Chierchia’s proposal, we will not pursue this connection.

31 The only other use of this term that we are aware of is by Centeno-Pulido (2010, 2012); his (Spanish) reference example is *lleno* ‘full,’ which would appear not to overlap with our category.

The fact that these cannot modify substantive *smoke* or *dance* confirms the intuition that the inherent element is verbal.

Most English instances of Event NIAM involve Ns wearing their entailed events on their sleeves, as verbs marked with the ‘agentive’ suffix -er (*smoker, dancer*). A distinct but clearly related subtype involves Ns denoting the patient or goal of an inherent event, marked with the ‘passive’ suffix -ee:

(4.73)

a. triple amputee  
b. mistaken addressee

A zero suffix (*advocate, host*) appears compatible with the type as well:

(4.74)

a. staunch advocate  
b. laidback host

Forms like these are very hard to distinguish from Situational NIAM—is there a difference between *being staunch as an advocate* and *advocating staunchly*? There can be: we might use a *staunch advocate* to describe someone who does not recant their support even under torture, which does not entail any advocating acts, even if *being an advocate* does. On the flip side, a *laidback host* might host parties in a relaxed manner—e.g., not insist on a seating chart, allow guests to enter without formal presentation—while not actually being a laidback person, even for that period of time; i.e., the uptight host of a laidback party. We return to this issue in our analysis of Event NIAM in Chapter 5, which will offer a means by which to better distinguish the two types.

---

33 The term is used here for coherence with convention: it is (relatively) well-known that -ee does not necessarily derive from passive, or even necessarily denote non-agents, as in *standee*. **143**
Whether or not these subtle semantic distinctions have syntactic consequences is also a difficult matter to resolve, but there is at least some indication that English Situational NIAM can precede Event NIAM, but not vice versa:

(4.75)  
\begin{align*}
  \text{a. he may be an irritable writer, but he’s a BEAUTIFUL irritable writer} \\
  \text{b. he may be a beautiful writer, but he’s an IRRITABLE beautiful writer}
\end{align*}

Though judgments are delicate, there appears to be a greater tendency to interpret the *beautiful* of (a) intersectively (i.e., as a physical trait) than there is to interpret the *irritable* of (b) intersectively (i.e., as a trait holding at all times). In any case, Event NIAM and Situational NIAM are the two most easily conflatable (or collapsible) types; we treat them as distinct as part of our generally non-reductionist approach.

Some forms have been claimed to exhibit Event NIAM even without a lexically specified verb:

(4.76)  
\begin{align*}
  \text{a. repeated victim} \\
  \text{b. tough poet} \\
  \text{c. stray bullet}
\end{align*}

While all of these appear to broadly instantiate NIAM, we will differentiate between (a) on one hand and (b) and (c) on the other, using entailment as our (semantic) basis for differentiation.

Under this view, *repeated victim* exemplifies Event NIAM by involving modification of a lexically entailed event, in this case, ‘victimization’: you can’t have a *victim* without there being victimization, and this is what *repeated* modifies. On the other hand, you certainly can have *poets* that go unread, and *bullets* that never fly: thus, the events modified in (b) and (c) involve contextually determined events, and will thus exemplify Transferred Epithet NIAM, presented in
the ensuing sub-section.\textsuperscript{34} This leads us to identify \textit{just king} as bearing (closely related) 

Situational and Comparison Class readings, but not Event NIAM. \textit{Skillful violinist}, in contrast, qualifies as all three types, as presumably violin playing is entailed by the existence of a \textit{violinist}.

Lumping the three possibilities together, we can diagnose Event Modification in the following manner:

(4.77) **Diagnostic for Event NIAM**

\begin{itemize}
\item a form \textit{AN} exhibits \textbf{Event NIAM} iff, for some \textit{V} lexically entailed\textsuperscript{35} by \textit{N}, under a reading \(\rho_i\):
  \begin{align*}
  & [\text{\textit{DET} \textit{AN} (is) \textit{V} in a \textit{A} way/manner}] \quad \text{or} \quad [\text{\textit{DET} \textit{AN} (is) \textit{V} \textit{A-ly}}] \quad \text{is necessarily true}; \\
  & \text{and} \quad \text{\textit{DET} \textit{AN} is \textit{A} is not necessarily true.}
  \end{align*}
\end{itemize}

There are clearly semantic restrictions on both the \textit{A} and \textit{N}. As has been noted since Larson (1998), the \textit{A} must be something that can modify an event, and appears more specifically to be ‘\textbf{Manner Adjective},’ a category parallel to the more familiar ‘manner adverb.’ Given the diagnostic frame employed here, this will by default be any \textit{A} that is acceptable in the phrase \textit{in a} \textit{A way/manner}. Thus \textit{possible}, \textit{tall}, and \textit{round} all fail to qualify, while the remainder of the \textit{As} recently considered can be considered Manner \textit{As}, clearly a well-stocked class in English.\textsuperscript{36}

The \textit{N}, in turn, must be ‘eventive’ in that it entails an event, but must also denote a participant in that event: this is what yields the mismatch leading to non-intersectivity. The term

\textsuperscript{34} Larson (1998) claims that \textit{a stray bullet} entails a ‘flying’ event, but sentences like \textit{how did this stray bullet get into my jewelry box?} appear to indicate otherwise. The sense that such a use in some way violates a ‘normal’ reading of \textit{stray bullet} suggests that the phrase is collocational, and Google’s nGram viewer confirms this under our ‘6 zero’ definition. As with other difficult cases, it seems likely that \textit{stray}’s status as an adjective is questionable, and that more promiscuous interpretational possibilities arise by dint of it engaging in noun-on-noun modification.

\textsuperscript{35} Expanding upon this shorthand: we are saying that ‘\textit{V} is lexically entailed by \textit{N}’ iff \([\forall x. N(x) \rightarrow \exists e. V(e)]\).

\textsuperscript{36} There is an obvious relationship between the suffix \textit{-ly} and Manner \textit{As}; not only does the adverbializing morpheme typically form manner adverbs, it seems to require of its input adjectives that they be able to represent manners (as measured, for instance, by the syntactic frame here, but see Wyner (2008:266) and other recent work); it also take input nouns (\textit{daily}, \textit{monthly}), but that is another matter. Nonetheless, \textit{-ly} suffixation is a less reliable diagnostic tool, if only for the phonological constraint that leads to the degraded acceptability of forms like *\textit{stately}ly and *\textit{kindly}; both \textit{stately} and \textit{kindly} are clear examples of Manner \textit{As}, as the syntactic diagnostic indicates.
'Agentive N,' familiar from the literature, will be used here for consistency’s sake, though bearing in mind two important, often-overlooked facts. First, not all -er forms denote agents: opener and parser are commonly cited examples (cf. Rappaport & Levin 1992), and these, too can engage in Event NIAM:

(4.78) a. an inconsistent refrigerator is not an inconsistent object  
b. a sloppy (letter-)opener is not a sloppy object

Second, -ee forms—which rarely but sometimes denote agents (e.g. attendee, escapee)—also participate in Event NIAM:

(4.79) a. a mistaken addressee is not a mistaken person  
b. a weekly attendee is not a weekly person

Our use of ‘Agentive N’ should therefore be understood to encompass -er and -ee forms denoting any participant in a lexically specified event, not merely agents, and of course zero-derived deverbal nouns with the same profile. Our reference example will be beautiful writer.

4.3.2.6 Transferred Epithet NIAM (tough mountain): Diagnosis and Elements

Huddleston & Pullum (2002) list the following as examples of ‘transferred epithets,’ in their view a variety of the literary device known as ‘hypallage.’

(4.80) a. smoked a discreet cigarette  
b. a drunken brawl  
c. their insane cackle  
d. a nude photo of the mayor  
e. a quiet cup of tea  
f. your own stupid fault

(Huddleston & Pullum 2002)

---

37 Both the term ‘hypallage’ (Greek ὑπαλλαγή ‘exchange’) and its practice come directly from classical texts. Latin’s freer sentence structure and nominal/adjectival agreement patterns made epithet transfer much easier to pull off than in English. A typical example from Horace’s Ode 4.7 (Ancona 2005:102)—et de te splendida Minos fecerit arbitria—is inevitably translated to English with the epithet ‘untransferred.’ A translation maintaining the displacement, e.g. ‘... and on you splendid Minos passed judgment,’ asks the impossible in hoping for a reader to compose splendid and judgment.
It is not entirely clear that all of these are non-intersective. For instance, checking (c) with each of our diagnostic’s attributive components, we get (at least marginal) truth for each:

\[
\begin{align*}
(4.81) & \quad \text{a. an insane cackle is a cackle} & (T) \\
& \quad \text{b. an insane cackle is insane behavior} & (T?) \\
& \quad \text{c. an insane cackle is insane} & (T?) \\
\end{align*}
\]

A similar result obtains with \textit{discreet cigarette}: the acceptability and interpretability of the adjective in attributive position tracks that of the adjective in predicate position.

Examples (4.80 d,e,f), however, exhibit a type of non-intersectivity not yet differentiated by our diagnostics: the adjectives unambiguously modify entities not denoted or entailed by the modificand. As this is the instantiation of Transferred Epithet that best satisfies its classical lineage, we will remain open to the category, diagnosing it in the following way:

\[
(4.82) \quad \text{Diagnostic for Transferred Epithet NIAM} \\
\text{a form } AN_i \text{ exhibits Transferred Epithet NIAM iff, under a reading } \rho_i: \\
\text{there exists an identifiable } N_2 \text{ in the discourse such that} \\
\quad \text{(DET) } N_2 \text{ is } A \text{ is grammatical and true} \\
\quad \text{but (DET) } AN_i \text{ is } A \text{ is not both grammatical and true} \\
\text{or there exists an identifiable VP in the discourse such that} \\
\quad \text{the } VP \text{-ing is } A \text{ is grammatical and true} \\
\quad \text{but (DET) } AN_i \text{ is } A \text{ is not both grammatical and true}
\]

The verbal material or second noun—\textit{VP or }N_2\text{ in the diagnostic}—might be pronounced, as in the case of two types discussed by Larson (1999):

\[
(4.83) \quad \begin{align*}
\text{a. we interviewed every } \textbf{possible candidate} & \quad \text{(from Larson 1999)} \\
\text{b. the } \textbf{wrong man} \text{ killed Peter} & \quad \text{(from Häik 1984)}
\end{align*}
\]

The former may be paraphrased as ‘we interviewed every candidate that it was possible to interview,’ the latter as ‘the wrong-that-he-kill-Peter man killed Peter.’ These might be considered to represent a ‘Constrained Transfer NIAM’ subtype, as they are unavailable for non-

---

\[38\] Inserting “but not entailed by \(N\)” here would ensure that this category does not overlap with Event NIAM; its omission entails that Event NIAM structures are a subset of Transferred Epithets.
quantificational determiners39 (a,b), and do not allow extra-linguistic VPs to supercede overt local material (c,d):

(4.84)   a. we interviewed some possible candidates  (Reference NIAM only)
         b. *a wrong man killed Peter
         c. speaking of druggies, we interviewed every possible candidate
         d. speaking of people who kick puppies, we killed the wrong man

Though we may construe the candidates in (c) as druggies, there is no reading available in which the candidates interviewed are possible druggies. Similarly, the murder victim in (d) may be construed as someone who kicked puppies, but wrong cannot be predicated of the puppy-kicking, only the killing event. The number of adjectives for which these constrained interpretations hold is quite small: Larson mentions possible, conceivable, right and wrong, and points to their ability to take infinitival complements as possibly linked to the availability silent material within the AP.

These constrained forms contrast with more open varieties:

(4.85)   a. suddenly, a fat belch punctured the morning haze
         b. those sweaty glances were particularly unwelcome at Mom’s wake
         c. the earliest naked daguerreotypes post-date the technology itself by mere days
         d. the primacy of the daily newspaper appears to have passed

The elements required to contribute to the more unconstrained Transferred Epithet NIAM are characterized by their lack of flexibility. The aforementioned ability of beautiful to modify both events and individuals—or of new to modify both states and individuals, or of examination to denote both events and results—precludes the composed modification structures from being characterized as transferred epithets.

There often seem to be other ways to analyze possible Transferred Epithets. The first two instances here border on personification—i.e., we might consider them instances of metonymical

39 This assumes the to be quantificational (cf. Kearns 2011:104).
or metaphorical modification, with belch and glances stretched to take corporeal form—while the tendency of ‘picture’ nouns like daguerreotypes to collapse into the identity of subjects therein has been a perennial source of linguistic puzzlement. In short, we should be on guard for this category being illusory, but in the meantime, the reference example we will use is tough mountain, as in K2 is a tough mountain.

4.3.2.7 Q-Modifying NIAM (the precise speech…): Diagnosis and Elements

A different type of NIAM also appears able to modify above or ‘outside’ the noun, and is also constrained by the choice of determiner:

(4.86) a. the precise speech (America was looking for)
     b. that specific comment (got Todd kicked out of the seminar)

As Bolinger (1967) observes, structures like these appear to involve modification of the determiner; the speech in (4.86a) may be discursive and vague, but it is precisely the one which America was looking for (cf. the dramatically different interpretive possibilities of a precise speech). The data in (4.86) exemplify what we will call Q-Modifying NIAM, for indefinite articles appear incompatible with this type, but the phenomenon is not restricted to definite articles and/or demonstratives:

(4.87) a. Kurtz’s precise motives remain unknown
     b. I can still recall Todd’s exact comments

In (4.87), it is not the (singular) individual Kurtz who is precisely delineated, but instead his (plural) motives. Precise, in other words, does not appear to modify the genitive part of the nominal left periphery, but a hidden quantificational stratum.

The Q-modifying variety requires what we might uncreatively call Q-modifying As (precise, exact, specific), as they modify a numerical quantity. While there are obvious
constraints on the determiner as well, there are no constraints whatsoever on the noun: even the
‘high hyperonyms’ which caused trouble for exocentric NIAM work just fine:

(4.88)  
  a. that exact concept  
  b. those specific individuals

This is yet another piece of evidence implicating the noun in the NIAM types that have come
before. We will use *(the) precise speech* as our reference example.

4.3.2.8 Stroboscopic NIAM *(the odd Samoan…): Diagnosis and Elements*

Another kind of ‘high-modifying’ NIAM, one with perhaps the strangest semantics of all,
is a type to which Bolinger (1967) attached the label ‘Stroboscopic,’ exemplified in (4.89):

(4.89)  
  a. an occasional sailor strolled by   (from Bolinger 1967)  
  b. just be ready for *the infrequent guest* to drop in

Bolinger’s name for the pattern\(^{40}\) focuses on the unique semantic contribution of the article in
these cases: it picks out a series of unique individuals, while still retaining singular grammatical
marking (see Zimmermann 2000 for instances of the phenomenon in German). In terms of the
interaction of the N and A, we still have “an adjective referring to events.”\(^{41}\) Similar to
Transferred Epithet NIAM, the event in (a) is not only morphologically absent from *sailor*, but
also not entailed, implied, or even suggested by the noun: there is no linguistic or real-world
connection between *sailors* and *strolling by* events.

We should be very careful not to use *occasional* as a reference case, however, as it can
participate in at least four different kinds of modification:

\(^{40}\) Aside from questions of vividness, Zimmermann’s (2000) label—‘Occasional constructions’—suffers from two
defects: its eponymous examplar is almost certainly a ‘mixed-type’ adjective (see discussion in Chapter 6), and it
obscures the most interesting aspect of the type, i.e. the interaction of the indefinite (or definite) singular article with
‘Pluractional’ quantification.

\(^{41}\) Bolinger (1967:5 fn. 3).
Particularly suspect is the -al suffix, indicating occasional’s potential status as a Relational A, which opens the door to just about any relational expansion of occasion (e.g., a sailor who

However, Larson (1998) notes the following:

Morphology is of no assistance here: odd appears to combine with the definite article (only; cf. #an odd Samoan showed up) to describe the frequency of showing-up events performed by different individual Samoans. Though the argument that all adjectives behaving non-intersectively (ABNIs) are functional (cf. Bernstein 1993) seems difficult to support, the very limited number of adjectives that can behave stroboscopically might suggest that this is, in fact, a closed class. Note that unusual, strange, bizarre, and weird—all potential synonyms for odd—do not behave stroboscopically:

Nor does the noun seem to matter, apart from the fact that the noun phrase must be countable: non-human, non-eventive Ns are fine (a), as are the familiar high hyperonyms:
a. we spotted the occasional congealed *(drop of) pancake batter
b. the odd notion does occasionally flicker across his barren mental screen

Further indication that—as Bolinger, Larson, and Zimmermann have all observed in different ways—these forms are event-modifying, is a sensitivity to certain Aktionsart types. For instance, stative verbs and verb phrases do not fare well with Stroboscopicity:

a. #?the odd Idahoan remained calm
b. #?the occasional rabbit lives in the Hundred Acre Wood

The verbal element, unlike in Transferred Epithet NIAM, may not be extralinguistic; in fact, it apparently must be a clausemate of the article and adjective:

we visited a/the superintendent rumored to have trapped the occasional mouse

Only the trappings here may be occasional, not the visits or rumorings.

We have, in short, an exceedingly eccentric phenomenon that arises with a very constrained group of adjectives. Our diagnostic, then, will be somewhat eccentric as well:

Diagnostic for Stroboscopic NIAM
a form $DET_{SING} AN$ exhibits Stroboscopic NIAM iff, for a VP clausemate to $AN$, under a reading $\rho$:

$DET_{SING} AN is A$ is not necessarily true;
and $VP-ing happens at A intervals$ is necessarily true.

The elements required for Stroboscopic NIAM are an adjective from the set \{odd, occasional, infrequent…?\}, one of the two English articles (depending on the adjective chosen), a singular count noun, and a VP with dynamic lexical aspect. Our reference example will be (the) odd Samoan.

4.4 Key Elements

A number of contributing elements have been identified throughout the typological exercise above: we now articulate these NIAM ingredients, and consider their structural
representation under the assumptions outlined in Chapter 3. A number are structurally unexceptional, while others—Emotional and Dispositional As, Modal As, and Role and Agentive Ns—show signs that internal complexity will be required for compositional analysis.

4.4.1 Adjectives

Drawbacks to the widely-used label ‘non-intersective adjective’ have been highlighted: we are now in a position to understand the distinct types of adjective involved in NIAM, which in many cases are insufficient but necessary ingredients for fostering non-intersectivity. Though the assumption of acategorial roots detailed in Chapter 3 allows for discontinuous insertion, we assume the following minimal structure for adjectives:

\[
\begin{array}{c}
\text{aP} \\
/ \ \\
[\text{theme}] \text{aP} \\
/ \ \\
\text{a} \sqrt{\text{ROOT}}
\end{array}
\]

The projection of the subject position was discussed in Chapter 3, as was the possibility that—for state-denoting roots—the above structure is the ‘base’ RP for predicational and modificational merger. In most cases (all gradable As), an additional DegP layer will be merged.

The particularity of some adjective types is assumed (uncontroversially) to be lexical in nature. However, for several key elements whose syntactic structure is proposed to contribute to NIAM, we follow tentative but relatively unexploited observations in Siegel (1976) and Larson’s (2000) work that consider an adjective’s ability to take an infinitival complement to be structurally significant, as (i) a number of our A types are diagnosed or distinguished by this trait, and (ii) the ability for modification to apply to or go ‘into’ something clausal and non-finite is a recurring theme in the non-intersective types we have examined. There is a clear tendency for
adjectives that take overt infinitival complements to participate in more varieties of NIAM than do their non-infinitival-taking counterparts:

(4.98)  

a. he was happy/*joyless to go  
b. he’s a happy panelist / #he’s a joyless panelist  
   ‘happy about being a panelist’ / *‘joyless about being a panelist’  
c. she was proud/*boastful to be appointed  
d. she’s a proud appointee / #she’s a boastful appointee  
   ‘proud about being an appointee’ / *‘boastful about being an appointee’

The first adjective in each pair takes an infinitival complement, and submits to a type of NIAM reading (Dispositional, in both cases, indicated in the paraphrase) that is unavailable to the second adjective in an otherwise identical construction. We will return to these in greater detail in §4.4.1.3 below.

In the interest of clear exposition, we contrast each type’s structural template with that of its complement type when applicable.

4.4.1.1 Gradable (vs. Non-Gradable) Adjectives

The notion of gradability is familiar to both traditional and generative linguistic analysis: syntactically, gradability is typically understood to correspond to a syntactic Deg(ree) head, and we follow this line of analysis (cf. Corver 1997, a.o.) in representing words modifiable by very—a traditional indicator of gradability—as DegPs (a), and words unable to take such modification as ‘bare’ aPs (b):

(4.99)  

a. *hot  
     DegP  
     / \  
    Deg …  
     \  
    aP  
     / \  
    a \√HOT  

b. superb  
     aP  
     / \  
    a …  
     \  
    √SUPERB


Of particular interest is the fact that postnominal As in English cannot take *very* as a modifier:

(4.100)  
a. the very visible stars  
b. *the stars very visible

This leads to the view that the *visibles* in (4.92) differ, among possible other ways, in not being governed by a Deg head. We should also bear in mind that an essentially ‘pass/fail’ or ‘existential’ reading may be available for Gradable As, i.e. *a deadly virus* may be any one that has killed at least one person, rather than ranking in the upper 50% a la Kamp (1975).

4.4.1.2 Episodic (vs. Non-Episodic) Adjectives

We saw in §4.3.2.4 that Situational NIAM requires a type of adjective which we labeled ‘Episodic,’ typically denoting an Individual-level mental state which can hold of its subject episodically.

A syntactic representation of these adjectives’ behavior is not out of the question. Under one popular view (Diesing 1992, Kratzer 1995), Stage-Level Predicates (SLPs) base-generate their subjects within their maximal projection (VP), while Individual-Level Predicates (ILPs) have ‘external’ subjects merged, for example, in Spec, TP.

(4.101)  
a. [TP [DP (some) stars] T [VP *are [AP visible]]]  
(b. [TP [DP (some) stars] T [VP *are [visible]]]  

Though Diesing’s mapping hypothesis is proposed for the clause, the SLP/ILP distinction manifests itself in the nominal domain as well, and deriving Stage-Level attributive modification from Relative Clauses allows us to maintain VP as the domain of nuclear scope, following Diesing’s proposal. A mixed derivation approach like that proposed by Cinque (2010) can also

42 The two forms of *some* are usually treated as distinct; in French these would translate to different forms: *des* or *quelques* for (a), but only *quelques* for (b).
help account for the tense distinctions between pre- and post-nominal visible, under the presumption that no T head is involved in the merger of the ‘direct’ modifier.

Such analysis, however, appears tangential to our concerns, as SLPs in attributive position for the most part behave intersectively, as Cinque (2010:27) suggests. Instead, as indicated in the discussion above, we are interested in a more complex scenario: not one in which an individual (likely, a DP) can be predicated of either as a whole entity or in stages, but one in which two predicates whose arguments bear clear time-interval indices form a complex predicate with those temporal bounds intersected. From a semantic standpoint, this means little more for the adjective than an active intensional semantics: visible may denote the planet Venus, but only with the temporal index ‘shortly-before-sundown to shortly-after-sunrise’; if the temporal indices identifying Eddy as peaceful overlap nearly all of those identifying him as a drunk, then we may say that he is a peaceful drunk. Thus, we should view the SLP/ILP contrast that we are interested in as a lexical semantic matter, and will follow the spirit (but only that) of Diesing’s Mapping Hypothesis in proposing that the temporal indices of two linguistic items must be related within a Relator Phrase in order to produce the situational semantics we are looking for, with no other syntactic machinery necessary.

4.4.1.3 Dispositional and Emotional As: Bipartite (vs. Monopartite) As

Stark (1988) introduces the categories of Emotional and Dispositional adjectives as helpful for teachers and learners of German; the categories have otherwise received little attention in the theoretical literature, though Larson (2002) describes willing and reluctant—which we identify as Dispositional—as ‘partially intensional.’ Members of both groups must be

43 Also see Leffel (2014) for an extended, mostly semantic analysis of the visible stars that roughly conforms to the two-domain view.
predicated of animate subjects, and must take infinitival complements; the first key difference between them being that Emotional As are factive, and Dispositional As non-factive:

(4.102)  a. *Ross is dead/big/human/sexy to have/get that car (*infinitival complement) 
b. Ross is happy/grateful/pissed to have that car (factive: Emotional) 
c. Ross is excited/reluctant/anxious to get that car (non-factive: Dispositional)

The factivity of the adjectival predicates interacts with the Aktionsart class of their infinitival complements: a second distinction between Emotional and Dispositional Adjectives is that the former strongly prefer stative verbs in their complements (cf. ??Ross is pissed to climb Mt. Everest vs. Ross is pissed to be climbing Mt. Everest), while the latter sharply prefer non-statives (cf. ??Ross is reluctant to have herpes). The precise relationship between the factivity and lexical aspect is intriguing but yet unclear.

These two classes do not encompass all adjectives which can be followed by infinitival phrases, as there are certainly some which may not involve complementation at all. A useful tool for distinguishing Emotional and Dispositional adjectives from other types is their inability to support expletive subjects:

(4.103)  a. *it is happy/grateful/pissed of Ross to have that car 
b. *it is excited/reluctant/anxious of Ross to get that car

We contrast these with other adjectives that allow post-adjectival infinitival clauses (4.104), but also support paraphrases with it expletives (4.105):

---

44 The widely accepted sentence I was grateful to receive your letter stands as an apparent exception to this observation. This is possibly a shortening of a more obedient but slightly longer construction grateful to have received—note that any active variations on the original, such as grateful to open, grateful to read, and grateful to get lower the sentence’s acceptability. Even with receive, there is a preference for the passive (i.e. stative) form: grateful to receive returns roughly half as many Google hits as the wordier grateful to have received.

45 The verb be is acceptable, but only under dynamic readings paraphasable as ‘become’: Ross is reluctant to be(come) a father).
(4.104)  
a. Donald is foolish to take that shortcut  
b. Tom is crazy to let Martin housesit  
c. John is easy to please  
d. Barbara is tough to understand  

(4.105)  
a. it is foolish of Donald to take that shortcut  
b. it is crazy of Tom to let Martin housesit  
c. it is easy to please John  
d. it is tough to understand Barbara  

Note that *eager*—famously contrasted with *tough* and *easy*—does not support the expletive paraphrase (*it is eager to please Barbara, *it is eager of John to please*), and follows our prediction in undergoing varieties of NIAM unavailable to the other two As:  

(4.106)  
a. an eager golfer  
   ‘a person eager to be a golfer’  
   (Dispositional NIAM)  
b. a foolish golfer  
   *‘a person foolish to be a golfer’  
   (*Dispositional NIAM)  

Emotional and Dispositional As are always gradable, and the two categories appear to be mutually exclusive; there can be no A-N phrase that yields both Subjecthood and Dispositional readings. The merger of either type is sufficient to yield the respective reading (Subjecthood or Dispositional), though pragmatics may of course intervene to favor the Comparison Class or Situational reading, as in *Claudia is a proud prisoner.*46  

This complementarity strongly suggests the two A types are identical grammatical structures, with factivity and Aktionsart differences introduced lexically. Crucially, what the forms control lexically is the clausal complement, not the theme role: we need two structural merger sites to satisfy these, and the complement must be closer to the root. Starting with √HOPE  

46 There appear to be a small number of English adjectives that possess all of the traits mentioned here but do not behave like Emotional or Dispositional As: *careful* is particularly thorny, as it prefers non-stative complements (cf. *Nuria is careful to be smart*) but seems factive in a habitual way: *Nuria is careful to look before sitting on a bus seat.*
and √PROUD, we can relate the complements to their roots by merging them in Spec position of an RP:

\[
(4.107) \quad \begin{array}{ll}
\text{a. RP} & \text{b. RP} \\
/ & / \\
\text{[clause]} & \text{[clause]} \\
\text{RP} & \text{RP} \\
/ & / \\
\text{R} & \text{R} \\
\sqrt{\text{HOPE}} & \sqrt{\text{PRIDE}}
\end{array}
\]

These structures—yet to be assigned category—will then become adjectives with the merger of a c-affixing ‘a’ head, or nouns with a c-affixing ‘n’ head. The ‘interstitial’ aspect of our analysis depends upon the discontinuous nature of the structure required for insertion:

\[
(4.108) \quad \begin{array}{ll}
\text{a. hopeful} & \text{b. proud} \\
\text{DegP} & \text{DegP} \\
/ & / \\
\text{Deg} & \text{Deg} \\
\text{…} & \text{…} \\
\swarrow & \swarrow \\
aP & aP \\
/ & / \\
a & a \\
\swarrow & \swarrow \\
-FUL & -FUL \\
\sqrt{\text{HOPE}} & \sqrt{\text{PRIDE}}
\end{array}
\]

In their PF instructions, these adjectives closely resemble tough, with interstices between the roots and ‘a’ heads: this corresponds to their common ability to take infinitival complements. The key differences between the three adjectives lie in the semantic vacuity of tough’s ‘a’ head, which merely serves to introduce a syntactically nominal element in spec, aP47, and in the s-selectional criteria of their roots. Thus, Dispositional and Emotional As are sub-species of Bipartite As, those with interstices between root and head, while red and tall are examples of Monopartite As:

47 Combined with the root’s ability to s-select for predication- or individual-denoting items, this accommodates the variety of patterns famously available with tough (English is tough, to learn English is tough, it is tough to learn English).
Many participial adjectives behave non-intersectively in certain circumstances. Particular verb classes, such as Levin’s (1993) Verbs of Ingesting, Appearance and Disappearance, denote a change of categorial status for either subject or object that typically disqualifies the referent of the composed dyad from membership in the set denoted by the noun. *An eaten apple* is no longer an apple, but *a waxed apple* is; *an expired truce* is no longer a truce, but *a negotiated truce* is. The first of each pair qualifies as non-intersective thanks to the default present tense in our diagnostic (and Siegel’s), and more narrowly as Privative NIAM due to the particular failure of $\left[AN\right] \subseteq \left[N\right]$ but the grammaticality and truth of *a AN is a A* (cf. the type diagnostic above). With structures containing present participle modifiers, membership of the referent in $\left[N\right]$ may be a thing of the future, as with *budding speechwriters, emerging systems, and gestating quadrupeds*; these similarly qualify as Privative, while their counterparts *annoying speechwriters, evolving systems*, and *hibernating quadrupeds* do not.

Beyond these verbs, which exhibit a strong (but not universal) tendency to engage in NIAM, a great many more others can also trigger non-intersectivity, but through narrower interaction with the lexical semantics of certain nouns. For instance, *vaporized flesh* is no longer flesh, but *vaporized perfume* remains perfume; *vaporized* builds non-intersective dyads with any
nouns counting solidity or non-gaseousness as part of their lexical make-up, but forms intersective dyads with the rest. *Gentrifying slums* may not qualify as *slums*, and certainly do not by the time they become *gentrified slums*, but this reflects a particular lexical chemistry between the two words, as the phrase *gentrified towns and cities* has nothing non-intersective about it. *Disbarred lawyers* is non-intersective; *disbarred clients* (e.g. ‘clients that are lawyers who have been disbarred’) is not.

Philosophical questions along the lines of the Sorites paradox often crop up with these—at what precise point does *an emerging system* become a *system*, or *vaporized flesh* cease to be *flesh*?—but for the purposes of the present discussion, what matters is that these phrases can be non-intersective, and that both present and participial adjectives contribute to this NIAM, in some cases through a particular type of root (Ingestion, Appearance, Disappearance), and in other cases through case-specific cancellation of a core element of a N’s particular lexical semantics. The non-intersectivity triggered by most Participial Adjectives—the ones which form grammatical, true structures when shifted to predicate position—is lexical, a sub-type of Privative NIAM, and should not be confused with Reference NIAM or the Temporal adjective type subsequently discussed.

4.4.1.5 Temporal, Degree and Modal As: Functional (vs. Lexical) Modifiers

We have observed Reference NIAM to be something of an umbrella category, with sub-varieties such as Modal, Temporal, and Degree. Although each of the sub-varieties may be identified with the same Reference diagnostic, there is obviously something quite different going on with each, at least as far as the semantics. And, though we quickly identified Temporal,
Degree and Modal As as necessary ingredients, there is variation within these purported categories—which have some precedent in the literature—as well.

To better understand these adjectives structurally, let us look at their behavior in predicate position. As mentioned above, many participial forms, which we do not include in these categories, are fully grammatical and consistent with their interpretation in attributive position:

(4.110)  a. a planned party is planned
         b. a gentrifying slum is gentrifying

The adjective types we are more interested in behave differently, in one of several ways. They may undergo semantic shift across the copula, while retaining grammaticality:

(4.111)  a. #our present treasurer is present
         b. #that complete breakdown is complete
         c. #the credible pirate is credible

They may be grammatical only with proposition-denoting subjects (and concomitantly, intersective semantics):

(4.112)  a. that outcome is likely/possible/probable
         b. ??the victim is likely/possible/probable

Finally, they may be flat-out ungrammatical:

(4.113)  a. *our former treasurer is former
         b. *her role was former
         c. *the soi-disant pirate is sois-disant
         d. *his piratehood is sois-disant

The ability to take an infinitival complement distinguishes the adjectives in (4.112) and (4.113).

Within the parameters we have established, we can articulate the key similarity between these groups as the taking of predications and/or propositions\(^{48}\)—and the objects thereof—as

\(^{48}\) Traditionally, a proposition must be true or false, whereas a predication merely requires a subject and predicate. The key difference in English is tense specification: *Frankie went to Hollywood* is a sentence expressing a proposition, *Frankie go to Hollywood* is a phrase expressing a predication.
arguments, and the key difference between them as the ability to host a syntactic subject. The first aspect manifests itself structurally as the inclusion of the (functional) R head in the Vocabulary Insertion instructions for these adjectives, and the latter distinction as the inability of purely non-predicate forms to project a Spec, aP position. Thus, our two types, exemplified by possible and former, look like this:

(4.114)       a. possible
               aP
           /  \
          a   …
         -ABLE  \
         ↖  √POSS

           ↖ FORMER  \
           ↖ RP
      /  \
     R  …  (BE)

b. former
   nP
   /  \
  n   …

The root √POSS selects only for a predication-denoting complement (cf. the more flexible √TOUGH), while the ‘a’ head requires a nominal element in its specifier.

Note that these two structural types in our ‘Temporal, Degree, and Modal’ group do not correspond to any of those three names: soi-disant may be considered Modal, but unlike possible has the form of be; note that its French morphology hints at the bipartite structure given (roughly ‘be saying’). The (b) group of adjectives might well be considered a category apart, as they do not lexicalize roots, but function more like operators. Nevertheless, we will identify the lexicalizing head as an ‘a’ to maintain transparency with the surface categorization.

Though most of our analysis of composed NIAM forms will take place in the following chapter, it will be useful here to see how the ungrammaticality of adjectives like former in
predicate position arises from our structural understanding. In attributive position, the head noun’s root may form part of the clausal element ‘underneath’ the ‘a’ head:

\[ (4.115) \quad \text{former cop} \]

\[ \text{NumP} \]
\[ \text{Num} \quad \text{nP} \]
\[ \text{n} \quad \text{aP} \]
\[ \text{-PERSON} \quad \text{aP} \]
\[ \text{RP} \]
\[ \text{FORMER} \quad \text{RP} \]
\[ \text{R} \quad \sqrt{\text{COP}} \]

The insertion criteria for both \textit{former} and \textit{cop} (the latter detailed below) are met, and the semantics is compositional; the issue of word order has been discussed in Chapter 3. In predicate position, \textit{FORMER} may merge above the same RP, but if no ‘n’ follows to lexicalize \sqrt{\text{COP}}, the T head merges—triggering spell-out—and the insertion conditions for neither \sqrt{\text{COP}} nor \sqrt{\text{FORMER}} are met. A full DP \textit{the cop} merged in subject position could satisfy the insertion conditions for \sqrt{\text{COP}}, but would leave \sqrt{\text{FORMER}} without the c-commanding ‘n’ head called for in its instructions. In contrast, \textit{possible} has no such ‘n’ head requirement, so a lexicalized DP can raise or merge directly into Spec, aP, and from there onward up to Spec, TP.

Though we have continued to use the familiar terms Modal, Temporal, and Degree, a more appropriate name might be Propositional Adjectives, a category exploited by Léger (2010): those whose function very closely mirrors that of Sentential or Clause-Modifying Adverbs, which most of them form through the addition of \textit{-ly}. Note, too, that although some of our
Propositional As may be considered functional in that they do not involve a separate root, participial forms like *alleged and *known are very similar to the *possible type, but include a root, which means they must involve an additional layer of structure:

\[
\begin{array}{c}
\text{a. *alleged} \\
\text{aP} \\
\text{a} \quad \ldots \\
\text{ALG} \\
\end{array}
\begin{array}{c}
\text{b. *known} \\
\text{aP} \\
\text{a} \quad \ldots \\
\text{N} \\
\end{array}
\]

In addition to offering perspective on Reference NIAM, this allows us to understand a key difference between *known and *alleged—the ability to modify individual-denoting subjects when in predicate position (*Jason is known vs. *Jason is alleged)—as the very same difference in complement selection exhibited by the verbal forms:

\[
\begin{array}{c}
\text{a. I know Jason} \\
\text{b. *I allege Jason} \\
\end{array}
\]

Under our approach, this manifests itself in s-selectional constraints for each root on what can merge with it inside its RP; √ALLEGE must take a propositional element, while √KNOW is flexible.

4.4.1.6 Relational As: Class heads

Relational Adjectives are familiar in the literature (Bally 1944, Beard 1991, Picallo 2002, Fabregas 2007, a.o.), and recognizable in English by their suffixal morphology: -al, -ar, -ary, -ive, and -ory. The first four suffixes combine with nouns (as per, among others, the OED), while the latter two typically attach to verbs, as in *attract + -ive and *sense + -ory. The nationalistic suffix -ese engages in clear NIAM (like its comrades -an and -ish) when attached to a proper noun (*a Japanese restaurant is not necessarily *a Japanese business) but does not attach to
common nouns. The interpretation of these ‘national As’ is entirely in line with Associative NIAM, and may be considered a variety.

Several plausible candidates have been left off the list. The suffixes -ile/-ine and -ish combine with Latinate and non-Latinate nominal roots, respectively, to form adjectives with the meaning ‘like a N,’ e.g. juvenile, puerile, porcine, asinine, foolish, and knavish. Strict adherence to this definition—which no major dictionary maintains—might lead us to read phrases like foolish behavior and asinine comment as non-intersective, as behavior cannot be reasonably compared to a fool, nor comments compared to donkeys. A loosening of the suffix’s definition, however, to ‘like a N or that which a N does or makes’ eliminates this reading (but not the NIAM of the forms like automotive mechanics), and phrases like these have not typically cropped up on lists of worrisome NIAM.

Relational adjectives are necessary to produce Associative NIAM, but often prove insufficient when pragmatics or collocational convention closes off ambiguity: an astronomical sum conventionally denotes an enormous amount of money, and not the chalkboard calculation of a planetary scientist. The nature of the N also enters into play: the OBJECT reading, for instance, is only open to modifiers that compose with nouns allowing a verbal reading, as with fight in car fight; in theta-theoretical terms, different head nouns have different theta roles to assign. A more precise articulation of the requirements sufficient to yield Associative NIAM, then, may be quite a complex undertaking, and is set aside here for later consideration.

Instead, we will point out several salient facts which inform the analysis in Chapter 5. First, Relational As are distinctly classificational49, in that they have semantic content but attach

---

49 Indeed, ‘classificational adjective’ has been used to describe this type of A (cf. Zlatić 2000 for parallel instances in Serbo-Croatian).
very close to the nouns they modify, essentially ‘fusing’ into them to form a new noun; when separated from the modificand, they no longer exhibit the same classificational behavior. We take this closeness to be a function of the category-assigning head relating its lexically linked material to a root. Secondly, in their Relational use, these adjectives cannot be modified and aren’t gradable; this is an effective way of diagnosing non-Relational (i.e., intersective) use, which must be analyzed as structurally distinct:

(4.118)  
   a. #a very muscular expert  (IAM only)  
   b. *very muscular malady

In their difficulty in taking any kind of degree modification, Relational As—that is to say, words like muscular under their NIAM readings—resemble certain Temporal As, like former:

(4.119)  
   a. the {*very / *quite / suddenly / possibly} former object of her affection  
   b. my {*very / *quite / suddenly / possibly} muscular malady  
   c. the {very / quite / suddenly / possibly} muscular object of her affection

Let us take this to mean that the the suffixal morphemes involved in Relational As are, like the ‘a’ heading former, hybrid ‘a’ heads, licensed in a configuration governed by an ‘n’ head.

However, there are two key differences between Relational As and purely functional words like former: (i) Class heads do not select for RP sisters, but may take bare roots or nominal structures; and (ii) Relational As contain lexical (List 1) roots, which means they have lower adicity than words like former, which does not specify the lexical root of its (required) subject and predicate.

Our structural understanding of Relational As underscores their basic similarity to nouns: a Relational A has the semantics of an nP, but with a grammatical head inside which guarantees that the inserted word behaves syntactically like an adjective:

50 Giegerich (2005) claims the category (which he labels ‘Associative’) to have an “irreconciliably hybrid” status. The strong similarity between Relational As and noun modifiers is underscored by the availability of primary, non-contrastive stress on the adjective in phrases like vascular surgeon.
We will see in Chapters 5 and 6 that this simple structure manages to capture both simple and complex instantiations of Associative NIAM, and that the lack of interstices indicated in (4.120) correctly derives the unique ordering properties of Relational As.

Alternatively, the Class head might not dominate a root or its RP, but instead merely the material with which it lexifies:

```
(4.121) (Alternative Relational A Structure #2)
  RP
     /   \
    ClassP   RP
       /   /   \
      Class nP R [+root]
     -AR  /   \       \
          n \   √MUSCUL
```

This possibility seems shaky from a semantic standpoint, however: we expect a root like √EXPERT to make thematic requirements of its complement, e.g. that it be a ‘topic of expertise,’ while the Classificational contribution of -AR appears much more grammatical. We have, in short, little basis to differentiate this from a structure in which √MUSCUL is c-commanded by a preposition, or by an ‘n’ head. We will prefer the template in (4.120), but for largely theoretical
reasons; we have not observed there to be any empirical basis for to preferring it to the two alternatives.

When the RP is absent or differently configured, these morphemes head garden-variety aPs, which project subject positions and can be selected for by a Degree head:

(4.122) \( \textit{muscular} \) (non-Relational)

\[
\text{DegP} \\
\text{Deg} \\
\text{aP} \\
\text{a} \\
\text{-AR} \\
\sqrt{\text{MUSCUL}}
\]

These structures capture the basic—and for the moment, stipulated—fact that adjectives like \textit{muscular} behave Relationally when their sub-word material combines below the ‘n’ head of the modificand.

4.4.1.7 Summary of Adjective Typology

We have seen that a number of different adjective types contribute to non-intersectivity. There is, naturally, some overlap between these types: a few multiply categorized forms are illustrated in (4.109):

(4.123) a. reluctant Dispositional, Manner
b. willing Dispositional, Participial
c. methodical Manner, Relational
d. original Relational, Temporal
e. virtual Modal, Relational
f. exacting Manner, Participial
g. alleged Modal, Participial
Overlap is impossible between several categories: Dispositional As cannot be Emotional, and Participial As cannot be Relational. The structural manifestation of these overlaps is considered in Chapter 7.

The labels used here generally harmonize with their common usage in the linguistics literature, though some are more commonly applied to adverbs. Several labels favored by other researchers have been eschewed, most notably ‘intensional’ and ‘subsective,’ both used in Chierchia & McConnell-Ginet (2000). Both of these labels bear theoretical associations that this investigation has attempted to eliminate from its taxonomic efforts. The adjective beautiful, for instance, might be characterized as a Manner (or possibly Modal\(^\text{51}\)) A: it may behave subsectively with certain nouns (though this not a theory-neutral view), but cannot be considered subsective itself.

4.4.2 Noun Types

It has been clear since Larson (1998) that not only the modifier contributes to an adnominal phrase’s (non-)intersectivity: the head noun itself also plays a crucial role in most NIAM types. This analysis has isolated two such groups: Role Ns, and Eventive Ns, each of which is considered in detail below, juxtaposed—as the A types were—with its complementary type. We begin, however, by considering the semantic contribution of light nouns.

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\(^{51}\) There is some grounds for considering beautiful, great, terrible and other ‘Evaluative’ adjectives—a category not identified by this study as critical for NIAM—as Propositional in addition to other types. They can take propositional complements: it's beautiful and great that you're getting married, but terrible that you're marrying her. They can also be coerced into Modal NIAM, most easily by the verb make (they make a beautiful couple), though distinguishing this reading from Event Modification is challenging for more generic forms like great and terrible.
4.4.2.1 NIAM Resistant Forms: Light Nouns as Superordinates

While adjectives with strong inclinations to non-intersective modification have received a great deal of discussion in the literature, their polar opposite—nouns that resist non-intersective readings—have attracted less attention, yet we have seen them constrain several NIAM types, particularly exocentric strains. These are usually words of great generality and permanent essence: *stuff*, *matter*, *substance*, *concept*, *space*, *liquid*, *gas*. They consistently engage in NIAM when composed with *nonexistent*, but do not with *fake*; in many cases, the phrases are nonsensical (??*fake air*), while others are straightforwardly intersective (*fake stuff*).\(^{52}\)

We will take a somewhat unorthodox step, but one concordant with our generally interstitial approach and far from unprecedented in the syntactic literature, in identifying these ‘max-level superordinates’ or ‘high hyperonyms’ with the semantics of the the ‘n’ heads that lexicalize nominals. These ‘light nouns’ parallel the ‘v’ heads proposed in decompositional approaches to the clausal domain (e.g., *MAKE*, *BECOME*, etc.); as this is an ancillary move, no effort is made to elaborate a typology: we will have good reason to assume an ‘n’ meaning ‘PERSON’ and one meaning ‘THING,’ but that will be the full extent. We follow Zamparelli (1995) in understanding there to be at least three layers in the extended nominal domain, but do not investigate their particular properties, nor the ability of any individual layer to occur overtly. Naturally, this line of analysis will need to articulate what exactly it is below ‘n’ that is being modified.

\(^{52}\) If *nonexistent* is the NIAM-triggering adjective par excellence, it has an intersective arch-nemesis in *existent* (or *existing*, or *actual*, which are more productive), which almost never engages in NIAM. *Existing dancer, existent uncle, actual accountant*: these are all as intersective as can be. As suggested above, the adjectival slot trumps the nominal slot when the two heavyweights combine: *actual non-existence* is intersective, while *non-existent existence* is non-intersective; this follows from the view of adjectives as second-order functions.
4.4.2.2 Role (vs. Essence) Nouns

Recent work by de Swart et al (2007) has explored the behavior of a noun type they call ‘Capacity,’ loosely defined as referring to “professions, religions, nationalities, or other roles in society” (also cf. Zamparelli 2008). Syntactically, members of the Capacity sub-class are distinguished by being able to appear as Bare Nominals in languages that rarely allow them:

(4.124) a. Obama was elected (*the/a) president
b. Claudio es padre (Spanish)
   ‘Claudio is (a) father’
c. Il travaille comme professeur dans un collège (French)
   ‘He works as (a) teacher in a high school’
d. Paola è italiana (Italian)
   ‘Paola is (an) Italian’
e. Zij heeft de rol van manager (Dutch)
   ‘She has the role of manager’
f. Informatiker ist ein Beruf mit Zukunft (German)
   ‘Computer scientist is a profession with (a) future’
   (French, Dutch and German exs. from de Swart et al 2007)

Note that Role/Capacity nouns are able to take the form of bare nominals when interpreted as ‘in the role of,’ but not in other cases:

(4.125) a. America elects *(the/a) president in Olympic years
b. Claudio conoció a *(un) padre (Spanish)
   ‘Claudio met a father’
c. il parle comme *(un) professeur dans un collège (French)(from de Swart et al)
   ‘He speaks like a teacher in a high school’
d. credo che *(un’) italiana ha parlato con Paola (Italian)
   ‘I think an Italian spoke with Paola’

Note, too, that the semantic class is distinct from that of humans or animate beings:

(4.126) a. *Bo is dog
b. *Claudio es ser humano (Spanish)
   ‘Claudio is human being’
c. *Paola è ragazza (Italian)
   ‘Paola is girl’
It should also be emphasized that the class does not manifest itself in the same syntactic frames cross-linguistically; English, in particular, allows very few as bare nominals compared to the other Germanic and Romance languages glimpsed above (e.g. *Tyrone is engineer); nonetheless, there is good evidence that this category has non-trivial import that extends well into the realms of phrasal and sentential composition, and—shifting the label to ‘Role Noun’ to avoid ambiguity related to containers and their content—we see further evidence for this in the domain of non-intersectivity:

(4.127)

a. Emotional A + Role N = Subjecthood or Comparison-Class NIAM
   i. a regretful owner is regretful... to be an owner OR for an owner
   ii. a proud aunt is proud... to be an aunt OR for an aunt
b. Emotional A + Non-Role N = Comparison Class NIAM only
   i. a regretful person is regretful, but NOT necessarily to be a person
   ii. a proud man is proud, but NOT necessarily to be a man
c. Dispositional A + Role N = Dispositional or Comparison-Class NIAM
   i. a reluctant hangman is reluctant... to be a hangman OR for a hangman
   ii. a hopeful nominee is hopeful... to be a nominee OR for a nominee
d. Dispositional A + Non-Role N = Comparison-Class NIAM only
   i. a reluctant girl is reluctant, but NOT necessarily to be a girl
   ii. a hopeful toad is hopeful, but NOT necessarily to be a toad
e. Manner A + Role N = Situational or Comparison-Class NIAM
   i. a happy chauffeur is happy... when a chauffeur OR for a chauffeur
   ii. an irritable jurist is irritable... when a jurist OR for a jurist
f. Manner A + Non-Role N = Comparison-Class NIAM only
   i. a happy boy is happy, but NOT when a boy, as he’s always a boy
   ii. an irritable genius is irritable, NOT when a genius but always

There is some traction to the idea that these patterns can be overridden by sentential context, as in Bruce was a miserable man, but after transitioning became a proud woman. The extent to which these exceptions disprove the rule seems small, however: for one, the viability of the example just given has likely to do with the shifting zeitgeist of modern society, i.e. an opening up to the notion of genders as roles and constructs rather than unalienable essences.
Even the most hard-boiled rationalist defender of Role Nouns as structurally real will readily admit that they are linguistic imprints of societal norms, evolving over time; it so happens that the notion of gender as a role has shifted underfoot during the researching and writing of this thesis. That said, as of 2015, many English speakers still have difficulty processing the Subjecthood reading of proud woman in the sentence above, even when coerced with the explicit context of Bruce’s prior maleness and gender reassignment.

Under the view that playing a role (or functioning in a certain capacity) is akin to being predicated of, and following our precept of representing predication structurally, we will understand Role Ns—uncle, cop, writer, impresario, etc.—to have (at least) the following structure:

(4.128) Num
        / \
      Num …
       \  
         nP
        / \
       n …
      PERSON \ 
          [root]

As with adjectival forms like hopeful and proud, the lowest interstice is important here, as is the nature of the root, for this allows the root to select a complement within an RP.

Inokuma (2008) claims that the Japanese -no hito construction is restricted to Role/Capacity Ns.

(4.129) a. bengo.si-no hito
       lawyer-GEN person
       ‘(a) lawyer’

b. *haha-no hito
   mother-GEN person
c. **tensai-no hito**  
genius-GEN person  

(from Inokuma 2008)

The connection to the approach outlined above is indirect but suggestive: the amount of structure permitted between a light noun and a role root is greater than that allowed for non-role roots. This latter class of Ns complementary to the Role Ns—generally those with broad, timeless referents but hyponyms to -PERSON or -THING—we will designate ‘Essence Ns,’ with no structurally required RP (though coercive structure-building appears to quite readily adjust this):

\[
\begin{array}{c}
\text{NumP} \\
\text{\hspace{1cm} / \hspace{1cm} \}/} \\
\text{\hspace{1cm} Num \hspace{1cm} \ldots} \\
\text{\hspace{1cm} \text{\textbackslash}} \\
\text{\hspace{1cm} np} \\
\text{\hspace{1cm} \text{\textbackslash}} \\
\text{\hspace{1cm} n \sqrt{DOG}} \\
\end{array}
\]

As Role Ns play an important part in several NIAM classes, we will utilize a number of different reference examples: *cop*, *uncle*, and *parent*, as well as the Agentive noun *writer*, which is a Role N as well.

### 4.4.2.3 Agentive (vs. Non-Agentive) Nouns

The notion of a class of nouns with active event semantics is central to the analysis of Event NIAM; for this reason, the class of Agentive Nouns has already been discussed and defined in (§4.3.2.5) above. The overlap between Eventive and Role Nouns is substantial, as many professions and societal roles are defined by actions: *dancer, golfer, announcer, translator, officiant*, and *volunteer*, to name a few. As expected, all of these can engage in multiple forms of NIAM: *a stylish translator* can be stylish for a translator, as a translator, or translate stylishly.
Despite the large overlap, neither noun class is clearly a subset of the other. Many Role Nouns are not Agentive—fan, poet, politician, etc.—and some Agentive Nouns, typically inanimate ones, appear not to be Role Nouns: humidifier, generator, computer, etc. As expected, the former group combines with Manner Adjectives to yield Situational NIAM dyads like clean politician and subtle poet in which AN is A when an N, while the latter group combines with the same Manner Adjectives to form Event dyads: subtle humidifier, clean generator, etc. Generators can be dirty and humidifiers glaringly conspicuous as entities, of course, while still generating cleanly and humidifying subtly.

Our reference example of an Agentive N is writer; quick comparison with the preceding sub-section will confirm that its Insertion configuration also qualifies it as Role N:

---

53 Again, the category is not clearly defined, so this claim is tentative. One of the common diagnostics for Capacity/Role Ns in English is their ability to fit the (bare nominal) frame as X, he/she/it excels. This frame does not work well with inanimate Ns—??as computer, my laptop excels, but as dinner tray it disappoints—but can be coerced into success through explicit reference to roles, e.g. in its role as computer, my laptop excels.
This structure represents *writers* as persons who usher in the state of affairs of something being written.

### 4.5 Omissions

A number of potential NIAM types have been omitted from the above discussion because they do not clearly involve adjectival modification:

(4.132) a. Jane’s bloody mother-in-law; our fuckin’ Congressman  
b. plastic trees; rubber toy  
c. a principal concern; the main problem; our chief objective; my first treatment

The phrases in (a) exemplify Huddleston & Pullum’s (2002) ‘Expressive’ type; the inserted elements, though adjectival in word category, are not semantic modifiers at all, but discourse
markers (cf. Schiffrin 1986 for a classic articulation). Though *bloody* and *fuckin’* may appear to mark the referent of the modificand as the target of opprobrium, it is more likely the case that they signal the speaker’s general opprobrium toward the entire topic discussed, as the meaning barely shifts when these words move elsewhere in the utterance:

(4.133)  

| a. Jane’s bloody mother-in-law burned the toast | b. Jane’s mother-in-law burned the bloody toast |
| c. our fuckin’ Congressman wouldn’t return my call | d. our Congressman wouldn’t fuckin’ return my call |
| e. our Congressman wouldn’t return my fuckin’ call |

Material modifiers like *rubber* and *plastic* are occasionally singled out as ABNIs (cf. Larson 1999, Lecture 1), but these only pose mild threats to non-intersectivity when they are nominal (as *rubber* and *plastic* are); adjectival variants like *wooden* pass the intersectivity diagnostic with flying colors: a *wooden crate* is *wooden* and a *crate*.

Some modifiers (4.118c) express Particularization or Primacy (H&P’s 2002 term). However, all of these can be subsumed under other categories: *chief* and *main* are etymologically derived from nouns and show little signs of adjectivehood. *Principal* is a Relational A, and thus (as discussed above) open to all of the interpretations available to noun modifiers. Ordinal numbers are a closed class, do not undergo ambiguities in attributive position, and likely occupy a different structural location in the extended nominal projection anyway (cf. Scott 2002).

4.6 Summary

We began the chapter with a table illustrating some of the nomenclatural variety that has characterized historical discussions of non-intersectivity. In one sense, we have muddied the water further by introducing a handful of relatively novel terms (Dispositional, Subjecthood, Situational), but this is perhaps an unavoidable consequence of distinguishing between roughly a
dozen varieties of NIAM-by-adjective; we do not share the luxury of terminological simplicity afforded to binary approaches. A table depicting the typology we have developed above is presented here:

(4.134) **Proposed NIAM-by-A Types and Elements**

<table>
<thead>
<tr>
<th>NIAM-by-A Type</th>
<th>A(s) required</th>
<th>N(s) required</th>
<th>Reference Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privative</td>
<td>Privative</td>
<td>Subordinate</td>
<td><em>fake notary</em></td>
</tr>
<tr>
<td>Reference</td>
<td>Propositional (Modal, Temporal, Degree, Evaluative)</td>
<td>Complex (Role or Coerced Essence)</td>
<td><em>possible cop</em></td>
</tr>
<tr>
<td>Dispositional</td>
<td>Dispositional</td>
<td>Role</td>
<td><em>hopeful parent</em></td>
</tr>
<tr>
<td>Associative</td>
<td>Relational</td>
<td>Any</td>
<td><em>muscular expert</em></td>
</tr>
<tr>
<td>Comparison Class</td>
<td>Gradable</td>
<td>Subordinate</td>
<td><em>huge flea</em></td>
</tr>
<tr>
<td>Subjecthood</td>
<td>Emotional</td>
<td>Role</td>
<td><em>proud uncle</em></td>
</tr>
<tr>
<td>Situational</td>
<td>Stage-level</td>
<td>Role</td>
<td><em>irritable patient</em></td>
</tr>
<tr>
<td>Event</td>
<td>Manner</td>
<td>Agentive</td>
<td><em>beautiful writer</em></td>
</tr>
<tr>
<td>Transferred Epithet</td>
<td>Any (but inflexible)</td>
<td>Any (but inflexible)</td>
<td><em>tough mountain</em></td>
</tr>
<tr>
<td>Q-Modifying</td>
<td>Quantificational</td>
<td>Any</td>
<td><em>the precise speech</em></td>
</tr>
<tr>
<td>Stroboscopic</td>
<td><em>occasional, odd, infrequent</em></td>
<td>Any</td>
<td><em>the odd Samoan</em></td>
</tr>
</tbody>
</table>

As mentioned at the outset, this taxonomy and the definitions that feed into it are presented for the sake of clarity and contextualization; a step in the direction of comprehensiveness, but with no claim of definitiveness. Under certain assumptions, many of these could be collapsed (as has been the tendency); finer-grained typologies are also conceivable. Undoubtedly, some NIAM-by-A forms will manage to slip through the cracks, uncharacterizable as any of these types, but the vast majority of non-intersective English ANs discussed in the literature may be understood as exemplifying one or more of the varieties defined above, and analyzed in the following chapter.
The Structure of Non-Intersective Adnominal Modification by Adjectives

Given the types of non-intersective adnominal modification by adjectives (NIAM-by-A) enumerated in Chapter 2, the theoretical principles and assumptions established in Chapter 3, and the structural understanding of key elements articulated in Chapter 4, we are now in position to describe our NIAM-by-A types in a manner consistent with both intersective semantic interpretation and rule-governed syntactic composition. This chapter will examine each of the composed types in turn, exploring the advantages of representing them in the present configurational, non-lexicalist manner. In several cases, we may not discern any significant benefit; however, it will be demonstrated that nothing about the current set of assumptions complicates other line(s) of analysis offering explanatory potential. In other instances, the structures proposed offer greater insight and predictive power than previous analyses.

The central aim here is to derive structures which straightforwardly disambiguate prenominal modification, and which account for both interpretational limitations across the copula (the writer is beautiful) and interpretational constraints on ‘twinned’ prenominal forms (beautiful beautiful writer). As in Chapter 4, we will start with the three ‘exocentric’ types: Privative, Dispositional, and Reference Modification NIAM (§5.1), and then turn to the ‘endocentric’ varieties (§5.2). An interim summary of the results (§5.3) concludes the chapter.

5.1 Exocentric NIAM Structures

Exocentric adnominal non-intersectivity involves adjective-noun combinations whose denotation extends beyond that of the noun alone: the three varieties we articulated above are Privative, Dispositional and Reference Modification, exemplified by fake notary, hopeful parent and possible cop. We will see that the first does not require much in the way of syntactic
accounting, while the other two, which both involve intersectivity difficulties with the adjective as well,\(^1\) are more clearly understood under a configurational account.

### 5.1.1 Privative NIAM Structures

Of all the NIAM types considered in this thesis, the Privative variety seems to require the least in the way of syntactic analysis. The strongest evidence for this comes from two facts: first, in attributive position, English forms exhibiting Privative NIAM are not consistently ambiguous between NIAM and IAM readings:

\[(5.01)\]
\[
\begin{align*}
\text{a. fake notary}\,^2 \\
\text{b. bogus story} \\
\text{c. counterfeit jewelry}
\end{align*}
\]

When the nouns in (5.01) are swapped for those that coerce intersective readings, there is still no ambiguity:

\[(5.02)\]
\[
\begin{align*}
\text{a. fake individual} \\
\text{b. bogus shit}\,^3 \\
\text{c. counterfeit goods}
\end{align*}
\]

It is little surprise, then, that we encounter no diathesis when it comes to doppelgänger structures, but merely cancellation (as well as the usual intensificational reading):

\[\]

---

\(^1\) For instance: hopeful parents are not (necessarily) hopeful people, and possible cops are quite unlikely to be deemed possible people (Robocop and the Terminator T-1000 notwithstanding).

\(^2\) Some speakers report ambiguity in (a)—‘one who isn’t a notary’ vs. ‘one who’s a notary but behaves in a non-genuine fashion’—but they also report the same ambiguity when the adjective is post-copular (that notary is fake), which suggests that we are dealing with lexical rather than structural ambiguity.

\(^3\) A distinct and confounding sense of bogus—glossed in slang dictionaries but not traditional ones as ‘silly,’ ‘incredible,’ ‘lame,’ ‘square’—contributes to the title of the 1991 film Bill and Ted’s Bogus Journey, the core noun phrase of which counts as IAM (as it was a journey, and also bogus), or at worst NIAM of the Comparison Class variety (i.e., ‘bogus for a journey,’ but not ‘bogus for a class assignment’). The more traditional reading of bogus (‘inauthentic,’ ‘fake’), which yields Privative NIAM with most nouns, fails to do so when composed with the broad reading (‘stuff’) of shit in (5.02b): as in he tried to sell me some bogus shit. The narrow (‘excrement’) reading of shit forces a Privative interpretation, much in line with our discussion in \S4.3.1 above.

181
(5.03) a. a FAKE fake notary = a real notary
   b. a BOGUS bogus story⁴ = a true story

Second, whatever non-intersectivity arises in attributive position remains when the adjective crosses the copula:

(5.04) a. that notary is fake
   b. that story is bogus
   c. that jewelry is counterfeit

In other words, Privative NIAM is either the only type of non-intersectivity that crosses the copula and does not enter into diathesis with intersective readings, or it does not really instantiate non-intersectivity at all. The latter position is taken here.

However, disputing Privativity’s categorial similarity to other NIAM forms is not the same as analyzing it intersectively. Partee (2009) argues for coercion as the mechanism by which \([AN]\) is made to fall within the denotation of \([N]\); more specifically, she argues that Privativity is made intersective (‘subsective,’ in her terminology, see §2.4, §4.1.1 above) through the interaction of two principles (both originally from Kamp & Partee (1995)):

(5.05) **Non-Vacuity Principle** (from Partee 2009:280, Kamp & Partee 1995:161)
   In any given context, try to interpret any predicate so that both its positive and negative extension are non-empty.

(5.06) **Head Primacy Principle** (HPP, from Partee 2009:280, Kamp & Partee 1995:161)
   In a modifier-head structure, the head is interpreted relative to the context of the whole constituent, and the modifier is interpreted relative to the local context created from the former context by the interpretation of the head.

---

⁴ Cancellation does not appear to work for counterfeit counterfeit jewelry, presumably thanks to the lexical semantics of counterfeit, which may require that the denotatum of its modificand be (man-)made (cf. French participle fait) in order to be counterfeit. Thus, while a real gemstone may be gussied up to look like a fake gemstone, the gussying-up does not directly make the (true) gemstone, whereby we run into problems with the cancellation reading. That said, the significant and robust fact is that no NIAM/IAM diathesis is available for this twinned structure.
Thus, *fake notary* must be interpreted relative to the local context of the interpretation of *notary* (by the HPP), and both *notary* and *fake notary* must be interpreted as non-empty, due to the Non-Vacuity Principle. To accommodate this, the denotation of *notary* is shifted to include a penumbra of individuals who aren’t notaries, but might be perceived as such. Roughly speaking, this shifting function captures our intuitions about the lexical semantics of *fake, counterfeit, and bogus*.

Such explanation centers entirely upon the interpretive portion of linguistic competence; i.e., it is not the kind broadly pursued in this thesis. It is, however, fully compatible with the present approach, and sufficient to explain the phenomenon of Privative NIAM within the parameters established herein, as Privativity shows none of the syntactic reflexes discussed in Chapter 1 as motivations for syntactic treatment. In short, whether or not the details of Partee’s proposal on Privatives are sound—and nothing from this investigation would suggest they are anything but—it seems warranted to treat Privative NIAM as a lexical semantic phenomenon, and not one requiring syntactic analysis.

### 5.1.2 Dispositional NIAM Structures

Dispositional non-intersectivity, on the other hand, has clear syntactic reflexes: attributive structures (*hopeful parent*) are ambiguous between IAM and NIAM readings, while predicate-modifier structures (*a parent that is hopeful*) lose the ambiguity. The key elements of Dispositional NIAM are Dispositional As and Role Ns. In Chapter 4, we proposed the following structural licensing conditions for the Vocabulary Items like *hopeful* and *parent*: 
Furthermore, we identified the types of roots involved: \( \sqrt{\text{HOPE}} \) selects a clausal complement, while \( \sqrt{\text{PARENT}} \), as a state-denoting root, can take an individual-denoting (DP, nP) theme in its specifier. These elements compose in the following way to yield a non-intersective reading:

\[(5.08) \quad \text{hopeful parent (Dispositional NIAM)} \]

The licensing constraints of both \textit{hopeful} and \textit{parent} are met, while the tenseless clause meaning (roughly) ‘to be a parent’ serves as the argument of ‘hope,’ the desired semantic composition.

With the merger of the Num head, this structure must undergo spell-out: it is sent to the LF
component for interpretation, while on the other branch, Vocabulary Insertion occurs from the bottom up. The instructions in (5.07a) indicate that *hopeful* may be inserted into the Deg head, then *parent* into the Num head:

```
(5.09)  NumP
         /    \
       Num   nP
       /     /
  parent /     \n       n    DegP
       /     /
  PERSON /     \n       PRO_i DegP
       /     /
      Deg   aP
      /     /
  hopeful /     \n     t_i aP
     /     /
    a    RP
   ~EUL /     \n    RP    RP
    /     /
   t_i RP    R    √HOPE
   /     /
  R    √PARENT
```

The elements struck through are made unavailable for pronunciation by the List 1 instructions in (5.07); this yields [NumP parent [nP [DegP hopeful [aP [RP]]]]]. Subsequent RP Raising adjoins the DegP above NumP, yielding the surface order *hopeful parent*. 
This contrasts structurally with the intersective/individual reading of *hopeful parent*:

(5.10)  \[
\text{hopeful parent (IAM)}
\]
\[
\begin{array}{c}
\text{NumP} \\
\text{ Num } \text{ DegP} \\
\text{ nP}^5 \text{ DegP} \\
\text{ n PERSON Deg aP} \\
\text{ ti aP} \\
\text{ a \text{\textsuperscript{-FUL}}} \\
\end{array}
\]

The key difference in interpretation arises from the fact that nothing is merged as the complement to √HOPE; the hope remains unspecified\(^6\). Though what is sent to LF is different from in the NIAM case, insertion at PF generates the same structure as before ([\text{NumP parent [DegP hopeful]}]), yielding the proper surface output after RP Raising.

There is mixed evidence to support the position, argued for in Chapter 3, that one-insertion targets nPs under our current approach. The structures proposed above would predict that a *hopeful one* would not be available for Dispositional NIAM interpretation. Some speakers, however, report that such a reading can be coerced fairly easily:

---

\(^5\) The lack of an internal RP structure for this phrase diverges from the insertion instructions given in (5.07b); it is omitted for the sake of concision.

\(^6\) As with any root that takes an optional complement (e.g., √EAT), we can posit a null complement phrase for √HOPE—in this case, an RP relating (non-factually) a null subject PRO to a null PRO-PRED—but the difference is merely notational, as the parenthetical portion of the paraphrase ‘a parent who is full of hope (about unspecified propositions being the case)’ is all but superfluous.
(5.11) is he a parent? well, he’s a hopeful one.\footnote{This is an instance where corpora do not appear to help: as of 12/20/14, Google returns 4 hits for he’s a hopeful one, 5 hits for she’s a hopeful one, 6 results for they’re hopeful ones, 0 for we’re hopeful ones, and 1 for you’re hopeful ones—all of which straightforwardly intersective. First and second person singular forms yield thousands of hits, but nearly all reduce to a pair of quotes from a movie (i) and a song (ii), and both of which also quite clearly intersective:

i. you’re worse than a hopeless romantic, you’re a hopeful one (from California Suite)

ii. it’s just because I’m hopeful man, it’s just because I’m a hopeful one (from Just Because I’m a Rastaman)

The only non-IAM use of a hopeful one identified through moderate investigation comes in Dickens’ Little Dorit (Dickens 1899:509), and is a relatively clear example of Transferred Epithet NIAM:

iii. ‘I said to that boiling-over old Christian,’ Mr Pancks pursued, appearing greatly to relish this descriptive epithet, ‘that I had got a little project on hand; a hopeful one; I told him a hopeful one; which wanted a certain small capital.’

In short, we are left to the devices of informants for judgments, and these are mixed and tentative enough to encourage us to leave the empirical question of Dispositional one-insertion as unsettled for the time being.}

The fact that obtaining this reading requires the presence of well—which essentially acts privatively on the denotation of parent, much as no would—in addition to (typically) a second parsing on the part of those who do get it, suggests that (5.10) may lead speakers, as a last resort, to identify an actual (noun) word from the discourse, insert it for one in the utterance just encountered, and interpret the re-constituted structure. In any case, this stands as a potential problem for the analysis, but one that is far from empirically robust.

Dispositional NIAM is basically unavailable across the copula:

(5.12) a. #that parent is hopeful (*‘hopeful to be a parent’)
b. #that person is hopeful (?‘hopeful to be a parent’)

The interpretation in (a) is ruled out by the non-factivity required of √HOPE’s complement, combined with the structural fact that nothing inside the referential DP, e.g. a kind-denoting nP, can c-command a copy of itself inside that complement:
The difficulty (but non-impossibility) of (b)—which structurally differs from the tree above only in the realization of the NumP as *person* rather than *parent*—stems straightforwardly from the fact that nothing lexical inclines us to interpret the PRO-PRED in the complement of √HOPE as meaning ‘parent.’ Context, however, can accomplish this:

(5.14) Q: who’s trying to be a parent? A: well, that person is hopeful

5.1.2.1 Dispositional Twins

A key difference between Dispositional As and other As (such as garden-variety Manner As) is that the former can exhibit nested behavior when ‘twinned’ before a N. Thus, *a hopeful hopeful parent* can mean (though judgments are delicate\(^8\)) ‘one who is hopeful to become a hopeful parent,’ as illustrated in the following scenario:

\(^8\) Contrasting this structure with non-nesting versions (*tall tall parent, beautiful beautiful parent*, etc.) brings out the target interpretation, though a number of informants do report it unavailable.
Adam and his wife Carrie are trying to have children, but so far haven’t conceived. Brad is jealous of Adam, ‘cause he’d like to have children, too, but Brad can’t even get girls to go out with him on dates.

→ “Adam’s a hopeful parent, while Brad is a HOPEFUL\textsubscript{n1} hopeful\textsubscript{n2} parent.”

This recursion follows from the fact that √HOPE can take a (small) clausal complement: the structure interpreted as in (5.12) has the DegP from (5.08) contained within the complement clause of a higher √HOPE:
Insertion (and accompanying deletion of exponents) at PF yields a structure with DegPs in non-predicate positions: raising the two, embedded first (cf. Harley & Noyer 1999:4, discussion in Chapter 3), yields the surface order *hopeful hopeful parent*. As we saw with *big blue wolf* in
Chapter 3 (§3.6), there are two identical ‘n’ heads with only one c-commanding Num head to discharge them; we presume the lower is deleted under c-command by an identical item.

The classic Outer > Inner reading is also possible, as depicted in the following scenario:

(5.17) **IAM > Dispositional NIAM**

Dana and Eunice are both trying to conceive. Dana—a pessimist about most things—is praying that, just this once, things go her way. Eunice is optimistic about getting pregnant, as she generally is about everything.

“The Dana is a hopeful parent, while Eunice is a HOPEFUL<sub>int</sub> hopeful<sub>n-int</sub> parent.”

This second reading arises when the NIAM structure in (5.09) is the subject of a complement-less (or null-complement) DegP *hopeful*:

(5.18) **hopeful hopeful parent (IAM > NIAM)**

```
NumP
  /    \
Num  DegP
  /    \    /
 nP_j  DegP
  /    \    /
n  DegP Deg aP
PERSON_i / \ / \ 
PRO_i  DegP t_j aP
  /    \    /
Deg  aP  a √HOPE
  /    \   -FUL
  t_i  aP
  /    \   a RP
  -FUL / \   
   RP RP
  / \ / \ PRO_i RP R √HOPE
  /  
  R √PARENT
```

Finally, the Dispositional NIAM reading may scope over an IAM reading in twinned forms.
Frank is not a parent yet. When he becomes one, he really wants to retain his idealism. His friend Jim is a role model: despite having three teenagers, Jim still acts sanguine about the future.

“Jim is a hopeful parent, and Frank is a HOPEFUL\textsubscript{n-int} hopeful\textsubscript{int} parent.”

This is derived by embedding the IAM structure from (5.09), minus the NumP layer, into the complement of a higher $\sqrt{\text{HOPE}}$:

\begin{equation}
\text{(5.19) Dispositional NIAM > IAM}
\end{equation}

Frank is not a parent yet. When he becomes one, he really wants to retain his idealism. His friend Jim is a role model: despite having three teenagers, Jim still acts sanguine about the future.

$\implies$ “Jim is a hopeful parent, and Frank is a HOPEFUL\textsubscript{n-int} hopeful\textsubscript{int} parent.”

This is derived by embedding the IAM structure from (5.09), minus the NumP layer, into the complement of a higher $\sqrt{\text{HOPE}}$:

\begin{equation}
\text{(5.20) \hspace{1em} hopeful hopeful parent (NIAM > IAM)}
\end{equation}
As in our other cases, insertion of Vocabulary Items leaves two DegPs in non-predicate position.

Raising of the first (light) one leaves the second light as well.

5.1.3 Reference NIAM Structures

The key elements of Reference NIAM are Modal (or Temporal) As and nearly all Ns, though simplex entity-denoting Ns require a bit more coercion, and ‘high-hyperonym’ Ns (thing, person, object, stuff, etc.) resist this type of non-intersective interpretation. We observed in Chapter 4 that Modal and Temporal Adjectives predicate over sets of worlds or times for which a predication holds.

The ‘sentential’ approach we are taking permits us to view this intensionality in a syntactic light. In Chapter 4, we proposed the following structural licensing conditions for the Vocabulary Items possible and cop:

(5.21)  
\[
\begin{align*}
\text{a.} & \quad \text{possible} \\
\text{DegP}^9 & \quad \text{NumP} \\
\text{Deg} & \quad \text{aP} \\
\text{a} & \quad \text{POSS} \\
\text{~ABLE} & \quad \text{PERSON}i \\
\text{√POSS} & \quad \text{√COP} \\
\end{align*}
\]

We also proposed that the root √POSS takes only predication-denoting elements as complements, so we expect something of a crash when possible merges with clearly entity-denoting DPs, such as rock, house or banana. Within the DP, however, such modification is salvageable:

(5.22)  
\[
\begin{align*}
\text{a.} & \quad \text{a possible rock bounced off our hood just as we were getting on Route 41} \\
\text{b.} & \quad \text{it’s definitely a shed, and it’s a possible house, too} \\
\end{align*}
\]

\[9\] If we use very-modification as a diagnostic for the presence of DegP, prenominal possible is a DegP, though there is some degradation in ?a very possible cop.
This would appear to be a structure-building repair operation. The operation, however, is unavailable across the copula:

(5.23)  
\[ \begin{array}{cl}
  & a. \text{a rock that was possible bounced off our hood} \\
  & b. \text{*it’s a shed that is definite, and a house that is possible}
\end{array} \]

The issue is not merely syntactic, however:

(5.24)  
\[ \begin{array}{cl}
  & a. \text{an outcome that’s possible} \\
  & b. \text{that scenario is possible}
\end{array} \]

In short, it appears that possible requires either a propositional complement, or a N with internal RP structure, the latter of which can be built ad hoc in attributive position, but not in predicate alignment.

To illustrate: the lexically specified RP of complex nouns such as cop provides an ideally propositional modificand for the -ABLE component of possible:

(5.25)  
\[ \text{possible cop (Reference NIAM)} \]
\[
\begin{array}{c}
\text{NumP} \\
\text{Num} \\
\text{nP} \\
\text{n} \\
\text{DegP} \\
\text{PERSON}_i \\
\text{PRO}_i \\
\text{DegP} \\
\text{Deg} \\
\text{aP} \\
\text{aP} \\
\text{t}_i \\
\text{a} \\
\text{RP} \\
\text{RP} \\
\text{RP} \\
\text{RP} \\
\text{POSS} \\
\text{COP} \\
\end{array} \]
Vocabulary Insertion at PF inserts *cop* into the Num head and *possible* into the Deg head: this reduces the structure to \([\text{NumP } \text{cop} \ [\text{nP } \text{possible} \ [\text{aP } \text{RP}]])]. RP Raising of the DegP—triggered by the lightness of DegP and its sisterhood to a non-predicate head ‘n’—yields the typical surface order.

The greater difficulty of readings of *possible* with words like *house*, *rock*, *banana*, etc. suggests that these words have simplex conditions—i.e., non RP-specifying conditions—in List 2\(^{10}\):

\[(5.26) \quad \begin{array}{ccc}
\text{a. house} & \text{b. rock} & \text{c. banana} \\
\text{NumP} & \text{NumP} & \text{NumP} \\
/ \ \ \\
\text{Num} \ldots & \text{Num} \ldots & \text{Num} \ldots \\
\text{nP} & \text{nP} & \text{nP} \\
/ \ \\
n \quad \sqrt{\text{HOUSE}} & n \quad \sqrt{\text{ROCK}} & n \quad \sqrt{\text{BANANA}} \\
\text{THING} & \text{THING} & \text{THING}
\end{array}\]

These structures do not provide a lexically specified predication for *possible* to modify: neither a proposition-denoting root (e.g. \(\sqrt{\text{RESULT}}\)), nor an RP above it. In order to salvage an interpretation, we construct an RP over the root, yielding exactly the derivation in (5.20), only with a different root.

The unavailability of Reference readings across the copula—even for complex nouns such as Role Ns (#that *cop* is *possible*)—follows from the semantic restrictions that the root \(\sqrt{\text{POSS}}\) exercises over its complement: it must be predicational. Without an external nominal head to effectively nominalize the event, *possible* can only modify predication-denoting DPs such as

---

\(^{10}\) See the discussion of *big blue wolf* in §3.6 for an illustration of why interstices are required even for simple nouns such as these.
that outcome and his scenario across the copula. Non-predicational subjects such as a cop violate the s-selectional restrictions of the root √POSS:

(5.27)  *a cop is possible

\[
\begin{array}{c}
TP \\
/ \backslash \\
DP, TP \\
a cop/ \backslash \\
T \ aP \\
[+pres]/ \backslash \\
t_i \ aP \\
/ \backslash \\
a \ RP \\
-ABLE/ \backslash \\
*_{t_i} \ RP \\
/ \backslash \\
R \ √POSS
\end{array}
\]

Meanwhile, the acceptability of being a cop and to be a cop as clausal subjects is a reflection of c-selectional constraints higher up in the tree.

There remain complications with understanding the behavior of adjectives like possible across the copula. Event-denoting DPs are marginally acceptable: ?growth is possible, ?destruction is possible, etc., but there appear to be implicit arguments with these: (GDP) growth is possible (in the next few quarters), destruction (of museums by the insurgents) is possible. Making the implicit arguments explicit—filling in the predications—increases felicity. We can similarly coerce individual-denoting DPs into acceptability: who will they choose as captain? Tim is possible. The unsaturated status of these sentences in context-free environments, as well as the non-necessity of such filling-in for clearly predication-denoting DPs (e.g. claim, wish, etc.), combine to support our position that possible is a predicate of predications, essentially a sentential representation of intensional adjectivehood. Nonetheless, the syntactic structure of
subjects in fully-acceptable sentences like *time machines are possible* (William McClure, p.c.) remains unclear. Duek’s (2012) discussion of agreement differences in Brazilian Portuguese—*professora é gostosa o* yields the readings ‘female professors are hot’ and ‘female professor is tasty’ depending on the adjective’s agreement morphology—raises the intriguing possibility that the super-structure argued for above might have morphological manifestations, but *possible* stubbornly agrees with its subject in Romance when appearing alone in predicate position.

5.1.3.1 Reference Twins

As with Dispositional As, Modal As can scope over complex nominals, including already-assembled instances of Reference NIAM. Forms like *possible possible cop* are theoretically expected, though exceedingly difficult to parse in non-redundant terms.¹¹

¹¹ The string *possible cop possible* is also derivable and interpretable in what Larson (2000) observes to be Antecedent Contained Deletion structures, e.g. *we avoided every possible cop possible*; some speakers also report the availability of *we avoided every possible possible cop*. 

197
Similar embedding is possible for adjectives like *former*; the fact that the lexical semantics of *former* includes a privative/negational element allows the phrase *former former President* to be used to describe a current President, e.g. Grover Cleveland in 1895.
5.2 Endocentric NIAM Structures

Endocentric adnominal non-intersectivity involves adjective-noun combinations whose denotation falls within that of the noun alone. The reference examples for the eight types we now consider are repeated here for the sake of clarity:

(5.29)  a. muscular expert (Associative)
b. huge flea (Comparison Class)
c. proud uncle (Subjecthood)
d. irritable patient (Situational)
e. beautiful writer (Event)
f. tough mountain (Transferred Epithet)
g. (the) odd Samoan (stopped in) (Stroboscopic)
h. (the) precise speech (we wanted) (Q-Modifying)

5.2.1 Associative NIAM Structures

In Chapter 4, we identified the key element of Associative NIAM: the morphologically marked class of Relational As, which act very much like nouns in their semantics, which are ungradable, and which appear maximally close to the Noun. We proposed the following structural licensing conditions for the Vocabulary Items muscular and expert:

(5.30)  a. muscular    b. expert

\[
\begin{array}{c}
\text{nP} \\
\text{ClassP} \\
\text{PRO} \\
\text{Class} \\
\text{MUSCLE} \\
\text{PERSON} \\
\text{EXPERT}
\end{array}
\]

In this close, non-interstitial configuration, Class heads (-al, -ar, -ary, -ive, -ory, etc.) exhibit bleached semantics, effectively functioning as a copula linking the obligatory light noun to the root: though syntactically adjectival, the Relational form of muscular listed in (5.30) bears the
meaning ‘thing that is muscle.’ Thus, Class heads are like ‘v’ and ‘a’ heads in that they form predicates, but more nominal in flavor because they must, like former, be embedded under an ‘n’ head. The idiosyncratic interpretational behavior of prenominal Relational Adjectives stems from their potential to merge directly with a root in the core RP:

(5.31) muscular expert (Associative NIAM)

\[
\begin{array}{c}
\text{NumP} \\
/ \quad \backslash \\
\text{Num} & \text{nP} \\
/ & / \\
\text{n}_j & \text{RP} & \text{PERSON} & / & \backslash \\
/ \quad / & / & / & / \\
\text{n}_j & \text{ClassP} & \text{R} & \sqrt{\text{EXPERT}} & \text{THING} & / & \backslash \\
/ & / & / & / & / & / & / & / \\
\text{n}_i & \text{ClassP} & \text{PRO}_i & \text{ClassP} & \text{CLASS} & \sqrt{\text{MUSCUL}} & \text{-AR}
\end{array}
\]

In Non-Relational Adjectives—listed separately from homophonous Relational forms—the ‘a’ head contributes a richer, vaguely prepositional semantics:

---

12 The Class heads differ amongst each other, most notably in the type of root/stem they combine with: -ar associates with entity-denoting roots, while -al and -ous take nominal stems, and -ive takes verbal stems. These observations are well-established in English morphology—i.e., by no means innovations or departures from convention on the part of the present analysis.
Both ClassP and aP are RPs, so in both scenarios depicted above, expert is inserted into the Num head, and muscular into the head of a light RP that raises to [Spec, NumP], yielding the proper surface order. The unavailability of Relational readings across the copula, meanwhile, can be understood to follow from selectional restrictions exercised by the T head: ‘complete’ nominal projections (i.e. DPs, perhaps NumPs) are allowed, along with DegPs, but not the bare nP that instantiates a Relational A.

5.2.1.1 Associative Twins

The analysis outlined above affords a straightforward means of deriving the ‘twinned’ reading, which is obligatorily IAM > NIAM.
Idiosyncratic interpretation happens inside the RP of √EXPERT, and the individual reading within the DegP. Insertion places the adjective behaving non-intersectively (ABNI) muscular into the Class head, the individual-modifying muscular into the Deg head, and the noun exponent expert into the Num head. Operating from deepest-embedded element upwards, the ClassP raises to adjoin to [Spec, NumP] as it is both light (having no post-head exponence) and not in predicate position (merged under an ‘n’ head): this yields the intermediate structure muscular_{n-int} expert muscular_{int}. The post-nominal DegP also qualifies for raising: this operation yields the attested surface order muscular_{int} muscular_{n-int} expert. Meanwhile, there is no way to derive the unattested word order *muscular_{n-int} muscular_{int} expert under the current approach; semantic considerations dictate that the ClassP be the complement to √EXPERT, and that the resulting complex be the structural subject of (intersective) muscular, requirements that conspire to ensure that the ClassP muscular is the deeper embedded of the twin adjectives.
There are many cases (vascular expert) in which IAM readings and, by extension, twinned structures will not be interpretable (*vascular vascular expert). Rather than a grammatical issue, however, this is a matter of lexical semantic compatibility.

Examination of the possibilities arising when Relational ‘brothers’—two different words of the same family—precede a noun illustrates the importance of the ‘n’ head in our analysis of the Relational type. Two Relational As with the right lexical semantic profiles can combine in a way that very clearly instantiates what is commonly called a ‘bracketing paradox’ (cf. Beard 1991, Groß 2011):

(5.34) a. German automotive expert
   i. ‘expert on German autos (who may be a lifelong Floridian)’ [NIAM]
   ii. ‘auto expert (who may only repair Toyotas) from Germany’ [IAM]

b. evolutionary theoretical perspective
   i. ‘perspective from the standpoint of evolutionary theory (which may be unchanging)’ [NIAM]
   ii. ‘theoretical perspective (which may be about mathematics) with a tendency to evolve’ [IAM]

These are particularly challenging for theories of grammar that wish to avoid left branching, for even a moderately non-lexicalist analysis, i.e. one that represents morphemes as units of analysis, must countenance a left-branching default hypothesis:

(5.35) NP
   / \ 
  AP N
   / \ expert
  NP -ive
  / \ German automot
  A N

The present analytical approach allows for the analysis of both the IAM and NIAM ‘brother’ structures without left branching:
This captures the intuition that *German* behaves intersectively here, as German cars are German things. Insertion of *automotive* into the Class head, *German* into the a head, and *expert* into the Num head yields a lexicalized structure that then undergoes raising, first of the deeper-embedded *automotive*, then of *German*, to yield the proper surface word order.

The IAM reading is also straightforward:
(5.37) *German automotive expert* (IAM: ‘expert is German’ reading)

```
      NumP
        / \
       Num aP
          / \ \
         nP aP
            / \ / \ \
           n RP a \GERMAN
PERSON /   \ \
         nP RP
            / \ / \ \
           n_i ClassP R \EXPERT
THING /   \ \
       PRO_i ClassP
          /   \ \
         Class \AUTOMOT
            -IVE
```

As before, the root \EXPERT exerts idiosyncratic lexical selection on its complement (in structural Spec, RP); this time, however, that complement is an nP only containing the elements of *automotive*; the German-ness is merged above this structure. The word order arises quite similarly: after inserting *expert* into the Num head, *automotive* into the Class head, and *German* into the ‘a’ head, light RP raising takes *automotive* up first, then *German*.

The phrase *GERMAN German automotive expert* is parsable as ‘expert on German cars who is him/herself German.’ The structure for this derives the proper surface ordering, under present assumptions:
(5.38) \textit{GERMAN} german automotive expert (IAM > NIAM)  
`expert on German cars who is him/herself German’  
NumP  
\hspace{1cm}  
/   \  
Num   aP  
\hspace{1cm}  
/   \  
nP   aP  
\hspace{1cm}  
/   \  
\hspace{1cm}  
\hspace{1cm}  
n   RP   a   \sqrt{\text{GERMAN}}  
PERSON  
\hspace{1cm}  
/   \  
nP   RP  
\hspace{1cm}  
/   \  
/   \  
n_i   aP   R   \sqrt{\text{EXPERT}}  
THING  
\hspace{1cm}  
/   \  
nP_i   aP  
\hspace{1cm}  
/   \  
/   \  
n_j   ClassP   a   \sqrt{\text{GERMAN}}  
THING  
\hspace{1cm}  
/   \  
PRO_j   ClassP  
\hspace{1cm}  
/   \  
/   \  
Class   \sqrt{\text{AUTOMOTIVE}}  

After insertion, Light RP Raising happens from the bottom up, i.e. first \textit{automotive}, then the \textit{German} that modifies `automotive thing,’ and then the \textit{German} that modifies \textit{expert}, which yields the proper surface order.

5.2.2 Comparison Class NIAM Structures

The elements of Comparison Class NIAM are abundant, as all gradable adjectives engage in this type of non-intersectivity, and all nouns, with the possible exception of `max-level’ hyperonyms. Nevertheless, the availability of these readings does appear to be structurally constrained, as they do not obtain (or are dispreferred) when the adjective is in post-nominal or predicate position. The question is how precisely we might characterize the structural relation between the class-determining noun and its modifying adjective.
Strict adjacency is out, as intervening adjectives do not force absolute readings:

(5.39) a huge, bearded, blood-sucking Swedish flea (‘huge for a flea’ OK)

Another possibility is that the scale of gradable adjectives is established by the head of the nominal projection immediately dominating it: m-command. Unfortunately, the ‘head-determined’ analysis also appears to break down, as complex nominal projections can also determine the comparison class:

(5.40) they offer an outstanding half-hour Friday yoga class for expectant mothers

Here, outstanding cannot easily be evaluated against a general class of entities or events, nor even against class: the relevant sets are yoga class and possibly yoga class for expectant mothers. Meanwhile, Friday yoga class, half-hour Friday yoga class, and the other complex nominals are out. We are forced to countenance a heavy amount of real-world contextual determination, constrained (only perhaps) by the material present within the maximal nominal projection. And “only perhaps,” because speakers often report Comparison Class readings when the adjective is isolated across the copula (b) (contra Higginbotham (1985)):

(5.41) a. he’s a huge flea (#for a flea)
    b. that flea is huge (for a flea)

And yet: an extended Adjective Phrase compels us to associate the establishment of a Comparison Class with a particular structural domain, specifically the Degree Phrase. Just as we associate comparative and superlative morphology with DegP, it seems natural to associate Comparison Class semantics with the same. Distribution of overt PPs indicates that DegP is roughly the right domain; for a CompClass PPs must occur outside of complements to adjectives like eager:
a. Larry is eager for sushi for a kid
b. ??Larry is eager for a kid for sushi
c. for a kid, Larry is eager for sushi
d. ??for sushi, Larry is eager for a kid

It must occur inside temporal PPs like for a while:

(5.43) a. Larry was eager for sushi for a kid for a while
b. ?Larry was eager for sushi for a while for a kid
13
13

For
13

R
R=for a kid
NP

Den Dikken (2006:35) offers a relevant avenue of analysis in his discussion of big for a butterfly, proposing that for is a Relator heading a Predicate-specifier RP:

(5.44) RP
   / \ RP
  AP   \big
  R NP

Though some specifics of this representation are not compatible with the current approach, the broad insight is: the adjective and its context determiner are related within a single maximal projection by a Relator head. Assume that head to naturally be Deg, and that a kind-denoting linguistic item in its specifier would serve as a comparison class. There is good reason to think that this is the case in certain overt contexts:

(5.45) a. Larry’s tall, but Marc’s NBA center tall
b. Michael’s tall, but Shaq’s seven feet tall
c. Dikembe is {seven feet / NBA center} tall

13 Multiple informants report misreading the PP for a kid as as a kid, with a temporal reading (i.e. ‘when a kid’), both in (b) and (d).
The similar semantic function played by the underlined elements in (a) and (b) suggests similar structural positioning, reinforced by the inability for the two modifiers to co-occur; we can choose only one of the modifiers in brackets for (c). Let us take this to indicate that something like the following structure is involved:

(5.46) a. [DegP NBA center / seven feet [DegP tall]]

This helps us understand the interpretation of sentences like the following:

(5.47) a. the center [non-generic] was short for a center  
     b. #centers [generic] are short for centers  
     c. the center is tall                  (IAM reading preferred; both available)  
     d. centers [generic] are tall         (only IAM)

In (a), there is no problem with a context-supplying PP, while in (b) it feels redundant. This is a consequence of the nature of the nominal structure that raises to subject:
The redundancy in (b) arises from the fact that the NumP center c-commands a copy of itself introduced as sister to FOR. In (a), the lower NumP does not have a c-commanding copy in Spec, DegP (or anywhere else).

Turning to (c) and (d), an absolute reading can arise when DegP does not project a specifier:

---

\[ (5.48) \]

a. the center was short for a center

```
TP
  / \  
DP_i TP
  / \ / \  
D NumP T (DegP)^{14}
THE / \ / \  
Num nP (t_i) DegP
  / \ / \  
n CENTER Deg aP
    / \  
t_i aP
    / \  
a RP
    / \  
\sqrt{SHORT} RP
    / \  
R NumP
FOR / \  
Num nP
  / \  
n CENTER
```

b. #centers are short for centers

```
TP
  / \  
NumP_i TP
  / \ / \  
Num nP T DegP
  / \ / \  
n CENTER t_i DegP
PERSON / \  
Deg aP
    / \  
t_i aP
    / \  
a RP
    / \  
\sqrt{SHORT} RP
    / \  
R NumP
FOR / \  
Num nP
  / \  
n CENTER
```

The redundancy in (b) arises from the fact that the NumP center c-commands a copy of itself introduced as sister to FOR. In (a), the lower NumP does not have a c-commanding copy in Spec, DegP (or anywhere else).

Turning to (c) and (d), an absolute reading can arise when DegP does not project a specifier:

---

\[ ^{14} \text{We will argue below that structures like this may not project Spec, DegP; it is included here for the purpose of comparison with (b).} \]
Until now, we have been relatively vague about the semantics of nP and NumP. Both structures have been identified by analysts with the category ‘kind.’ Our approach to light nouns encourages the former, yet English quite clearly marks generics for number, and they agree with the verb in this respect—these make it difficult for a treatment of English which counts NumP in its inventory to rule out the latter approach. Informally, let us say that nPs do indeed denote kinds, while NumPs denote atomized kinds; for reasons semantic, syntactic, or both, English requires kind-denoting subjects to be the latter.

Under this view, our reference example huge flea has the following structure when interpreted with respect to the Comparison Class of the FLEA kind:

(5.50) huge flea (Comparison Class NIAM)

\[
\begin{array}{c}
\text{NumP} \\
\text{Num} \quad \text{DegP} \\
\text{nPi} \quad \text{DegP} \\
\text{n} \sqrt{\text{FLEA}} \quad \text{Deg} \quad \text{aP} \\
\text{t} \quad \text{aP} \\
\text{a} \sqrt{\text{HUGE}}
\end{array}
\]
The degree of hugeness is restricted by the element in Spec, DegP. At insertion, flea externalizes the Num head, after which the remnant DegP headed by huge—a light predicate that is not in predicate position—adjoins to the NumP at PF, yielding the expected surface order.

The marginal availability of the absolute (IAM) reading for the same structure, in turn, stems from non-projection of Spec, DegP:

(5.51) __huge flea (IAM)__

```
(NuMP)
  /   \
 Num  DegP
    /  \
   Deg  aP
     /  \
    nP  aP
      /  \
     n    \FLEA a    \HUGE
```

5.2.2.1 Comparison Class Twins

Under these assumptions, and recalling that multiple adjectival modification will necessitate the merger of multiple light ‘n’ heads (cf. §3.6) we can generate grammatical structures for twinned forms (huge huge flea). Structures aiming to achieve IAM outside of NIAM (a) and nested NIAM (b)\(^{15}\) appear to be possible only with root \FLEA merged as subject of the embedded DegP:

---
\(^{15}\) The two interpretations—‘generally huge and huge for a flea’ and ‘huge for a huge-for-a-flea flea’—are next to impossible to distinguish empirically. Speakers generally report these as better than the NIAM > IAM reading, i.e. ‘huge-for-a-flea and generally huge.’
Both structures lexicalize to the proper word order, with light DegPs raising to adjoin to NumP.

In (a), the deeper embedded huge raises first: this is the ABNI, meaning ‘huge for a flea.’ The higher raises second: this is the specifier-less huge, which we expect to behave intersectively. In (b), of course, we want the wide-scope restrictor to be on the outside, and raising the higher huge last achieves just this.

Note that it is rather too simplistic to say that a DegP with a specifier yields ‘the’ non-intersective reading. Rather, a DegP with a specifier allows all of the material inside that specifier to determine the comparison class by which degree is measured. Thus, our ability to merge a specifier-free DegP within the specifier of a higher DegP does not mean we have (over-)generated a grammatical structure for the unacceptable interpretation ‘huge-for-a-flea, huge-in-general flea.’ Rather, the structure in (5.53), which is grammatical, yields the reading
‘huge for a (generally) huge flea,’ which is parsable, but essentially intensificational, given the identity of the two adjectives:

\[(5.53) \quad \text{huge huge flea} \]

\[\begin{array}{c}
\text{NumP} \\
/ & \backslash \\
\text{Num} & \text{DegP} \\
/ & \backslash \\
\text{nP} & \text{DegP} \\
/ & \backslash \\
\text{n} & \text{DegP} & \text{Deg} & \text{aP} \\
\end{array}\]

THING / \ / \ \\ \\
Deg / aP / t / aP \\
/ \ / \ \\
nP / a / a \sqrt{\text{HUGE}} \\
/ \ / \\
n \sqrt{\text{FLEA}} a \sqrt{\text{HUGE}} \\
THING

To illustrate that this is not a specious structure, we may substitute a ‘brother’ adjective, i.e. one that is—to the best of our knowledge—of the same broad type, but (minimally) different in its lexical semantics, say \textit{hairy}. Imagine that we know hairy fleas to be generally larger than normal ones. If the flea we are describing is huge even in the context of larger-than-normal hairy (in general) fleas, the structure above communicates this fact (swapping the root \sqrt{\text{HAIRY}} for the more deeply embedded \sqrt{\text{HUGE}}). If, instead we merely wish to state the (unlikely) idea that the creature is generally \textit{huge} and generally \textit{hairy}, we can take away the upper Spec, DegP position, leaving the embedded nP in the specifier of aP \textit{huge}. 
5.2.3 Subjecthood NIAM Structures

The key elements of Subjecthood NIAM are Emotional Adjectives and Role Nouns. In Chapter 4, we proposed the following structural licensing conditions for words like *proud* and *uncle*:

\[(5.54)\]

a. *proud*

\[
\begin{array}{c}
\text{DegP} \\
/ \ \\
 Deg \quad \ldots \quad \text{aP} \\
\text{PERSON} \\
\sqrt{PRIDE}
\end{array}
\]

b. *uncle*

\[
\begin{array}{c}
\text{NumP} \\
/ \ \\
 Num \quad \text{nP} \\
\text{PERSON} \\
\sqrt{UNCLE}
\end{array}
\]

The root \(\sqrt{PRIDE}\) assigns a θ-role of (roughly) Source to a complement in the specifier position of its RP. Thus, the syntax can build structures that yield the semantics of Subjecthood NIAM:

\[(5.55)\]

*proud uncle* (Subjecthood NIAM)

\[
\begin{array}{c}
\text{NumP} \\
/ \ \\
 Num \quad \text{nP} \\
/ \ \\
 n_i \quad \text{DegP} \\
\text{PERSON} \\
\text{PRO}_i \quad \text{DegP} \\
/ \ \\
 Deg \quad \text{aP} \\
/ \ \\
 t_i \quad \text{aP} \\
/ \ \\
 a \quad \text{RP} \\
\text{-FUL} \\
\text{RP} \quad \text{RP} \\
/ \ \\
 PRO_i \quad \text{RP} \quad \text{R} \quad \sqrt{PRIDE} \\
/ \ \\
 R \quad \sqrt{UNCLE}
\end{array}
\]
Insertion conditions for both words are met, the LF component can interpret the structure intersectively, and the PF component receives the structure \([\text{NumP } uncle \ [\text{DegP proud } [\text{aP } [\text{RP } [\text{RP}]]]]]\), which the familiar procedure converts to *proud uncle*.

The IAM reading obtains when the root √PRIDE does not take an explicit complement:

\[
\begin{array}{c}
\text{proud uncle (IAM)} \\
\text{NumP} \\
/ \ \\
\text{Num} \quad \text{DegP} \\
/ \ \\
\text{nP}_i \quad \text{DegP} \\
/ \ \\
\text{n} \quad \sqrt{\text{UNCLE}} \quad \text{Deg} \quad \text{aP} \\
/ \ \\
\text{t}_i \quad \text{aP} \\
/ \ \\
\text{a} \quad \sqrt{\text{PRIDE}} \\
-\text{FUL}
\end{array}
\]

This structure is interpretable on the individual reading at LF, and spelled out as \([\text{NumP } [\text{DegP proud } [\text{aP [\text{RP ]]}]]]}\] after PF manipulation.

### 5.2.3.1 Subjecthood Twins

Emotional Adjectives exhibit behavior similar to that of Dispositional As when twinned in front of a noun with which NIAM may transpire. The high-scope (NIAM > NIAM) reading is available, if pragmatically difficult; the nationality noun *American* helps illustrate it here:

\[
\begin{array}{c}
\text{PROUD proud American} \quad \text{(NIAM > NIAM)}
\end{array}
\]

This phrase might apply to a self-aware but unrepentant patriot: someone who is proud to be a proud American\(^\text{16}\). Though the near-redundancy of the twinned adjective renders its potential for

---

\(^{16}\) Christina Tortora (p.c.) points out that these types of constructions should not have an upper bound on embedding, i.e. *proud proud proud American* should be generable. Presumably real-world concerns prevent its successful parsing, as the paraphrase ‘proud to be a person who is proud to be a proud American’ is similarly exotic.
usage very small, speakers do report the availability of this interpretation, paraphrasable as

‘proud to be someone proud to be an American.’

The nested reading follows from a structure with embedded RPs:

(5.58) \[ \text{proud proud American} \] (NIAM > NIAM)

\[
\begin{array}{c}
\text{NumP} \\
\text{Num} \\
\text{nP} \\
\text{n} \\
\text{DegP} \\
\text{PERSON} \\
\text{PRO} \\
\text{DegP} \\
\text{Deg} \\
\text{t} \\
\text{aP} \\
\text{a} \\
\text{RP} \\
\text{-FUL} \\
\text{DegP}^{17} \\
\text{RP} \\
\text{PRO} \\
\text{DegP} \\
\text{Deg} \\
\text{t} \\
\text{aP} \\
\text{a} \\
\text{RP} \\
\text{-FUL} \\
\text{RP} \\
\text{RP} \\
\text{PRO} \\
\text{RP} \\
\text{R} \\
\text{PRIDE} \\
\text{R} \\
\text{aP} \\
\text{a} \\
\text{AMERICA} \\
\text{-AN}
\end{array}
\]

\[^{17}\text{Though the parsability of very proud very proud American is negligible, we can say things like that’s the proudest very proud American in the room (Marcel den Dikken, p.c.). Thus, we have merged DegP over the aP here. We have not formally articulated the selectional criteria \text{PRIDE} requires of its complement: it seems that any syntactic structure able to be understood as a Source can be merged; thus, no additional structure is required above DegP.}\]
Insertion reduces this to \([\text{NumP } \text{American} \ [\text{DegP } \text{proud} \ [\text{aP} \ [\text{RP} \ [\text{DegP } \text{proud} \ [\text{aP} \ [\text{RP} \ [\text{aP} \ [\text{aP}]])])])])]. The familiar ordering restrictions on light RP raising ensure that the scopal properties of each \textit{proud} are reflected in the surface word order.

5.2.4 Situational NIAM Structures

The key elements of Situational NIAM are Episodic Adjectives and Role Nouns. In Chapter 4, we proposed the following structural licensing conditions for forms like \textit{irritable} and \textit{patient}:

\[(5.59) \quad \begin{array}{ll}
\text{a. irritable} & \text{b. patient} \\
\text{DegP} & \text{NumP} \\
\text{Deg} & \text{Num} \\
\text{aP} & \text{nP} \\
\text{a} \quad \sqrt{\text{IRRIT}} & \text{n} \quad \sqrt{\text{PATIENT}} \\
\text{-ABLE} & \text{PERSON} \\
\end{array} \]

Since both lexical items must have temporal indices in order to relate to each other

‘Situationally,’ let us say that they merge within a temporally-headed RP. While the adjective may presumably be fully built up, the ‘n’ head must be RP-external, as it cuts off projection of the temporal index, and assigns category to the composed phrase. The Relator is no empty copula here, but instead articulates the temporal overlap between the two predicates: we will notate it as \textit{AS}, a well-established spell-out of the R head, and used overtly to mark contemporaneity.
In this construction we find our first example of a light RP in non-canonical predicate position: the DegP headed by *irritable* after insertion is not sister to an R head, but instead in Spec, RP. As indicated in Chapter 3, these RPs too must raise; this derives the surface word order in (5.60).

Meanwhile, a canonical modification configuration—merging the nP in the subject position of *irritable*—yields the IAM reading:

\[(5.61) \quad \text{*irritable patient* (IAM: no Comparison Class)} \]

\[
\begin{array}{c}
\text{NumP} \\
/ \ \ \ \\
\text{Num} \quad \text{DegP} \\
/ \ \ \\
\text{Deg} \quad \text{aP} \\
/ \ \ \\
\text{nP} \quad \text{aP} \\
/ \ \ / \ \\
\text{n} \ \sqrt{\text{PATIENT}} \quad a \ \sqrt{\text{IRRIT}} \\
\text{PERSON} \quad \text{-ABLE}
\end{array}
\]

Insertion conditions are met for the two words: *patient* is inserted into the Num head, *irritable* into the Deg head. Light RP raising of the DegP yields the surface order.
5.2.4.1 Situational Twins

Situational NIAM, like Event NIAM, does not allow for nested/wide-scope NIAM>NIAM readings when the adjective is twinned before the noun. This is a natural consequence of the temporal overlap relation expressed by the Relator: it makes application of the same predicate redundant. Full-clausal paraphrases illustrate the difficulty:

(5.62)  
  a. #he’s a happy happy drunk
  b. *he’s happy when he’s happy when he’s a drunk
  c. #she’s an irritable irritable patient
  d. *she’s irritable when she’s irritable when she’s a patient

This doesn’t appear to affect ‘brothers,’ i.e. other adjectives with the potential to be used situationally:

(5.63)  
  a. he’s an irritable mean drunk
  b. she’s a mean irritable patient

It’s difficult, however, to distinguish these forms from those with ‘comma’ intonation, i.e. a break between the adjectives, which presumably amounts to conjunction and asyndeton. The lack of acceptable paraphrases leads to the conclusion that the adjectives in (5.52) are conjoined, not embedded:

(5.64)  
  a. *he’s irritable when he’s mean when he’s a drunk
  b. *she’s mean when she’s irritable when she’s a patient

It is no problem, though, to derive the available IAM > NIAM reading:

---

18 Compare with MEAN mean drunk.
5.2.5 Event NIAM Structures

The key elements of Event NIAM are Manner Adjectives and Eventive Nouns. In Chapter 4, we proposed the following structural licensing conditions for forms like *beautiful* and *writer*:
As with *tough* from Chapter 3, we take the possibility of a clausal complement to *beautiful* as evidence for interstitiality between the ‘a’ head and the root, with the concomitant presumption that ‘a’ heads are syntactically restricted to nominal subjects.

This last presumption creates difficulty for what would arguably be the most intuitive way to apply our tools to the reference example *beautiful writer*. The adverbial paraphrase ‘person who writes beautifully’ might lead us to think the adjective *beautiful* takes a vP as its

---

19 Floating quantifier data strongly suggest that the structure modified by *beautiful* must be smaller than VoiceP; *all* (and presumably the external argument with it) is unavailable below *beautifully*:

(i) they have (all) beautifully (*all*) written their essays

We will presently see compelling evidence that it is the lowest vP—equivalent to Ramchand’s (2008) ‘Result Phrase’—that interacts with the modifier.
subject, but putting a verbal projection on the left branch of *beautiful*’s DegP is unappealing for two reasons: first, it violates the selectional criterion we have established for Spec, aP (and DegP), and second, it generates the wrong word order.

(5.67)  

*NumP  
/   \  
Num nP  
/   \  
nk VoiceP  
PERSON /   \  
PROk VoiceP  
/   \  
Voice vP  
/   \  
PROi vP  
/   \  
v DegP  
COME /   \  
vPj DegP  
/   \  
PROi vP Deg aP  
/   \  
v \WRITE tj aP  
BE /   \  
a RP  
-FUL /   \  
tj RP  
/   \  
R \BEAUTY

The DegP of *beautiful* does not raise, yielding *writer beautiful* at Spell-Out.

As an alternative, let us start from the view that ‘Manner As’—and their more famous adverbial counterparts—are a class divided in two between subject-oriented and object-oriented forms. This, in turn, leads to two different analyses for Event NIAM structures, depending on

---

20 Alexiadou & Anagnostopoulou (2008:36) make precisely this claim: “Actually there are two types of manner adverbials: manner adverbs that modify the visible result such as *schlampig* ‘sloppily’, and manner adverbs that modify the initiator of the action such as *vorsichtig* ‘carefully’. "

223
the adjective. In the case of *beautiful writer*, what is beautiful on the Event NIAM reading is not the subject or event initiator, but rather the object or visible result of the action. Rather than merging the vP headed by *BE*—our natural choice for the result phrase—in the specifier of aP or DegP, we can relate the vP to DegP in a null-headed RP, which allows the subject of DegP to be controlled by a c-commanding (pro-)nominal element, PRO; in this structure, roughly paraphrasable as ‘person who makes things that are beautiful’:

(5.68)    *beautiful writer* (Event NIAM: Object/Result Adverbial Analysis)

```
NumP
  /|\  
Num  nP
    /|\  
nj  VoiceP
PERSON /|\  
   PROj  VoiceP
        /|\  
       Voice  vP
         /|\  
        PROi  vP
             /|\  
             v  RP
COME /|\  
   DegP  RP
      /|\  
     PROi  DegP R  vP
        /|\  
       Deg  aP  t_i  vP
          /|\  
         t_i  aP  v  WRITE
            /\  
            BE  a  BEAUTY
```

The Num head triggers Spell-out, at which point *writer* is inserted into Num, and the DegP lexicalizes as *beautiful* and raises to adjoin to NumP, as it is not in canonical predicate position.

The subject of the DegP/aP *beautiful* must be nominal, as we have maintained throughout that ‘a’
heads c-select for nominal elements in their specifiers. An AdvP (discussed in Chapter 7 below) in the same structural position would not have non-nominal material available above it to control its unspecified subject, while merger of the aP at a juncture higher up the verbal projection would not allow the shifted object to control the adjective’s subject. As formulated, however, the structure in (5.68) allows for a straightforwardly conjunctive Relator: a beautiful writer causes the coming about of a state of affairs in which a thing comes to be written and beautiful.

Phrases like thorough investigator, involving a subject-oriented Manner A, do not submit to such an analysis. They can, however, be analyzed as Situational NIAM structures:

(5.69) thorough investigator (Event NIAM: Subj-oriented Manner/Situational analysis)

```
( Event NIAM: Subj-oriented Manner/Situational analysis)

NumP
  /  \
Num  nP
  /  \
  n  RP
PERSON / \ 
  DegP  RP
  /  \
  PRO  DegP  V oiceP
  /  \  /  \
  t  aP  PRO  V oiceP
  /  \  /  \
  a  \THOROUGH  PRO  vP
  /  \  \  \vP
COME / \ 
  t  vP
  /  \ 
  v  \INVESTIGATE
BE
```

This leads to an unexpected prediction, namely that all English attributive structures diagnosed as Event NIAM will either be (a) analyzable as object/result-oriented Manner As (cf. beautiful
writer), or (b) analyzable as Situational NIAM, i.e. contain an Episodic A and a Role N, and be indistinguishable in its interpretation from a Situational reading. This is the case with thorough investigator—it is all but impossible to articulate the truth conditions that would distinguish a person who is thorough as an investigator from one who investigates thoroughly—and it appears to hold more broadly as well\textsuperscript{21}. Interestingly, in past-tense embedded contexts, the nominal only yields the Situational NIAM reading: in Marple was a thorough investigator, it is insufficient for Marple to have merely lucked her way into one thorough investigation; instead, we get a similar kind of world-structure statement as we do with overt as (cf. she was thorough as an investigator vs. she investigated thoroughly). We take this as an argument for the Situational analysis of Subject-oriented Event NIAM.

The different ways we have developed to look at Event NIAM now allow for greater clarity on the phrases which seem blurred between types. For instance, in Chapter 4 we struggled to determine whether laidback host was an example of Situational NIAM ‘laidback as a host’ or Event NIAM ‘hosting a laidback party’; since we are able to generate different structures for the two interpretations, we may say that both are available, and leave it at that. Note that the existence of NIAM forms diagnosable as, on one hand, Situational or Event but not Reference

\textsuperscript{21} One set of apparent exceptions is illustrated by repeated victim, for which neither the Object-oriented Manner nor the Situational analysis works. It is worth noting, however, that repeated victim meets our diagnostic for Reference NIAM as well (it is repeatedly the case that a repeated victim is a victim). Thus, though our typological diagnostics might warrant fine-tuning based on our analysis—a move which would work against the avowedly theory-agnostic parameters of Chapter 4—and the prediction articulated above is not airtight, we are not at loss for analysis of any of the forms in question.
(laidback host, beautiful writer), or—on the other—Event or Reference but not Situational (repeated victim) militates for the validity of all three categories.22

Merging an nP headed by PERSON as the subject of BEAUTIFUL (or THOROUGH) yields the intersective reading:

\[(5.70) \quad \text{beautiful writer (IAM: no Comparison Class)}\]

At PF, beautiful is inserted under the Deg head, and writer under the Num head. The light DegP beautiful raises to adjoin to the NumP, yielding the surface word order.

\[\text{NUMP}\]
\[\text{NUMP} / \backslash\]
\[\text{Num DegP} / \backslash\]
\[\text{Deg aP} / \backslash\]
\[\text{nP aP} / \backslash\]
\[\text{n_i VoiceP a√BEAUTY PERSON / \backslash -FUL PRO_i VoiceP} / \backslash\]
\[\text{Voice vP} / \backslash\]
\[\text{PRO_j vP} / \backslash\]
\[\text{v vP COME} / \backslash\]
\[\text{t_j vP} / \backslash\]
\[\text{v √WRITE BE}\]

---

22 The unavailability of interpretations like tall killer, in which the object of killing is tall, reminds us that we are drawing only from the set of Manner As, not the full set of English adjectives; similarly, tall creator cannot mean ‘person who creates tall things,’ though tall things can certainly be the result of creating events. A complete account must motivate this fact, which for now remains described but not explained. Quite possibly the verbal root (e.g. √WRITE) selects for a semantically restricted complement, which—even when null—must be compatible with modification by the adjective in question. Thus the result of a writing event can be beautiful and the result of a killing event horrific, but neither one can be tall.
The unavailability of the Event reading across the copula follows from the VoiceP being embedded under a DP when it merges with adjectival BEAUTIFUL:

\[(5.71)\]

\[
\begin{array}{c}
\text{the writer is beautiful} \\
\text{TP} \\
\text{/} \\
\text{DP₁} \\
\text{/} \\
\text{TP} \\
\text{/} \\
\text{D} \\
\text{NumP} \\
\text{T} \\
\text{DegP} \\
\text{THE} \\
\text{writer} \\
\text{[+pres]} \\
\text{/} \\
\text{Deg} \\
\text{aP} \\
\text{/} \\
\text{t₁} \\
\text{aP} \\
\text{/} \\
\text{a} \\
\sqrt{\text{BEAUTY}} \\
\text{-FUL}
\end{array}
\]

The situation is similar if we imagine that a generic NumP in the place of DP: we still do not get the event reading for writers [generic] are beautiful.

**5.2.5.1 Event Twins**

The well-known fact that twinned forms such as beautiful beautiful writer must be interpreted with the NIAM reading inside the IAM is a natural consequence of the structural account above. The IAM must involve a DegP merged somewhere above the ‘n’ head, which must c-command the VoiceP modified by the NIAM DegP.

The lack of clausal elements within the adjectival structure effectively precludes recursion of the type available with proud and hopeful (see §5.2.1 above); structures like the following are all but redundant\(^{23}\):

\[^{23}\text{This redundancy is echoed by the adverbial modification in she writes beautifully beautifully.}\]
Under Kamp & Partee’s (1995) two principles in §5.1.1, the higher beautiful is redundant, as the comparison context is established by the head alone. A more liberal account might have the higher modifier’s interpretation contextualized by the phrase in its scope, in this case [beautiful write]; this gives us an intensificational reading. In short, there is recursion of a sort, but which reduces to intensification, unlike that occurring with Dispositional and Emotional As.

The split between Manner A types that we have proposed to be structurally relevant raises the question of ‘brother’ forms, i.e. the readings available when a subject-oriented Manner A (e.g. thorough) combines with a result-oriented variety (beautiful). Our syntactic account predicts an interpretational asymmetry, namely that the subject-oriented Event NIAM reading occurs outside the result-oriented reading. Some speakers do report a greater inclination to assign the individual reading to the outside adjective in (a) than in (b), with none reporting the reverse asymmetry:

(5.73)  
\[ \begin{array}{ll}
\text{a. a BEAUTIFUL thorough writer} & \text{b. a THOROUGH beautiful writer} \\
\end{array} \]

Judgments are delicate, however, and subject to manipulation by the choice of lexical item; we have been unable to determine if this pattern is empirically robust.
5.2.6 Transferred Epithet NIAM Structures

Gricean Maxims and contextually-supplied concepts likely lie behind NIAM of the ‘Transferred Epithet’ variety, exemplified by tough mountain. Transferred epithets arise through clear semantic type mismatches, similar to those that between verbs and certain objects:

(5.74) we have read Tolkien

Here, successful interpretation requires a structure-building repair operation, the analysis of which will depend on one’s theoretical toolkit. Under a lexical semantic approach (e.g., that of Pustejovsky 1995), Tolkien or read may carry certain qualia structures that are accessed secondarily (cf. a quick book). Under the current approach, something quite similar takes place syntactically: the complement of √READ—presumably interpreted as the (simple) DP Tolkien—must be expanded to encompass something compatible with our encyclopedic knowledge of reading and people:

(5.75) $\begin{array}{c}
\text{RP} \\
/ \ \ \ / \\
\text{DP} \ \ \text{RP} \\
/ \ \ \ / \\
\text{nP} \ \ \text{RP} \\
/ \ \ \ / \\
\text{R} \ \ \sqrt{\text{READ}} \\
/ \ \ \ / \\
\text{STUFF} \ \ \ / \\
/ \\
\text{P} \ \ \text{DP} \\
/ \\
\text{BY} \ Tolkien
\end{array}$

Such adjustments, though perhaps guided by linguistic knowledge, are relatively unconstrained.

As we saw above with Event NIAM, there is no shortage of evidence suggesting the presence of silent nouns with underspecified semantics (cf. much work by Kayne, e.g. 2005, 2007).
*Tough*—under its non-physical reading—can take clausal material in its specifier (a,b), or event(uality)-denoting DPs and nPs with implicit subjects (c,d). Substance-denoting DPs without clear qualia events are less tolerable (e):

(5.76)  
a. it’s tough that they don’t eat cooked food  
b. it’s tough to read Kundera  
c. the D-Day invasion was tough  
d. growing tomatoes is tough  
e. #that chalk is tough  

Context can make (e) felicitous and unambiguous: a chalk-breaking spree will supply ‘breaking’ eventualities, just as a bike trip will supply a contextual anaphor for the PRO-PRED for *tough mountain*:

(5.77)  
* tough mountain  
  aP  
  / \  
  nP aP  
  / \ / \  
  n √MT. a RP  
  / \  
  PRO-PRED RP  
  / \  
  R √TOUGH  

There is unlikely to be a revealing linguistic account of the *unconstrained* Transferred Epithet variety of non-intersectivity, as it quite clearly involves the contextual interpretation of underspecified linguistic structures. When context intervenes consistently enough, we may register it in the qualia structure of our lexical entry; with even more consistency, the core semantics of a lexical item may shift. The present approach to non-intersectivity has little to contribute to or detract from our understanding of these processes.
Recall from Chapter 4, however, that there are structures diagnosable as Transferred Epithet cases which appear narrowly constrained by overt material in a local environment.

Larson (1999) has analyzed forms such as (interviewed) every possible candidate and the wrong man as involving Antecedent Contained Deletion and ellipsis, respectively. Our non-lexicalist approach offers an opportunity for the controlling predicate to control (via c-command) the elided material:

\[(5.78) \quad \text{we killed the wrong man}\]

Whatever predicate we assume the Voice head to be (\textit{cause} seems likely, given the telicity of killing events), its structural relation to the \textit{pro-pred} may be responsible for the obligatory or strongly-preferred interpretation of the complement of \textit{wrong} (‘to cause…’).
The power of the c-commanding head to serve as ‘first context’ is illustrated in the following pair of miniature discourses:

(5.79)  a. she married the wrong man, and one year later, the wrong man left her
b. the wrong man married her, and one year later, she left the wrong man

Notice that the c-command determination of \textit{wrong} early in (a)—\textit{married} giving it a ‘to marry’ specification—supplies the extra-sentential context for the presumably un-c-commanded \textit{wrong} in the second sentence: the two instances of \textit{wrong man} can easily co-refer. In (b), however, \textit{wrong} gets a weaker determination in the first sentence—filled in late, perhaps, by \textit{married}—which then struggles mightily to overcome the c-command determination that \textit{left} exerts in the second sentence: it is much harder to get co-reference for the two identical DPs.

\section*{5.2.7 Stroboscopic NIAM Structures}

As we saw in Chapter 4, the ingredients for Stroboscopic NIAM come disproportionately from the ‘N’ cabinet: only a handful of English adjectives engage in it (\textit{occasional}, \textit{odd}, \textit{infrequent}), while there appears to be no limit whatsoever on the contributing nouns. We speculated that the adjective might be capable of modifying an AspP; however, there are several that appear to fit the bill—\textit{intermittent, unusual, periodic}—but, pace Zimmermann (2000:290)\textsuperscript{24}, do not trigger the reading in question, except with clearly event-denoting nouns:

(5.80)  a. #the/an intermittent sailor strolled by
b. an intermittent car alarm sounded
c. #the unusual Samoan showed up
d. the unusual pattern kept cropping up
e. #the/a periodic traveller dropped in
f. a periodic chime let us keep track of time

As mentioned in Chapter 4, there also appear to be constraints on the verb phrase:

\textsuperscript{24}“O(occasional) C(onstruction)s can occur with any adjective expressing infrequency.”
Larson (1999) proposes that head-movement assembles a complex quantifier out of the
determiner and adjective, a process that Zimmermann (2000:296), in endorsing the approach,
calls ‘grammaticalization.’ The characterization is appropriate, given the very limited number of
participating forms, as well as the idiosyncratic patterning of determiner meaning (first noted by
Larson):

(5.81)    a. the occasional sailor ate a bagel
         b. the odd Samoan applied to an American university
         c. the infrequent tourist called home

The near total synonymy of (a) and (b), juxtaposed with the starkly different semantics of (c),
suggests that the grammatical function of the determiner in (a) is quite remote from its standard
use. This extreme departure from protocol cannot be taken lightly.

Though it is essentially a non-lexicalist repackaging of Larson’s suggestion, a sketch of
how this treatment of Stroboscopic NIAM would look under current assumptions may be of
some use, at the very least to demonstrate that late, configurational insertion does not preclude
such an analysis. Taking Zimmermann’s description seriously, what the Stroboscopic
phenomenon reflects is a listedness of forms like the-odd, the-occasional, an-occasional, and
the-infrequent; their inseparability and radically idiosyncratic meaning argue for their status as
grammatical words. This gels with the synonymy of (a), (b), (c) and (d) below, as well as the
surprising unavailability of Stroboscopic NIAM readings in (e) and (f):

(5.82)    a. the occasional vampire phoned us up
         b. occasionally, a vampire phoned us up
         c. occasionally, the vampire phoned us up

(5.83)    a. the occasional sailor showed up
         b. the odd sailor showed up
         c. the infrequent sailor showed up
d. an occasional sailor showed up
e. #an odd sailor showed up
f. #an infrequent sailor showed up

Given that we are inserting listed material into a functional head (Q), there is no need to propose a root for the grammaticalized form:

(5.84) **PF Instructions for** the-occasional, the-odd, the-infrequent, an-odd

Any one of the first four sentences in (5.83), then, would have the following structure immediately before final Vocabulary Insertion:

(5.85) *the occasional sailor showed up*

Insertion of the-occasional—or any of the other three forms—into Q, along with -ed into T, yields the following morphologized output for the PF component:

(5.86) \[ TP [QP the-occasional] [TP [NumP sailor] [TP -ed [VoiceP show up]]]]\]

---

25 The nature of the phrase here is left unspecified. Obviously, phrase structure concerns would lead us to project a QP, but that in turn raises the question of whether such a structure can be selected for by C. As an alternative, this Q is phrasal, and adjoined to TP.
This fusional approach predicts that phrases like \textit{the three occasional sailors showed up} will not submit to a Stroboscopic reading, which is true: the only reading of \textit{occasional sailors} when the word three intervenes is Event NIAM; while \textit{the occasional three sailors...} can be Stroboscopic.

Pronominal \textit{one} yields more easily to the Stroboscopic NIAM reading than it does the Event NIAM reading, which we would expect given our structures and assumptions:

\begin{equation}
\text{(5.87) how about sailors? well, the occasional one showed up}
\end{equation}

Though context would appear to permit either, the Event reading is blocked, a consequence of \textit{occasional} merging below the nP level (see §5.3.5 below)

The most serious difficulty for this account, aside from the unappealing quality of listing forms like \textit{the-odd}, and the still-mysterious constraints on the verb phrase, is the variation in word form that we usually would not expect from grammatical morphemes:

\begin{equation}
\text{(5.88)} \\
\text{a. the ever-so-occasional sailor showed up} \\
\text{b. the fairly infrequent tourist dropped in}
\end{equation}

The fusional view of \textit{the-occasional} and \textit{the-infrequent} does not allow space for \textit{ever-so} and \textit{fairly} to merge or move between the two elements, and is forced to countenance a longer list, presumably including \textit{the-ever-so-occasional}, \textit{the-fairly-occasional}, \textit{the-fairly-infrequent}, and so on. Though lexicalist head-movement analyses do not face this particular difficulty, they must motivate the head-movement from D to Q, and account for what constrains which word forms and which modified structures thereof are able to undergo it.

\textbf{5.2.8 Q-modifying NIAM Structures}

The NIAM variety we have labeled Q-Modifying (\textit{the precise speech}) is quite similar to the Stroboscopic variety in that (i) an adjective—also drawn from a limited, quantificational-
esque set (*precise, exact, very*)—appears to interact with the article rather than the noun; (ii) the interpretation depends on additional material from the linguistic discourse; and (iii) nothing but expressive discourse markers (*fuckin’, goddamn*, etc.) may intervene between article and adjective. There are also differences: (i) indefiniteness does not enter the equation, as here the iota operator itself appears to be the argument of the adjectival predicate, (ii) the composed noun phrase is entirely endocentric, and (perhaps for this reason) (iii) non-inclusion of the additional material makes the utterance unnatural (a) as opposed to incomprehensible (b):

(5.89)  
   a. the precise speech  
   b. #the occasional sailor

This last pattern may be similar to the behavior of numerals in definite noun phrases, which Leu (2008:68, attributed to Richard Kayne) takes to call for anaphoric material:

(5.90)  
   the nine bagels #(you ordered)

It is also telling that (5.75at) has what appears to be an exactly synonymous variation in which modifier and article are swapped, with adverbial -ly suffixed:

(5.91)  
   precisely the speech

This version has slightly different distribution, however:

(5.92)  
   a. that is precisely the speech we wanted  
   b. that is the precise speech we wanted  
   c. we wanted precisely that speech  
   d. we wanted that precise speech  
   e. ?precisely that speech made me join the Merchant Marine  
   f. that precise speech made me join the Merchant Marine  
   g. ?precisely the speech I recited last week was “Cross of Gold”  
   h. the precise speech I recited last week was “Cross of Gold”

The degraded quality of (e) and (g) speak to the question of whether *precise* and *precisely* are allomorphs conditioned by context, a familiar issue to which we shall return in Chapter 7.
Finally, the class of Q-modifying adjectives is apparently co-extensive with the class of adjectives that can precede same:

(5.93) that’s the very/exact/precise\textsuperscript{26} same car #(that ran over Buttercup)!

Adding to the intrigue, the two adjectives same and precise can combine to precede a numeral, in either order,\textsuperscript{27} and with no apparent distinction in meaning:

(5.94) a. the same exact nine players...
     b. the exact same nine players...

This distinguishes precise from the other two D-modifiers, which cannot follow same:

(5.95) a. *the same very nine players...
     b. the very same nine players...
     c. ??the same precise nine players...
     d. the precise same nine players...

At the very least, these data argue for a fine-grained left periphery of the DP. Though extended argumentation for or against any particular proposal is beyond the scope of the current project, we can use Roehrs’s (2006:26) hierarchy as a basis for the outline of an analysis. Roehrs takes the highest two phrases to be DP and Card(inality)P, and proposes that numerals are merged as phrases in Spec, CardP. Assuming this much and abstracting away from other levels of structure, the discontinuous insertion of our present approach allows us to capture (something like) Roehrs’s head movement of articles to D\textsuperscript{28} in the following way:

\textsuperscript{26} This particular usage offends some English-speaking ears but is well-attested in all registers of the standard language.

\textsuperscript{27} There is a marked preference for exact same in corpora, but the alternate ordering occurs frequently as well.

\textsuperscript{28} Roehrs proposes that articles originate as heads of an Art(icle)P, then head-move through Card on their way up to D, an extra layer of structure easily added to the sketch in (5.82).
(5.96)

\[
\begin{array}{c}
\text{the} \\
\text{DP} \\
/ \quad \backslash \\
\text{D} \quad \ldots \\
[+\text{def}] \quad \backslash \\
\swarrow \quad \text{CardP} \\
/ \quad \backslash \\
\text{Card} \quad \ldots \\
[+\text{spec}] \\
\end{array}
\]

The adjectives \textit{precise}, \textit{exact}, and \textit{very} need no special internal structure, but must be lexically permitted to adjoin to CardP, sensitive to some feature—[+specific], for instance—present on the definite article but not on the indefinite. Thus, following the conventions established above, and a phrase like \textit{the precise speech} would have the structure:

(5.97) \textit{the precise speech} (Q-Modifying NIAM)

\[
\begin{array}{c}
\text{DP} \\
/ \quad \backslash \\
\text{D} \quad \text{aP} \\
[+\text{def}] \quad \backslash \\
\text{CardP} \quad \text{aP} \\
/ \quad \backslash \quad / \quad \backslash \\
\text{Card} \quad \text{NumP} \quad \text{a} \quad \sqrt{\text{PRECISE}} \\
[+\text{spec}] \quad \text{speech} \\
\end{array}
\]

Vocabulary Insertion converts this to [DP the [aP [CardP speech] precise]]: unfortunately, Light RP raising does not help us, as it might target the aP—which is light, and possibly not in predicate position—but raising it yields \textit{speech precise the}, exactly the reverse of the surface order.

As an alternative, we might take the unmodifiability of \textit{very}, \textit{precise} and \textit{exact} under Q-Modifying readings to indicate defective ‘a’ or operator status. Merging this functional head above the CardP straightforwardly accounts for the surface word order:
Yet another possibility is to adjoin precise directly to the Card head:

(5.99)
\[
\begin{array}{c}
\text{DP} \\
/ \ \\ \\
\text{D} \quad \text{aP} \\
[+\text{def}] \\
/ \ \\ \\
\text{a} \quad \text{CardP} \\
\text{PRECISE} \\
/ \ \\ \\
\text{Card} \quad \text{NumP} \\
[+\text{spec}] \quad \text{speech}
\end{array}
\]

This also yields the desired surface order, and quite possibly the semantics we are going for.

Note that the precise speech... and the one speech... convey largely the same idea, and compete for insertion in this context.

5.3 Summary

We have seen that various structures inside the extended nominal projection—bare roots, RPs, VoicePs, nPs, NumPs, even CardPs—offer meaningful loci for non-intersective adjectival modification. We have also seen that complex adjectival projections permit compositional analysis of Dispositional and Subjecthood varieties of non-intersectivity, as well as a compositional account of Event NIAM that syntactically represents modification of the event variable while maintaining a structural configuration that does not call for adverbial morphology.

The behavior of these NIAM structures when separated by the copula and in twinned structures has been demonstrated to follow from the structural analyses proposed; the approach
correctly blocks logically conceivable readings and derivations on consistent structural grounds.

For instance, explanation for the unavailability of the following twinned readings can be found on the page numbers indicated:

(5.100)  
\begin{align*}
a. & \text{*muscular}_n\text{-int} (\text{‘about muscles’}) \text{ muscular}_m\text{-int} (\text{‘with muscles’}) \text{ expert (p201)} \\
b. & \text{*huge}_n\text{-int} (\text{‘for a flea’}) \text{ huge}_m\text{-int} (\text{‘in general’}) \text{ flea (p212)} \\
c. & \text{*beautiful}_n\text{-int} (\text{‘skilled’}) \text{ beautiful}_m\text{-int} (\text{‘attractive’}) \text{ writer (p227)}
\end{align*}

The unavailability of NIAM readings across the copula is discussed for the following types on the page numbers indicated:

(5.101)  
\begin{align*}
a. & \text{#that parent is hopeful (p187)} \\
b. & \text{#that expert is muscular (p200)} \\
c. & \text{#that writer is beautiful (p227)}
\end{align*}

Additionally, we have found reason to understand Privative NIAM as directly determined by lexical semantics, Transferred Epithet NIAM as a structure-building repair operation motivated by Gricean concerns, and Stroboscopic NIAM as possibly involving grammaticalization along the lines suggested by Larson and Zimmermann, all perspectives compatible with the assumptions outlined in Chapter 3.

It is reasonable to ask, this point, to what extent the Distributed Morphology framework established in Chapter 3 contributes to our understanding of the range of NIAM types discussed in this chapter. In a narrow sense, DM may certainly not be necessary: we have not argued for its superiority to other non-lexicalist approaches. What frameworks like DM offer of particular value to the empirical object of investigation is a consistent toolkit—motivated but not dictated by morphology—for understanding sub-lexical elements: the $\sqrt{}\text{HOPE}$ inside hopeful, but also the $\sqrt{}\text{PRIDE}$ inside proud; the $\sqrt{}\text{WRITE}$ inside writer, but also the $\sqrt{}\text{PATIENT}$-being inside patient. The interstices offered by this sub-lexical framework allow for IAM/NIAM ambiguities to be
straightforward questions of scope: under a strictly lexicalist approach, there simply isn’t the structure for scopal variation. Analyses like Siegel’s (cf. discussion in Chapter 2) must then propose massive multiple-entry, while work along the lines of Larson’s (ibid) creates interstices through the introduction of super-structure like generalized quantifiers (Chierchia 1995), which extend phrases in “generic verbs, predicate nominals, and individual-level predicate adjectives” (Larson & Takahashi 2002).

Suggestive argumentation for this essentially super-structural account, and against sub-lexical analysis of non-intersectivity, comes in Larson & Takahashi’s (2002) analysis of relative clause ordering in Japanese in Korean: order is shown to be connected to restrictiveness, temporary properties, and stage- vs. individual-level readings, though conspicuously not straightforward intersectivity readings of the type considered in this investigation. Those aiming to reduce these diverse semantic traits to one or two syntactic domains (e.g. Cinque 2010) will naturally take the Japanese and Korean data as evidence for these domains being external to the word. In our view, however, this is risky: restrictiveness, for instance, is quite clearly a pragmatic concern, and one for which sub-lexical analysis would be quite a counterintuitive starting point indeed. Evidence that it is super-lexical, in short, is not necessarily evidence that intersectivity is.

Consideration of a super-structural alternative to the analysis outlined for hopeful parent illustrates the utility of the present sub-lexical approach. Given that we are using the ability to take infinitival complements as a diagnostic for Dispositional and Emotional As, we might contemplate the possibility that the NIAM reading of hopeful parent is a straightforward case of ellipsis, to the extent that there is such a thing. We might begin with a structure like the following:
How does this become a nominal? Perhaps a silent nominal head of some kind is merged above the AP, which under some theory the word parent can lexicalize. This rapidly approaches the complexity of the present approach, but without the established constraints; this is in addition to the fact that both hope and hopeful take non-factive complements is left as a coincidental oddity of the lexicon, rather than a linguistic pattern. This is of course a straw man, but one that points to the difficulties awaiting lexicalist analyses of the forms considered in this chapter.

The following chapter looks to mixed element types, mixed modification types, and postnominal IAM structures for further evidence in support of the present approach.
6 Analytical Extensions

In establishing our theoretical apparatus at the end of Chapter 3, we briefly looked at simple and complex intersective phrases (red ball, big blue wolf) whose relatively unproblematic status\(^1\) in linguistics made their successful treatment a desirable starting criterion for a novel proposal on modification. Chapter 5 demonstrated that a syntactic, late-insertion approach to the types of NIAM identified in Chapter 4 could account for the more problematic interplay of interpretation and word order that manifests itself in English. We now turn to a handful of issues—some involving NIAM, others not—which our understanding of adnominal modification should also encompass, and which we will see with greater clarity under the current proposal.

Our primary focus is on complex cases, starting with words that are multiply categorizable and thus expected to produce structures ambiguous between two (or more) varieties of NIAM, ambiguities whose existence poses serious problems for simpler analytical approaches (§6.1). We then look at instances of mixed modification, i.e., the empirical consequences when two prenominal adjectives with the ability to participate in different types of NIAM merge with the same head noun, and how this behavior is captured by our analysis (§6.2). In §6.3 we turn to postnominal modification, which in English is resolutely intersective, but upon which our analysis sheds some light. We see that relative clauses and reduced relatives work straightforwardly under the present approach, and that a unified, non-lexicalist structural understanding of attributive modification lends itself to explanation of issues in intersective modification such as that of ‘never attributive’ adjectives.

\(^1\) The ordering of big and blue (cf. *blue big wolf) remains an aspect of English for which linguistic analysis struggles to achieve much beyond descriptive adequacy (see discussion in Chapter 7).
6.1 Multiply Categorized Elements and NIAM/NIAM Ambiguities

Though we were more precise in distinguishing the types of NIAM than we were in isolating the types of A and N that produce NIAM, there are clearly word forms that fit into more than one of the categories we argued to be relevant. For the most part we chose to avoid these words for clarity’s sake during the typological exercise in Chapter 4, but they now warrant our careful attention. In the interest of extending the relatively compartmentalized analysis of Chapter 5 into stickier but still analyzable realms, we now consider a number of phrases which exhibit ambiguities between at least two types of NIAM\(^\text{2}\), arising through the multiple category status of the adjective, noun, or both:

\[
\begin{array}{llll}
\text{Phrase} & \text{NIAM Types} & \text{A Type} & \text{N Type(s)} \\
\hline
\text{a. reluctant driver} & \text{Disp’l / Event} & \text{Disp’l / Manner} & \text{Role / Agentive} \\
\text{b. happy companion} & \text{Sub’hood / Situat’l} & \text{Emot’l / ‘SLP’} & \text{Role} \\
\text{c. lyrical contributor} & \text{Associative / Event} & \text{Manner / Relational} & \text{Role / Agentive} \\
\text{d. nasty pitcher} & \text{Event / Situational} & \text{Manner / ‘SLP’} & \text{Role / Agentive} \\
\text{e. dubious referee} & \text{Reference / Situat’l} & \text{Modal / ‘SLP’} & \text{Role} \\
\text{f. practical authority} & \text{Assoc. / Reference} & \text{Modal / Relational} & \text{Role} \\
\text{g. clear orator} & \text{Event / Reference} & \text{Manner / Reference} & \text{Role / Agentive} \\
\end{array}
\]

Since the different readings warrant careful unpacking, paraphrases are saved for the discussion below. As with our previous efforts at broad coverage, no claim of exhaustiveness is made here: these exemplify merely the most obvious types of NIAM / NIAM ambiguity; there certainly may be others. Note, however, that structural ambiguity between any two (or more) NIAM types is crippling to analyses of the Manichean stripe, which are at a loss for explaining how, say, a non-intersective A performs a different kind of non-intersectivity, or merges into a different level of the inner domain, other than to appeal to lexical idiosyncrasy.

\(^2\) Each of these phrases also yields a third, IAM, reading, and in some cases a fourth and fifth.
The sub-section is organized by ambiguity type (a. - g.), with the behavior of the individual elements established in the process.

6.1.1 Dispositional / Event NIAM (*reluctant driver*)

Our definitions of Dispositional A and Manner A lead us to view *reluctant* as both:

(6.02)

a. Harry is reluctant to be king  
   b. *reluctantly* can mean *in a reluctant manner/way*

This should mean that *reluctant* can combine with a Role N to produce Dispositional NIAM, and with an Agentive N to produce Event NIAM. The noun *driver* qualifies as both N types, so we can predict that *a reluctant driver* will be ambiguous between the two NIAM readings. This appears to be the case:

(6.03)  

*reluctant driver*  

a. ‘reluctant to be a driver — not yet a driver’  
   (Dispositional NIAM)  
   b. ‘drives reluctantly — already a driver’  
   (Event NIAM)

Evidence that we are dealing with significant ambiguity, rather than shades of meaning, comes from the disparate entailments for the two readings of *Wendell’s a reluctant driver*: under only one reading (6.03b) must he be a driver. As with many forms diagnosable as Event NIAM, *reluctant driver* also qualifies as an instance of Situational NIAM—we get a reading of ‘reluctant as a driver’ that is hard to distinguish from an Event reading.

We do not need to propose multiple listings for the two words. The Dispositional reading follows from *reluctant* having a structure identical to that of *hopeful* (though see §6.2.2 below for an interesting distinction between the two adjectives), with a root that can select for non-factive propositional complements (in Spec, RP):
Like *parent, driver* is a Role N, but—as an Agentive N like *writer*—it contains additional structure as well:

(6.05)  
\[
\begin{array}{c}
\text{driver} \\
\text{Nump} \\
/ \ \\
\text{Num} \ \\
\text{\_\_\_} \\
/ \ \\
\text{nP} \\
/ \ \\
\text{n} \\
\text{\_\_\_} \\
/ \ \\
\text{PERSON} \\
/ \ \\
\text{Voicep} \\
/ \ \\
\text{Proi} \\
/ \ \\
\text{Voicep} \\
/ \ \\
\text{Voice} \ \\
/ \ \\
\text{VP} \\
/ \ \\
\text{V} \\
\text{\_\_\_} \\
/ \ \\
\text{COME} \\
/ \ \\
\text{VP} \\
/ \ \\
\text{V} \\
\text{\_\_\_} \\
/ \ \\
\text{BE} \\
/ \ \\
\text{\_\_\_} \\
/ \ \\
\text{DRIVE}
\end{array}
\]
We can thus derive a structure nearly isomorphic to that proposed in Chapter 5 for hopeful parent (repeated here), only differing in the extended lower nP building driver\(^3\) differing from our analysis of that phrase in Chapter 5:

\[(5.08) \quad \text{hopeful parent (Dispositional NIAM)}\]

\[
\begin{array}{c}
\text{NumP} \\
/ \quad \backslash \\
\text{Num} \quad \text{nP} \\
/ \quad \backslash \\
\text{n} \quad \text{DegP} \\
\text{PERSON}_i \\
/ \quad \backslash \\
\text{PRO}_i \quad \text{DegP} \\
/ \quad \backslash \\
\text{Deg} \quad \text{aP} \\
/ \quad \backslash \\
\text{t}_i \quad \text{aP} \\
/ \quad \backslash \\
\text{a} \quad \text{RP} \\
/ \quad \backslash \\
\text{-FUL} \\
/ \quad \backslash \\
\text{RP} \quad \text{RP} \\
/ \quad \backslash \\
\text{PRO}_i \quad \text{RP} \quad \text{R} \quad \sqrt{\text{HOPE}} \\
/ \quad \backslash \\
\text{R} \quad \sqrt{\text{PARENT}}
\end{array}
\]

\(^3\) This type of extended but inert structure will come up several times again in the discussion that follows. In these cases, we will abbreviate the lower part of an Agentive/Role N’s structure with bracketed small-caps (e.g., [DRIVER]). Naturally, when the sub-structure is involved in modification, it will be fully expressed.
The Event NIAM Reading is of the subject-oriented adverbial variety: the result of the driving event is not in any way construable as ‘reluctant’ on this reading of *reluctant driver*. We can, following the approach outlined in Chapter 5, build a Situational NIAM structure that captures the semantics we are looking for:
This structure can be paraphrased as ‘a person who causes things to be driven while (that person) is reluctant,’ which is the type of manner adverbial we mean to express. Thus, though billed (and diagnosed) as ambiguous between Dispositional and Event NIAM, we have shifted the second categorization to Situational.

The discussion of Event NIAM in Chapter 5 and our examination of reluctant driver demonstrate that the categories of Situational and Event NIAM are similar enough—both involving ‘adverbial’ modification, broadly speaking—that many attributive phrases will be diagnosable as both, with any meaningful distinction blurred or obscure. However, the fact that there are cases which only diagnose as one, as well as phrases such as nasty pitcher (discussed
below) which are sharply ambiguous between the two, supports the notion that these categories
are real, albeit with significant overlap. We will therefore pay close attention to establishing the
ambiguity between Event and Situational NIAM in §6.1.4 below.

6.1.2 **Subjecthood / Situational NIAM (happy companion)**

Words like *happy* qualify as Emotional As (6.08a), but are also the type of ‘Stage Level’
A we discussed in Chapter 4 (6.08b):

(6.08)  
   a. he is happy to be home
   b. he is a happy drunk, but a miserable person otherwise

This primes us to expect ambiguity, which we get: for any Role Noun *N*, a *happy* *N* has the
readings ‘happy to be an *N*’ and ‘happy as an *N*.’ There is some reason to think that all Emotional
As have this trait, i.e. that all Subjecthood NIAM structures may also be interpreted as
Situational NIAM, but this is of course not the same as saying that the two categories are the
same.

There is no structural reason for an adjective to be unable to participate in both types of
NIAM: the only special property required is that for Subjecthood. The root of *happy*, like that of
*proud*, selects for a propositional complement, where the RP of a Role N can merge:
For Situational NIAM, the only requirement is that both A and Role N share a temporality that can overlap; *happy* merges in the specifier of an RP headed by *AS* and containing √COMPANION:

\[(6.10) \quad \text{happy companion} \quad \text{(Situational NIAM: ‘happy as a companion’)}\]
Insertion proceeds along familiar lines, with Light RP Raising yielding the attested surface order.

6.1.3 Event / Associative NIAM (*lyrical contributor*)

The phrase *lyrical contributor* has the potential for quite a bit of ambiguity, but two salient readings are Event and Associative NIAM:

(6.11) *lyrical contributor*

| a. ‘contributes in a lyrical way (e.g., a jazz soloist)’ (Event NIAM) |
| b. ‘contributes lyrics’ (Associative NIAM) |

These both contrast sharply with an IAM reading, ‘a contributor who is (generally) lyrical.’ The Event reading is isomorphic with that of *beautiful writer*:

(6.12) *lyrical contributor* (Event NIAM: ‘contributes in a lyrical way’)

```
NumP
|___|___|
Num  nP
|___|___|
\ n VoiceP
  PERSON /                 / Voice vP
    \ PROk VoiceP
        \ vP
            \ v
                \ v
                    \ v
                        \ v
                            \ v
                                \ v
                                    \ v
                                        \ v
                                            \ v
                                                \ v
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idea that *lyrics* are contributed: recall from Chapter 5 (§5.2.1) that the Class head acts as a copula:

(6.13) \[ \text{lyrical contributor} \quad \text{(Associative NIAM: ‘contributes lyrics’)} \]

\[
\begin{array}{c}
\text{NumP} \\
/ \quad \backslash \\
\text{Num} \\
/ \quad \backslash \\
\text{nP} \\
/ \quad \backslash \\
\text{n}_k \\
/ \\
\text{VoiceP} \\
/ \\
\text{PERSON} \\
/ \\
\text{PRO}_k \\
/ \\
\text{VoiceP} \\
/ \\
\text{Voice} \\
/ \\
\text{vP} \\
/ \\
\text{CAUSE} \\
/ \\
\text{nP}_j \\
/ \\
\text{vP} \\
/ \\
\text{n}_i \\
/ \\
\text{ClassP} \\
/ \\
\text{v} \\
/ \\
\text{vP} \\
/ \\
\text{THING} \\
/ \\
\text{COME} \\
/ \\
\text{PRO}_i \\
/ \\
\text{ClassP} \\
/ \\
\text{t}_j \\
/ \\
\text{vP} \\
/ \\
\text{Class} \\
/ \\
\text{√LYRIC} \\
/ \\
\text{v} \\
/ \\
\text{√CONTRIBUTE} \\
-\text{AL} \\
\text{BE}
\end{array}
\]

### 6.1.4 Event / Situational NIAM (*nasty pitcher*)

We have already noted that the two most difficult types of NIAM to distinguish are the Event and Situational varieties, yet there are indeed cases which exhibit ambiguity between the two. A *nasty pitcher*, for instance, may be someone who is temporarily a nasty individual when in the role of pitcher\(^5\), or instead someone who throws pitches in a nasty way. The two are different: some pitchers maintain calm or even pleasant demeanors but in ways described as

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\(^5\) For readers who are not baseball fans, the pitcher is the player who begins each play by throwing a ball to the batter, who attempts to hit it. For baseball fans, the Situational reading just described is exemplified by many 9th-inning relief specialists, i.e. ‘closers’: Rob Dibble, the Cincinnati Reds’ closer in the early 1990s, might best serve here, as he and several teammates—all pitchers—went by the nickname ‘Nasty Boys’ during their team’s championship-winning 1990 season.
nasty, i.e. ‘hard to hit’\(^6\), while others have nasty attitudes while serving in their capacity as pitcher, but pitch in a way that is nothing to be afraid of\(^7\).

Under the present approach, structural representation of this ambiguity does not require lexical polysemy, nor separate insertion entries for the two words. Instead, the complex internal structure of Agentive Ns, nearly all of which are Role Ns, combines with the ‘Stage Level’ temporality of an adjective like nasty to generate two different structures. The Result-oriented Event NIAM structure is isomorphic to that proposed for beautiful writer (5.68):

\(^6\) Baseball fans will be familiar with Mariano Rivera, a legendary pitcher with the most phlegmatic of demeanors, but whose pitching was notoriously difficult to hit.

\(^7\) Obviously, famous instances of this type of Situational-only pitcher are harder to come by, as pitchers who don’t pitch nastily tend not to stick around for too long. John Rocker had a nasty attitude, but he carried it off the field with him (even onto the 7 Train, when in New York City), so he is probably best known as a nasty pitcher under the IAM reading. Rob Dibble’s teammate Norm Charlton, never known for particularly outstanding pitching skills, fits the bill: a nasty pitcher only under the Situational NIAM reading.
(6.14) \textit{nasty pitcher} (Event NIAM: ‘pitches in a nasty way’)

\begin{verbatim}
NumP
    / \ 
   Num  nP
      / \ 
     n_k VoiceP
    PERSON / \ 
PRO_k VoiceP
      / \ 
    Voice  vP
       / \ 
      PRO_j vP
         / \ 
        v  RP
      COME / \ 
DegP  RP
     / \ / \ 
PRO_j DegP R  vP
       / \ / \ 
Deg  aP  t_j vP
      / \ / \ 
t_j aP  v  √PITCH
     / \ BE
    a  √NAST
  -Y
\end{verbatim}

This structure, roughly paraphrasable as ‘a person who causes nasty things to be pitched’

contrasts with the one below, paraphrasable as ‘a person who is nasty when causing things to be pitched.’
(6.15)  

\[ \text{nasty pitcher} \]  

(Situational NIAM: ‘nasty as a pitcher’)

\[
\text{NumP} \\
\text{Num} \quad \text{nP} \\
\text{n} \quad \text{RP} \\
\text{PERSON} \quad \text{DegP} \quad \text{RP} \\
\text{PRO}, \text{DegP} \quad \text{R} \quad [\text{PITCHER}] \\
\text{Deg} \quad \text{aP} \\
\text{t} \quad \text{aP} \\
\text{a} \quad \sqrt{\text{NAST}} \\
\text{-Y}
\]

In both cases, the surface word order arises straightforwardly through raising of a light RP that is not in canonical predicate position.

6.1.5 Reference / Situational NIAM (dubious referee)

Though armchair English language prescriptivists continue to argue about whether a dubious man may doubt things, or merely has qualities which should be doubted, the Oxford English Dictionary dates both senses as far back as 1632 (Oxford’s online English Dictionary 2015). We now examine a case that exploits this ambiguity, and see that our syntactic understanding of modification as predication allows for an understanding of this that is structural rather than lexical.

Like possible and other adjectives that take complements, dubious is bipartite, with its ‘a’ head taking an RP in its structural complement, and a nominal (nP, DP) element in its specifier; its root √DUB selects for an RP as its optional complement.
Thus, viewing man as coercible into a Role N reading, the difference between the two readings of a dubious man above is precisely that between IAM and Reference NIAM, illustrated back in §5.1.3.

Turning to more complex matters, a dubious referee may be skeptical in his/her capacity as referee, as most good referees are, or someone whose status as a referee is or should be doubted. This latter reading is diagnosed as Reference NIAM by the criteria given in Chapter 4 (it is dubious that a dubious referee is a referee):
(6.17)  *dubious referee*  (Reference NIAM: ‘dubiously a referee’)

\[
\begin{array}{c}
\text{NumP} \\
/ \  \  \  \  \  \\
\text{Num} \quad \text{nP} \\
/ \  \  \  \  \\
\text{n} \quad \text{DegP} \\
\text{PERSON} \quad / \  \  \  \\
\text{PRO} \quad \text{DegP} \\
/ \  \  \  \  \\
\text{Deg} \quad \text{aP} \\
/ \  \  \  \\
\text{t} \quad \text{aP} \\
/ \  \  \\
\text{a} \quad \text{RP} \\
-\text{OUS} \\
/ \  \  \\
\text{RP} \quad \text{RP} \\
/ \  \  \\
\text{t} \quad \text{RP} \quad \text{R} \quad \text{√DUBI} \\
/ \  \  \\
\text{R} \quad [\text{REFEREE}] \\
\text{BE}
\end{array}
\]

The other is straightforwardly a Situational reading:

(6.18)  *dubious referee*  (Situational NIAM: ‘dubious as a referee’)

\[
\begin{array}{c}
\text{NumP} \\
/ \  \  \  \  \\
\text{Num} \quad \text{nP} \\
/ \  \  \  \  \\
\text{n} \quad \text{RP} \\
\text{PERSON} \\
/ \  \  \\
\text{DegP} \quad \text{RP} \\
/ \  \  \\
\text{PRO} \quad \text{DegP} \quad \text{R} \quad [\text{REFEREE}] \\
/ \  \  \  \  \\
\text{Deg} \quad \text{aP} \\
/ \  \  \\
\text{t} \quad \text{aP} \\
/ \  \  \\
\text{a} \quad \text{√DUBI} \\
-\text{OUS}
\end{array}
\]
In both cases, the surface exponence and order is produced by inserting dubious into the Deg head and referee into the Num head, and raising the light DegP to adjoin to NumP.

6.1.6 Reference / Associative NIAM (practical authority)

Reference NIAM is also diagnosable for practical authority, a phrase with at least three sharply distinct readings:

(6.19) Jim’s a practical authority
   a. IAM: ‘an authority and also pragmatic’
   b. Reference NIAM: ‘practically (almost) an authority’
   c. Associative NIAM: ‘an authority about practical stuff’

Here the interstitiiality of both adjective and noun enables a unified analysis, rather than one based in lexical polysemy. If we understand the -al morpheme to have a vaguely prepositional semantics (roughly ‘in/about,’ cf. prior discussion in Chapters 4 and 5), and the Role N authority to have a root √AUTHOR that select for a semantic topic as its complement (like √EXPERT), then our tools can generate the readings in the following fashion:

(6.20) a. IAM ‘Jim is (all) about practice and an authority’
   b. Reference NIAM ‘Jim is, in practice, an authority’
   c. Associative NIAM ‘Jim is an authority in/about practice’

In other words, the PP IN/ABOUT practice (structurally represented by the ClassP/aP AL-√PRACTIC) can be predicated of Jim (a) or Jim’s being an authority (b), or serve as the subject of his authority (c).
Meanwhile, the -al morphology suggests that a reading in which something like the noun *practice* modifies something ‘inside’ a complex head noun should be available, and an Associative reading is indeed possible:

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8 Possible sub-structure has been omitted, as it does not factor into modification here.
Just as we understood *expert* to have a root selecting for a certain ‘Topic’ or ‘Area’ θ-role, so does *authority* engage in lexical complement selection through its root √AUTHOR here.

**6.1.7 Event / Reference NIAM (clear orator)**

Our final NIAM / NIAM ambiguous form is *clear orator*, which yields distinct readings of Event NIAM ‘one who orates in a clear manner’ and Reference NIAM ‘one who is clearly an orator.’ Though the phrase also qualifies as Situational NIAM, it is more appealing to associate the adjective *clear* with what is orated:
(6.23)  *clear orator*  

(Event NIAM: ‘orates in a clear way’)

This contrasts with the Reference reading, derived in a now-familiar manner:
(6.24)  \textit{clear orator} \hfill (Reference NIAM: ‘clearly an orator’)  

\begin{math}
\begin{array}{c}
\text{NumP} \\
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\text{Num}  \ \ \ \ \ \ \ /  \\
\text{n}  \ \ \ \ \ \ \ \ \ \ \ \ /  \\
\text{DegP}  \\
/  \\
\text{PERSON_i}  \ /  \\
/  \\
\text{DegP}  \\
/  \\
\text{Deg}  \\
/  \\
\text{aP}  \\
/  \\
\text{ti}  \\
/  \\
\text{a}  \\
/  \\
\text{RP}  \\
/  \\
\text{RP}  \\
/  \\
\text{ti}  \\
/  \\
\text{RP}  \\
/  \\
\text{RP}  \\
/  \\
\text{R}  \ [\text{ORATOR}]  \\
\text{BE}
\end{array}
\end{math}

\begin{enumerate}
\item[(i)] NIAM ambiguities exist, and are sharp and ubiquitous enough for us to feel confident that they represent neither lexical ambiguities nor non-structural shades of meaning;
\item[(ii)] the availability of two, three and four NIAM readings for a single A-N phrase constitutes a serious problem for ‘two A’ and/or ‘two domain’ accounts; and
\item[(iii)] the analytical approach and tools developed in the preceding chapters are capable of structurally articulating these ambiguities, as any successful treatment of English NIAM must.
\end{enumerate}

6.2 \textbf{Multi-Adjective Mixed Modification Types}

In Chapter 5 we looked at ‘twinned’ (erstwhile ‘Doppelgänger’) structures, in which two superficially identical adjectives were merged in attributive position, e.g. \textit{proud proud American}.  

264
In some instances, we also saw fit to examine ‘brother’ structures, in which a different adjective of the same type was merged, e.g. *huge hairy flea*.

We now turn to the interaction of different NIAM types within the same attributive structure, i.e. when adjectives from different families merge with the same noun, one with which both are capable of behaving non-intersectively. We will consider each adjective from a structural perspective first, with an eye to which interpretations should and should not obtain, after which data are checked against these predictions. In all cases, the available interpretations are predicted by the structures and precepts established in this investigation, while the behavior of these multiple prenominal adjective structures does not consistently follow from a simple intersective/non-intersective division of the adjectival lexicon, or from a straightforward Inner/Outer syntactic distinction.

This subsection is organized by Adjective type: Relational (§6.2.1), Dispositional (§6.2.2), Emotional (§6.2.3), Stage-Level (§6.2.4), and Manner (§6.2.5). As in the preceding section, we will see fit to stray from our familiar inventory of reference examples in order to manufacture phrases open to the interpretations considered possible.

### 6.2.1 Relational Adjectives

While the structure proposed for Relational As (e.g., *muscular, German, vascular*) does not explicitly dictate that these adjectives merge closest to their head nouns, the lack of interstices in their Vocabulary Insertion instructions effectively ensures this. An informal, indirect proof illustrates why. Begin with a ClassP structure, say *generational*:
As indicated in previous chapters, there is no requirement of Relational As that they be simplex or duplex: following morphological clues, *generational* is analyzed here as having four parts below the ‘n’ head, but with no interstices.

Merging any lexicalizing head above this immediately guarantees that the Relational A will merge first under our bottom-up ordering of Light RP Raising. If, instead, we put a DegP on the left branch of an RP, the ClassP’s status within an nP still guarantees that it will be the lower embedded structure.

Merging that DegP under any Spell-Out head ensures that *generational* will merge over it at Spell-out. Merging it in predicate position, i.e. in the structural complement of another DegP, takes away the conditions for Light RP raising. Merging a series of left-branch RPs presents a fairly arcane possibility:
Depending on our counting algorithm, the underlined element RP4 has a structural claim to being equally deeply embedded as the ClassP in (6.25). However, the nature of the intervening RPs (RP2 and RP3) constitutes a serious challenge to this already hypothetical structure. They cannot be NumPs or any projection of vP, as the former are not RPs, and the latter do not take DegPs as specifiers. While it is straightforward to think that DegPs can adjoin to projections of vP (following Abney 1987 and Pollock 1989), proposing this to be what holds in RP3 would render RP4 adverbial, i.e. not an adjective, and for the time being, outside the scope of our consideration. We have assumed aPs to uniformly take nominal, i.e. non-RPs in their specifiers, so this category is also out for RP2 and RP3. Prepositional phrases pretty standardly come with post-head material, and do not under any mainstream analyses take AP/DegPs in their specifiers. Left-peripheral RPs such as TopP, FocP, TP, etc. similarly do not take adjectival DegPs as adjuncts or specifiers.

In short, the structure we have proposed for ClassP rules out any scenario in which another adjective intervenes between a Relational A and its head noun. Empirically, this appears to be the case (we use *vascular* as our reference Relational A here, as it is next to unparsable as a garden-variety (i.e., full-aP, *very*-modifiable) adjective); *vascular* is ungrammatical (or highly infelicitous) when any other adjective comes between it and the noun:
Conversely, we might expect Relational Adjectives to do nothing to block interpretation from further outside, and this is also true:

(6.29)  
(a) hopeful vascular expert (Dispositional NIAM > Associative NIAM)  ‘hopeful to be an expert about vessels’
(b) proud vascular expert (Subjecthood NIAM > Associative NIAM)  ‘proud to be an expert about vessels’
(c) beautiful vascular thinker (Event NIAM > Associative NIAM)  ‘a person who thinks beautiful stuff about vessels’
(d) possible vascular expert (Reference NIAM > Associative NIAM)  ‘possibly a person who is an expert about vessels’
(e) irritable vascular patient (Situational NIAM > Associative NIAM)  ‘irritable when a patient treated for vessels’
(f) humble vascular expert (Comparison Class NIAM > Associative NIAM)  ‘humble for an expert about vessels’
(g) dead vascular expert (IAM > Associative NIAM)  ‘an expert about vessels who is dead’

Of particular note is the availability of Event NIAM in (6.29c), as we will see that no other intervening adjective type allows this. Our understanding of Relational Adjectives permits this reading, as it specifies a null nominal-within-the-nominal which beautiful has the structural opportunity to modify:
This is paraphrasable as ‘person who thinks stuff that’s beautiful vessel stuff.’ Working from the bottom up, Vocabulary Insertion is triggered by merger of the Num head: vascular enters for the Class head, beautiful for the Deg head, thinker for the Num head. In the resultant structure, the ClassP vascular—marked as a ‘defective’ RP, and embedded within the DegP of beautiful—raises to Spec, NumP. The DegP beautiful is also light and also not in predicate position; it adjoins to NumP second, yielding the surface structure beautiful vascular thinker.

### 6.2.2 Dispositional Adjectives

We have analyzed adjectives like hopeful as built from a root √HOPE, which may take a clausal complement merged with it in RP. The fact that -FUL assigns adjectival status to the composed structure ensures that any lexicalized material from this complement will surface close
to the surface adjective: this is the case with full CP clauses (*that his team wins*), infinitival clauses (*to be cleared of any wrongdoing*), and reduced clauses (*parent*). It also leads to the prediction that any complex nominal structure should be able to fall within the scope of *hopeful*, so long as its own internal licensing requirements are met (e.g., Case for DPs). We have seen this to be the case for twinned Dispositional forms (*hopeful hopeful parent*), as well as Dispositional As outside of Associative structures (*hopeful vascular expert*), but we can also confirm that high-scope Dispositional NIAM is available in combination with other non-intersectivity types:

(6.31)  
\begin{align*}
\text{a. hopeful proud parent} & \quad \text{(Dispositional NIAM > Subjecthood NIAM)} \\
& \quad \text{‘hopeful to be a person who is proud to be a parent’} \\
\text{b. hopeful beautiful writer} & \quad \text{(Dispositional NIAM > Event NIAM)} \\
& \quad \text{‘hopeful to be a person who writes beautifully’} \\
\text{c. hopeful former parent} & \quad \text{(Dispositional NIAM > Reference NIAM)} \\
& \quad \text{‘hopeful to be an ex-parent’} \\
\text{d. hopeful calm patient} & \quad \text{(Dispositional NIAM > Situational NIAM)} \\
& \quad \text{‘hopeful to be a person who is calm as a patient’} \\
\text{e. hopeful humble parent} & \quad \text{(Dispositional NIAM > Comparison Class NIAM)} \\
& \quad \text{‘hopeful to be a person who is humble for a parent’} \\
\text{f. hopeful married lawyer} & \quad \text{(Dispositional NIAM > IAM)} \\
& \quad \text{‘hopeful to be a lawyer who is married’}
\end{align*}

It is worth noting that the addition of *-ly* to *hopeful*—which presumably follows from the modifier’s structural location inside the following DegP—removes the co-reference relation between the ‘hoper’ and the referent of the composed NumP, and shifts the ‘hoper’ role to a speaker orientation. This is not true of other Dispositional As, such as *reluctant* and *willing*:

(6.32)  
\begin{align*}
\text{a. a reluctantly calm patient} &= \text{reluctant to be calm} \\
\text{b. a willingly calm patient} &= \text{willing to be calm} \\
\text{c. a hopefully calm patient} &\ne \text{hoping to be calm}
\end{align*}

Ideally, this difference could be explained configurationally. One appealing way would be if the subject position of *hopeful*—as well as those of *reluctant*(ly) and *willing*(ly)—were c-
commanded by *patient* (in some form), but that of *hopefully* not. Unfortunately, such a configurational account is unavailable with our current tools and assumptions; we must presume that there is a speaker-oriented *hopefully* which is lexically distinct—i.e., not derived in the syntax—from *hopeful*.

We have seen that *hopeful* blocks Associative NIAM from outside; it intervenes in another type as well:

(6.33)  
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. proud hopeful parent</td>
<td>(Subjecthood NIAM &gt; Dispositional NIAM)</td>
<td>‘person who is proud to be a person who hopes to be a parent’</td>
<td></td>
</tr>
<tr>
<td>b. #beautiful hopeful writer</td>
<td>(*Event NIAM &gt; Dispositional NIAM)</td>
<td>‘person who hopes to be a person who writes beautifully’</td>
<td></td>
</tr>
<tr>
<td>c. former hopeful parent</td>
<td>(Reference NIAM &gt; Dispositional NIAM)</td>
<td>‘person who used to be a person hopeful to be a parent’</td>
<td></td>
</tr>
<tr>
<td>d. calm hopeful patient</td>
<td>(Situational NIAM &gt; Dispositional NIAM)</td>
<td>‘person who is calm when a person hopeful to be a patient’</td>
<td></td>
</tr>
<tr>
<td>e. humble hopeful parent</td>
<td>(Comparison Class NIAM &gt; Dispositional NIAM)</td>
<td>‘person who is humble for a person who hopes to be a parent’</td>
<td></td>
</tr>
<tr>
<td>f. married hopeful lawyer</td>
<td>(IAM &gt; Dispositional NIAM)</td>
<td>‘person who hopes to be a lawyer and is married’</td>
<td></td>
</tr>
</tbody>
</table>

Note that we cannot merely chalk up the impossibility of (b) to the intensionality of *hopeful*, as *proud, former, calm, humble* and *married* have no problem scoping over exocentric nominals. Instead, it is the fact that *beautiful*—like *vascular* previously—is necessarily a predicate of a structure situated below the ‘n’ head of *writer*.

A look at the structure that might build the desired semantics of (6.33b) illustrates the problem. The lexifying head of *beautiful*—Deg—must be embedded within the verbal substructure of *writer*; in Chapter 5 we proposed that the DegP merges in the left branch of an RP below ‘v’ *COME*, i.e. above vP2 in (6.32), in order to be associated with the c-commanding subject of the process.
For *hopeful* to surface closer to the noun than *beautiful*, it would have to have its Deg head merged deeper inside the structure than *beautiful*. Yet to get a Dispositional reading—in which the referent is hopeful to be (some kind of) a writer—it needs to have at least the nP containing the entire verbal structure above in the specifier of its root RP. These two possibilities are plainly mutually exclusive.

### 6.2.3 Emotional Adjectives

As adjectives that, like Dispositional As, take (small) clausal material as complements, we expect Emotional As to scope over NIAM structures without difficulty: we have seen this with Relational As and Dispositional As, and can confirm the data from the other NIAM varieties.

(6.35)

a. **proud beautiful writer**  
   ‘person who is proud to be a person who writes beautifully’

b. **proud former parent**  
   ‘person who is proud to be an ex-parent’

c. **proud irritable patient**  
   ‘person who is proud to be a person who is irritable as a patient’

d. **proud sane uncle**  
   ‘person who is proud to be a person who is sane for an uncle’

e. **proud married lawyer**  
   ‘person who is proud to be a lawyer who is married’
In contrast to *hopeful, proud* also retains its subject-orientation when affixed with *-ly*; thus, a *proudly beautiful writer* is proud to be a beautiful writer, whereas the hopes packed into a *hopefully beautiful writer* belong to the speaker. Once again, however, there is a black sheep in the Emotional class which acquires speaker-orientation when adverbial: *sad*.

(6.36)  
\begin{align*}
a. & \text{a proudly beautiful writer} = \text{‘proud to write beautifully’} \\
b. & \text{a happily sane uncle} = \text{‘happy to be sane for an uncle’} \\
c. & \text{a sadly former lawyer} \neq \text{‘sad to be a former lawyer’}
\end{align*}

Naturally, we should not be surprised to find diversity within a linguistic category thought to be homogeneous; however, the explanation for the deviance of *sad* and *hopeful* will have to await further analysis.

We see once more that Event NIAM is blocked by an intervening non-Relational Adjective (a): the structural reasons are essentially the same as those discussed in §6.2.2.

(6.37)  
\begin{align*}
a. & \text{#beautiful proud writer} \quad \text{*Event NIAM > Subjecthood NIAM} \\
& \quad \text{‘proud to be a person who writes beautifully’} \\
b. & \text{former proud parent} \quad \text{Reference NIAM > Subjecthood NIAM} \\
& \quad \text{‘someone who used to be a person proud to be a parent’} \\
c. & \text{irritable proud parent} \quad \text{Situational NIAM > Subjecthood NIAM} \\
& \quad \text{‘a person who is irritable when a person proud to be a parent’} \\
d. & \text{sane proud uncle} \quad \text{Comparison Class NIAM > Subjecthood NIAM} \\
& \quad \text{‘a person who is sane for a proud uncle’} \\
e. & \text{married proud lawyer} \quad \text{IAM > Subjecthood NIAM} \\
& \quad \text{‘a person who is married and proud to be a lawyer’}
\end{align*}

### 6.2.4 Manner Adjectives

By now, we should doubt that *beautiful* can get an Event NIAM reading with any interceding adjective that is not Relational (recalling that *beautiful vascular thinker* is fine), and indeed it cannot:
Conversely, once the manner adjective is adjacent to the eventive noun, the composition is a straightforward nP, which other adjective types can scope over:

(6.39)  
<table>
<thead>
<tr>
<th>a. former beautiful writer</th>
<th>Reference NIAM &gt; Event NIAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. irritable heavy imbiber</td>
<td>Situational NIAM &gt; Event NIAM</td>
</tr>
<tr>
<td>c. humble beautiful writer</td>
<td>Comparison Class NIAM &gt; Event NIAM</td>
</tr>
<tr>
<td>d. married beautiful writer</td>
<td>IAM &gt; Event NIAM</td>
</tr>
</tbody>
</table>

6.2.5 Modal and Temporal Adjectives

Given their ability to scope over clausal material (RPs), we do not expect any difficulty obtaining Reference NIAM readings that scope over complex nominals:

(6.40)  
| a. former irritable patient | Reference NIAM > Situational NIAM |
| b. former humble expert | Reference NIAM > Comparison Class NIAM |
| c. former married lawyer | Reference NIAM > IAM |

The fact that Reference NIAM structures can form stage-level predicates allows for Situational NIAM to scope over such structures (a). Any nP should be able to pass through the Spec, DegP position of a gradable A, so humble former captain works fine under a Comparison Class reading. Finally, intersective modification scopes over entire NumPs without complication (c).

---

9 The warhorse beautiful writer is not clearly an episodic, stage-level nominal, while heavy smoker is collocational. Heavy imbiber is episodic, stage-level and passes the 6-zero test.
(6.41)  

<table>
<thead>
<tr>
<th>a. irritable possible champ</th>
<th>Situational NIAM &gt; Reference NIAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘person who is irritable when a person who possibly is a champ’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>b. humble former captain</th>
<th>Comparison Class NIAM &gt; Reference NIAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘person who is humble for a person who was formerly a captain’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>c. married former lawyer</th>
<th>IAM &gt; Reference NIAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘person who is an ex-lawyer and is married’</td>
<td></td>
</tr>
</tbody>
</table>

6.2.6 Interim Summary

The structural representations of the various elements and types of NIAM account for the availability of certain readings, and the unavailability of others, when these elements interact. It might be tempting to say that the ordering and interpretational restrictions we have looked at are ‘natural’ consequences of the lexical semantic profiles of the words in question, but given the lack of consensus in the literature as to the details of these representations, the syntactic approach outlined here at the very least provides a more constrained and comprehensible analysis of these semantic traits. A stronger assessment would be that careful examination of these intersectivity issues from a syntactic approach has offered us a more finely-grained articulation of the ‘inner’ nature of certain word forms, as well as how they map to syntactic, phonological, and logical forms.

6.3 Postnominal IAM

As mentioned in Chapter 2, the limited presence of postnominal adjectival modification, possible but even more limited in subject nominals (e.g. *the rivers navigable are far safer than the others*), is a glaring issue in English. Why are certain adjectives able, and others unable, to appear post-nominally? What accounts for the interpretational differences that arise for those adjectives possible in both configurations? Why there be only one adjective phrase post-
nominally? The type of analysis proposed in this thesis offers partial answers to these questions, all of which relate to the venerable proposal that postnominal As are reduced relative clauses.

6.3.1 Relative Clauses (*a frog which she kissed*)

The structure of relative clauses remains a subject of some contention in the literature. Bhatt (2002) identifies the three leading options as the Raising Analysis (of which Kayne 1994 is the standard model), the Matching Analysis (Sauerland 1998, a.o.), and the Head-External Analysis (Montague 1970b). The discontinuous late-insertion approach allowed for here allows for something of a hybrid between the three, as an nP may raise from a lower position—something Bhatt argues is critical for reconstruction ambiguities—but in essence be ‘matched’ with a c-commanding, externally merged NumP (more accurately ‘associated,’ since the two elements make different semantic contributions). This allows us to avoid some of the difficulties in the left periphery of Raising Analyses, e.g. the stipulation that D selects for CP (a) and the projecting movement alternative (b):

(6.42) **The Left Periphery in Raising Analyses of Relative Clauses**

<table>
<thead>
<tr>
<th>Kayne-Style (cf. 1994)</th>
<th>Bhatt-Style (cf. 2002:49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP</td>
<td>DP</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>CP</td>
<td>NP</td>
</tr>
<tr>
<td>a</td>
<td>a</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>DP</td>
<td>NP</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>C’</td>
<td>CP</td>
</tr>
<tr>
<td>frog&lt;sub&gt;i&lt;/sub&gt; [which&lt;sub&gt;ti&lt;/sub&gt;] / \</td>
<td>frog&lt;sub&gt;i&lt;/sub&gt; / \</td>
</tr>
<tr>
<td>C</td>
<td>[which&lt;sub&gt;ti&lt;/sub&gt;] CP</td>
</tr>
<tr>
<td>[+rel] <em>she kissed</em> t&lt;sub&gt;i&lt;/sub&gt;</td>
<td>[+rel] <em>she kissed</em> t&lt;sub&gt;i&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

Both models are lexicalist, with the specific consequence that a single unit of analysis—the word *frog* in our example—is asked to do different things. The non-lexicalist account proposed here
allows the word to be inserted outside of the relative clause (RC), with a sub-word element (the 

nP containing √FROG) doing RC-internal duty:

(6.43) \[ a \text{ frog which she kissed} \]

It is beyond the scope of this investigation to argue for the merits and drawbacks of such an RC 
representation in comparison to time-tested proposals. Rather, we present (6.43) to demonstrate 
the viability of such representation: at Spell-Out, kissed is inserted into the T head, frog into the 
Num head, grammatical elements a and which into the relevant heads, and the previously 
inserted she remains where it is in (6.43), yielding the proper word order: a frog which she 
kissed. For the present purposes, our interest has more to do with the possibility of reducing these
6.3.2 Reduced Relatives (**the stars visible**)  
Light RP Raising offers some insight into the availability of postnominal reduced relatives, the subtle meaning differences they entail, and the unavailability of other forms. Recall that **the stars visible** has a temporary reading that is not present in **the visible stars**. This is likely due to the presence of a Tense head in the first phrase—unspecified but extant, and thus able to inherit tense settings from elements in higher clauses (cf. **we discussed the stars visible**). This T head has the structural consequence of bleeding the conditions for Light RP Raising:

(6.44) **the stars visible**

```
    DP /
       /  \  
      D   NumP
  THE  /  \  
     /    \  
    Num   CP
      /  \  
     /    \  
    nP1  CP
      /  \  
     /    \  /  
    n  \STAR C  TP
    THING THAT  /  
       /    \  
      ti  TP
         /  
        /  
       T  aP
  Ø  /  
     /  
    ti  aP
       /  
      a  VIS-
      -ABLE
```
Insertion of *stars* into the Num head, and *visible* into the ‘a’ head\(^{10}\) yields a structure in which the aP visible is light, but in a canonical predicate position, the structural complement of TP, an RP. Thus, Raising is not triggered.

In contrast, if the TP/CP layers never get built, we get a structure like the following:

\[(6.45) \quad \text{(the) visible stars} \]

\[
\text{NumP} \\
/ \quad \setminus \\
\text{Num} \quad \text{aP} \\
/ \quad / \\
\text{nP} \quad \text{aP} \\
/ \quad / \quad / \quad / \quad / \\
\text{n} \quad \text{\sqrt{STAR} a} \quad \text{\sqrt{VIS} \text{-ABLE}} \\
\]

Now, insertion produces an aP that is both light and outside of a canonical predicate position; raising is triggered, and the expected surface form arises.

Two configurations are available for twinned forms:

\[(6.46) \quad \begin{array}{l}
\text{a. the visible stars visible}_{\text{TEMP}} \\
\text{b. the visible}_{\text{TEMP}} \text{ visible stars} \\
\text{c. *the visible}_{\text{TEMP}} \text{ stars visible} \\
\text{d. *the visible visible}_{\text{TEMP}} \text{ stars} \\
\text{e. *the stars visible visible} \\
\end{array} \]

The approach advocated for here derives the required word order for both of the acceptable cases, and none of the unacceptable ones. Generating the null-tensed CP from (6.44) in the Specifier/subject position of the aP of the non-temporal *visible* produces the following structure (once again, inclusion/exclusion of DegP is inconsequential to the discussion at hand):

\[\]

\(^{10}\) We have presumed Deg to be unavailable, on the basis of the unacceptability of *very* (*the stars very visible*). There is no difficulty with *most* and *more*, however, so the involvement of DegP is somewhat obscure. What matters to the analysis at hand is that *visible* occupies the head of the adjectival phrase (however labeled) after Vocabulary Insertion; a compatible understanding of *more* and *most* requires them to occupy an adjoined or specifier position, but not be independent heads of DegPs merged over lexicalized aPs, as this would bleed the requirements for raising. This requirement holds for any formulation of the Head Final Filter, not just our Light RP Raising variant.
Though the lower, temporary *visible* does not trigger Light RP Raising after insertion, the higher aP (with *visible* inserted) is light—with no overt post-head material—and not in canonical predicate position, so it raises to adjoin to the NumP, yielding the word order of (6.46b). If, instead, the temporary *visible* is merged as sister to an R in an RP with the non-tensed *visible* in its specifier—Predicate Specifier configuration—insertion yields the following structure:

(6.48) NumP
     / \ 
    Num RP
       / \ 
      aP RP
     visible / \ 
        R CP
       visible TEMP
The non-temporal visible is now subject to Light RP Raising, and the word order in (6.46a) obtains. Meanwhile, the unacceptable forms in (6.46) cannot be derived without significant modifications to our assumptions.11

Richard Larson (p.c.) points out that the temporal reading of visible is optionally available in visible stars, an apparent problem for this line of analysis. It may be, however, that temporal interpretations do not depend on the presence of a T head, but rather can be associated with a prenominal adjective should nothing structurally come in the way (Teresa O’Neill, p.c.). Thus, in the case of prenominal ‘twins’ (6.46b), the temporal reading must apply to the form embedded under T, while in visible stars, it may be associated with a non-tensed expression.

Though this approach captures a small slice of postnominal behavior, it raises the question of why the distribution is so limited. We might presume there to be lexical semantic restrictions involved, i.e. that an adjective must be inherently ‘Stage-Level,’ (cf. the firemen available, *the firemen altruistic). This leads to a pretty restrictive view on Stage Level As, defining them as only those which can appear post-nominally (again, this roughly aligns with semantic analyses dating back to Carlson 197712). Thus, bright and deep do not qualify, while -able forms and participial As do:

(6.49)  a. we discussed the stars visible, one by one
       b. we discussed the stars twinkling, one by one
       b. *we discussed the stars bright, one by one
       c. they traveled the rivers navigable, one by one
       d. they traveled the rivers unfrozen, one by one
       d. *they traveled the rivers deep, one by one

12 Once more, it becomes clear that a different category of ‘Temporary A’ is required for Situational NIAM and depictives (see discussion in §6.1.1 above.)
Conceivably, adjectives like *ready* and *present* (on its ‘here’ reading) are only configurationally licensed for insertion in the context of a c-commanding T head:

\[
\begin{array}{ll}
\text{ready} & \text{present (‘here’)} \\
\text{TP} & \text{TP} \\
/ & / \\
\text{T} & \text{T} \\
\_ & \_ \\
\text{DegP} & \text{aP} \\
/ & / \\
\text{Deg} & \text{a} \\
\_ & \_ \\
\_ & \_ \\
\text{aP} & \text{\text{\textsf{\textdegree}\textsf{PRESENT}}} \\
/ & / \\
\text{a} & \text{\textsf{\textdegree}\textsf{PRESENT}} \\
\_ & \_ \\
\text{\textsf{\textdegree}\textsf{READ}}
\end{array}
\]

This accounts for their acceptability only in post-nominal and post-copular configurations.

6.3.3 **Overt Infinitival Complements** *(a man proud to be an uncle)*

We have paid a good deal of attention to infinitival complements, using them in Chapter 4 to diagnose the possibility of RP complements for adjectival roots, essentially covert or reduced infinitival phrases. Our approach allows for the analysis of overt infinitivals as well:
The embedded R head must be spelled out in order to assign Case to the DP *an uncle*;

presumably T and R are in such a relation that the spelling out of the latter entails the spelling out of the former.

### 6.3.4 ‘Never Attributive Adjectives’ as PPs (*a pedestrian alone*)

In Chapters 2 and 4, we encountered a set of words standardly analyzed as adjectives, but known to resist prenominal positioning. Like Relational As, these are morphologically marked:

nearly all start with the (apparent) prefix *a*—:
These are consistently acceptable across the copula, but inconsistently acceptable in postnominal position:

| (6.53) | a. a child was asleep  
| (6.53) | b. a citizen was afraid  
| (6.53) | c. a pedestrian was alone  

Postnominal acceptability appears to be related to specificity: in subject position, generic readings are far easier to get than specific ones:

| (6.55) | a. a child asleep makes for a happy parent  
| (6.55) | b. a child asleep was snoring  
| (6.55) | c. a citizen afraid is a citizen unlikely to vote  
| (6.55) | d. a citizen afraid called to report an incident of harassment  
| (6.55) | e. a pedestrian alone cannot fight off a gang of thieves  
| (6.55) | f. a pedestrian alone fought off an attack last night  

Rarely is the syntactic impact of sub-word morphemes so clear: note that near-synonyms without the *a*-prefix are entirely acceptable prenominally, as long as they pass the Head Final Filter (HFF):

| (6.56) | a. a(n) {sleeping / dormant / unconscious} child  
| (6.56) | b. *a(n) {out like a light / in bed / sleeping like a baby} child  
| (6.56) | c. a {fearful / terrified / cowardly} citizen  
| (6.56) | d. *a(n) {in fear / scared to death / worried sick} citizen  
| (6.56) | e. a {lone / solitary / solo} pedestrian  
| (6.56) | f. *a {without company / on one’s own / by him/herself} pedestrian  

The *a*-prefix had grammatical status in the not-too-distant past: with asleep and awake (from the same category), it evolved from the preposition on, which still manifested itself as the head of a
PP in Old English *on slaep* ‘asleep’ (cf. Exodus 490-91, Krapp 1931:104). With *alone* it appears to have evolved from *all*; with *afraid* it was borrowed as prefix from French (per Oxford’s online English Dictionary 2015). Despite the heterogeneous origins of the particle, we find little evidence for treating the various modern instances of *a-* differently; what seems inevitable, however, is to treat them as syntactically active. And nanosyntactic approaches like the present one have the tools to do so close at hand.

Let us assume, following the etymological lead of *asleep*, that *a-* is a preposition\(^{13}\), heading a ‘full’ PP, i.e. an RP in which the prepositional figure is merged into Spec, PP. It follows that *-fraid, -sleep, and -lone* are inserted into lower heads—possibly diverse in nature, but here collapsed into ‘n’ for simplicity’s sake—but only\(^{14}\) licensed for insertion when immediately c-commanded by *a-*:

\begin{equation}
\begin{array}{ccc}
\text{a. } \text{fraid} & \text{b. } \text{sleep} & \text{c. } \text{lone} \\
\text{PP} & \text{PP} & \text{PP} \\
/ \ \ / & / \ \ / & / \ \ / \\
P & nP & P & nP & P & nP \\
A- & / \ \ / & A- & / \ \ / & A- & / \ \ / \\
n & …^{15} & n & √sleep & n & √lone \\
\sqrt{√fear}
\end{array}
\end{equation}

Under such a view, the sentence *Michael is afraid* has the following (relatively unremarkable) syntactic derivation:

---

\(^{13}\) This suggestion is due to Marcel den Dikken.

\(^{14}\) *Sleep* and *lone* have other insertion contexts as well; these are omitted here for the sake of concision.

\(^{15}\) The acceptability of complements in forms like *a citizen afraid of tax hikes* and *a citizen afraid to change horses mid-stream* makes it clear that there should be an interstice here, as opposed to in the other two cases.
The real benefit to this type of account, however, comes when we merge these PPs within a nominal:

Spell-out inserts *sleep* into the Num head, *a-* into the P head, and *child* into the Num head, yielding the surface order *child a-sleep*. Note that the PP *asleep* is not light under this analysis, as lexified material follows the head; this accounts for the form’s unacceptability in prenominal position: the PP does not raise.

### 6.4 Summary

In this chapter, we have looked at postnominal adjectival modification (putative and otherwise), at complex NIAM structures, and at structures ambiguous between two kinds of
NIAM, all from the analytical perspective developed in the preceding chapters. Though some new questions have been raised in the process—particularly with regard to the nature of the modificand in Event NIAM—and only a fraction of the issues surrounding these topics addressed, each of these extensions has lent additional support to the multivalent, nanosyntactic approach to non-intersectivity argued for above.

The concluding chapter, in addition to recapitulating the arguments of the thesis, will briefly articulate a number of unresolved matters whose successful treatment is left for future research.
7 Concluding Remarks

This dissertation has proposed a treatment of non-intersective adjectival modification (NIAM) that may be distinguished from the mainstream of prior analyses in a number of ways. First, it is syntactic; it aims to capture the rich semantic variety of NIAM through the constrained manipulation of relatively well-defined syntactic elements and procedures, rather than accepting this diversity as an inevitable consequence of unstructured intensional indexation and/or unspecified lexical semantic mechanisms. It is both non-lexicalist—in that it understands words and morphemes to be phonological exponents mapped to a syntactic construction, rather than the building blocks from which that structure is built—and broadly speaking nanosyntactic, in that it sees units smaller than morphemes as syntactic building blocks, albeit carrying significant burdens of proof. It assumes that predication is syntactically mediated, and that all modification is predication. Finally, it is interstitial, adopting the view that insertion instructions for vocabulary items may target discontinuous elements, not merely consecutive heads—as is assumed in much work in Distributed Morphology and nanosyntax—but series of roots and heads structurally associated by (in some cases) as little as c-command in the absence of intervening material.

To demonstrate the utility and coherence of this approach, we have proposed explicit analyses for a wide variety of non-intersectivity phenomena, starting with every type of NIAM-by-adjective we could identify in English. These analyses—alongside the extensions discussed in Chapter 6—demonstrate the viability and utility of the approach. There are, however, a number of issues which remain either problematic for or unresolved by the treatment as articulated here; we present these now in the hope that they may lead to further refinement and development of
this direction of analysis. In §7.1 we consider well-known ordering constraints on prenominal English adjectives. Section 7.2 discusses secondary predication and its implications for the present approach, particularly with regard to the domain at which Light RP Raising applies in English. Section 7.3 addresses adverbial modification, considering the implications of our particular scheme of late insertion for the question of the category status of ‘adverb,’ as well as how routine and unorthodox types of adverbial modification align with the proposal, and in §7.4, we take a brief look at the prospects for analysis of Romance—particularly Italian—along the lines laid out in this thesis. Finally, §7.5 concludes matters with a recapitulation of the principal claims and results.

7.1 Ordering of Intersective Attributive Modifiers

One of the best-known facts about English adjectives, one which appears in pedagogical as well as theoretical writing, is that certain ordering restrictions apply on prenominal As. These restrictions are strikingly concrete. Scott (2002) proposes the following hierarchy:

(7.01)  Ordinal > Cardinal > Subject Comment > ?Evidential > Size > Length > Height > Speed > ?Depth > Width > Temperature > ?Wetness > Age > Shape > Color > Nationality/Origin > Material   (Scott 2002:114(47))

Thus, we can say things like the first three big long fast white American schooners (have finished the course), but not *the three red first fast long American big schooners. As Svenonius (2008:18) points out, however, analyses such as Scott’s (also cf. Cinque 1994, Laenzliger 2005) suffer from the drawbacks that the patterns are not particularly robust, and that the elements involved (e.g. temperature, wetness, etc.) do not appear to be motivated by or linked to anything else in the grammatical system. Attempts to root these restrictions in the perceptual system (Hetzron 1978, Sproat & Shih 1988), based on notions such as time and distance required for
perception (e.g., we might perceive an object’s size more quickly and/or from a greater distance than we can its temperature, wetness, etc.) have thus far been less than convincing (cf. Scott 2002:92-94 for a critical perspective).

While it would be appealing to identify cartographic slots in which different NIAM types arise—this is essentially what Cinque (1994, 2010) has aimed to do, striving for the achievements of similar work in the adverbial domain—the discussion and analysis of the preceding pages should temper such expectations: identifying proud and alleged, for instance, as ‘Subject Comment’ and ‘Evidential’ adjectives to be merged in the respective slots from (7.01), makes the classic mistake of blaming the adjective, while managing only specious predictions about the empirical facts:

(7.02)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. an alleged proud communist</td>
<td>a. a person alleged to be a person proud to be a communist</td>
</tr>
<tr>
<td>b. a proud alleged communist</td>
<td>b. a person proud to be a person alleged to be a communist</td>
</tr>
</tbody>
</table>

These are both entirely acceptable, and carry different meanings, which follow straightforwardly from the scope created by their merger. The idiosyncratic readings—the ambiguities between the interpretations given and other, more intersective ones—follow not from the merger site of these adjectives, but from their internal semantico-syntactic structure, as well as that of the head noun. Both types of multiple NIAM (Reference > Subjecthood, Subjecthood > Reference) were discussed in the preceding chapter.

This is not to dismiss cartographic analyses as misguided, as a number of ordering trends do appear to obtain, particularly in the realm of physical properties of objects (contrast this with the present study’s extensive focus on Role and Agentive Ns). It is merely to say, and to admit,

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1 Hetzron (1978:180) accounts for the ordering in a long thin blade by claiming that “thickness requires more careful observation, and is hence more reliable as a judgement, than length, a dimension that is too easily perceivable and is therefore taken more lightly.”
that hierarchies such as Scott’s afford little insight into the syntax and semantics of NIAM, just as the line of analysis of NIAM-by-A explored in this thesis affords little insight into the relative ordering of color, wetness, and speed modification.

7.2 Secondary Predicates

Decompositional models of grammar have the potential to capture difficult aspects of secondary predicates, the most well-discussed variants of which are resultatives and depictives:

(7.03)  
- a. he made his uncle proud (Resultative)
- b. they ran the race angry (Subject Depictive)
- c. it ate the meat raw (Object Depictive)

Levinson (2010) makes convincing arguments for a fourth type that she labels Pseudo-Resultative:

(7.04)  she braided her hair tight (Pseudo-Resultative)

The critical distinction in forms like (7.04) is that we would not say that the main-clause event resulted in the hair achieving a quality of tightness, but rather of being in a tight braid.

The analytical approach we have taken allows for a treatment of resultatives along the lines of other small-clause analyses (e.g. Stowell 1981, den Dikken 2006, a.o.):
(7.05)  *he made his uncle proud*

The semantics are broadly compositional, and Vocabulary Insertion of *proud* into the Deg head, *uncle* into the Num head, and *made* into the T head, yields the surface order *he made his uncle proud*, with no Light RP Raising applicable, since the DegP is in a canonical predicate position.

There are striking similarities between the semantics of subject depictives and that of what we have labeled as Situational NIAM. The adjective involved must be one that can temporarily hold of its subject, but it is a different class than the set of Stage-Level Adjectives as typically defined.

---

2 We omit the RP containing √PRIDE, understanding the complement position to be unoccupied or filled with a null pronoun or pro-predicate.
These similarities encourage an analysis of subject depictives that parallels what we have
proposed for Situational NIAM. We can treat the vP of (7.33c) as related (by AS) to the DegP
containing angry:

(7.08) \[ \text{they ran the race angry} \]

TP

/ \ |
DPi TP
THEY / \ |
T RP
[+past] / \ |
DegP RP
/ \ |
Deg aP R VoiceP
/ \ AS / \ |
PROi aP ti VoiceP
/ \ |
a √ANGER Voice vP
-Y / \ |
DPj vP
/ \ |
D NumP v vP
THE / \ COME / \ |
Num nP tj vP
/ \ |
n √RACE v √RUN
THING BE

Insertion and subsequent Light RP Raising of angry yields the surface order angry they ran the
race, a marginally grammatical string. Reversing the RP configuration—with the DegP sister to
R, and the VoiceP in specifier position—yields the proper surface order, as the DegP is in
canonical predicate position and does not raise, while the VoiceP is not light. Unfortunately, such happy results do not obtain when the VoiceP is intransitive, as Light RP Raising of the VoiceP yields unacceptable strings like *died they angry. As there is little empirical evidence for VP raising in unmarked English sentences, we might take this as support for ‘split VoiceP’ proposals (Harley 2013), in which the external argument is introduced by a Voice head, but causativity by a lower ‘v’ head. If Vocabulary Insertion for English verbs can occur no higher than a Cause ‘v’ head embedded under a specifier-projecting VoiceP (i.e., an RP), then verbs will always occupy canonical predicate positions, and therefore never be subject to Light RP Raising.

The approach is also amenable to analysis of pseudo-resultatives (cf. Levinson 2010). Interstitial Vocabulary Insertion instructions for the verb braid would look approximately like:
This configurational context is met in the following structure:
This will yield the expected word order, but only through a somewhat stipulative NumP (in bold) under the preposition. On one hand, it is entirely reasonable to think that prepositions select for nominal elements, but on the other, there is little independent reason to posit a Num head, as plural morphology is unacceptable (*she braids-ed her hair tight). Without the NumP (i.e. with a non Spell-out triggering ‘n’ head), Vocabulary Insertion and Light RP Raising of the DegP tight
gives us the same highly-marked result as with subject depictives: "tight she braided her hair."

Remnant movement can convert this to *she braided her hair tight.*

A simpler explanation, albeit one for which extensive consideration must await further research, is that languages differ to the extent in which Light RP Raising applies and across which domain.³ Quite possibly, it does not happen at the clausal level for English, a language which shows little in the way of productive predicate raising at the clausal level⁴. Shifting the definition of English Light RP Raising thus, structures like the pseudo-resultative above derive the proper word order straightforwardly.

With object depictives, the central problem is that the c-command relation is difficult to establish between a clausal object and a subject of secondary predication; e.g., between *meat* as object of *ate* and subject of *raw* in *it ate the meat raw*. Interstitiability in the verbal projection allows an analysis:

---

³ Thanks to Marcel den Dikken for this suggestion.

⁴ This is as compared to, e.g., Niuean, which Massam (2001) argues to undergo such raising.
(7.11)  
\[ \text{it ate the meat raw} \]

At Spell-out, \textit{ate} is inserted into the Voice head, and \textit{raw} into the Deg head. No RP raising is triggered, as the DegP is in canonical predicate position.

Secondary predicates, in sum, present just the type of difficulties that our approach to non-intersectivity can address, and the refinements necessary to achieve a fully satisfactory account do not appear to be extensive.

\subsection{Adverbs}

The relationship between adverbs and adjectives is a point of friction between different schools of modern grammatical analysis. Traditionally considered different lexical categories,
they are assumed in many generative paradigms to be essentially inflectional variations of the same category (cf. Chomsky 1981), though it is fair to say that the myriad questions this assumption engenders have never been comprehensively dealt with (see Payne, et al 2010 for a list of problems with what they deem the ‘inflectional’ account).

One of the potential benefits to Late Insertion approaches like the present one is that the distinction between inflection and derivation potentially shrinks to insignificance. Under the framework established here, the difference between *beautiful* and *beautifully* is, at the most basic level, an extra functional head -ly.

(7.12)  

<table>
<thead>
<tr>
<th>a. beautiful</th>
<th>b. beautifully</th>
</tr>
</thead>
<tbody>
<tr>
<td>DegP</td>
<td>DegP</td>
</tr>
<tr>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Deg</td>
<td>Deg</td>
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<td>…</td>
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<tr>
<td>aP</td>
<td>AdvP</td>
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<td>/</td>
<td>/</td>
</tr>
<tr>
<td>a</td>
<td>Adv</td>
</tr>
<tr>
<td>√BEAUTY</td>
<td>…5</td>
</tr>
<tr>
<td>-FUL</td>
<td>-LY</td>
</tr>
<tr>
<td></td>
<td>aP</td>
</tr>
<tr>
<td></td>
<td>/</td>
</tr>
<tr>
<td></td>
<td>-FUL</td>
</tr>
<tr>
<td></td>
<td>√BEAUTY</td>
</tr>
</tbody>
</table>

Having maintained a subject-internal view of aP, we can do the same for AdvP, and articulate the -LY head’s difference in syntactic terms: it selects for RPs in its complement (structural specifier: Spec, AdvP). Under this view, AdvPs as extensions of aPs, composed from them, as English morphology suggests.

The morpheme -LY’s historical meaning of ‘-like’ (cf. Oxford’s online English Dictionary) hints that what this extra structure does is distance the composed meaning from a

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5 Though we have indicated an interstice to allow for the interpolation of Spec, aP, we may presume that Adv heads obligatorily select for aP sisters.
more direct adjectival reading through comparison of one predication—the RP in Spec, AdvP—to the adjectival predication below. The syntactic specifications of Adv and ‘a’ dictate that these two elements cannot be co-indexed: they are inherently different. What the Relator -LY does is compare them.

In nominals, this yields felicitous results. The phrase *extremely hot coffee* can be analyzed with the following structure, which abstracts away from DegP:

(7.13) \[ extremely \text{ hot coffee} \]

```
NumP
    /  \ 
Num  AdvP
    /  \ 
aP1  AdvP
    /  \ / \ 
nP   aP  Adv  aP
    /  \ /  \ -LY /  \ 
√COFFEE √HOT PROj aP
    /  \ 
     a √EXTREME
```

This conveys the meaning ‘coffee that’s hot like something is extreme.’ The simile encourages us to associate the predication of coffee as hot with a thing being extreme. The correct word order arises after *extremely* is inserted into the Adv head, *hot* into the ‘a’ head, and *coffee* into the ‘n’ head, as raising of first the deeper-embedded RP *hot* and then the RP *extremely* from their non-canonical predicate positions generates *extremely hot coffee*.

This approach to adverbials runs into word order problems in the verbal domain, however:
(7.14) \[ \text{that coffee is extremely hot} \]
\[
*\text{TP} \\
/ \ \ \\
\text{DP}_k \quad \text{TP} \\
\text{that coffee} / \ \ \\
\text{T} \quad \text{AdvP} \\
/ \ \ \\
\text{aP}\text{i} \quad \text{AdvP} \\
/ \ \ / \ \ \\
\text{PRO}_k \quad \text{aP} \quad \text{Adv} \quad \text{aP} \\
/ \ \ -\text{LY} / \ \\
\text{a} \quad \sqrt{\text{HOT}} \quad \text{PRO}_j \quad \text{aP} \\
/ \ \ \\
\text{a} \quad \sqrt{\text{EXTREME}}
\]

With unrestricted Light RP Raising, this structure generates the egregious word order \(*\text{hot that coffee is extremely}.*\) Limiting Light RP Raising to the nominal domain, as discussed above, still results in the still-problematic order \(*\text{that coffee is hot extremely}.*\) Insertion of a nominal head above the AdvP generates the proper order, but through outright stipulation.\(^6\)

Returning to the nominal domain, our tentative proposal on the structure of adverbials captures a variety of available English structures related to our reference example \textit{beautiful writer}:

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\(^6\) It should be noted that the distribution of English adverbial modifiers is a rather difficult matter generally. Marcel den Dikken (p.c.) points out that many pairs with apparently similar semantics (\textit{fast/quickly}, \textit{immensely/extremely}) pattern differently in the syntax: \textit{he quickly/fast jogged down the stairs}; \textit{I immensely/extremely like it}.
Insertion of *beautifully* into the Deg head, *written* into the higher ‘v’ head, and *poem* into the Num head, yields a structure \[\text{NumP} \left[ \text{poem} \left[ \text{DegP} \left[ \text{vP} \text{written beautifully} \right] \right] \right] \]. The vP is light and in non-canonical-predicate position; it raises to produce \[\text{NumP} \left[ \text{vP} \text{written} \right] \left[ \text{NumP} \text{poem} \left[ \text{DegP} t_j \text{beautifully} \right] \right] \]. The DegP *beautifully* is also light, and also not in canonical predicate position: it raises to produce the surface string *beautifully written poem*.

Compare this with the strings *poem beautifully written* and *poem written beautifully* which—at least in some contexts—can inherit tense from higher clausal elements (cf. our discussion of postnominal As in Chapter 6):
Though the words inserted are the same as in the previous case, the PF instructions here are quite different. *Beautifully* is inserted into the Deg head, *written* into the T head, and *poem* (subsequently) into the Num head. No raising occurs, for the DegP is in predicate position. We are left with the string *poem written beautifully*, an acceptable word order. If the DegP is instead

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7 We have not adopted or defended a position on the nature of Voice heads in passive and/or adjectival passive constructions, and will not do so here. The presence and nature of the Voice head here do not factor into the analysis or discussion; the Tense head is critical.
merged into the left branch of an RP, with the vP sister to R, the DegP undergoes Light RP
Raising to adjoin to TP, which yields the also-acceptable order poem beautifully written.

7.4 Non-Intersectivity in Other Languages

To the author’s knowledge, no comprehensive study of non-intersectivity in another
language has been conducted, with Bouchard’s in-depth (2002) treatment of French (and, to a
lesser extent, English) adjectival modification the closest thing, and Cinque’s (2010, particularly
the Appendix) work a step towards a thorough cross-linguistic survey. As mentioned at the
outset, the present investigation has striven for empirical breadth through coverage of a full
range of non-intersectivity phenomena in one language, English, at the expense of cross-
linguistic analysis.

However, consultations with several Italian informants tentatively confirms that Italian
speakers have access to at least the types of NIAM-by-A articulated in Chapter 4, with one
exception in which no adjective is involved (Stroboscopic, see below). In fact, nearly all of our
reference examples maintain their NIAM/IAM ambiguity when translated directly into Italian:

(7.17)  | **NIAM Type** | **Italian example** | **English translation** |
--------|----------------|--------------------|----------------------|
         | **Comparison Class** | **enorme** | **pulce** | ‘enormous for a flea’ |
         | huge | flea | |
         | finto | notai | ‘not actually a notary’ |
         | fake | notary | |
         | possibile | poliziotto | ‘possibly a cop’ |
         | possible | cop | |
         | aspirante | genitore | ‘hopeful to be a parent’ |
         | aspiring | parent | |
         | esperto | muscolare | ‘expert on muscles’ |
         | expert | muscular | |
         | orgoglioso | zio | ‘proud to be an uncle’ |
         | proud | uncle | |
         | paziente | irritabile | ‘irritable as a patient’ |
         | patient | irritable | |
The relationship between syntax and non-intersectivity is very difficult to ascertain for Italian, as it presumably is for Romance, generally (see discussion of Bouchard 2002 and Cinque 2010 in Chapter 2). Note that the informants prefer prenominal adjectives for most NIAM types (echoing Cinque’s observations), but not for Associative or Situational NIAM. The analysis described for Stroboscopic NIAM in Chapter 5 finds some support in the facts that Italian has Stroboscopic NIAM—*qualche Samoano è venuto* means more than one Samoan came, infrequently—but the quantificational determiner that enables it (*qualche*) is very much a grammatical (closed class) element (recall that we tentatively proposed a listing of closed-class forms *the-odd, an-occasional*, etc.).

In most cases in which they prefer prenominal structures for NIAM, informants report marginal availability of the same reading with a postnominal A, but with restrictiveness effects. This flexibility of word order with regard to intersectivity, and non-trivial interaction with restrictiveness, generally supports Cinque’s (2010) observations for Romance, but underscores a messiness to the data that his two-A typology does not address.

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8 Speakers are quite consistent in reporting that *bello/a*, the Italian translation of English *beautiful*, does not produce Event NIAM in the equivalents of *beautiful dancer, beautiful writer, or beautiful singer*. Cinque commonly uses *buon’attacante* (‘good attacker’) as his equivalent; we are not aware of an explanation of this difference between the languages.
7.5 Recapitulation

It bears emphasizing that the bulk of the problems enumerated in this chapter are not fully captured by any current grammatical theory; the present approach merely fails to break through on them, perhaps muddying the water a bit further in one or two cases. There can be little doubt, though, that not only our analyses of these unresolved areas, but also those proposed throughout the thesis, will have omitted, miscalculated, and/or otherwise erred in some details, possibly many.

Nonetheless, the achievements of a syntactic approach to non-intersectivity should be clear. No artificial or arbitrary distinction between predication and modification has been made in the analyses above; all instances of lexical predication and modification have been mediated within an RP. No double-listing of adjectives in the lexicon has been necessary; all of the adjectives considered have been implicitly or explicitly specified to have one configuration for which Vocabulary Insertion was licensed—not that words cannot or do not have multiple sets of instructions, merely that multiple entries are not required for an adequate account of non-intersectivity phenomena. The semantic relationships that distinguish NIAM readings from their intersective counterparts (and from other NIAM types as well) have not been relegated to unstructured manifestation in the realms of indices, qualia or elsewhere, but rather expressed in grammatical structures of the constrained and hierarchical nature that seems to govern NIAM-by-A, as opposed to NIAM-by-N in English. Finally, the detailed exposition of the wide but limited NIAM varieties available to English speakers—as well as to Italian speakers, and presumably speakers of all languages, pending further investigation—should at the very least
strongly discourage the exploration of bivalent analyses, still the bulk of contemporaneous
treatments of non-intersectivity (Truswell 2009, Cinque 2010, a.o.).

Two tools have proven essential to the richer view of non-intersective alloys outlined in
this thesis. Discontinuous late insertion builds from the insights of Distributed Morphology and
nanosyntax, while Light RP Raising stems from the ‘Relators’ view of predication, and the
aforementioned assumption it permits, that modification is predication. We have tentatively
explored the potential impact of these tools on realms beyond NIAM-by-A, with mixed but
encouraging results: it is for future research to determine how useful these tools are for analyzing
language generally, and/or English specifically.
References


