Morphosyntax and semantics of degree constructions

by

Sophie Moracchini

Master, University of Nantes (2013)
Licence, University of Nantes (2011)

Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

September 2019

Signature redacted

Author .....
Department of Linguistics and Philosophy
July 18, 2019

Signature redacted

Certified by .....
Martin Hackl
Associate Professor of Linguistics
Thesis Supervisor

Signature redacted

Certified by ....
Danny Fox
Anshen-Chomsky Professor of Language and Thought
Thesis Supervisor

Signature redacted

Certified by .....
Irene Heim
Professor of Linguistics
Thesis Supervisor

Signature redacted

Accepted by .....
Kai von Fintel
Linguistics Section Head, Department of Linguistics and Philosophy

Morphosyntax and semantics of degree constructions

by

Sophie Moracchini

Submitted to the Department of Linguistics and Philosophy
on July 18, 2019, in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

Abstract

This thesis investigates the morphosyntax and the semantics of comparatives and related degree constructions through the prism of a phenomenon called *evaluativity*, a type of inference whereby gradable adjectives receive a context-dependent interpretation. Pursuing the view that evaluativity is contributed by an optional null operator (EVAL, Rett 2008), this dissertation achieves the following results. First, it integrates a compositional analysis of evaluativity within a non-lexical view of antonymy. Second, it argues that the observed restrictions on the distribution of these inferences follow from independently motivated conditions that regulate the presence of the EVAL operator at the interfaces. In particular, three interface conditions are identified and discussed in detail:

- At Logical Form (LF), derivations are subject to a structural economy condition, *Minimize APs!*, which executes transderivational comparisons over semantically equivalent Adjectival Phrases (APs). The inclusion of EVAL in a parse licenses derivations that would otherwise be deemed deviant by this economy condition.

- At Phonological Form (PF), the EVAL morpheme morphophonologically interacts with its surrounding environment. Specifically, EVAL is claimed to be a zero-morpheme subject to *Myers Generalization*, a PF-filter on syntactic derivations which prevents further morphological operations from applying to a zero-derived form. A consequence of this claim is that EVAL is licensed in derivations only where it does not disrupt post-syntactic operations that apply within the AP.

- The distribution of EVAL is conditioned by aspects of Information Structure. In particular, in degree constructions that license contrastive adjectives, the distribution of focus is governed by (AVOIDF) which, in turn, interacts with conditions on deletion. Ultimately, the presence of EVAL can license a surface form which would otherwise get eliminated by PF-deletion. In essence, the grammatical account of evaluativity developed in this thesis offers a window into the word-internal structure of complex degree expressions and presents new insights into the semantic and morphosyntactic primitives of the degree domain.

Thesis Supervisor: Martin Hackl
Title: Associate Professor of Linguistics

Thesis Supervisor: Danny Fox
Title: Anshen-Chomsky Professor of Language and Thought

Thesis Supervisor: Irene Heim
Title: Professor of Linguistics

Acknowledgments

First and foremost, I would like to express my gratitude to the members of my dissertation committee, Danny Fox, Martin Hackl, and Irene Heim. I feel incredibly privileged to have worked under their guidance during my time at MIT. Needless to say, I benefited greatly from their comments and their advice at every stage of my work, and this dissertation would not be the same without their caring attention. Above all, I am particularly thankful for their encouragements and for the patience they showed me on so many occasions.

I am also indebted to the people who first got me interested in linguistics while I was at the University of Nantes, Hamida Demirdache and Orin Percus; I was very fortunate to be able to learn from them during my Master's degree. Special thanks go to Hamida for the unfailing intellectual and personal support she has given me over the years.

I was lucky enough to take my first steps into the Ph.D. program with a great cohort, ling-13, who provided multiple enjoyable moments and countless interesting discussions, both linguistic and completely non-linguistic. Over the course of my stay at MIT, I met amazing colleagues and friends including Athulya Aravind, Chris Baron, Itai Bassi, Isa Bayirli, Paul Crowley, Aurore Gonzalez, Aron Hirsch, Paloma Jeretič, Mora Maldonado, Despina Oikonomu, Deniz Özyildiz, Daniel Margulis, Ezer Rasin, Vincent Rouillard, Milena Sisovics, and Michelle Yuan. My gratitude also goes to Ishani Guha & Ömer Demirok without whom I would not have survived the last two - very intense - academic years.

Outside of linguistics, I'm glad I met Soline, who has become one of my dearest friends. She has been an incredible support over the years. This friendship has been the best diversion from the academics I could hope for, and I am happy that my memories of Cambridge are forever associated with it. I also want to thank Arnaud, Aurore, Alizée, Alice and Louise for the fun nights in Cambridge. For their friendship and support from afar, thanks to Akissie, Julie, Lucas, Chloé, Fanny, Charlotte, and their families.

I also want to thank my parents, Françoise and Jean-Marie, my siblings, their partners and kids. Last but not least, thank you Paul, I simply couldn't have done this without your love and support.

Contents

List of Figures

Chapter 1

Introduction

Context-dependency is a defining feature of linguistic expressions whose semantic content is not entirely determined by their lexical properties. Instead, part of their meaning is supplied by the discourse context. In the realm of degree predication, this rather pervasive type of context/meaning interaction is termed *evaluativity* (Rett 2008, 2015, 2018; Breakstone 2014)[1]. A degree construction is demonstrably evaluative when the interpretation of the gradable property it contains is dependent on a *contextual standard.* For example, degree constructions whose main predicate consists of a gradable adjective in the *positive form* illustrate this property. A speaker uttering the positive construction in (1a), makes a claim about how Jane's height relates to the appropriate contextual standard. That is, the sentence is true if Jane's height exceeds the standard of comparison, i.e., if Jane is significantly tall in that context.

(1) **Evaluativity in positive constructions**

a. Jane is tall.

b. Jane's height $>$ Std_c
Where Std_c is shorthand for 'contextually supplied standard'.

This propensity of gradable adjectives' meaning to resort to the context is not uniformly available across adjective types nor syntactic environments. The minimal pair in (2) demonstrates this point. First, note that the two constructions characterize the same state of affairs, namely, a situation in which the width of the entrance exceeds the size of the stroller (or equivalently, the size of the stroller is less great than the width of the entrance). This meaning is captured roughly by the logical representations in (2a-i) and (2b-i), respectively. However, this pair of sentences

[1]In the literature, the context-dependency of gradable adjectives is also known as *norm-relatedness* (Bierwisch 1989).

brings out a critical interpretive difference between the predicates *narrow* and *wide*: the former licenses an evaluative inference, (2a-ii) whereas the latter does not, (2b-ii). Indeed, unlike (2b), (2a) entails that the width of the stroller is 'less than the average width'. That is, it entails that the stroller 'counts as narrow' in the context. The standard that determines the range of values that 'count as narrow' is precisely what the context supplies for the interpretation of (2a).

(2) **Evaluativity in subcomparatives**
Context: Mary, who is about to visit the botanical garden, is wondering whether her double stroller will fit the entrance.

a. Luckily, the stroller is smaller than the entrance is narrow.
   i. width(entrance) > size(stroller)
   ii. **Entails:** The entrance is **narrow**.

b. Luckily, the stroller is smaller than the entrance is wide.
   i. width(entrance) > size(stroller)
   ii. **Does not entail:** The entrance is **wide**.

One factor that seems to condition the context-dependency in (2) is the adjective's polarity. A familiar idea about adjectives such as *narrow* and *wide* is that they are semantically related by antonymy: they both measure the width dimension of an object, but while *wide* characterizes a positive extent of width, *narrow* characterizes a negative extent of width. On this ground, a natural way of accounting for the contrast in (2a-i) and (2b-i) would be to assign context-dependent meaning to negative antonyms like *narrow* and a context-independent meaning to positive antonyms like *wide*. However, this hypothesis is contradicted by the fact that positive antonyms *can* receive an evaluative interpretation, as shown in the positive construction with *tall* in (1a). Besides, this hypothesis would fail to capture the fact that negative antonyms *can* receive a non-evaluative interpretation, as it is the case for the comparative form of the negative adjective *small* in (2b-i). Indeed, the sentence does not give rise to the inference that the stroller is particularly small in the context. Altogether, the head-spinning distribution of evaluativity suggests two things: i) evaluativity is not intrinsically linked to the meaning of the adjective, and ii) evaluativity is not exclusively determined by the type of degree construction.

A core assumption in the study of meanings in natural language is that the plain meaning of lexical items remains identical across uses. In this way, when encountered

in different utterances, instances of the same word are ensured to make the same semantic contribution to sentences. In that respect, the apparent semantic flexibility of gradable predicates discussed above poses a challenge to semantic theories: how can adjectives give rise to context-dependence in some syntactic environments and not in others? What is the source of that context-sensitivity? There are in the literature, a few attempts to answer these questions most of which take as a premise the idea that gradable adjectives are inherently context-independent. Nowadays, competing views differ in whether context-sensitive meanings arise compositionally, using a covert operator, or as the result of a conversational implicature. Contributing to this debate, this dissertation argues in favor of the first option by offering a fully grammatical account of the context-dependency that emerges from degree constructions. In particular, my goal is to elaborate on Rett's (2008) competition-based account of evaluativity and combine it with a compositional semantics for degree expressions, building on existing analyses and theories in the literature. I will show how this proposal derives the (non)-evaluative interpretations of degree constructions in a principled way, and I will present new evidence in favor of the existence of a covert evaluativity operator. After presenting the core proposal, the remainder of the dissertation offers a detailed account of evaluativity in various degree constructions, including comparatives, subcomparatives, superlatives, and equatives. The picture that will emerge is one in which evaluativity and the constraints on its distribution are driven by the different interfacing systems of the grammar: besides the syntax-semantic core aspect of the theory, the factors that have an effect on the distribution of evaluativity range from morphophonological conditions on word formation to conditions on the information structure of sentences.

In the remainder of the chapter, I introduce the semantic framework that will be used in the forthcoming chapters as well as some background on the semantics of gradability and degrees (Section 1.1). A review of two previous accounts of evaluativity is provided in Section 1.2, where I also discuss their weaknesses and challenges. Finally, I provide an overview of the dissertation in Section 1.3.

1.1 Frameworks

The central empirical focus of investigation of this dissertation concerns constructions involving *gradable adjectives* (GAs) like *big, tall, narrow, long, etc.*. As we will see, working on such constructions by necessity proceeds from certain assumptions about

syntax and semantics. In this section, I provide (a), the basic theoretical framework that will be adopted throughout this dissertation, that mostly follows Heim and Kratzer (1998), and (b), my assumptions about the semantics of gradability that are in line with von Stechow (1984) and Heim (2006), (2008) for instance.

1.1.1 The compositional model-theoretic framework

Following Heim and Kratzer (1998) and the current literature in transformational syntax, I assume that syntax and semantics are independent modules of the grammar. However, they interact via abstract linguistic representations referred to as Logical Forms (LF). LFs, by assumption, are (tree) representations of sentences formed by syntactic rules. Subsequently, these abstract linguistic objects serve as input for the interpretive component of the grammar. More specifically, the semantics maps LFs to formulae in the semantic metalanguage (I will use as a metalanguage a combination of English, predicate logic, λ-abstraction and sometimes set-theoretic notation). Besides, each denotation is uniquely typed. Our ontology includes the following atomic types: type e (for entities), type s (for worlds) and type t (for truth values)[2]. The full inventory of types is provided in (3) and the semantic domains of interpretation are listed in (4):

(3) **Inventory of semantic types**

a. e, s, and t are semantic types.

b. If σ is a semantic type and τ is a semantic type, $< \sigma, \tau >$ is a semantic type.

c. Nothing else is a semantic type.

(4) **Semantic denotation domains**

a. $D_e := D$

b. $D_t := \{0, 1\}$

c. $D_s := W$

LFs receive a model-theoretic interpretation via the interpretation function – represented here as $[\![\cdot]\!]$. In particular, the denotation of a sentence is a truth-value (either 1 or 0), the denotation of atomic parts of LF-trees is specified by the lexicon and at last, the denotation of complex constituents (non-atomic constituents) is compositionally derived from the meanings of their parts, by compositional rules that will

[2]In addition to these types, individual of type d (for degrees) will be introduced later in this chapter.

be introduced shortly. Moreover, in this semantic system, the denotation of all constituents is relativized to an assignment function g and a world parameter w[3]. To provide a few examples, the denotations of some common expressions are given in (5): *Jane* denotes the individual Jane and the predicate *Spanish* denotes a function that maps an individual to truth-values.

(5) **Lexical entries**

a. $[\![\text{Jane}]\!]^w = \text{Jane}$ *type e*

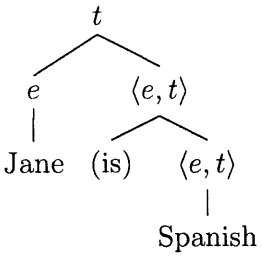
b. $[\![(\text{is})^4 \text{ Spanish}]\!]^w = \lambda x_e.$ x is Spanish in w *type* $\langle e, t \rangle$

The mapping from LFs to interpretation proceeds compositionally by means of a type-driven interpretation rule called *Functional Application*, defined in (6).

(6) **Functional Application** (FA)
If the branching node α is of the form $\{\beta, \gamma\}$, and $[\![\beta]\!]^w \in D_\sigma$ and $[\![\gamma]\!]^w \in D_{\langle\sigma,\tau\rangle}$, then $[\![\alpha]\!]^w = [\![\gamma]\!]^w([\![\beta]\!]^w)$

To get a feel of how a simple declarative sentence composes, let us consider the LF representation in (7). Note that this LF-tree does not contain syntactic category labels (VP, NP, and the like) insofar as they are irrelevant for semantic interpretation[5]. Given the rule of FA, the atomic parts of the LF tree in (7) semantically compose along the lines of (8).

(7)



(8) $[\![\text{Jane (is) Spanish}]\!]^w = [\![(\text{is}) \text{ Spanish}]\!]^w ([\![\text{Jane}]\!]^w)$
$= \lambda x_e.$ x is Spanish in w (Jane)
$=$ 1 iff Jane is Spanish in w, 0 otherwise. *by FA*

[3]Whenever there is no superscript given for the assignment function g, it is assumed that the denotation of the constituent is assignment-independent. As we go along, I will introduce additional parameters to which $[\![\cdot]\!]$ is relativized.

[4]The parentheses in the interpretation function indicate that the copula *is* is assumed to be semantically vacuous, and therefore it is not relevant for semantic interpretation.

[5]Given the structural complexity of some constructions that will be considered in this dissertation, I will sometimes write the syntactic category labels in LFs whenever this helps to clarify a point.

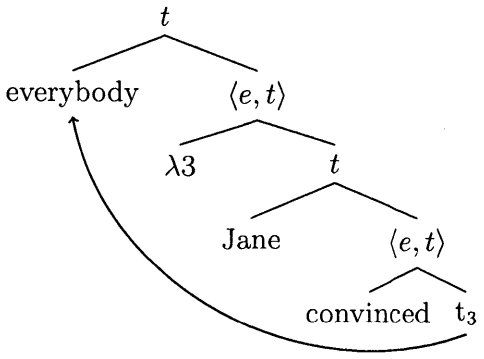
To capture the interpretation of semantic variables that are dependent upon a binder for meaning assignments (e.g., traces left by movement operations, certain pronouns...), an additional rule of composition, *Predicate Abstraction* is added to the set of interpretive rules.

(9) **Predicate Abstraction** (PA)
For any assignment g such that i $\in$ dom(g), if the branching node α is of the form $\{\lambda i, \gamma\}$, then $[\![\alpha]\!]^g = \lambda x \in D.\ [\![\gamma]\!]^{g[i \to x]}$.

The main purpose of *Predicate Abstraction* is to modify the assignment function which maps values to variables and replace all occurrences of a given index i by a variable, for instance, x. This mechanism is illustrated in the sample derivation for (10). The phrasal movement of the object DP *everyboby* in covert syntax leaves a trace (t_3) and creates a binder index with the same numerical index ($\lambda 3$) that has the trace in its scope.

(10) Jane convinced Everybody.

a.



By application of PA, the denotation of the sister constituent of the moved DP will be the following predicate:

(11) $[\![\lambda 3$ Jane convinced $t_3]\!]^{w,g}$
$= \lambda x_e.\ [\![$Jane convinced $t_3]\!]^{w[3 \to x]}$ *by PA*
$= \lambda x_e.$ Jane convinced x in w.

In the final step of the composition, the generalized quantifier *everybody*, whose denotation is provided in (12a), takes as its argument the predicate derived in (11) as a result of functional application (12b):

(12) a. $[\![\text{everybody}]\!]^w = \lambda P_{\langle e,t \rangle}.$ for every x in w, $P(x)$=1

b. $[\![(10a)]\!]^w = 1$ iff for every x, Jane convinced x in w *by FA*

Let me conclude this section with a few more comments. For the sake of clarity, LF representations will not always be fully detailed, and sometimes I will focus only on parts of the representations that are relevant for the discussion. Moreover, the parameters to which the interpretation function is relativized (i.e., the assignment function, the world parameter) will be omitted except where relevant.

1.1.2 The semantics of degrees

In this section, I outline the semantics of gradability based on which I will develop my account of evaluativity. First, I review a degree-based account of gradability, that builds the notion of measurement out of a specific type of entity – the *degrees*, and second, I spell out a treatment of the positive construction along the lines of von Stechow (1984) (and Cresswell (1977); Bartsch and Vennemann (1972) before), that derives the context-sensitive interpretation of gradable predicates in a compositional fashion.

Degrees and degree predicates

Intuitively, *gradable adjectives* (henceforth GAs) describe properties that hold to a certain degree or extent. As such, they belong to a larger class of predicates that permit modification by a variety of adverbial degree terms, including intensifiers and downtoners (13). When gradable adjectives are modified by these adverbial elements, the degree to which the gradable properties hold of their respective subject increases (or decreases). Unlike GAs, *non-gradable* adjectives generally resist such degree modification as illustrated in (14).

(13) This book is $\left\{ \begin{array}{c} \text{pretty} \\ \text{very} \\ \text{rather} \end{array} \right\}$ long.

(14) ??The number 7 is $\left\{ \begin{array}{c} \text{somewhat} \\ \text{pretty} \\ \text{very} \end{array} \right\}$ prime.

The most widespread treatment of gradable and non-gradable adjectives, *the degree-based account* derives their dissimilarity from their lexical properties. On this view, non-gradable adjectives (e.g., *prime*) are predicates of individuals (type $\langle e, t \rangle$). Gradable adjectives in turn, (e.g., *long*), denote relations between entities and degrees

on a scale. Conceptually, this particular view of the semantics of gradable adjectives requires the inclusion of an additional type in the ontology of possible meanings, *the degrees*[6]. In addition, theories in this tradition build the concept of scales by assuming that sets of degrees have an internal structure: they are paired with the order relation $\preceq$ that imposes a total (or *linear*) order on them. That is, for every pair of degrees d, d' in D_d, either d is greater than d' or d' is greater than d (15i). Moreover, the total order $\preceq$ on D_d is dense: for all d, d' in D_d for which $d \preceq d'$, there is a d'' in D_d such that $d \preceq d'' \preceq d'$ (15ii).

(15) A set of degrees S with an ordering $\preceq$ is a scale if and only if $\forall d, d' \in S$:

i. $d \preceq d' \vee d' \preceq d$ *total order*

ii. $d \preceq d' \rightarrow \exists d'' \in S[d \preceq d'' \wedge d'' \preceq d]$ *density*

With this arrangement, a gradable predicate P can be thought of as a relationship between individuals and degrees on the conceptual scale associated with P (see Seuren 1973; Cresswell 1977; von Stechow 1984; Heim 1985; Bierwisch 1989; Kennedy 2001 and others). Among the possible denotations for GAs that would achieve this result, I will adopt Heim's (1985) (see also von Stechow 1984) denotation in (16), according to which a GA has a relational interpretation that holds between the measurement of an object x and a degree d, such that the measurement of x is at least as great as d on the relevant scale.

(16) **Lexical entry for gradable adjectives:**
$[\![\text{GA}]\!] = \lambda x_e.\lambda d_d.\ \mu(x) \succeq \text{d}$
$\mu = \text{f: } D_e \rightarrow S\preceq$

The measurement of an object is realized by a measure function μ, that is encapsulated in the denotation of the gradable predicates. This measure function assigns an object to the unique (maximal) degree that corresponds to its measurement on the relevant scale, its semantic type is, therefore, $\langle e, d \rangle$. In order to ensure that the function denoted by *tall* maps its argument of the scale of HEIGHT and not any other scale (like WIDTH, LENGTH...), we must specify that the predicate is only defined for a subset of degrees in D_d: in this case, the set of spatial extents (SE). As a result,

[6]Another influential approach, known as *delineation approaches*, derives the difference between non-gradable adjectives and gradable adjectives from the properties of their domains (Klein 1980): the (individual) domains of gradable adjectives are partially ordered sets whereas no such ordering is imposed on the domains of non-gradable adjectives.

the GA *tall* is assigned the denotation provided in (17)[7] :

(17) **Lexical entry for *tall*:**
$[\![\text{tall}]\!] = \lambda x_e.\lambda d_d : d \in SE.\text{HEIGHT}(x) \succeq d$

This denotation has the significant advantage of capturing the monotonicity property that characterizes adjectives: if an individual to tall to a certain degree d, she is also tall to every degree d' such that d' is smaller than d.

(18) **Downward monotonicity of adjectives** (Heim (1999))
A relation R between objects and degrees is downward monotonic iff $\forall x, d, d'$ $[R(x, d)\ \&\ d > d' \rightarrow R(x, d')]$

Context-dependence of the positive construction

On the degree-based account reviewed in the previous section, we have seen that gradable adjectives are ditransitive predicates, they select for an individual and a degree. On this assumption then, the positive construction in (19) seems to be missing its degree argument. Yet, our intuition about the meaning of this sentence appeals to a degree: the sentence Leo is tall is true only if Leo's height is greater than some standard.

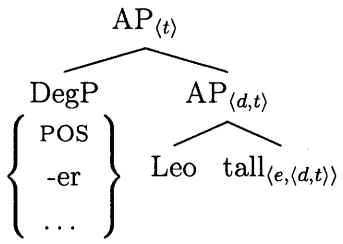
(19) Leo is tall.
Leo's height exceeds some contextual standard.

A common assumption is that in positive constructions like (19), the standard of comparison is contributed by a silent morpheme referred to as POS that fills the degree argument of the degree predicate. The degree morpheme POS belongs to a family of degree heads that map adjectives to their various forms – e.g., positive, comparative, superlative. In accordance with this view, I assume that degree arguments are introduced in a higher functional head, AP. A representative structure of the adjectival phrase is illustrated in (20).

[7]In order to avoid clutter, I will sometimes abbreviate the denotation for GAs by omitting the presuppositional requirement as in (1):

(1) $[\![\text{tall}]\!] = \lambda x_e.\lambda d_d.\text{HEIGHT}(x) \succeq d$

(20) **Architecture of the (extended) AP**



Returning to the meaning of positive constructions, we need a context-sensitive semantics for the POS operator. Indeed, the standard value it contributes to the meaning of the positive construction shifts from context to contexts. Consider the sentence in (21). It is possible to think of two situations, one in which the sentence is true, and one in which it is false. In a regular state of affairs, water boils a 100 degree Celsius (that is, at sea level). This temperature is likely to be considered as hot, and therefore, the sentence is likely to be accepted as true. Yet, we know that there is no set temperature at which water boils. In fact, it depends on what the pressure is. And thus, in a vacuum chamber for example, water can boil at room temperature. In that case, crucially, the water in question is *not* hot, and in turn, the sentence in (21) should be judged as false.

(21) The boiling water in the pan is hot.

In sum, POS, which sets the standard value for the adjective, is an indexical. Here, I mention two variants of the POS morpheme, (22a) and (22b)[8].

(22) a. $[\![\text{POS}]\!]^c = \lambda P_{\langle d,t \rangle}.\exists d.\ P(d)\ \&\ d \succeq Std_c$

b. $[\![\text{POS}]\!]^c = \lambda P_{\langle d,t \rangle}.P \supseteq Std_c$

Let us assume that the full syntax for the positive form is (23a). Notice that although the subject *Leo* overtly moves in [Spec, TP], it reconstructs for interpretation, thereby saturating the innermost argument of the gradable predicate through Functional Application. The second argument is saturated, likewise through FA, by the POS morpheme (here I use the denotation in (22a), but the denotation in (22b) will be adopted at the later stage in the dissertation). As shown below, given the syntactic representation in (23a), the meaning predicted for the whole sentence is as expected.

[8]I've reframed these two versions of the positive morpheme to accordance with the compositional assumption that the subject is generated as the adjective's innermost argument. Under these circumstances, the sister constituent of POS of type $\langle d,t \rangle$ instead of $\langle e,\langle d,t \rangle \rangle$.

(23) **Derivation of the positive construction**

a. *Surface syntax:* $[_{TP}$ Leo $[_{AP}$ $[_{DegP}$ $[_{Deg}$ POS]] $[_{AP}$ t_{Leo} tall]]]

b. *LF:* [POS [Leo tall]]

c. *Semantic Composition:* $\exists d.$ [HEIGHT(Leo) $\succeq d$ & $d \succeq Std_c$]

At that point, it is interesting to relate the discussion of the positive construction to the broader context-sensitivity considerations that were exposed in the introduction. As noticed by several semanticists, the view that the POS morpheme is the locus of evaluativity is incompatible with the actual distribution of this property across degree constructions (Bierwisch 1989; Rett 2008,2015; Breakstone 2014). Indeed, the reference to a standard that is contextually provided is pervasive; it arises in several degree constructions outside the positive construction where degree head POS is not expected to occur. In addition, the distribution of evaluativity seems to be sensitive to certain semantic properties of gradable adjectives, for instance, their polarity. The next section reviews two previous accounts of evaluativity.

1.2 Previous accounts

The investigation of the distribution of evaluativity across degree construction was initiated by Bierwisch (1989) and carried out further by Rett (2008, 2015) and Breakstone (2014), among others. This research program has produced fruitful insights concerning the source of evaluativity as well as the conditions under which evaluativity arises in degree constructions. More specifically, the three generalizations below are shared in some form or another by most of the main theories:

- **The pervasiveness of evaluativity.** The context-sensitivity of gradable predicates goes beyond the positive construction. It arises a variety of other degree environments.

- **Markedness and evaluativity.** Negative antonym involve some kind of markedness. Some constructions are evaluative when they contain a negative antonym but they are not necessarily evaluative when they contain a positive antonym. The opposite – a construction that is evaluative with a positive antonym but not with its negative counterpart – is never true.

- **The status of evaluativity** Evaluativity contributes to the assertive component of positive constructions. In other degree constructions, however, evaluativity tends to be presuppositional.

Evaluativity is pervasive

In the previous section, it was shown that positive constructions are always evaluative, regardless the polarity of the gradable adjective they involve:

(24) Positive constructions

a. Jane is tall.

b. Jane is short.

c. The river is deep.

d. The pool is shallow.

Another conspicuous instance of environment that licenses an evaluative inference for both positive and negative dimensional adjectives is the analytical form of comparatives (aka, periphrastic comparatives)[9]. For example, the sentences in (25) impose a condition on the context that the subjects of the comparatives are evaluated with respect to a standard: For (25a) to be felicitously uttered, Jane and Bill must both be tall in the context, and for (25b) to be felicitously uttered, they both must be short in the context. The pattern of evaluativity is confirmed by the continuations that contradict the context-sensitive interpretation of the base-lines.

(25) Analytic comparatives

a. Jane is more tall than Bill is
...#but she is not particularly tall.

b. Jane is more short than Bill is
...#but she is not particularly short.

In contrast with positive and analytic constructions, Bierwisch (1989) notes that synthetic comparatives of superiority and superlatives of superiority exhibit the opposite pattern: they do not give rise to evaluative inferences. Consider (26) and (27). Even in the absence of any specific evaluative requirement on the context, the following sentences can be felicitously uttered. For instance, (26b) is felicitous in a context where John and Mary are notoriously tall – if they are basketball players, for example. Similarly, (27b) is felicitous in a context where Jane is compared to the rest of her basketball team: she can be the shortest member of the team despite being particularly tall.

[9]There are various reasons why comparatives can have an analytic look, for instance as the result of a phonological prosodic constraint. Thus, I am *not* claiming that all analytic comparatives are evaluative. The generalization is instead restricted to synthetic comparatives that permit an alternative variant. Hence, for a given pair of acceptable forms for an adjective A, {A-er; more A}, the construction that involves the periphrastic form is claimed to be evaluative.

(26) Synthetic comparatives of superiority

a. Jane is taller than Mary is,
... but she is not particularly tall.

b. Jane is shorter than Mary is,
... but she is not particularly short.

(27) Superlatives of superiority

a. Jane is the tallest,
... but she is not particularly tall.

b. Jane is the shortest,
... but she is not particularly tall.

Evaluativity and markedness.

In various degree constructions, it seems that the context-dependent (i.e., evaluative) interpretation of degree expressions is linked to some form of markedness: constructions that involve negative antonyms tend to be evaluative, whereas constructions that contain positive antonyms are not. These constructions, also dubbed *polar-variant constructions* include degree questions (28), equatives (29), *less*-comparatives (30).

(28) Degree questions

a. A: Jane is not particularly tall.
B: How tall is Jane?

b. A: Jane is not particularly short.
B: # How short is Jane?

(29) Equatives

a. Jane is as tall as Bill is,
... but she is not particularly tall.

b. Jane is as short as Mary is,
... #but she is not particularly short.

(30) Synthetic comparatives of inferiority

a. Jane is less tall than Bill is,
...? but she is not particularly tall.

b. Jane is less short than Bill is,
... # but she is not particularly short.

A further example of polar-variant degree construction is the superlative of inferiority in (31). This paradigm resembles (30) in that it expresses a relation of inferiority. It is therefore not so surprising that the two environments share the same evaluativity signature, especially if the meaning of *least* is derived from the meaning of *less*, just like the meaning of *most* has been argued to be derived from the meaning of *more* (Bobaljik 2012, Dunbar and Wellwood 2016).

(31) Superlatives of inferiority

a. Jane the least tall,
... but she is not particularly tall.

b. Jane is least short,
... #but she is not particularly short.

To summarize, Table 1.1 reproduces the evaluativity judgments separately reported in Bierwisch (1989), Rett (2008) and Breakstone (2014).

	Evaluativity	
Degree constructions	Positive antonym	Negative antonym
Positive construction	E^+	E^+
MP constructions	E^-	E^-
Comparative constructions	E^-	E^-
Equatives	E^-	E^+
Degree questions	E^-	E^+
less-comparatives	E^-	E^+
least-superlatives	E^-	E^+

Table 1.1: Evaluative and non-evaluative degree constructions
($E^{+/-}$ denote evaluative/non-evaluative)

The nature of evaluativity.

Evaluativity is sometimes assertional – e.g., in positive constructions, (32), and sometimes it seems presuppositional – e.g., in equatives, (33).

(32) **Evaluativity in positive constructions**
A: Amy is short.
B: No, she's below the average height for women her age.

(33) **Evaluativity in equatives** (Rett 2008: 220)

A: Amy is as short as Betty.

B: #No, she's not short. She's actually taller than the average height.

However, the projective pattern of evaluativity can be asymmetrical between the matrix and the standard clause of a bi-clausal degree construction. As standard projective tests seem to suggest, only standard clauses are presupposition-bearing. For instance, when embedded in the antecedent of a conditional, the equative example in (34) shows that the evaluative presupposition holds only for the standard constituent.

(34) **Projection of the evaluative presupposition** (Rett 2015)

If Doug is as short as Adam, he will not be able to go on the ride.

Presupposition: Adam is short.

Not a presupposition: Doug is short.

Altogether, these observations raise several questions. First, if evaluativity is sensitive to some form of markedness, we want to understand the source of it. The first observation that evaluativity is tied to some form of markedness has led to the hypothesis that evaluativity is the result of a competition between degree constructions. The markedness competition account is reviewed in section 1.2.1. Second, a good theory of evaluativity should be flexible enough to capture the different forms of context-dependencies: those that are part of the assertion, and those that aren't. The second challenge has motivated the view that evaluativity arises as the result of an implicature. The Manner-implicature account is reviewed in Section 1.2.2. Note that there exist additional accounts of evaluativity (e.g., Bierwisch 1989,Breakstone 2014) in the literature. My main reasons for focussing on the Markedness competition account and the Manner Innplicature account are motivated by the fact that these two approaches are the best contenders to the theory that is going to be developed in this dissertation.

1.2.1 The Markedness competition account

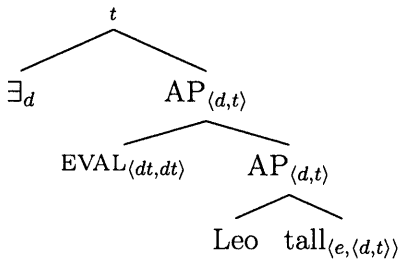
The Markedness competition account is primarily concerned with the analysis of evaluativity in equatives, comparatives, and degree questions. To solve the issue of the pervasiveness of evaluativity in degree constructions, Rett (2008) introduces some flexibility in the composition of APs. She postulates the existence of an operator that can contribute evaluativity to both the positive construction aand other degree constructions. This is done by assuming an optional, modifier-version of the POS

morpheme, called the EVAL morpheme. EVAL has a predicate-modifier type $\langle dt, dt \rangle$ that composes directly with the gradable property (compare the denotations of EVAL in (35) and POS in (22a)).

(35) **The EVAL morpheme (Rett 2008)**
$[\![\text{EVAL}]\!]^c = \lambda P_{\langle d,t \rangle}.\lambda d_d.P(d)\ \&\ d \succeq Std_c$

Since EVAL is thought of as a replacement for the positive operator, the meaning of the positive construction has to be revised. The representation proposed in Rett (2008) is provided in (36). EVAL contributes the contextual standard value and existential closure binds the degree variable in the adjective phrase. As under the traditional account, the resultant bare-bones truth-conditional representation is as in (37a).

(36) **The positive construction**

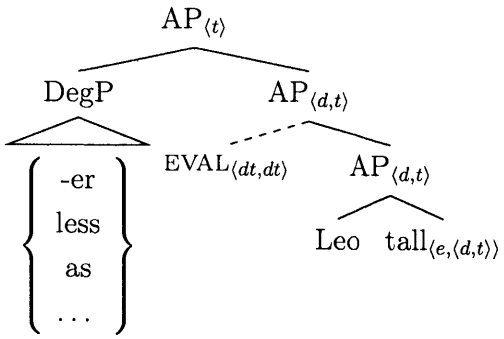


(37) a. $[\![\text{EVAL JANE TALL}]\!]^c =$
$\lambda d.$ [HEIGHT(jane) $\succeq d$ & $d \succeq Std_c$]

b. *Existential CLosure:* $\exists d.$ [HEIGHT(jane) $\succeq d$ & $d \succeq Std_c$]

Such a view has the following two advantages: First, it no longer ties evaluativity to the positive construction. Indeed, contrary to POS, EVAL does not saturate the degree argument of the gradable property. Instead, it modifies adjectives without disrupting the semantics or the syntax of the constructions in which they occur. As a result, the EVAL operator has a less restricted distribution than POS. In particular, EVAL can co-occur with overt degree operators (e.g., *as*, *-er*, *less*) since EVAL-modified APs have a suitable semantic type to further compose with the different degree heads.

(38) **Revised architecture of the (extended) AP (Rett 2008)**



A second crucial feature of this approach is the optionality of the EVAL operator (represented by the dashed line in the above tree). Indeed, on this account, any degree construction admits two parses. Note that a positive construction such as *Jane is tall* has very weak truth-conditions in the absence of the EVAL operator: it is true just in case Jane has some degree of height. Besides, gradable adjectives already carry the presupposition that their individual argument possesses the property they convey to some degree; for instance, *tall* maps its individual argument on an open-bounded scale of height, hence presupposing that its argument has a height (Kennedy (2007); Hackl (2009); Heim (2009)). Thus, under a non-evaluative interpretation, the presuppositional content and the assertive content of a positive construction ends up being somehow redundant. This leads us to the crux of the competition account: the class of degree constructions that seem to lack a reading (either evaluative or non-evaluative) exhibits blocking effects. In the case of positive constructions, non-evaluative parses are blocked by a triviality filter, I use Heim (2009)'s formulation here:

(39) **Triviality filter**
A sentence is trivial if its assertion either follows from or contradicts its presupposition.

Outside of the positive construction, the evaluative and the non-evaluative parses of degree constructions are licensed by the grammar unless a markedness competition applies. The markedness competition is motivated by a pragmatic principle that favors unmarked forms over marked forms, according to the formulation in (40)[10].

(40) **The Markedness Principle**
Don't use a marked form α in a sentence S, if the alternative sentence S' that

[10]Rett (2008) does not provide a precise definition of the Markedness Principle. This formulation is adapted from Thomas (2013).

is obtained by substituting this instance of α by its unmarked counterpart β is contextually equivalent to S.

To illustrate the application of the principle, consider the pair of degree questions in (41) and (42). In particular, the positive degree question in (41) is compatible with both a non-evaluative interpretation and an evaluative interpretation whereas the negative degree question in (42) permits only the evaluative interpretation in (42a), its non-evaluative interpretation however is non-attested. As a matter of fact, in a context where it is known that Jane is tall it would not be felicitous to ask the question in (42).

(41) How tall is Jane?

a. **Evaluative parse**: What is the degree d such that Jane's height exceeds or equals d and d is exceeds some standard value for what counts as tall?

b. **Non-evaluative parse**: What is the degree d such that Jane's height exceeds or equals d?

(42) How short is Jane?

a. **Evaluative parse**: What is the degree d such that Jane's height exceeds or equals d and d is exceeds some standard value for what counts as short?

b. ***Non-evaluative parse**: What is the degree d such that Jane's height exceeds or equals d?

On their evaluative parse, the degree questions are not contextually equivalent due to the different contributions of the adjective's standards. In turn, on their non-evaluative parse, the positive and the negative antonyms make the same contribution to the truth-conditions of the degree questions. By the Markedness Principle, it follows that the non-evaluative positive-antonym degree question (the unmarked form in 41) precludes the non-evaluative negative-antonym degree question (the marked form in 42). Consequently, a negative-antonym degree question has only one grammatical parse; the one that gives rise to an evaluative presupposition. I will discuss further applications of the markedness competition account and discuss its implications at greater length in Section 2.1.2.

1.2.2 The Manner-implicature approach

A certain number of researchers have expressed worries about the idea of encoding evaluativity in null operators like POS or EVAL, for the reason that there is little evi-

dence of whether these morphemes are ever lexicalized across languages (Klein 1980; Grano 2012; Rett 2015)[11]. Rett (2015) has recently developed an alternative account of evaluativity that dispenses with the stipulation that the covert morpheme POS and EVAL are part of the grammar. I will review the main features of this account, focusing on the treatment of degree questions and comparatives.

The idea put forward in Rett (2015) (see also Rett 2014; Rett and Brasoveanu 2018) is that evaluativity in degree constructions can be analyzed as resulting from the calculation of a Manner implicature that delivers an 'atypical' interpretation for gradable adjectives, which according to Rett, amounts to their evaluative interpretation. This is illustrated in (43).

(43) **Manner implicature in degree questions**
How short is Jane?

a. **Alternative:** How tall is Jane?

b. **M-implicature**: Jane is atypically short
$\rightsquigarrow$ Jane counts as short in the context.

As in the EVAL-account, negative antonyms compete with their positive counterpart in environments where they yield identical truth-conditions. In the Manner Implicature account, however, Rett appeals to Katzir (2007)'s structural-complexity based algorithm to identify the relevant competitors[12]. Specifically, the way Manner alternatives (M-alternatives) are determined proceeds according to (44). Namely, the set of M-alternatives for ϕ consists of all those structural alternatives ϕ' that are semantically entailed by ϕ:

(44) **M-alternatives** (Rett 2015)
Let ϕ denote a semantic object of type $\langle \omega, t \rangle$. The set of M-alternatives for ϕ, written as $A_{Mstr}(\phi)$, is defined as $A_{Mstr}(\phi) := \{ \phi' : [\![\phi']\!] \subseteq [\![\phi]\!] \}$.

[11]However, some arguments that the positive morpheme is overtly realized in certain languages are also presented in the literature, see for instance Grano and Davis (2017). Moreover, in this dissertation, I provide additional arguments in favor of the existence of a null operator, by showing how certain blocking effects can be accounted for, once we assume that the evaluativity operator is an intervener to post-syntactic movements. This line of argumentation is mainly developed in Chapter 3.

[12]Note, however, that even though Rett seems to adopt the general idea that negative antonyms are morphologically more complex than positive antonyms, she does not provide a compositional account of antonymy. Rather, she views the complexity of negative antonyms as *more of a theoretical convenience than an empirical claim.* Rett 2015, p.100).

At last, Manner implicatures result from the application of a pragmatic principle, *the Marked Meaning Principle* defined in (45)[13].

(45) **The Marked Meaning Principle**[14]
For sentences (or parse trees) ϕ, ϕ' such that $\phi' \in A_{Mstr}(\phi)$ and ϕ contains a marked form, ϕ carries the Manner implicature: '$\wedge$ ATYPICAL(ϕ)'

In the case of constructions that involve antonyms, Rett (2015) suggests that evaluativity is the most natural way of interpreting an M-implicature of atypicality. She advances that (a)typical uses of antonyms are determined with respect to the other member of the scale. In particular, the typical use of the members of the pair of antonyms *tall-short* describes degrees that fall within the range of what counts as the average on the scale of height. On their atypical use, however, these adjectives describe degrees that fall out of the standard range, namely, the low end of the scale (i.e., degrees that count as *short*) and the high end of the scale (i.e., degrees that count as *tall*). In order to ensure that the atypical use of *tall* will be appropriately associated with the 'high end of the scale' and that in turn, *short* will be appropriately associated with the 'low end of the scale', Rett (2015) invokes a pragmatic strengthening mechanism. The goal of the Manner Implicature account then, is to tie atypicality to the evaluative interpretation of gradable adjectives.

However, Rett (2015) does not make explicit how the Marked Meaning Principle is to apply to sentences. Given the definition in (45), atypicality implicatures can be derived at different levels. I will now show that in the case of analytical comparatives, this possibility gives rise to several atypicality implicatures, only one of which can, in principle, result in evaluativity. Consider the sentence in (46a), which gives rise

[13]The *Marked Meaning Principle* is a reformulation of Horn's Principle of *Least effort*:

(1) **Horn's Principle of Least Effort** (Horn 1984, p.22)
The use of a marked (relatively complex and/or prolix) expression when a corresponding unmarked (simpler, less "effortful") alternate expression is available tends to be interpreted as conveying a marked message (one which the unmarked alternative would not or could not have conveyed).

[14] The formulation in (45) is mine. Rett (2015)'s original formulation does not make reference to any notion of marked forms or structural complexity, see (1). Rather, it exclusively relies on semantic entailment by the definition in (44). This in turn, predicts that manner implicatures should arise all over the place. For instance, since $[\![\text{all } \phi]\!] \subseteq [\![\text{some } \phi]\!]$, it follows that *all* $\in A_{Mstr}(some)$. Rett's principle wrongly predicts that a sentence containing *some* should give rise to an atypical interpretation. A reformulation along the lines of (45) at least avoids such unwarranted results.

(1) **The Marked Meaning Principle** (Rett 2015)
For sentences (or parse trees) ϕ, ϕ' such that $\phi' \in A_{Mstr}(\phi)$, ϕ carries the Manner implicature: '$\wedge$ ATYPICAL(ϕ)'

to the evaluativity inference that John and Mary are significantly short in the context. Intuitively, a relevant alternative to this sentence is the non-evaluative synthetic comparative in (46b).

(46) a. **Analytic comparative**
John is more short than Mary is
$\rightsquigarrow$ Mary is significantly short in the context.

b. **Synthetic comparative**
John is shorter than Mary is
$\not\rightsquigarrow$ Mary is significantly short in the context.

Let us clarify what the manner implicature account predicts for this pair of constructions. A common assumption is that the degree morpheme *more* spells out the morphosyntactic constituent composed of the comparative morpheme plus an abstract MUCH morpheme: [-er much] (Bresnan 1975; Corver 1997 a.o.). Specifically, MUCH is analyzed as a semantically vacuous morpheme, and therefore, a synthetic construction containing an AP like *shorter* should automatically qualify as a manner alternative for its analytic counterpart (i.e., *more short*). Indeed, the degree morpheme *more* can be considered as being more marked than the *-er* morpheme on the ground that it is morphologically more complex and, in addition, the AP *shorter* semantically entails the AP *more short* by semantic vacuity of MUCH. All other things being equal then, the use of the analytic form *more* in (46a) should give rise to an atypicality implicature. Now, the definition in (45) leaves open two main options regarding the 'level' at which the atypical implicature is derived, (47).[15]

(47) **Manner implicatures predicted on Rett's account**
John is more short than Mary is.
M-Alternative: John is shorter than Mary is

a. **Atypicality implicature at the sentence level**
$\rightsquigarrow$ ATYPICAL(John is more short than Mary is)

b. **Atypicality implicature at the constituent level**
$\rightsquigarrow$ John is ATYPICAL(more short) than Mary is

Rett's account does not tell us what the atypical instantiation of a complex predicate exactly is or whether the atypical implicature should solely result in the evaluative

[15]Further options could in principle be considered. What's crucial here is that the constituent to which ATYPICAL applies at least contains the marked form triggering the atypicality implicature at hand (here, the morpheme *more*).

interpretation of the gradable adjective. In particular, this account leaves open the possibility that the manner implicatures target the degree operator *more* by requiring that the comparative relation be atypical in some way, for example by requiring that John be way/much shorter than Mary is. This possibility is particularly plausible given that, on Rett's account, the degree operator *more* is the marked form that triggers those atypicality implicatures in the first place. The possible interpretations of those manner implicatures are thus shown in (48):

(48) $\rightsquigarrow$ ATYPICAL(John is more short than Mary is)

a. *Evaluative interpretation:*
John and Mary are significantly short in the context of utterance

b. *Alternative interpretation:*
John's height is atypically less great than Mary's height

As it appears, native speakers report the evaluative interpretation in (48a) but never the non-evaluative one in (48b). The case of analytic comparatives, therefore, presents a challenge for the Manner Implicature account. As it seems, the problem arises because nothing in Rett's account forces an atypical implicature to translate into an evaluative interpretation of the adjective. In the face of this issue, one possible amendment to the approach could consist in deriving a disjunction of atypical meanings (namely, for (46a): that *John and Mary are significantly short in the context of utterance or John is much/way shorter than Mary*) and stipulate that evaluativity always comes out as a preference. However, this line of explanation does not seems to be empirically supported. To see that, consider an additional case of markedness implicature discussed in Rett (2015, p.174), which concerns the periphrastic causative in (49a).

(49) a. John caused the sheriff to die.
$\rightsquigarrow$ ATYPICAL(John caused the sheriff to die)

b. John killed the sheriff.

Rett argues that (49b) is an M-alternative to (49a) and that the Marked Meaning Principle delivers for (49a) an atypicality implicature: John caused the sheriff to die in an atypical way. Given what was said for the case of analytic comparative, if evaluativity comes out as a preference whenever a gradable adjective occurs in a marked construction, the strengthening of a sentence like (50) should result in the interpretation in (50a). This interpretation, however, is not the one accessed by speakers, who report instead of the one in (50b).

(50) John caused a shorter sheriff to die.
$\rightsquigarrow$ ATYPICAL(John caused a shorter sheriff to die)

a. *Evaluative interpretation:*
The sheriff was significantly short in the context

b. *Alternative interpretation:*
John caused a shorter sheriff to die in an atypical way

The comparison between (48) and (50) establishes that evaluativity need not arise in the environment of a marked form, falsifying thus the amendment of the approach we entertained. On these grounds, it seems that the only way to derive a suitable evaluativity implicature would be to force atypicality to be local enough to the gradable adjective, as demonstrated in (51). However, given the Marked Meaning Principle, an atypicality implicature can only be triggered by a marked form, and in this case the adjective *short* has no M-alternative.

(51) **Atypicality implicature at the adjectival level only**
$\rightsquigarrow$ John is more ATYPICAL(short) than Mary is
Evaluative interpretation: Mary counts as short in the context

Since there is no principled way of encoding a locality constraint on this approach, it follows that the evaluativity pattern associated with analytical comparativesÂăremains mysterious. Note that the EVAL account discussed in the previous section does not suffer from the same problem because evaluativity is tied to the presence of the EVAL operator, independently motivated in the grammar, which locally modifies the adjective. In that sense then, the EVAL account better preserves the relation between marked forms and marked meanings.

As we will see later in the dissertation, the Manner Implicature Account faces - in addition to the problem just raised - additional challenges that include cases where evaluativity arises in the absence of an appropriate M-alternative (see the treatment of subcomparatives in Chapter 3). In turn, I will demonstrate that the EVAL approach, once framed within a structural-competition account, proves to be superior to Rett (2015)'s Manner Implicature Approach. Ultimately, this also raises the question of whether some other phenomena currently accounted for in terms of Manner implicatures might not be better captured under the sort of grammatical approach to economy pursued in this dissertation.

1.3 Outline of the dissertation

- The second chapter of this dissertation provides an account of the distribution of evaluativity in synthetic comparatives and *less*-comparatives.

Chapter 2: Structural Economy and evaluativity. In this chapter, I look into the morphosyntax and semantics of degree expressions (e.g., *taller, shorter, less short*, etc), pursuing the Syntactic Negation Theory of Antonymy (Rullmann 1995, Büring 2007a, 2007b, Heim 2006, 2008), according to which negative antonyms as well as the degree operator *less* are syntactically decomposed in the syntax. A consequence of this approach is that some degree expressions are structurally more complex than others. Next, I argue that 'markedness' in the sense of Rett can be cashed out in terms of structural complexity. From there, I develop the idea that evaluativity results from a competition, but I show that this competition is semantic in nature. I introduce a grammatical principle called *Minimize APs!* that penalizes structurally complex APs whenever they admit a structurally simpler yet semantically equivalent alternative. I show that this account correctly predicts the distribution of evaluativity in synthetic comparatives and *less*-comparatives.

- The third and fourth chapters of the dissertation argue that, beyond the role of structural competition, some of the observed restrictions on the distribution of evaluativity follow from independently motivated interface conditions. In particular, the distribution of the EVAL operator is shown to be subject to a PF constraint in the matrix AP of comparatives, and to be sensitive to aspects of Information Structure in the standard AP of comparatives.

Chapter 3: Refining competition: Expressability of alternatives. This chapter focuses on analytic comparatives (e.g., *Jane is more tall than Tom is*). which obligatorily give rise to evaluativity presuppositions. While *Minimize APs!* correctly predicts that their non-evaluative parse is precluded by their non-evaluative synthetic variants (e.g., *Jane is taller than Tom*), it also wrongly predicts that their evaluative parse should also be precluded by the same (evaluative) competitor. To solve this issue, I show that the distribution of the EVAL operator is restricted by an independently motivated PF-filter; crucially, EVAL cannot occur in synthetic comparatives. This proposal leads to a refinement of *Minimize APs!* so that it incorporates a morphophonological well-formedness condition on competitors. As a result, in the absence of a suitable competitor, the evaluative analytic AP *more tall* is licensed by

the grammar.

Chapter 4: The role of Information Structure. This chapter tackles the distribution of evaluativity in subcomparatives. The central puzzle concerns the contrast between subcomparatives involving indirect antonyms (e.g., *the rope is shorter than the gap is wide* = 'POS-NEG subcomparatives') and subcomparatives involving two negative-antonyms (e.g., *the rope is shorter than the gap is narrow* = 'NEG-NEG subcomparatives'). While NEG-POS constructions are non-evaluative, NEG-NEG comparatives are evaluative, and evaluativity projects out of the standard clause only. To solve this puzzle, I propose a modification of Heim (2008)' s approach to cross-polar constructions. This modification appeals to Bacskai-Atkari (2018)'s theory of deletion in subcomparatives, on which the remnant predicate in subcomparatives *than*-clause is hypothesized to resist PF-deletion for recoverability by virtue of being F-marked. I show that, on the account that is developed, non-evaluative NEG-POS and NEG-NEG subcomparatives have the same underlying structure, and yet involve different information structure patterns. Crucially, I argue that the focus placement available in NEG-NEG construction always violates an independently motivated constraint on the distribution of F-marking called AVOIDF(Schwarzschild 1999).

- The final chapter investigates the predictions made by the present analysis for additional degree constructions.

Chapter 5: Extension of the account: superlatives and equatives. The theory of evaluativity developed in this dissertation relies on the availability of structural competitors. On the last chapter of the dissertation, I provide an extension of the account proposed for comparatives to superlatives. In addition, I suggest a possible analysis of the contrast between the evaluativity of positive-antonym equatives and negative-antonym equatives, which happen to be obligatorily evaluative, suggesting that their non-evaluative parse is blocked by a competitor. I propose that the right structural competitor for a negative-antonym equative like *John is as short as Mary is* is the negated comparative *John is no taller than Mary is.* To that end, I suggest a decompositional account of equatives that accounts for the competition effect and reduces the inventory of primitive meanings of comparison.

Chapter 2

Structural competition and evaluativity

2.1 Evaluativity in degree constructions

2.1.1 The puzzle

In English as in many languages, comparative and equative constructions are characterized by a series of truth-conditional equivalences. Consider the comparative of superiority in (1), which describes a situation where Jane's height exceeds Tom's height. Alternative ways of describing this situation include the degree constructions provided in (2):

(1) Jane is taller than Tom is.

(2) a. Tom is shorter than Jane is.
b. Tom is less tall than Jane is.
c. Tom is not as tall as Jane is.

In the recent years, linguists have tried to capture the set of entailment pattern associated with the sentences in (1-2) while taking stock of the primitive meanings of comparison, i.e., by identifying the semantic contribution of each degree morpheme. In particular, from a compositional perspective, the entailment relations between the above sentences ultimately boils down to the semantic relations that hold between positive adjectives and their negative counterparts on the one hand, and between the different degree operators on the other hand. Importantly, the sentences in (1-2) are felicitous regardless of whether Jane and Tom are independently judged to be both

tall, or both short, or one tall and the other short: the truth-conditions of these sentences are satisfied insofar as the comparative relation expressed by the various degree morphemes holds between the matrix and the standard APs. In that respect, it is perhaps surprising that the negative-antonym *less*-comparative in (3a) and the (negated) negative-antonym *as*-equative in (3b) are not good paraphrases for the sentence in (1):

(3) a. Jane is less short than Tom is.

b. Jane is not as short as Tom is.

Just like the sentences in (1-2), the degree constructions in (3) are compatible with a situation where Jane's height exceeds Tom's. However, for these sentences to be felicitous, Jane and Tom have to count as short is the discourse context. That is, the adjective *short* receives an evaluative interpretation in (3a) and (3b). As it appears, no analogous evaluative inference arises in any of the sentences in (1) and (2). To see that, consider the base sentences in (4) and (5) which update the context with propositions that are incompatible with the evaluative interpretation of their continuations. Since none of these continuations are infelicitous, it can be concluded that the adjective they contain receives a non-evaluative interpretation.

(4) Jane and Tom are both (very) short,

a. ... but Jane is taller than Tom is.

b. ... ?but Tom is less tall than Jane is[1].

c. ... but Tom is not as tall as Jane is.

(5) Jane and Tom are both (very) tall,

a. ... but Tom is shorter than Jane is.

At first sight, it is not clear what in the meaning of a sentence contributes evaluativity. Based on (3), if we make the hypothesis that evaluativity is a property of negative adjectives, non-evaluative (2a) is yet to be accounted for. Alternatively, if it is a property of the degree heads *less* and *as*, we fall short explaining why (2b) and (2c) are not evaluative. Whatever the explanation is for this phenomenon, degree expressions should have the same lexical semantics basis for their interpretation in all

[1]There is some intra-speaker variation here: some speakers tend to judge (4b) as giving rise to the additional entailment that Jane and Tom count as 'tall' in the context; i.e., they accept the sentence only under its evaluative reading, whereas other native speakers accept the sentence in the context of (4), hence, under its non-evaluative reading. Although I do not provide a complete account of the variation observed, the status of this data point is discussed later in Chapter 3.

the morphosyntactic constructions they can occur in (Bierwisch 1989) and therefore, the challenge for the linguistic theory is to find an adequate description of the distribution of evaluativity and provide an explanation of this distribution while taking into account the semantics of the primitive units of comparison.

One of the main accounts of evaluativity relies on the idea of a markedness competition (Rett 2008). At the premises of this approach is the claim that degree constructions come is pairs composed of a marked and an unmarked member. The unmarked construction precludes the marked construction whenever they express the same meaning. The markedness-based competition account further argues that the presence of an optional evaluativity operator can break the competition, thereby forcing the evaluative construal of a degree construction to surface. However, the explanatory scope of this account is limited by the fact that it leaves unexplained the source of markedness and consequently, the way competitors are determined is not entirely predictable.

This chapter tackles the distribution of evaluativity in comparative constructions. I take from Rett (2008) the idea of competition as it is presented in Section 1. However, instead of relying on the vague concept of *markedness*, a new metrics is proposed: I show how markedness can be cashed out in term of structural complexity within a non-lexicalist framework. Specifically, in Section 2, I adopt and build on Heim's (2008) decompositional accounts of comparative constructions (see also Büring 2007a)[2]. Section 3 lays down the basic tenets of the structural competition account of evaluativity: As a first step, competitors are determined in a principled way: the procedure uses a well-known technology that generates a set of LFs that constitute formal alternatives to a given asserted LF (Katzir 2007). Second, a grammatical principle, *Minimize APs*, evaluates these alternatives against the asserted LF!. Crucially, *Minimize APs* filters out asserted LFs that admit semantically equivalent, structurally simpler alternatives. In section 4, I propose a new formulation of Rett's evaluativity operator, which is compatible with the decompositional approach of comparative degree expressions. Finally, I show how in the comparative paradigm, a parse that involves the evaluativity operator cannot be ruled out by the LF-principle *Minimize APs!*.

[2]This chapter along with chapter 3 are an extension of the work presented in Moracchini (2018).

2.1.2 A partial solution: the competition-based account

The data presented in the previous section revealed a somehow peculiar property of (at least) a subset of adjectives: their meaning is alternately context-sensitive (as in comparatives of inferiority, e.g., *less short*) and context-insensitive (as in comparatives of superiority, e.g., *shorter*). This observation naturally leads to the following question: what is the denotation of a gradable predicate like *short*? Several solutions have been offered in the literature to capture the apparent semantic flexibility of adjectives. Some of them take gradable adjectives to be inherently evaluative (Doetjes 2009; Breakstone 2014)[3] and on the contrary, some other theories assume that gradable adjectives are inherently non-evaluative (Bartsch and Vennemann 1972; Rett 2007; 2008). In any event, the investigation of evaluativity is naturally guided by the principle in (6) (this formulation is borrowed from Bierwisch 1989):

(6) *An adjective has the same lexical semantic basis for its interpretation across constructions.*

Among existing proposals approaching evaluativity, Jessica Rett's (2008) theory is probably the most fruitful piece of work that addresses the distribution evaluativity. In this section, I review her evaluativity theory as it is proposed in her dissertation work, and I discuss the specificities, the empirical scope, and the weaknesses of this proposal.

Markedness-competition account

As mentioned in the introduction, the core ingredient of Rett's proposal is that evaluative interpretations of gradable adjectives are due to the presence of a freely-occurring EVAL morpheme which contributes the reference to a contextually-provided standard. In her account then, gradable adjectives enter the derivation as non-evaluative:

(7) $[\![\text{tall}]\!] = \lambda x.\lambda d.tall(x, d)$ (8) $[\![\text{short}]\!] = \lambda x.\lambda d.short(x, d)$

According to Rett, the EVAL morpheme operates on the degree intervals denoted by degree predicates. Precisely, EVAL restricts these intervals of degrees to subintervals that start above the contextually-provided standard:

(9) $[\![\text{EVAL}]\!]^c = \lambda D_{\langle d,t\rangle}.\lambda d.D(d) \wedge d > Standard_c$

[3]In Breakstone 2014 for instance, a covert operator can manipulate the contextual parameter that is encoded in the lexical entry of adjectives, in such way that non-evaluative readings become available.

Given that EVAL is an optional operator, each degree construction admits two parses, which can be distinguished in whether or not they involve the EVAL operator[4]. Moreover, given that EVAL is a phonologically null element, the evaluative and the non-evaluative versions of a degree construction are homophonous. According to Rett (2008), the distribution of evaluativity is conditioned a markedness competition between degree constructions. This markedness competition is motivated by a pragmatic principle, repeated in (10), that favors unmarked forms over marked forms.

(10) **The Markedness Principle**
Do not use a marked form α in a sentence S, if the alternative sentence S' that is obtained by substituting this instance of α by its unmarked counterpart β is contextually equivalent to S.

The case of degree questions, studied in section (1.2.1), provided an illustration of how (10) applies. In essence, it was shown that the non-evaluative use of negative and positive members of a pair of gradable adjectives makes the same truth-conditional contribution to degree questions. According to (10), whenever semantic equivalence obtains, the Markedness Principle triggers a competition whose outcome favors the positive antonym (the unmarked form) over its negative counterpart (the marked form). On the evaluative use, however, the two members of a pair give rise to different truth-conditions when they occur in degree questions, guaranteeing that the positive and the negative degree questions co-exist under their evaluative reading.

More generally, since the application of the Markedness Principle relies on contextual equivalence, the conditions for its application should be met in additional environments. This is indeed the case, as Rett argues. For example, she discusses the case of equatives, reported in (11a) and (11b). The positive-antonym equative ('*As* A^+') is compatible with both an evaluative and a non-evaluative reading, whereas the negative-antonym equative ('*As* A^-') is perceived as evaluative only. That is, the sentence is obligatorily associated with the inference that Jane and Tom are significantly short in the context.

(11) Jane is as tall as Tom.
   a. **Evaluative parse:** The degree d to which Jane is tall equals the degree d' to which Tom is tall, and d' exceeds or equals some contextually provided standard value for what counts as tall.
   b. **Non-evaluative parse:** The degree d to which Jane is tall equals the degree d' to which Tom is tall.

[4]Rett (2008) argues that EVAL must occur in the standard constituent only (the *than*-clause).

(12) Jane is as short as Tom.

a. **Evaluative parse:** The degree d to which Jane is short equals the degree d' to which Tom is short, and d' exceeds or equals some contextually provided standard value for what counts as short.

b. ***Non-evaluative parse:** The degree d to which Jane is short equals the degree d' to which Tom is short.

According to Rett, the contrast between the evaluativity of (11) and (12) should fall under the scope of the Markedness Principle. By (10), the non-evaluative parse of the *'As A^-'* equative (12b) is expected to be deviant whenever it is contextually equivalent to the non-evaluative parse of the *'As A^+'* equative. According to Rett, this criterion is met: informally, if Jane's height equals Tom's height, it is also true that her shortness equals Tom's shortness. Rett translates the intuition that *'As A^+'* and *'As A^-'* equatives are contextually equivalent in adopting an *exactly*-denotation for the equative morpheme (*as*). This theoretical move, in turn, allows her to resort to the Markedness Principle. On her view then, the *'As A^-'* equative in (12) is necessarily evaluative because the markedness competition blocks its non-evaluative parse, due to the availability of the unmarked *'As A^+'* equative in (11).

However, it has long been observed that the equative degree operator is ambiguous between a weak ('*at least*') and a strong ('*exactly*') interpretation (a.o., Horn, 1972; Klein, 1980; Bierwisch, 1989; Chierchia, 2004). For example, these two meanings can be distinguished in (13), where the sentence uttered by speaker A can be either contradicted under the *exactly*-interpretation (13a) or confirmed by the *at least*-interpretation of the *as*-morpheme (13b):

(13) speaker A: (I think that) Jane is as tall as Tom is.

a. speaker B: No! He is (much) taller than Tom! ('*exactly*' reading)

b. speaker B': Yes, in fact I know that he is taller. ('*at least*' reading)

To capture to seemingly flexible semantics for the equative, Neo-gricean accounts standardly assign *as* its weak meaning ($\geq$) and derive the strong meaning ($=$) as an implicature. That is, *as* means 'exactly as' only in contexts that do not support the weaker 'at least as' interpretation. However, on this view, the markedness competition cannot be maintained for since the non-evaluative *'As A^+'* equative and the non-evaluative *'As A^-'* equative are no longer contextually equivalent. To see that, consider a scenario in which Jane is 6ft tall and Tom is 5ft tall, (14a) is true under its weak reading but (14b) is false.

(14) a. **Non-evaluative parse for (11):** The degree d to which Jane is tall exceeds or equals the degree d' to which Tom is tall.

b. **Non-evaluative parse for (12):** The degree d to which Jane is short exceeds or equals the degree d' to which Tom is short.

As it stands then, the markedness competition cannot block the non-evaluative parse of (12) in contexts that support the 'at least' reading of the equative morpheme, leaving unexplained the fact that this sentence is perceived as obligatorily evaluative.

One other major shortcoming of the markedness account is that it does not provide a principled way of distinguishing between marked forms and unmarked forms. Instead, markedness has to be stipulated. Consider the pair of *less*-comparatives in (16) and (16). Only the negative-antonym construction obligatorily gives rise to an evaluative inference, suggesting that its non-evaluative parse is blocked. If the competition account is solely based on the adjective's markedness, it is expected that the non-evaluative parse of the negative-antonym *less*-comparative in (16) competes with the non-evaluative parse of its positive counterpart in (15). However, it is obvious that the positive antonym and the negative antonym never make the same semantic contribution in *less*-comparatives, predicting in turn that the non-evaluative reading of (16) should be available.

(15) Jane is less tall than Tom is

a. **Non-evaluative parse:** The degree d to which Jane is tall is less great than the degree d' to which Tom is tall.

b. **Evaluative parse:** The degree d to which Jane is tall is less great than the degree d' to which Tom is tall and d' exceeds the contextual standard for what counts as tall.

(16) Jane is less short than Tom is

a. ***Non-evaluative parse:** The degree d to which Jane is short is less great than the degree d' to which Tom is short.

b. **Evaluative parse:** The degree d to which Jane is short is less great than the degree d' to which Tom is tall and d' exceeds the contextual standard for what counts as short.

To solve this issue Rett suggests that the non-evaluative reading in negative *less*-comparatives compete with yet another candidate: the positive-antonym comparative of superiority. As a matter of fact, the two constructions are semantically equivalent under their non-evaluative construal: they both describe a situation where Jane's

height exceeds Tom's height. Therefore, the non-evaluative parse of (17) can block the non-evaluative parse of (16):

(17) Jane is taller than Tom is

a. **Non-evaluative parse:** The degree d to which Jane is tall exceeds the degree d' to which Tom is tall.

b. **Evaluative parse:** The degree d to which Jane is tall exceeds the degree d' to which Tom is tall and d exceeds the contextual standard for what counts as tall.

To make sense of this competition under her markedness approach, Rett (2008) proposes that the markedness competition concerns not only antonyms but also comparative operators. In particular, Rett adopts a view under which the comparative operator *less* is marked compared to the comparative head *-er*[5]. Now, taking into account the markedness of negative antonyms, a construction that contains the degree expression *less short* appears to be doubly marked under this account. Since its competitor – the positive-antonym *-er*-comparative with *taller*, is unmarked, the pragmatic competition naturally favors it. In turn, whenever the evaluativity operator is included in each of these parses, the truth conditions delivered by (16b) and (17b) are no longer equivalent: in (17b), the EVAL operator modifies the negative antonym and therefore contributes the reference to a contextual standard for shortness whereas in (16b), EVAL modifies the positive-antonym and therefore, it refers to the contextual standard for tallness. Since the presence of the operator yields different interpretations for the marked and the unmarked constructions, it breaks the markedness competition. As a consequence, the evaluative reading of the negative-antonym *less*-comparative is attested, in accordance with our intuitions about the meaning for (16). Altogether, this case suggests that candidates for competition are not solely determined by the polarity of the antonym they involve. This being said, the markedness competition account does not adequately provide us with a way of deciding what competes with what. Instead, the relevant candidates need to be stipulated since they do not follow from a general theory of markedness.

The synthetic/analytic alternation is yet another problematic case for the determination of competing candidates. Analytic comparatives are always evaluative

[5] *I assume (with Rullmann 1995; Heim 2007) that 'less' is semantically complex relative to 'more' in the same way that 'short' is semantically complex relative to 'tall'. It seems reasonable to assume the consequence that 'less' is marked relative to 'more'.* Rett 2008 p.117

independently of the polarity of the adjective they involve. The markedness account analyzes the contrast of meaning between synthetic and analytic constructions by stipulating that the analytic degree head (*more*) is marked relative to the synthetic degree head (*-er*). As such, the non-evaluative parse of the analytic construction (18a) is precluded by the non-evaluative parse of its synthetic counterpart (17a). What about the evaluative reading in (18b)? Above, it was shown how the inclusion of the EVAL operator in a parse could break semantic equivalence between competitors and thereby save a marked construction from ungrammaticality. However, the same reasoning fails to apply to the present case. Indeed, the synthetic and the analytic variants are semantically equivalent under their evaluative parse because the EVAL operator has the same contribution in the two constructions: it refers to the contextual standard value for tall. As a result, the evaluative construal of the analytic comparative in (18) is predicted to be blocked by the markedness competition, contrary to facts.

(18) Jane is more tall than Tom is

a. ***Non-evaluative parse:** The degree d to which Jane is tall exceeds the degree d' to which Tom is tall. (= 17a)

b. **!Evaluative parse:** The degree d to which Jane is tall exceeds the degree d' to which Tom is tall and d exceeds the conxtextual standard for what counts as tall. (= 17b)

Descriptively, the availability of the reading in (18) suggests that the general ability of EVAL to break semantic competition is yet insufficient to explain the distribution of evaluativity in analytic comparatives. In sum, the markedness competition account correctly explains the missing non-evaluative readings of analytic comparatives but it only captures half of the puzzle: it does not explain why analytic comparatives are licensed under their evaluative parse.

More generally, the markedness competition account lacks a markedness theory. That is, pairs of degree constructions have to be stipulated as being marked or unmarked on the basis of what appears to be the case intuitively. For example, the notion of adjective's markedness is suggested to arise from two independent sources in Rett (2008): a morphosyntactic source, that follows from the fact that some negative antonyms are morphologically marked (cf.*possible-impossible*), and a more abstract source that can be interpreted as a conceptual markedness, motivated by the fact that

negative antonyms are derived from their positive counterpart via a form of negation[6]. In order to account for further cases, the markedness account is extended to degree operators. Here again, the notion of markedness is rather unclear; the complexity that underlies *less* is claimed to be intuitively semantic whereas the complexity in *more* has to be stipulated:

> *All of the extensions of the EVAL theory [...] require corresponding extensions of markedness theory. I believe that the markedness assumptions I follow here – e.g., that the synthetic form is less marked than the analytic – are intuitive, but I have no basis for making them other than the fact that these assumptions lead to the correct empirical predictions with respect to evaluativity.* (Rett 2008, footnote 19, p.109)

To summarize, the view that evaluativity arises as the result of a markedness competition separately raises the following issues:

- Markedness needs to be stipulated for each pair of degree constructions independently, and it must take into consideration not only antonyms but also degree operators. In sum, such an account does not address the question of how the morpho-syntax and semantics of degree expressions connect with the Markedness Principle.

- In some cases, including of the EVAL operator in a parse is not sufficient to break pragmatic competition, see (18b). It follows that evaluativity should not arise in those cases, and more dramatically, that the constructions should be deemed deviant by the principle.

In the next section, I propose a refinement of Rett's proposal that solves the first issue and paves the way toward a grammatical account of evaluativity. As for the second issue, it is tackled in Chapter 3. In substance, *Minimize APs!* rules out complex APs whenever their logical meaning is expressible by means of a structurally simpler AP alternative. Since the refinement I will offer cashes out the notion markedness in terms of structural complexity, the next section presents the main features of recent decompositional approaches to degree expressions.

[6] *The negative-polar antonym seems to semantically encode the force of negation.* (Rett 2008:88)

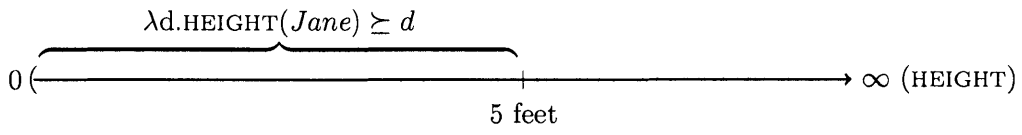
2.2 A decompositional account of Antonymy

In this section, I review the Syntactic Negation Theory of Antonymy according to which negative antonyms and the degree head *less* are morphosyntactically decomposed: they spell out their positive counterpart and a negative operator (Rullmann 1995; Büring 2007b; Heim 2006). In particular, the discussion is framed along the line of Heim (2008). From this account emerges a metrics for competition: that of structural complexity.

2.2.1 Pairs of antonyms

Recent proposals in the literature on degree semantics analyze the negative member of a pair of antonym as a morphosyntactically complex constituent. In particular, it has been argued that negative antonyms spell out two components: the first component corresponds to the positive antonym, while the second component is a kind of negation for gradable properties, that we will call 'LITTLE' following Heim (2006, 2008) (see also Rullmann 1995 Büring 2007a, 2007b and a.o.). Before introducing the semantics for negative antonyms, let us return to the semantics of positive antonyms. Suppose, for example, that Jane is (exactly) 5 feet tall. The meaning of gradable predicate *tall* which incorporates a measure function, assigns its individual argument – here Jane – a unique degree value d it occupies on the scale of HEIGHT. In addition, it incorporates an ordering relation ($\succeq$), that relates the measurement of its individual argument to a degree. Then, the set of degrees d to which Jane is at least as tall to d denotes an initial segment on the scale of height, that stretches from the bottom of the scale up to the value '5 feet'. The diagram in (19) summarizes this conception visually:

(19) $\{\text{d: HEIGHT(JANE)} \succeq d\} = \{\text{d: d} \preceq 5ft\} = (0; 5\text{ft}]$



On the assumption that *tall* and *short* project on the same scale, it can be assumed that the two members of a pair of antonyms make use of the same measure function. On decompositional accounts, an adjective like *short* spells out the positive antonym *tall* together with the component defined in (20): the operator LITTLE, interpreted as a degree negation, that takes a positive degree-denoting property as its argument and returns a negative degree-denoting property:

(20) $[\![\text{little}]\!] = \lambda A_{\langle d,t\rangle}.\lambda d.\ \text{A(d)} = 0$

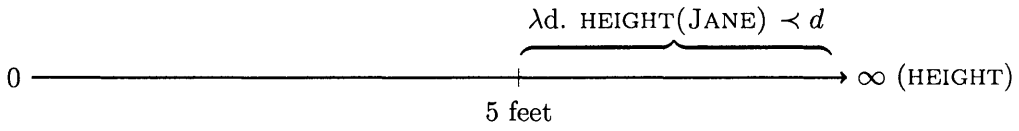
To see the effect contributed by this operator, consider the semantic composition of the fragment (21a), provided in (21b). Above it was shown how the adjectival constituent **tall Jane** denotes a positive interval of degrees. Whenever LITTLE enter the derivation, it associates this positive interval to its complement on the scale: that is, the A'-constituent [LITTLE tall Jane] denotes a set of degrees d, such that d is not in the set Jane's tallness degrees (i.e., the set of degrees such that Jane is not tall to those degrees).

(21) a. $[_{A'}$ LITTLE $[_{A'}$ tall Jane]

b. $[\![\text{little tall Jane}]\!] = [\![\text{little}]\!]([\![\text{tall}]\!](\text{Jane}))$
$= \lambda A_{\langle d,t\rangle}.\lambda d.\ \text{A(d)} = 0\ (\lambda d : d \in SE.\text{HEIGHT}(Jane) \succeq d)$
$= \lambda d : d \in SE.\text{HEIGHT}(Jane) \prec d$

Let us consider again the situation where Jane is (exactly) 5 feet tall. We can now characterize the set of Jane's shortness degrees: it is the complement of her tallness degrees:

(22) {d: ¬HEIGHT(JANE) $\succeq d$} = {d: HEIGHT(JANE) $\prec d$} = {d: d $\succ 5ft$}
$= [5\text{ft};\ \infty)$



Given what we have just said, a full account of antonymy lies at the interface of syntax, semantics, and morphophonology. The mechanisms by which a morphosyntactically complex AP like *short* can be PF-realized as a single unit will be investigated in detail in Chapter 3. For now, we will follow Heim (2008) in stipulating spell-out rules in the AP domain. In particular, we assume that the abstract morpheme LITTLE is a bound morpheme: it has no PF-realization on its own[7] and therefore it must enter complex word formation with another element of the AP, namely, the adjectival root. The spell-out rules that apply to the output of the syntax represention of *tall* and *short* are listed in (23). For example, (23b) is to be read as: the constituent LITTLE TALL licenses the vocabulary item '*short*':

[7]In this way, we distance ourselves form proposal that try to connect the adjectival quantifier *little* with the adjectival negation we are dealing with (See for example Heim 2006). In the present account LITTLE is an abstract morpheme with no pholonological content.

(23) **Spell out rules:**

a. TALL > *tall*

b. TALL LITTLE > *short*

On the semantics provided for gradable adjectives, the measurement of the individual argument is ordered with respect to a degree. This degree slot, in turn, is saturated by a family of degree heads like *less, -er, -est...* which determines how gradable adjectives are mapped onto a variety of different forms such as *comparatives, equatives, superlatives, etc.*. In the next section, we review Heim's treatment of comparative heads.

2.2.2 Comparative degree heads

In the comparative constructions in (24), the degree to which the gradable adjective holds of its subject is compared with the standard of comparison provided by the *than*-constituent. As for the comparative meaning, it is expressed by the morphemes *-er* and *less*.

(24) **Comparative constructions**:

a. Jane is less brave than Tom is.

b. Today is warmer than yesterday was.

c. The rope is longer than the wire.

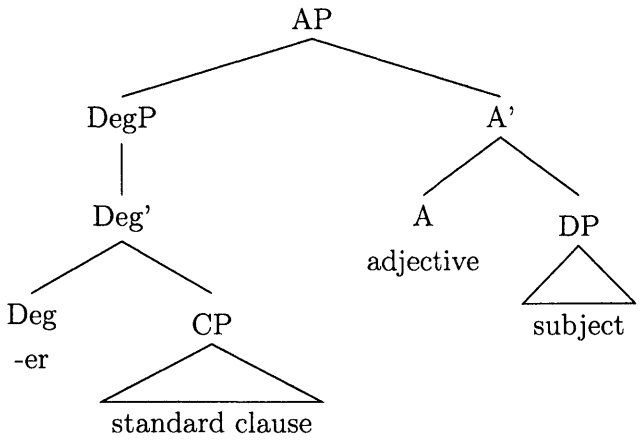
The focus of this section will rest on the structural relation between the AP, the standard clause, and the degree morpheme. Note that in English, the complement of the *than*-marker alternates between what appears to be a clausal constituent (24a) and a simple DP (24c). The former construction instantiates a *clausal comparative*, and the latter is called a *phrasal comparative*. For the sake of clarity and exposition, I will set aside the question of whether phrasal comparatives derive from their clausal counterpart (by reduction or ellipsis), or whether they involve a separate underlying structure. Rather, the discussion will be restricted to clausal comparatives (For a recent discussion of this topic, see Pancheva 2006; Kennedy 2007; Bhatt and Takahashi 2011; Lechner 2001; Beck 2012). In the literature, most discussions about the architecture of comparatives revolve around the following questions:

1. What is the constituency of the AP/DegP?
2. How does the matrix clause combine with the standard clause?
3. What is the internal structure of the standard clause?

What is the constituency of the AP/DegP?

I will adopt a rather conservative view of the structural relationship between the AP and the DegP, often referred to as *the extended AP analysis* or *the classical analysis*, according to which the degree morpheme forms a constituent with the standard clause. On this view, the standard clause is located in the complement position of a DegP at some point of the derivation. This DegP, in turn, is located in the specifier position of the AP (see Chomsky 1965; Bresnan 1973; Heim 2000).

(25) **The extended AP**

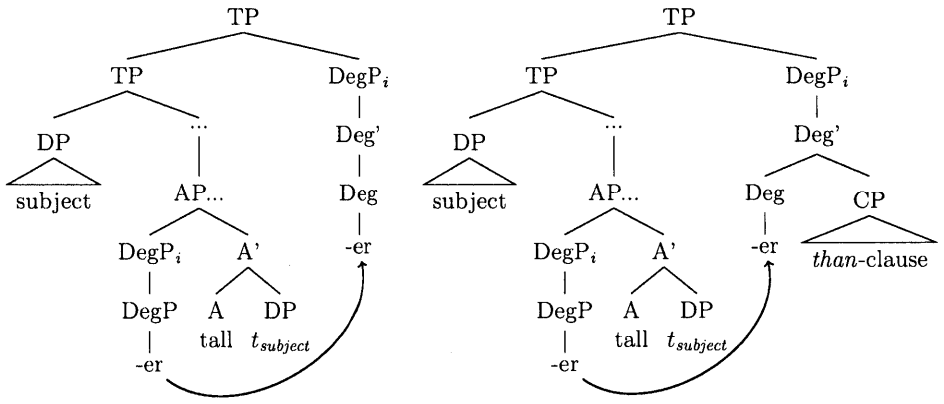


How does the matrix clause combine with the standard clause?

On the classical analysis, the DegP and its complement form a generalized quantifier over degrees of type $\langle dt, \langle dt, t\rangle\rangle$ which is thought of as the degree counterpart of quantificational determiners in the individual domain (of type $\langle et, \langle et, t\rangle\rangle$) (Hackl 2000; Heim 2000; Bhatt and Pancheva 2004). The view that the degree clause is base-generated as a complement of the degree head, has been challenged by morphological evidence that degree heads form constituents with gradable predicates (e.g., *taller*, *longest*). Indeed, the morpho-phonological process that realizes *-er* and the adjectival head together relies on linear adjacency. However, such configuration never obtains on the classical account. To reconcile the view that *-er* is assigned constituency with the degree clause and that at some point of the derivation, *-er* must be structurally adjacent to the adjective, Bhatt and Pancheva (2004) advances an analysis of DegP movement that proceeds in two steps: First, DegP headed by *-er* undergoes rightward covert movement leaving behind a copy, and second, the standard clause merges countercyclically as the complement of the degree head, as illustrated in Figure 2-1. On

the assumption that the base generated copy of the degree head in the matrix clause is relevant at PF, *-er* and the adjectival head are now linearly adjacent, allowing for a PF mechanism to derive the affixed form of the adjective. On the other hand, the analysis preserves the constituency between *-er* and the standard clause (see Bhatt and Pancheva 2004 for arguments in favor of the late merger of the standard clause).

Figure 2-1: Rightward covert movement of the DegP
and late-merger of the *than*-clause



Two remarks are in order regarding the spell-out of the partial syntax representation in 2-1. First, the subject of the AP undergoes movement to get to its surface position in [Spec, TP]. This movement, because it is overt, is visible (i.e., interpreted) only at PF. At LF, however, the subject reconstructs for interpretation. Second, In English as we have seen, the comparative forms of adjectives can be analytic (*more intelligent*) or synthetic (*taller*). This alternation appears to be governed in part by a prosodic constraint on the distribution of the affix *-er*, which come under the form of a metrical condition. For instance, monosyllabic adjectives admit a synthetic form whereas trisyllabic do not: they form the comparative exclusively with the pre-adjectival modifier *more* (e.g., *more intelligent, more interesting...* but **intelligenter, *interestinger*). Disyllabic adjectives, in turn, show a mixed pattern, with both types of comparative forms attested (Kiparsky 2005, Embick 2007). Whenever the comparative head is affixal, we assume that a post-syntactic merge operation combines the degree head and the linearly adjacent adjective into a single complex head (a), as we did for the negative antonym.

(26) **Post-syntactic merge of the degree head in the matrix clause**
[$_{IP}$[$_{IP}$Jane is [$_{a}$tall+er] [$_{CP}$than ...]]
i.e., Jane is taller than...

The internal structure of the *than*-clause

So far, the contribution of the standard clause was largely ignored. Here I provide my assumptions about their internal structure. To begin with, I assume that standard clauses contain an occurrence of a silent gradable predicate that matches the gradable predicate in the matrix clause. In addition, I follow Chomsky (1977) in assuming that the comparative clause is analogous to a relative clause, in that is includes a phonologically null degree operator ($\emptyset_{wh}$) which moves at the edge of the complement clause and leaves a degree trace in the AP. As a result, the standard clause of (24b) receives a representation along the lines (27):

(27) [than [$_{CP}$ $\emptyset_{wh1}$ yesterday was d_1 warm]]

Following standard assumptions, we assume that part of the *than*-clause is subject to *Comparative Deletion* (CD), a mechanism that deletes material under identity with the matrix clause.

(28) [$_{IP}$ Today is warmer [than [$_{CP}$ $\emptyset_{wh1}$ yesterday was d_1 ~~warm~~]]

2.2.3 The semantics of comparatives

Above it was advanced that *-er* is a quantifier over degrees. Following Heim (2006), 2008 (see also von Stechow and Stechow 2009; Bhatt and Pancheva 2004), I define the denotation of the degree head as an order relation between two degree properties – or equivalently, two sets of degrees. The lexical entry for the comparative morpheme *-er* is provided in (29).

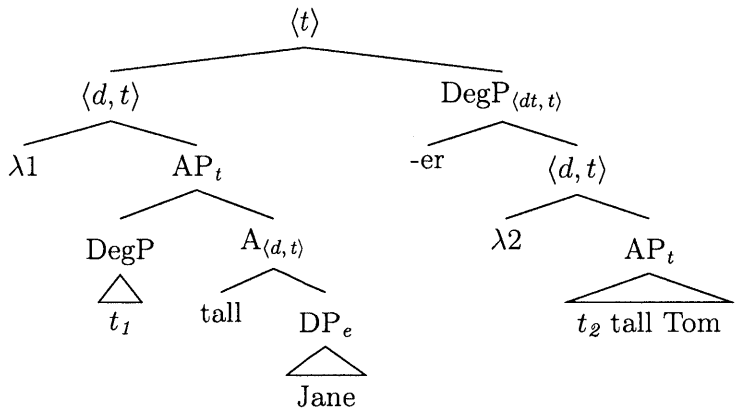
(29) $[\![\text{er}]\!] = \lambda D_{\langle d,t\rangle}.\lambda D'_{\langle d,t\rangle}.D' \supset D$

In the notation presented here, the comparative head *-er* composes with two degree properties (here, D and D'), which are functions from degrees to truth value (semantic type: $\langle d, t\rangle$). On this view, the comparative head takes as its first argument the predicate denoted by the standard clause and it takes as its second argument the predicate denoted by the matrix clause as a result of two successive instances of functional application.

Finally, our semantic assumptions about standard comparatives with *-er* are summarized in (30). The LF structure for this sentence is provided in (30a). The crucial steps in the compositional derivation are given in (31).

(30) Jane is taller than Tom is.

a.



(31) a. $[\![\lambda 1.\ \text{t1 tall Jane}]\!] = \{d : d \in SE.\text{HEIGHT}(jane) \succeq d\}$

b. $[\![\lambda 2.\ \text{t2 tall Tom}]\!] = \{d : d \in SE.\text{HEIGHT}(tom) \succeq d\}$

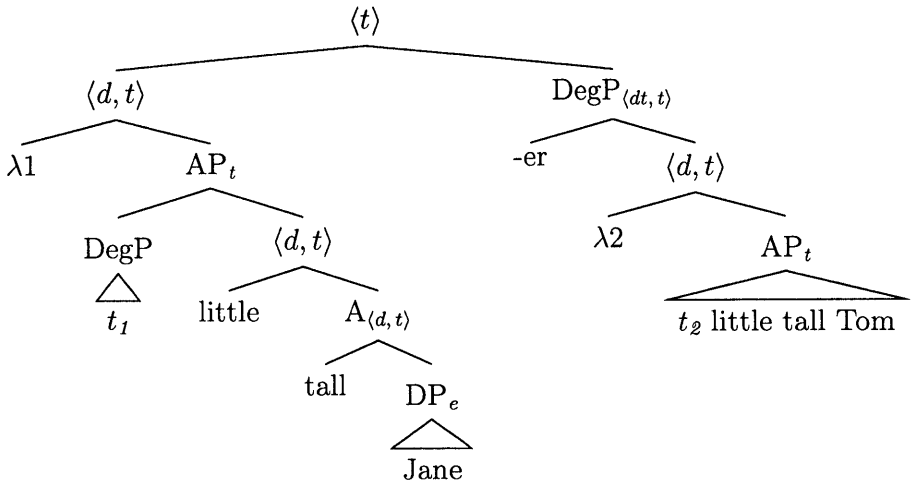
c. $[\![\text{-er}]\!]\ ([\![\lambda 2.\ \text{t2 tall Tom}]\!])\ ([\![\lambda 1.\ \text{t1 tall Jane}]\!]) =$
$\{d : d \in SE.\text{HEIGHT}(jane) \succeq d\} \supset \{d : d \in SE.\text{HEIGHT}(tom) \succeq d\}$

The resulting interpretation of the LF in (31c) is the desired containing relation between the set of degree denoted by the matrix and the set of degrees denoted by the standard clause, i.e., the sentence is true just in case Jane's height exceeds Tom's height.

Let us now turn to the negative-antonym *-er*-comparative that shares the structure in (30a) except that the positive adjective it contains is modified by an instance of LITTLE in the matrix and the *than*-clause.

(32) Jane is shorter than Tom is.

a.



b. LF: **[λ1. t1 little tall Jane] [-er [λ2. t2 little tall Tom]]**

c. Semantic computation:
[[λ2. t2 little tall Tom]] $= \{d : d \in SE.\text{HEIGHT}(tom) \prec d\}$
[[λ1. t1 little tall Jane]] $= \{d : d \in SE.\text{HEIGHT}(jane) \prec d\}$
[[-er]] (**[[λ2. t2 little tall Tom]]**) (**[[λ1. t1 little tall Jane]]**) $=$
$\{d : d \in SE.\text{HEIGHT}(jane) \prec d\} \supset \{d : d \in SE.\text{HEIGHT}(tom) \prec d\}$

d. PF: *Jane is little tall-er (> shorter) than Tom is.*

The negative degree operator *less*

The decompositional approach derives the negative antonym from the positive antonym via the LITTLE operator. But antonymy does not seem to be a property of gradable adjectives alone. To see that, consider the sentences in (33), which all entail each others:

(33) *Situation: Jane' height exceeds Tom' height.*

a. Jane is taller than Tom is.

b. Tom is shorter than Jane is.

c. Tom is less tall than Jane is.

Given what we have said about the negative antonym, it is fairly easy to account for the synonymy between (33a) and (33b): For (33a) to be true, the set of degrees to which Jane is tall must properly contain the set of degrees to which Tom is tall. Now, if the set of 'short' degrees is the complement set of the set 'tall' degrees, it follows

that (33b) will be true just in case the set of degrees to which Tom is not tall (=short) properly contains the set of degrees to which Jane is not tall (=short). As illustrated in (33c), the same meaning is conveyed by the *less*-comparative, although it involves a positive antonym. Observe that (33a) and (33b) are different by the antonym they involve, whereas (33a) and (33c) are different by the polar operator (*-er* or *less*) they involve. In this section, I endorse Heim (2008)'s assumptions about the morpho-syntax and semantics of the morpheme *less*. On the Syntactic Negation Theory of Antonymy, *less* is syntactically complex, it spells out the structure [-ER LITTLE*][8]. LITTLE* is a negation for gradable properties[9]. In particular, whenever LITTLE* composes with the trace of the degree operator, it forms a generalized quantifier over degrees. The Vocabulary Insertion rule in (35) ensures that PF-adjacency of LITTLE* and the degree head *-er* will license the vocabulary item *less*.

(34) $[\![\textbf{little*}]\!] = \lambda d_d.\lambda A_{\langle d,t\rangle}.\ \mathrm{d} \notin \mathrm{A}$ (*Comparative negation*)

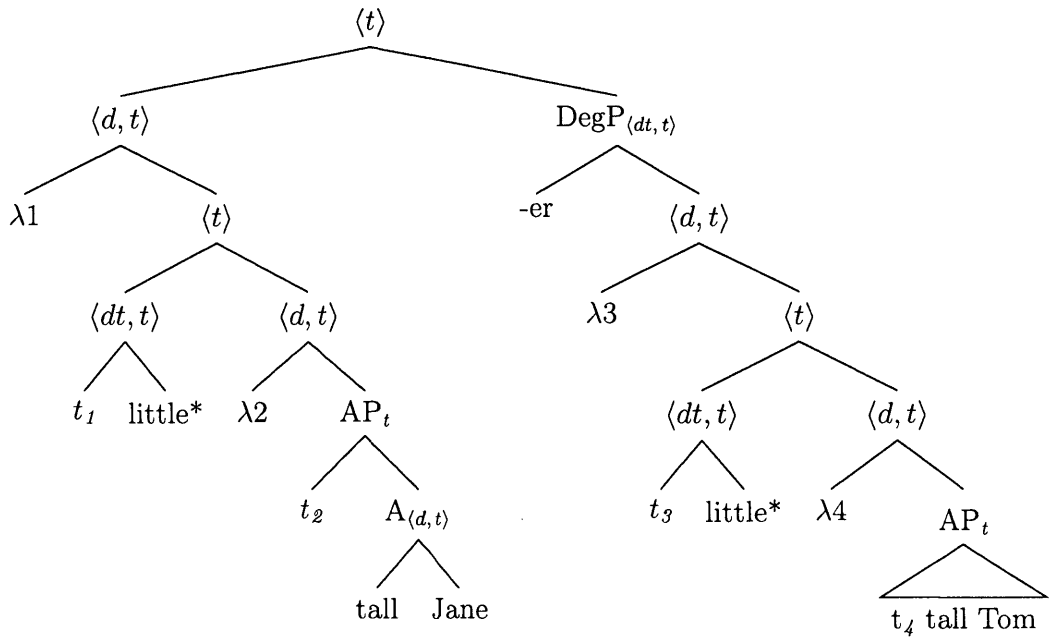
(35) **Vocabulary Insertion rule:**
{-ER, LITTLE} → less

On Heim's account, the negative operator LITTLE* does not directely modify the comparative relation introduced by *-er*. That is, there no point in the course of the derivation where LITTLE* and the comparative morpheme *-er* form a syntactic constituent. Instead, the LITTLE* operator composes first with the degree trace of the moved degree quantifier, and then, the two of them compose with a degree-denoting property. For that reason, just like LITTLE, LITTLE* is bound to the matrix clause of the comparative. The matrix operator therefore licenses a matching LITTLE* operator in the standard clause for semantic reasons. This second occurrence of LITTLE* composes with the trace of the moved *wh*-operator.

(36) Jane is less tall than Tom is.

[8]LITTLE semantically composes with the trace of *-er* but as far as PF-processes are concerned, *less* realizes [-ER LITTLE].

[9]LITTLE* is a Schönfinkelized version of LITTLE. The distinction between LITTLE and LITTLE* accounts for certain scope-related ambiguities that arise in *less*-comparative, discussed in Rullmann (1995); Heim (2006); Beck (2012) a.o., and it is also motivated by Spellout considerations since we can rely on syntactic bracketing to make the right distinction between *less* and the negative antonym.



a. Semantic computation:
[[λ1. [t1 little*]]] ([[λ2. t2 tall **Jane**]])
$= \lambda$ d. d $\notin \{d : d \in SE.\text{HEIGHT}(jane) \succeq d\}$
$= \{d : d \in SE.\text{HEIGHT}(jane) \prec d\}$
[[λ4. [t4 little*]]] ([[λ3. t3 tall **Tom**]])
$= \lambda$ d. d $\notin \{d : d \in SE.\text{HEIGHT}(tom) \succeq d\}$
$= \{d : d \in SE.\text{HEIGHT}(tom) \prec d\}$
[[er]]([[λ1. [t1 little*] [λ2. t_2 j tall]]]) ([[λ3. [t_3 little*] [λ4. t_4 t tall]])
$= \{d : d \in SE.\text{HEIGHT}(jane) \prec d\} \supset \{d : d \in SE.\text{HEIGHT}(tom) \succeq d\}$
i.e., the set of degrees to which Jane is short is a proper superset of the set of degree to which Tom is short.

b. PF: *Jane is [little* -er] (> less) tall than Tom is.*

To sum up, LITTLE relates the negative antonym to the positive antonym (i.e., *low* spells out [LITTLE HIGH]) and LITTLE* relates *less* to *more* (i.e., *less* spells out [LITTLE* -ER] .

(37) a. [-er [little tall]] > *short -er* > *shorter*
b. [[-er little*] tall] > *less tall*

Crucially, under this decompositional approach, only the comparative morpheme of superiority and the positive adjectives are primitive meanings; there are no entries

for *less* and *short*. On that ground, the synonymy between the sentences of the pair in (33b) and (33c) is now accounted for. In particular, Heim's assumptions produce two syntactic representations that yield identical meanings but different PFs.

In the next section, I demonstrate that the Syntactic Negation Theory of Antonymy generates unattested readings in the case of negative-antonym *less*-comparatives. That is, it predicts that negative-antonym *less*-comparatives should be grammatical under a non-evaluative reading, contrary to facts.

2.2.4 Predictions of the analysis

So far, the decompositional account of antonymy successfully captures the set of entailment pattern associated with the comparatives in (38). More specifically, it was shown that negative antonyms map their individual argument to the complement of the set to which the positive adjective map them, hence the equivalences between (38a) and (38b). Likewise, the negation that underlies *less* maps a positive degree property to a negative degree property, accounting for the equivalence between (38a) and (38c).

(38) a. Goliath is taller than Gargantua is.
b. Gargantua is shorter than Goliath is.
c. Gargantua is less tall than Goliath is.

If both *short* and *less*, in *less tall* spell out a negation that operates on the set of degrees denoted by the positive degree property denoted by *tall* and returns its complement P^c, the co-occurrence of these two negations within an AP should cancel each other ($(P^c)^c = P$). This, in turn, predicts that *less short* and *taller* should be substituted for each other in all environments without any change in the truth-conditional contribution of these APs. However, this prediction soon proves to be wrong on the consideration of (39), in contrast with (38a). Although both sentences convey that Goliath's height exceeds Gargantua's, (39) is infelicitous in a context where Goliath and Gargantua are two giants. Why is that? The sentence in (39) presupposes two things: that Goliath is short, and that Gargantua is short. Since these presuppositions directly conflict with world knowledge that giants do not qualify as short individuals, this sentence is deviant.

(39) #Goliath is less short than Gargantua is.

As it stands, the Syntactic Negation Theory of Antonymy does not capture the contrast observed between the contributions of the degree expressions *taller* and *less*

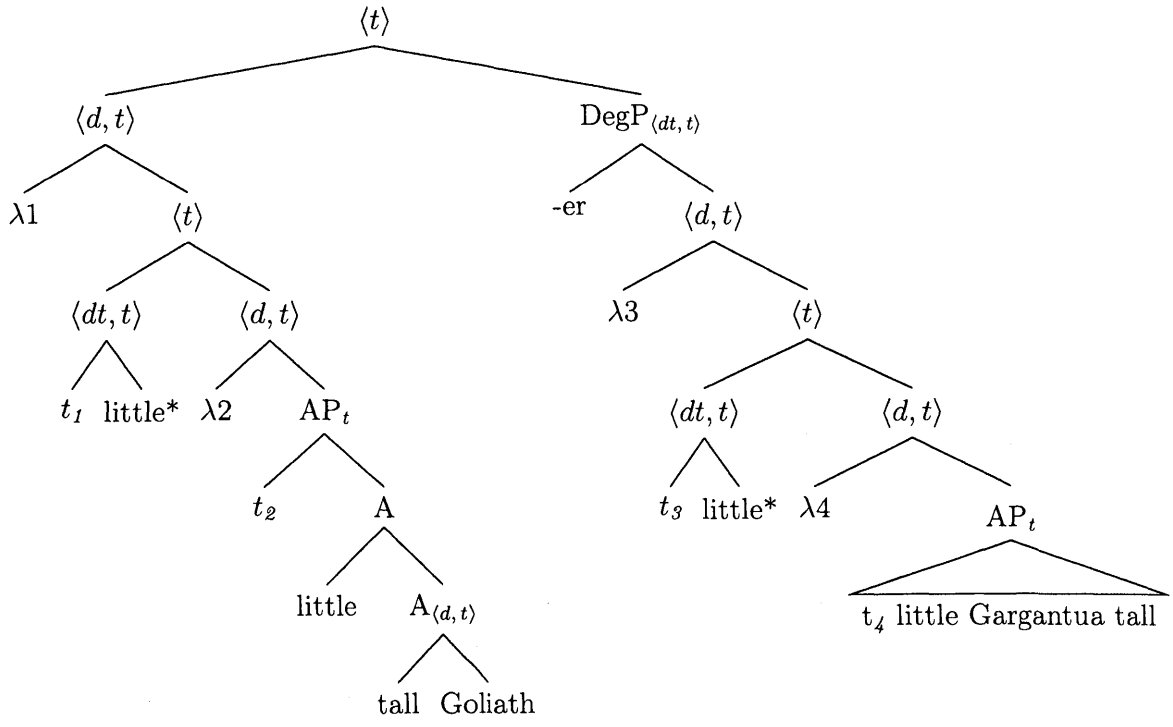
short without supplemental assumptions about evaluativity. Nevertheless, the account generates a structure for negative-antonym *less*-comparatives: namely, the AP *less short* would, by Heim's assumptions, involve all the degree primitives introduced so far. These are listed in (40):

(40) Set of primitive units of comparison:
{-er, A$^+$, little*, little}

Given this inventory, the decompositional account leaves only one way to assign a meaning *less short*. First, *short* spells out the building blocks [**little tall**]. And second, *less* spells out the morphosyntactic consituent [**-er little***]. In order for the Spell out rules to apply correctly, the AP *less short* must be represented along the lines of (41) (for clarity, the trace of the subject AP is omitted form the representation):

(41) *less short*: [$_{AP}$ [-er little*] little tall]

As before, the occurrences of negative operators that underly *less* and *short* in the matrix clause of (39) automatically license matching occurrences of negations in the deleted standard constituent, predicting in turn that the LF-representation for negative-antonym *less*-comparatives should be as below:



The wrongly predicted truth-conditions, for (40) follow from the calculation in (42). As expected, if the sentence was grammatical under such parse, its meaning would be semantically equivalent to that of *Goliath is taller than Gargantua.*

(42) Semantic computation:
[[er]]([[λ1. [t1 little*] [λ2. t2 little tall goliath]]]) ([[λ3. [t3 little*] [λ4. t_4 little tall gargantua]]) = 1
iff **[[er]]**(λd. d ∉ **[[little tall]]**(goliath)) (λd. d ∉ **[[little tall]]**(gargantua)) = 1
iff {d: goliath is d-tall} ⊃ {d: gargantua is d-tall }
i.e., iff the set of degrees to which Goliath is tall is a proper superset of the set of degree to which Gargantua is tall.

The unacceptability of (39) under the parse just discussed, immediately raises two questions. The first regards the fact that the decompositional account suffers from an overgeneration problem. The Syntactic Negation Theory of Antonymy departs from lexical views of antonymy in that it introduces an additional layer of structure in degree expressions that involve negative degree terms. But as it seems, the structural complexity that was detected in the different comparative constructions is tightly regulated by the grammar. The second question concerns the reading under which negative-antonym *less*-comparatives are acceptable. Indeed, when the appropriate discourse context is met, negative-antonym *less*-comparatives are grammatical under their evaluative interpretation. The goal then is to incorporate an account of evaluativity that is compatible with the Syntactic Negation Theory of Antonymy.

2.3 Proposal

In the following, I am going to develop the idea that degree expressions are subject to a structural competition. At the core of this competition is the LF-principle *Minimize APs!* that penalizes degree expressions whenever they admit a structurally simpler alternative that expresses an identical meaning. First, I will show how the principle applies to non-evaluative parses, and then I will extend the account to evaluative parses as well.

2.3.1 Structural complexity and the grammar of degrees

The decompositional account discussed in section 2.2 provides us with a metric for comparing degree expressions: the structural complexity of degree expressions. For

example, the AP [-er little tall] is structurally more complex than the AP [-er tall] because it contains one LITTLE operator whereas latter has none. In turn, the AP [[-er little*] little tall] is structurally more complex than the APs [-er little tall] and [-er tall] because it contains two instances of LITTLE(*) operators. We can therefore establish a hierarchy of different APs according to their structural complexity as in Figure 2-2:

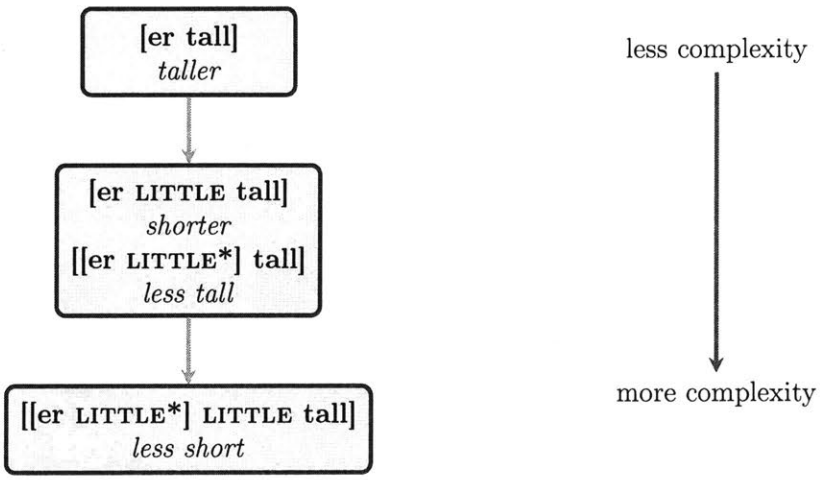


Figure 2-2: Negative operators add structural complexity to APs

I propose that the deviance of negative-antonym *less*-comparatives follows from a grammatical principle that favors a structurally simple AP over a more complex one whenever the two APs have the same truth-conditional contribution. The principle is stated in (43):

(43) *Minimize APs!*
For any LF ϕ, any AP α in ϕ, α is deviant in ϕ if α can be replaced in ϕ with a formal alternative, β, such that
a. **β is semantically equivalent to α** , and
b. **β is structurally simpler than α**

Minimize APs! belongs to a larger family of Structural Economy constraints that impose limits on syntactic complexity[10]. It ensures that syntactic representations that

[10]Note that the formulation in (43) advocates for a local application of the constraint (counterparts

exhibit structural redundancies are licensed only when they yield an interpretation that would not be available otherwise (a.o. Chomsky 1993; Meyer 2016; Marty 2017). The competition between LFs containing APs like *less short* and *taller* relies on the structure-sensitive notion of complexity which follows from Katzir (2007)'s definition of structural alternatives:

(44) **Structural Alternatives $\mathbf{Alt}_{str}$** (Katzir (2007)):
If a structure α can be derived from β by substituting terminal nodes in β with lexical items or with subconstituents of β, or by deleting subconstituents of β, then $\alpha \in \text{Alt}_{str}(\beta)$.

The consequences of the principle in (43) are examined in the remainder of this chapter. Specifically, we will see how *Minimize APs!* correctly captures the contrast between the evaluativity of positive-antonym comparative ('A^+-er') and negative-antonym *less*-comparatives ('*less* A^-').

2.3.2 *Polarity*-driven evaluativity effects

The puzzle we are trying to solve can be restated in the following way: the non-evaluative parse that the syntactic Negation Theory of Antonymy generates for sentences containing APs of the form '*less* A^-' yields an unattested reading. Namely, the reading that is conveyed by 'A^+-*er*' comparatives. Moreover, we observed that the predicted non-evaluative parse associated with the sentence *Jane is less short than Tom is* had the following particularity: its matrix clause and its standard clause involve complex APs that contain two instances of negative operators:

(45) [Jane is [$_{AP}$ -er little* little tall] [~~er~~ [than Tom is [$_{AP'}$ -er little* little tall]]]]

Although these APs are semantically interpretable, the co-occurrence of LITTLE and LITTLE*, renders their structure particularly complex in comparison with other APs, as illustrated in Figure (2-2). For example, the set of structural alternatives for the AP *less short* contains the AP *taller*, which is derived by deletion of subconstituents of the AP *less short*, following Katzir's definition of Structural alternatives.

(46) ***Taller*** $\in \mathbf{Alt}_{str}$***(less short)***
a. *less short*: [$_{AP}$ [$_{DegP}$-er ~~little*~~] ~~little~~ tall subject]
b. *taller*: [$_{AP}$ [$_{DegP}$-er] tall subject]

of this principle have been proposed in the literature, e.g., in the DP domain: *Minimize DPs!*, Marty (2016)).

Moreover, the two APs yield interpretations that are truth-conditionally equivalent. Indeed, on the proposed semantics, the co-occurrence of LITTLE and LITTLE* in a parse does not contribute any meaning, as the two negations cancel each other out. Therefore, the APs in *Jane is less short than Tom is* and *Jane is taller than Tom is* denote identical sets of tallness degrees as shown in (47a) and (47b) that represent matrix APs:

(47) **Semantically equivalent alternatives**

a. [λ1. [t1 little*] little tall Jane]
$\{d\text{: } d \notin \{d : \text{HEIGHT}(jane) \prec d\}\} = \{d\text{: } d \in \{d : \text{HEIGHT}(jane) \succeq d\}\}$

b. [λ1. t1 tall Jane]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

In consequence of (46) and (47), the parse in (48) is deviant by application of *Minimize APs!* due to the availability of the parse in (48a). Indeed, the competitor in (49a) is derived via deletion of subconstituents and is therefore simpler than LF_1. The competitor is also semantically equivalent to LF_1, predicting that LF_1 is deviant by *Minimize APs!*.

(48) Jane is less short than Tom is.

a. LF_1: *[λ1. [t1 little*] little tall Jane] [-er [λ2. [t2 little*] little tall Tom]]

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

(49) Jane is taller than Tom is.

a. LF_2: [λ1. t1 tall Jane] [-er [λ2. t2 tall Tom]]

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

2.3.3 The scope of *Minimize APs!*

On Katzir's algorithm in (44), a given constituent possibly admits several structural alternatives that are derived by applying a series of specific operations[11]. In the AP domain, we looked at the gradient complexity contained in the degree expressions *taller*, *shorter*, *less tall* and *less short*. We already discussed the application of *Minimize APs!* for *less short* and its structurally simpler, yet semantically equivalent AP *taller*. At that point then, what remains to be shown is whether, within the

[11]Note that this directly improves on Rett's markedness competition which fails to provide a formal way of determining all the alternatives for complex APs (this point is discussed in Section 1).

comparative paradigm, other APs admit structural alternatives that are relevant for semantic competition.

Evaluation of further structural alternatives in the AP domain

We may begin with a consideration of the AP *taller*, as it provides a relatively straightforward case. We observed that comparatives involving the AP *taller* do not obligatory give rise to an evaluative presupposition, indicating that their non-evaluative parse is attested. In line with the assumptions made above, the set of structural alternatives for *taller* does not include a structurally simpler competitor, as this AP is the most minimal combination of meaning available in the comparative domain (as shown in Figure 2-2). Thus, this AP always obeys *Minimize APs!*.

Turning to the pair of APs *shorter* and *less tall*, we observed that they are both derived from the building blocks {TALL, -ER} plus a negative operator, but that they are distinguished in where the negative operator (LITTLE or LITTLE*) is located in the syntactic representation. That is, we argued with Heim (2008) that the adjectival modifier *little* is at the source of the negative antonym in *shorter* whereas the *less*-comparative formation requires *little** to form a PF-constituent with the comparative head *-er* in *less tall*. On the interpretive level, we observed that comparatives involving the APs *less tall* or *shorter* admit a non-evaluative reading, therefore suggesting that their non-evaluative parse is grammatical. Are these APs predicted to be in competition, then? No, because they are not structural alternatives to each other: That is, neither *shorter* $\in$Alt$_{str}$(*less tall*) nor *less tall* $\in$Alt$_{str}$(*shorter*) holds. To verify that, consider the derivation in (50). To derive the AP *shorter* from the AP *less tall*, one possible move is to delete the LITTLE* operator as in (50b), but then next step of the derivation would be illegal as it would require the introduction of LITTLE in the parse. From this, we conclude that *shorter* is not in the set of structural alternatives for the AP *less tall*. Alternatively, if we want to derive the AP *less tall* from the AP *shorter*, the same problem arises as in (51): the LITTLE-deletion step is legal, but the introduction of LITTLE* in the parse is not. And therefore, *less tall* is not in the set of structural alternatives for the AP *shorter*.

(50) ***shorter*** $\notin$**Alt$_{str}$(*less tall*)**

a. *less tall*: [$_{AP}$ [$_{DegP}$-er ~~little*~~] tall subject] Deletion of LITTLE*

b. [$_{AP}$ [$_{DegP}$-er] little tall subject] ! Introduction of LITTLE

(51) ***less tall*** $\notin$**Alt$_{str}$(*shorter*)**

a. *shorter*: [$_{AP}$ [$_{DegP}$-er] ~~little~~ tall subject] Deletion of LITTLE

b. [$_{AP}$ [$_{DegP}$-er little*] tall subject] ! Introduction of LITTLE*

Both APs *shoerter* and *less tall* however, have the AP *taller* in the set of their structural alternative: it can be derived by deletion of either LITTLE in *shorter* of LITTLE* in *less tall.* Yet, this alternative is not relevant for competition: *less tall* and *shorter* on one hand, and *taller* on the other hand never yield interpretations that are truth-conditionally equivalent.

(52) *taller* $\not\equiv$ *shorter, less tall*

a. *shorter:* [λ1. t1 little tall Jane]
$\{d : \text{HEIGHT}(jane) \prec d\}\}$

b. *less tall:* [λ1. [t1 little*] tall Jane]
$\{d\text{: } d \notin \{d : \text{HEIGHT}(jane) \succeq d\}\} = \{d\text{: } d \in \{d : \text{HEIGHT}(jane) \prec d\}\}$

c. *taller:* [λ1. t1 tall Jane]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

Consequently, in the absence of semantically equivalent alternatives that are structurally simpler, both negative-antonym comparatives and positive-antonym *less*-comparatives are predicted to obey *Minimize APs!*, and therefore, we correctly predict that the non-evaluative construal of these constructions is attested.

Local vs. Global application of the LF-principle

The formulation of *Minimize APs!* in (43) advocates for a local application of the LF-principle. Marty (2017) proposes an alternative version of the LF-principle called *Structural Economy*, which evaluates parses at a local and a global level as well. As it happens, there is perhaps an argument in the domain of comparatives that semantic competition is evaluated locally rather than globally. This argument has to do with the entailment pattern of comparative as in (53) and (54)[12].

(53) a. Jane is taller than Tom is.

b. LF$_1$: **[λ1. t1 tall Jane] [-er [λ2. t2 tall Tom]]**

(54) a. Tom is shorter than Jane is.

b. LF$_2$: **[λ1. t1 tall Tom] [-er [λ2. t2 tall Jane]]**

[12]The data in (53)-(54b) is discussed in Rett (2008) and motivates the idea that evaluativity should be the reflex of a property intrinsic to comparative operators.

On the global account that evaluates semantic competition, LF_1 is derivable from LF_2 by substitution of DPs (*Jane* and *Tom*) and deletion of the negative operator LITTLE. We conclude that *Jane is taller than Tom is* is in the set of structural alternatives to *Tom is shorter than Jane is* and that moreover, the former comparative is structurally simpler than the latter. In addition, because they denote relations between intervals on a sclale, the parses in (53b) and (54b) yield interpretations that are truth-conditionally equivalent:

(55) **Semantically equivalent alternatives**

a. (53b): $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(Tom) \prec d\}$

b. (54b): $\{d : \text{HEIGHT}(Tom) \succeq d\} \supset \{d : \text{HEIGHT}(Jane) \succeq d\}$

c. (53b) $\equiv$ (54b)

It follows that on a global definition of the LF-principle that governs the semantic competition, LF_2 in (54b) should be deviant contrary to facts. Let us see now what are predictions that result from a local application of *Minimize APs!*. As before the AP [-er tall Jane] is derivable from the AP [-er little tall Tom] by substitution of the copies left by the DPs *Jane* and *Tom*and deletion of the negative operator, but crucially, the APs are not semantically equivalent: **-er tall Jane** denotes a set of positive degrees of height whereas **-er little tall Tom** denotes a set of negative degrees of height. As it turns out then, on the local definition of the LF-economy principle, the APs *taller* and *shorter* are not competitors with respect to *Minimize APs!*, correctly predicting that the two parses in (53b) and (54b) are ruled in.

Local Economy principles in a similar vein targeting only the DP domain have already been proposed in the literature (Marty 2016; Schlenker 2005; Johnson 2012;) on the consideration of examples like (56):

(56) a. *[$_{DP}$The one student] came to the meeting.

b. [$_{DP}$The two students] came to the meeting.

In Marty (2016), the ungrammaticality of (56a) is due to the availability of the structurally simpler yet semantically equivalent DP in (57):

(57) [$_{DP}$The student] came to the meeting.

The question of whether LF-economy principles should be thought of as general (global) conditions on parses, could be reformulated as to be about the products of local applications in different domains (the adjectival domain, the DP-domain, and

perhaps others). This suggestion deserves further investigation that goes beyond the scope of this dissertation.

Local summary

Let us take stock of where we are. In this section, we proposed a principle way of generating candidates for a semantic competition based on the structural complexity of the different alternatives APs. In particular, we showed that negative-antonym *less*-comparatives always violate *Minimize APs!* under their non-evaluative construal because hey are structurally more complex than positive-antonym *-er*-comparatives and yet deliver the same truth-conditions. As a result, they are predicted to be deviant by the LF-principle. Besides, we correctly predicted that except for negative-antonym *less*-comparatives, other constructions of the comparative paradigm admit a non-evaluative parse. Indeed, they do not compete with respect to the LF-principle.

Nevertheless, negative-antonym *less*-comparatives need not be subject to this competition. Consider for instance the sentence in (58a). This sentence has a structurally simpler *-er*-comparative alternative, namely (58b). But crucially, the meaning it expresses is not equivalent to this expressed by (58a): (58b) does not impose any requirement on the context, whereas (58a) requires that there is a contextual standard of 'shortness' that the kids exceed. In the absence of a competitor then, the sentence obeys *Minimize APs!* and, indeed, this sentence is perceived as grammatical by English speakers.

(58) a. This kid is less short than that kid is.

b. This kid is taller than that kid is.

Why is it that the (58a) and (58b) assign distinct truth conditions in a case like (58), when previously they were shown to be equivalent? In the simple cases like (48) and (49), the equivalence between the two constructions hinged on the fact that, on the non-evaluative construal, the co-occurrence of LITTLE and LITTLE* operators in the matrix and the *than*-clause of the *less*-comparatives cancel each other out, as in (48). In the next section, we show that the reason why (58a) does not compete with (58b) relates to the presence of the evaluativity operator, EVAL, that breaks the competition between the two comparatives. As it turns out then, negative-antonym *less*-comparatives and the positive-antonym *-er*-comparatives are only semantically equivalent under their non-evaluative construal.

2.4 Escape hatch for structurally complex expressions: Evaluativity

In this section, we derive evaluative readings of comparatives. To achieve this goal, we adopt Rett's silent EVAL operator, whose denotation is updated to fit the decompositional account of degree expressions.

2.4.1 Evaluativity in a decompositional framework

On the EVAL account, the standard associated with polar adjectives in evaluative contexts is hypothesized to follow from the semantics of each antonym: for example, *Jane is tall* is true just in case there is a degree d to which Jane is at least as tall as d and this degree exceeds the standard of *tallness* whereas *Jane is short* is true just in case there is a degree d to which Jane is at least as short as d, and this degree exceeds the standard of *shortness*.

On the current approach, however, the meaning of negative antonyms arises compositionally by combining a given positive antonym with the negation operator (LITTLE). Hence, by adopting Rett's denotation for EVAL, we predict that negative antonyms should be attributed to the standard of the positive antonym they are based on. In other words, if *short* is in fact [LITTLE TALL], then adjoining EVAL to the constituent should derive a standard of *tallness* instead of a standard of *shortness*.

This analysis would never yield the right standard associated with negative antonyms, and crucially, it would make the prediction that the positive construction *Jane is short* should be true just in case there is a degree d to which Jane is at least as short as d and this degree d exceeds the standard of *tallness*. Our first task then is to implement Rett's EVAL account within a decompositional framework.

I adopt a view in which the standard of comparison is a contextually provided vague interval of degrees called the Standard Set (Std_c)[13](von Stechow and Stechow

[13]Rett's EVAL operator is modeled after the POS morpheme. In particular, Rett retains the role of POS that introduces evaluativity but divorces it from the saturation of the degree argument which is incompatible with the semantics of comparatives (and other degree constructions that show evaluativity effects). In a similar fashion our own semantics for EVAL is modeled after the alternative denotation for POS originally offered in von von Stechow and Stechow (2009) and adopted in various proposals including Heim (2006), Solt (2009). In the present approach, in particular, I adopt a version which (a) is compatible with the decompositional account and (b) has the modifier type necessary for the competition-based account of evaluativity.

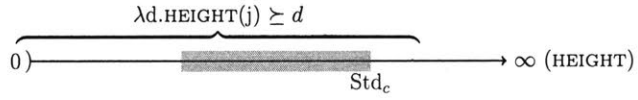
2009, Heim 2006, Solt 2009). By assumption, this set contains 'neutral' degrees, that are both in the extension of the positive antonym nor in the extension of the negative antonym. As a result, the scale for relative adjectives like *tall* and *short* is divided into three zones: above the maximal boundary of Std_c, are the degrees that qualify as 'tall', below the minimal boundary of Std_c are the degrees that qualify as 'short,' and the standard set itself contains degrees that are neither 'tall' nor 'short'. Following this proposal, the lexical entry for EVAL is to be rewritten as in (59) so as to derive a suitable standard for both the positive and the negative antonym.

(59) Denotation for EVAL (Final version)
$[\![\textbf{EVAL}]\!]^c = \lambda D_{\langle d,t\rangle} : D \supset Std_c.\ \text{D}$

According to the lexical entry in (59), EVAL denotes an identity function on degree predicates and introduces the evaluative presupposition that the degree predicate D properly contains a contextually provided standard set. Depending on the type interval it restricts, we derive different standards for antonyms.

Suppose, for example, that Jane is (exactly) 6 feet tall. Then, the set of degrees d to which Jane is at least as tall to d denotes an initial segment on the scale of height, that stretches form the bottom of the scale up to the value '6 feet'. Now, the requirement imposed by the EVAL operator is that the set of Jane's tallness degrees properly contains the standard set. Due to the properties of scales, this condition is fulfilled only when the degree property denoted by **eval tall Jane** is true of some degrees that are above the maximal boundary of the standard set, and by definition, those are degrees that qualify as 'tall degrees'. The diagram in (60) summarizes this conception visually:

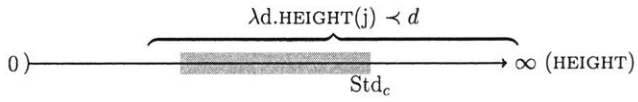
(60) $[\![\text{eval tall}]\!]^c(\text{j}) = \lambda d : \textbf{tall(x)} \supset \textbf{Std}_\textbf{c}.\text{HEIGHT}(j) \succcurlyeq d$



Let us consider an alternative situation in which Jane is exactly 4 feet tall, and let us look at the meaning of the negative antonym modified by the evaluativity operator. Given our assumptions about antonymy, an adjective like *short* denotes the complement set of tallness degrees - a final segment on the scale of height, that stretches from a value in this case 4 feet, up to the top of the scale. Whenever this interval of degrees in restricted by the EVAL operator then, it is required to properly

contain the standard set. As a direct consequence of this restriction, the function denoted by the constituent [EVAL LITTLE TALL JANE] will be true of (at least) one degree that is below the minimum boundary of the standard set. As expected, such a degree qualifies as 'short degree', as illustrated in the following diagram:

(61) $[\![\text{eval little tall}]\!]^c(\text{j}) = \lambda d : \textbf{little tall (j)} \supset \textbf{Std}_c.\text{HEIGHT}(j) \prec d$



In (61), the evaluativity operator has a wide scope relative to the syntactic negation. What about the reversed configuration? Note that the present system takes both EVAL and LITTLE to be modifiers of the adjective. As a consequence, there exists a theroretical possibility that the EVAL operator scopes below the negative operator. For example, consider the AP in (62).

(62) $[_{AP}$ LITTLE $[_{AP}$ EVAL TALL$]$ $]$

There are two questions to ask: What would be a possible surface realization of this fragment? and how would it be interpreted? First, on the assumption that EVAL is phonologically null, there is no genuine reason that prevents application of the spell-out rule that licenses the negative antonym[14], and so the AP represented in (62) could in principle be pronounced as *short*. Second, the fragment is interpretable by functional application of the meaning of the negative operator with that of (60), as it is illustrated in (63).

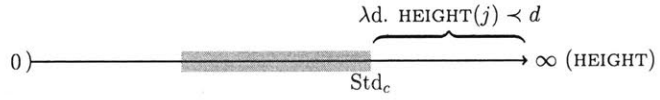
(63) $[\![\textbf{little}]\!]$ $([\![\textbf{eval tall}]\!]^c(\text{j}))$
$= [\![\textbf{little}]\!]$ $(\lambda d : tall(j) \supset Std_c.\text{HEIGHT}(j) \succcurlyeq d)$
$= \lambda d : tall(j) \supset Std_c.\text{HEIGHT}(j) \prec d$

According to (63), the AP in (62) denotes a set of negative degrees (i.e., an final segment on the scale of height), restricted in such way that its complement set properly contains the standard set. That is, all the degrees that are true of the degree

[14]This is a fine and reasonable assumption to make at that point, but as we will see in the next chapter, allowing for multiple configurations of APs by playing with the relative scopes of LITTLE and EVAL misses an essential generalization about the distribution of evaluativity in other degree constructions like analytic comparatives for example. In fact, the general proposal we will argue for in the next chapter is particularly sensitive to the intervening effect of EVAL in configurations like (62), which will be shown to block any operation of complex words formation like portmanteaus formation or affixation.

property [[little tall]](j) are necessarily located above of the maximal boundary of the standard set, and therefore all those degrees qualify as 'tall degrees'. In other words, the context-dependent interpretation of this AP make reference to the standard for 'tallness' even though it characterizes a negative interval of degrees. this meaning is schematized in (64)[15]:

(64) $[\![\textbf{little eval tall}]\!]^c(\text{j}) = \lambda d : \textbf{tall(x)} \supset \textbf{Std}_c.\text{HEIGHT}(j) \prec d$



2.4.2 Evaluativity and semantic competition

Let us take stock at where we are. Section (2.3.1) provided an LF-principle that favors structurally simpler alternatives of APs that have identical meanings. This principle was shown to make good predictions for the non-evaluative parses of degree constructions. In particular, it predicts that non-evaluative negative-antonym *less*-comparatives are always deviant by the availability of their semantically equivalent structural alternatives, namely, the positive-antonym *-er*-comparatives. In the present section, I look at the range of truth-conditionally distinct readings that we can generate by including the evaluativity operator in the different comparative constructions, and I will investigate the effect of *Minimize APs!* on evaluative parses, starting with the pair of sentences in (65) and (66).

Recall that the relative scope of LITTLE and EVAL in degree expressions that involve negative antonyms gives rise to two distinct APs configurations, as discussed in the previous section. Hence, the negative-antonym *-er*-comparative is ambiguous between the parses in (65a) and (65b). (65a) asserts that Tom's shortness degrees exceed Jane's shortness degrees and presupposes that Tom and Jane count as 'short' in the context. (65b) shares the assertive component of (65a) but presupposes that Tom and Jane count as 'tall' in the context. In contrast, the negative-antonym *less*-comparative in (66) is unambiguous. Indeed, given that LITTLE* is of semantic type $\langle d, \langle dt, t\rangle\rangle$, EVAL can never take scope over LITTLE* without yielding a type mismatch. As a result, (66) admits only one evaluative parse, provided in (66a).

(65) Tom is shorter than Jane is.

[15]Note that on the present approach, EVAL is fully presuppositional (contra Rett (2008))

a. Evaluative parse #1:
[λ1. t1 eval little tall Tom] [-er [λ2. t2 eval little tall Jane]]

b. Evaluative parse #2:
[λ1. t1 little eval tall Tom] [-er [λ2. t2 little eval tall Jane]]

(66) Tom is less tall than Jane is.

a. Evaluative parse:
[λ1. t1 little* eval tall Tom] [-er [λ2. t2 little* eval tall Jane]]

What does *Minimize APs!* predict for these parses? Not much. The reason for that is quite simple: all the APs in (65) and (66) are of equal structural complexity, and therefore, none of them is an appropriate alternative for the others.

(67) *Equally complex APs*

a. (65a): $[_{AP}\ [_{DegP}$ -er] eval little tall]

b. (65b): $[_{AP}\ [_{DegP}$ -er] little eval tall]

c. (66a): $[_{AP}\ [_{DegP}$ -er little*] eval tall]

Given that none of the LFs in (65a), (65b) and (66a) admits a structurally simpler alternative AP, they all obey the LF-principle. Is this a good prediction? It is a harmless one at least. The interpretations delivered by the evaluative parses above are indistinguishable from their non-evaluative counterpart: any context that satisfies the evaluative presupposition and makes the evaluative parses true also makes their non-evaluative counterparts true. Nonetheless, the fact that we access the non-evaluative construal of the sentences in (65) and (66) doesn't show that their evaluative parse is unavailable.

This type of equivalence does not generalize to negative-antonym *less*-comparatives as we are about to see. Consider the pair of comparatives in (68) and (69) which were previously shown to compete under their non-evaluative parse, ultimately blocking the non-evaluative reading of the negative-antonym *less*-comparative. As for (65), the co-occurrence of LITTLE that underlies the negative antonym and EVAL yields two possible LFs. Moreover, the scope of EVAL determines the type of standard, in such way that it derives a standard of shortness in (68a) and a standard of tallness in (68b). The positive antonym comparative on the other hand admits only one parse provided in (69a):

(68) Jane is less short than Tom is.

a. Evaluative parse #1:
[λ1. t1 little* eval little tall Jane] [-er
[λ2. t2 little* eval little tall Tom]]

b. Evaluative parse #2:
***[λ1. t1 little* little eval tall Jane] [-er**
[λ2. t2 little* little eval tall Tom]]

(69) Jane is taller than Tom is.

a. Evaluative parse:
[λ1. t1 eval tall Jane] [-er [λ2. t2 eval tall Tom]]

It is obvious that (68) is structurally more complex than (69). Indeed, we can verify that the AP in (69a) is a formal alternative to the APs in (68a) and (68b) since it is derivable from those APs by deleting subconstituents - namely the two negative operators:

(70) *Structurally simpler alternative:* (69a) $\prec$ (68a) and (69a) $\prec$ (68b)
(69a): $[_{AP}\ [_{DegP}$ -er] eval tall]

a. (68a): $[_{AP}\ [_{DegP}$ -er] ~~little*~~ eval ~~little~~ tall]

b. (68b): $[_{AP}\ [_{DegP}$ -er] ~~little* little~~ eval tall]

By (70) then, it appears that *taller* $\in$ Alt(less short). But is not a sufficient condition for the application of the LF-principle: the LFs in competition must also be semantically equivalent. On our assumptions about the meaning of the comparative and the meaning of EVAL, positive-antonym *-er*-comparatives are equivalent to negative-antonym *less*-comparatives at the assertive level. However, at the presuppositional level, the two constructions are equivalent only if the EVAL operator modifies the positive-antonym in the *less*-comparative. When the EVAL operator modifies the negative antonym, it contributes the reference to a standard of shortness and therefore, it breaks the semantic equivalence. Therefore, we predict equivalence of meaning between (69a) and (68b) but not between (69a) and (68a):

(71) *No competition: (69a)* $\not\equiv$ *(68a)*

a. Evaluative parse #1: Jane is less short than Tom is.
[λ1. t1 little* eval little tall Jane] [-er [λ2. t2 little* eval little tall Tom]]

i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$
$\wedge \{d : \text{HEIGHT}(tom) \prec d\} \supset \text{Std}_c$

b. Evaluative parse: Jane is taller than Tom is.
[λ1. t1 eval tall Jane] [-er [λ2. t2 eval tall Tom]]

i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
$\wedge \{d : \text{HEIGHT}(tom) \succeq d\} \supset \text{Std}_c$

(72) *Semantic competition: (68b) ≡ (68a)*

a. Evaluative parse #2: Jane is less short than Tom is.
***[λ1. t1 little* little eval tall Jane] [-er [λ2. t2 little* little eval tall Tom]]**

i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
$\wedge \{d : \text{HEIGHT}(tom) \succeq d\} \supset \text{Std}_c$

b. Evaluative parse: Jane is taller than Tom is.
[λ1. t1 eval tall Jane] [-er [λ2. t2 eval tall Tom]]

i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
$\wedge \{d : \text{HEIGHT}(tom) \succeq d\} \supset \text{Std}_c$

The sentence *Jane is less short than Tom* is grammatical because one of its evaluative parses does not violate *Minimize APs!*, namely the parse where the structural position of EVAL intervenes between the two negative operators as in (71a).

2.4.3 Conclusion

We started this chapter with the observation that gradable adjective seem to have a context-independent interpretation in some comparatives (synthetic comparative, positive-antonym *less*-comparatives) and a context-dependent interpretation in negative-antonym *less*-comparatives. This type of context-dependency was shown to arise when the adjective is modified by a silent optional operator, EVAL (Rett 2007, 2008).

Building on the Syntactic Negation Theory of Antonymy, we showed that the AP expressions *taller, shorter, less tall* and *less short* can be compositionally derived from a small set of primitive pieces and a set of spellout rules, as summarized in (73) and (74) ('A^+' and 'A^-' stands for the positive and the negative antonym respectively):

(73) *Semantic Primitives*
{A^+, LITTLE(*), -ER, EVAL}

(74) *Spell-out Rules for portmanteau formation:*
{-ER + LITTLE*} > *less* {A^+ + LITTLE} > A^-

We also showed that on a decompositional account, the different APs of the comparative paradigm could be ranked with respect to how much structural complexity they involve. We established a hierarchy for evaluative and non-evaluative APs, where the grey arrows stand for the relation 'structurally less complex than':

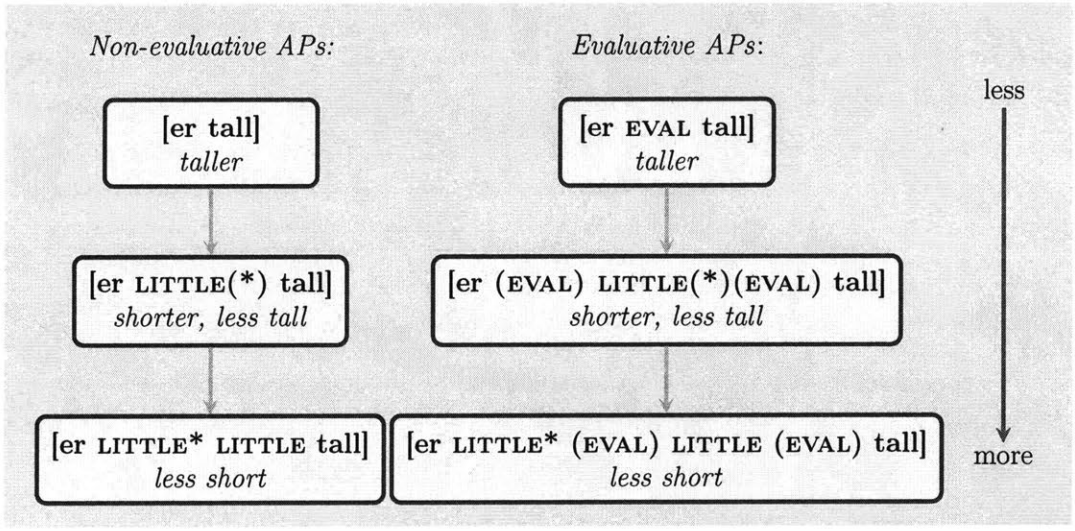


Figure 2-3: Summary: The structural complexity of APs in comparatives

We proposed an LF-principle called *Minimize APs!*. By this principle, two APs involved in various comparatives compete whenever they are semantically equivalent, and one is structurally simpler than the other. We showed how *Minimize APs!* makes the right predictions concerning negative-antonym *less*-comparatives. On their non-evaluative parse, they compete with positive-antonym comparatives as in (75). Their evaluative construal however, the inclusion of EVAL breaks the competition when it modifies the negative antonym. As a consequence, the evaluative parse obeys *Minimize APs!* and the construction is grammatical under the evaluative reading (see 75):

(75) *Competition: non-evaluative construals of less short vs. taller*

a. $[_{AP}$ er tall$] \prec [_{AP}$ er little* little tall$]$

b. $[_{AP}$ er tall$] \equiv [_{AP}$ er little* little tall$]$

By *Minimize APs!*: non-evaluative construal of *less short* is not available.

(76) *No competition: evaluative construals of less short vs. taller*

a. $[_{AP}$ er eval tall$] \prec [_{AP}$ er little* eval little tall$]$

b. $[_{AP}$ er eval tall$] \not\equiv [_{AP}$ er little* eval little tall$]$

By *Minimize APs!*: evaluative construal of *less short* is available.

Chapter 3

Refining competition: Expressibility of alternatives

In the previous chapter, we developed a structural competition account of the distribution of (non)-evaluative inferences in synthetic comparatives and *less*-comparatives. In the present chapter, we investigate the distribution of evaluativity in analytic comparatives in English. In the adjectival domain, English marks the comparative form of a gradable adjective using two strategies: in synthetic comparatives, the phonological reflex of the morpheme that expresses comparison appears on the adjective (e.g., *taller, smarter, narrower*) whereas, in analytic constructions, the comparison meaning is expressed by an independent morpheme *more* (e.g., *more eloquent, more stupid, more intelligent*). A rich literature dedicated to comparative alternation has intended to identify and untangle the factors that influence the distribution of analytic and synthetic forms (cf. Mondorf (2009)).

One often discussed factor, concerns the length of the adjective: monosyllabic adjectives take the synthetic form (1a) whereas adjectives of three or more syllables take the analytic variant (1c). At last, disyllabic adjectives are subject to variation (1b):

(1) a. Monosyllabic adjectives: *taller, smaller*

b. Disyllabic adjectives: *happier / more happy, simpler / more simple*

c. Longer adjectives: *more intelligent, more delicious*

However, as shown in Mondorf (2009), this factor is far from being decisive as illustrated by the examples in (2). For example, the rule that monosyllables require

the synthetic form is easily over-ridden as illustrated in (2a). In addition, exceptions in (2b) obviate the prosodic constraint by exceeding the length requirement.

(2) a. Monosyllabic adjectives: *apter / more apt*

b. Long adjectives: *unhappier / more unhappy*

In fact,it seems that English comparatives are a showcase of grammatical variation: as many as 25 variables have been claimed to affect the choice between synthetic and analytic means of expressing comparison Mondorf 2009. The factors that influence the shape of the comparative may be phonological (e.g., determined by certain suffixes), lexical (e.g., related to the frequency of certain adjectives), syntactic (e.g.,conditioned by the structural position of the adjective in attributive environments) and semantic (e.g., as in metalinguistic comparatives). However, many studies consider one variable at a time without systematically controlling for other variables. It is thus difficult to draw any conclusion about how the different modules of the grammar conspire to favor one form over the other.

In this chapter, we focus on the type of synthetic/analytic alternation that seems to be conditioned by evaluativity. In particular, for those dimensional gradable adjectives that can be mapped into the two forms (e.g., *smarter, more smart*), the analytic form is necessarily associated with an evaluative inference (Rett 2008; Embick 2007; Matushansky 2013 a.o.).

The first goal of this chapter is to show that analytic comparatives are subject to *Minimize APs!*. The demonstration relies on the assumption that *more* spells out the comparative operator *-er* and *much* (Heim 2000, Hackl 2009, Solt 2009). As a result, analytic comparatives are always structurally more complex than their synthetic counterpart, and therefore compete with them whenever they express the same meaning. However, we make the observation that the competitors that rule out non-evaluative parses of analytic comparatives incorrectly rule out their evaluative parses as well. To solve this puzzle, we argue that the problem does not rely on the competition itself but the nature of alternatives. We propose that the morpho-phonology of degree expressions relates to their syntax-semantics, and in particular, it relates to the semantic competition introduced in the previous chapter. In particular, we propose an extension of our theory such that the distribution of the EVAL operator is regulated at the two interfaces of grammar: the LF-principle *Minimize APs!* is designed to account for the deviancy of structurally redundant degree expressions whereas

a PF-filter, *Myers' Generalization*, imposes a morphophonological well-formedness condition on competitors. Crucially, the resulting picture regards the solution to the evaluativity puzzle as being at the crossroads of the different modules of the grammar.

The second goal of the chapter is to provide an account of the distribution of EVAL across the clauses of bi-clausal constructions, and to provide a description of the projective properties of evaluative presuppositions.

3.1 *More*-comparatives

3.1.1 *More*-comparatives outside the adjectival domain

Given what we said about the different means of expressing comparison in the adjectival domain, it may come as a surprise that in the nominal domain, comparison is exclusively achieved by pre-adjectival modification with *more*. The contrast is illustrated in (3) and (4).

(3) **Adjectival domain**:

a. John is smarter than Mary is.

b. John is more intelligent than Mary is.

c. John is sadder than Mary is.

d. John is more unhappy than Mary is.

(4) **Nominal domain**:

a. *John ate ric(e)-er than Mary did.

b. John ate more rice than Mary did.

c. *John read book(s)-er than Mary did.

d. John read more books than Mary did.

As it stands then, the analytic/synthetic alternation seems to be a feature of adjectival comparatives alone. Moreover, note that although the comparatives in (3a) and (3b) make use of different strategies to express the meaning of comparison, they receive the same interpretation which refers to the comparative meaning of the gradable adjectives *smart* and *intelligent*. In the nominal domain, the contribution of *more* does more than just expressing a comparative meaning (as illustrated by unattested **ricer, *booker**), it also introduces the property that is being compared. That is, the grammaticality of a sentence like (4b) is explained if the interpretation of *more*

refers to quantities: on this idea, (4b) say something like *the quantity of rice eaten by John exceeds the quantity of rice eaten by Mary.*

This characterization creates a dilemma: the elements *more* and *-er* have the same contribution in the adjectival domain: they solely form the comparative of the adjectives they modify. In the nominal domain however, not only *more* expresses the comparison meaning, it also introduces the degree property that holds of things that are being compared. Besides, the surprising regularity of nominal comparatives in English comparatives raises the following questions: why is it that the comparative morpheme *-er* does not alternate with the pre-adjectival item *more* outside the adjectival domain? That is, why isn't the synthetic strategy available in (4)?

Elements of response are found in analyses which posit that *more* is internally complex: it spells out a covert *much* (Bresnan 1973, Corver 1997 and Solt 2009, Wellwood (2015) a.o.). Analysis of MUCH however, substantially differ in whether or not the comparative morpheme receives a unified analysis across domains and whether of not it is semantically inert. For example, Corver (1997) argues that MUCH has a double-life: In nominal comparatives, it introduces a measure function for nominal predicates whereas in the adjectival domain, the presence of MUCH is necessitated only for selectional reasons, a process that he calls *much*-support, in which case the morpheme is semantically inert. Conversely, Solt (2009) offers a unified analysis of MUCH by proposing that the morpheme is always semantically inert[1]. On Solt (2009)'s view, MUCH figures in the pre-spell-out representations of both adjectival and nominal comparatives, and in the two cases MUCH is '*much*-support'; it is only a carrier of the degree morphology: whenever -ER cannot be affixed to the nominal predicate (for selectional reasons) or to the adjectival predicate (for morphophonological reasons), it forms a QP constituent with *much* $[_{QP}\ [_{DegP}$ -er] much] that licenses the surface form *more*.

How do we get the semantics right from there? Since *much* is semantically inert (it maps a set of degrees to itself), the composition in analytic adjectival comparatives will proceed as for synthetic comparatives in the sense that it is the adjectival predicate that introduces a gradable property. On the other hand, in the nominal domain, the comparative head cannot occur in the extended noun phrase, it can only combine

[1]See Wellwood 2015, 2018 for an account that takes MUCH to semantically contentful, even if the adjectival comparatives.

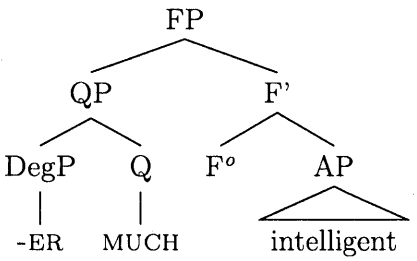
gradable adjectives or MUCH-like predicates. Therefore, it must first compose with MUCH, and create a QP with is that has more flexible selectional properties. Solts 2009 suggests that MUCH in these cases, signals the presence of a covert operator MEAS, the null head she posits to introduce degrees with nominals (Schwarzschild 2006):

(5) a. $[\![\textbf{much}]\!] = \lambda d_d.\lambda A_{\langle d,t\rangle}.\ \mathrm{d} \in \mathrm{A}$

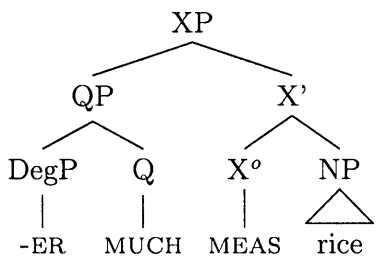
b. $[\![\textbf{meas}]\!] = \lambda x.\lambda d.\mu_{DIM}(x) \succeq d$

In the adjectival domain for example, Solt (2009) assume that analytic comparatives arise whenever the adjective cannot compose directly with the comparative morpheme -ER. In this case, the degree morphology is introduced by the QP layer introduces by MUCH, which is located in the specifier position of a higher functional projection FP. The partial trees below summarize Solt's assumptions about the syntax of *more*-comparatives in adjectival and nominal domains.

(6) **Adjectival *more*-comparative**



(7) **Nominal *more*-comparative**



Solt 2015 is aims at capture a very wide array of data, with a very simple and elegant idea: *more* is always [$_{QP}$ [$_{DegP}$-ER] MUCH] and its meaning cannot be distinguished from that of *-er*, by semantic vacuity of *much*. In Solt 2015, the factors that influence the presence of the QP layer has mainly two purposes: It 'fixes' contexts that do not permit affixation of *-er* (like in **intelligent-er*) or it creates the right environment for the comparative morpheme to occur (as in nominal comparatives).

In sum, up to that point, we have a description of some possible environments that license the synthetic of the analytic form of the comparative, and we have discussed an approach that intends to unify those uses in various domains. Crucially, the two constructions are synonymous, but the analytic comparative is structurally more complex than the synthetic by virtue of the fact that it contains the additional morpheme *much*. The different generalizations are provided in (8):

(8) *Condition of synthetic/analytic comparative formation:*

i. Affixation is subject to a prosodic constraint, it applies only to monosyllables (perhaps with exceptions for some dysyllables)

ii. Affixation requires the right selectional configuration: -ER can be selected by adjectival head, it cannot be selected by nouns, (*ric-er)

iii. MUCH figures in the pre-spell-out representations of both adjectival and nominal comparative: it underlies *more*. *Much*-support is a last resort mechanism.

3.1.2 Puzzle 1: Analytic comparatives and evaluativity

In the previous sections, we discussed some linguistic factors that influence the realization of comparative forms in English and possible account of *more*-support. In this section, we discuss a case of alternation between synthetic and analytic forms that do not seem to be conditioned by prosodic requirements nor by selectional restrictions, as the two forms co-exist.

The puzzle explored in this chapter concerns the availability of comparatives as in (9) and (10). Descriptively, the sentences in (9b) and (10b) seem to violate the prosodic constraint on monosyllables: indeed *tall* and *short* apparently license the analytic form in spite of being 'short' adjectives. In addition, by availability of (9a) and (10a), the analytical form cannot be explained by selectional restriction: since the degree head -ER in (9a) can successfully be selected by the adjectival root, there is in principle no good reason why *much*-support should be necessitated in (9b). However, there seems to be a difference between analytic and synthetic forms which is semantic in nature: the judgments of my informants for the a-sentences below contrast with their judgments for the b-sentences, is that the b-sentences - although they convey the same assertion as their a-counterparts - bear the evaluative presupposition (in accordance with Rett 2008, 2015, Matushansky 2013)

(9) **Positive-antonym synthetic/periphrastic alternation**
Context: Goliath and Gargantua are two giants.

a. Goliath is taller than Gargantua is

b. Goliath is more tall than Gargantua is

(10) **Negative-antonym synthetic/periphrastic alternation**
Context: Grumpy and Prof are two dwarves.

a. Grumpy is shorter than Prof is.

b. Grumpy is more short than Prof is.

As is seems, the analytic comparative (e.g., *Goliath is more tall than Gargantua*) is interpreted as denoting a proper subset of denotation of the synthetic comparative (e.g., *Goliath is taller than Gargantua*): the two constructions describe a situation where Goliath' height exceeds Gargantua's, but the analytic construction adds the requirement that Goliath and Gargantua exceed the contextually-supplied standard for tallness. Since the observation holds for negative-antonym analytic comparatives as well i.e., the analytic construction in (12b) adds the requirement that Goliath and Gargantua exceed the contextually-supplied standard for shortness, we conclude that these analytic constructions are evaluative independently of the polarity of the adjective they contain.

The evaluative presupposition imposes a condition on the context such that it must be common knowledge for discourse participants that the gap 'counts as narrow'. Whenever this condition is not satisfied, presuppositional sentences like (9b) and (10b) can't be assigned a truth-value (they is neither true nor false), i.e., they suffer from presupposition failure. This is illustrated in (11) and (12). In these conversational situation, the context-dependent interpretation of the adjective is not taken for granted by the discourse participants, and as a result the analytic sentences are judged infelicitous.

(11) **Positive-antonym synthetic/periphrastic alternation**
Context: Athos and Porthos are (very) short.

a. Athos is taller than Porthos

b. #Athos is more tall than Porthos

(12) **Negative-antonym synthetic/periphrastic alternation**
Context: Athos and Porthos are (very) tall.

a. Athos is shorter than Porthos

b. #Athos is more short than Porthos

On the present approach, evaluativity is hypothesized to follow from the presence of the optional EVAL operator that contributes the reference to a contextually-supplied standard. In the cases studied so far, the inclusion of EVAL in the parse of a degree construction can be forced when its non-evaluative parse is itself blocked. For example, the non-evaluative parse of *Jane is less short than Tom is* is precluded by the non-evaluative parse of *Jane is taller than Tom is* as an effect of *Minimize APs!*,

an LF-principle which rules out a parse whenever it admits a structurally simpler alternative which is expressible and which conveys the same meaning. We can thus formulate the expectation that the distribution of evaluativity in analytic comparatives complies with similar requirements. That is, on the assumption that EVAL optionally occurs in analytic and synthetic comparatives, we expect that the non-evaluative parse of an analytic comparative is precluded by the non-evaluative parse of its synthetic counterpart.

3.2 Analytic comparatives and structural competition

3.2.1 Background

Following the literature, we assume that *more* is an internally complex element that spells out the comparative degree head *-er* plus *much* (Bresnan 1973, Corver 1997, Rett 2008, Solt 2009 and others). The quantity adjective MUCH is semantically related to LITTLE*: the two Q heads denote predicates of scalar properties. In particular, the semantic contribution of *much* is to associate a set of degrees with the degrees it contains, as indicated in (13)(Solt 2010):

(13) **Semantic entries for MUCH and for LITTLE***

a. $[\![\text{MUCH}]\!] = \lambda d.\lambda P_{\langle d,t\rangle}.P(d) = 1$

b. $[\![\text{LITTLE*}]\!] = \lambda d.\lambda P_{\langle d,t\rangle}.P(d) = 0$

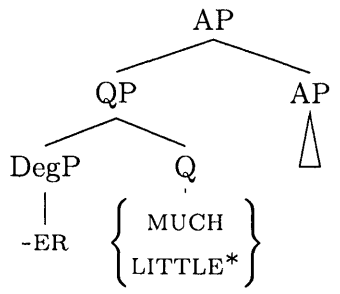
(14) **Spell out rule for 'more'**

a. [-ER MUCH] is pronounced '*more*'

b. [-ER LITTLE*] is pronounced '*less*'

For the time being, we will assume that MUCH and LITTLE* head a Quantifier Phrase that occurs within the adjectival projection and whose [Spec,QP] hosts the comparative head *-er*, as illustrated in (15) (Bresnan 1973, Corver 1997, Solt 2009 and others):

(15)



The Q heads MUCH and LITTLE* are of type $\langle d, \langle dt, t \rangle \rangle$. They take the QR-trace of **-er** as an argument, and forms with is a phrase that combines with a degree property of type $\langle d, t \rangle$, i.e., a gradable adjective whose internal entity-argument has been saturated. Since MUCH is the counterpart of LITTLE* we predict that they occur in complementary distribution (*less much). For example, consider the pronominalized sentence in (16). Corver 1997 argues that the presence of MUCH is required for selectional reason. We observe that *more* and *less* are fine in the same construction without overt *much*.

(16) Jane is intelligent. In fact she is too *(much) so
She is $[_{AP}\ [_{QP}\ [_{DegP}$ too] much] $[_{AP}$ so]]

(17) a. Jane is intelligent. John is (even) more (*much) so.
John is $[_{AP}\ [_{QP}\ [_{DegP}$ -er] much] $[_{AP}$ so]]

b. Jane is intelligent. John is less (*much) so.
John is $[_{AP}\ [_{QP}\ [_{DegP}$ -er] little*] $[_{AP}$ so]]

In the previous chapter, the various surface forms and meanings of APs could be derived from a small set of primitive units. We now include MUCH in the set of primitives, which is updated as follow (A^+ stands for the positive antonym):

(18) **Primitive units of comparison:**
{-ER, LITTLE(*), MUCH, EVAL, A^+}.

Just like LITTLE and LITTLE*, MUCH add structural complexity to APs. And therefore, the decompositional account of degree expressions provides us with APs of gradient complexity, this is illustrated in Figure 3-1 for non-evaluative APs. Capitalizing on the structure-sensitive notion of complexity offered in Katzir (2007) we can establish relations between APs: A grey arrow from a given box containing an AP α to a given box containing an AP β is to be read as: $\alpha \in \text{Alt}_{str}\ \beta$ (α belongs to the set of β's structural alternatives)

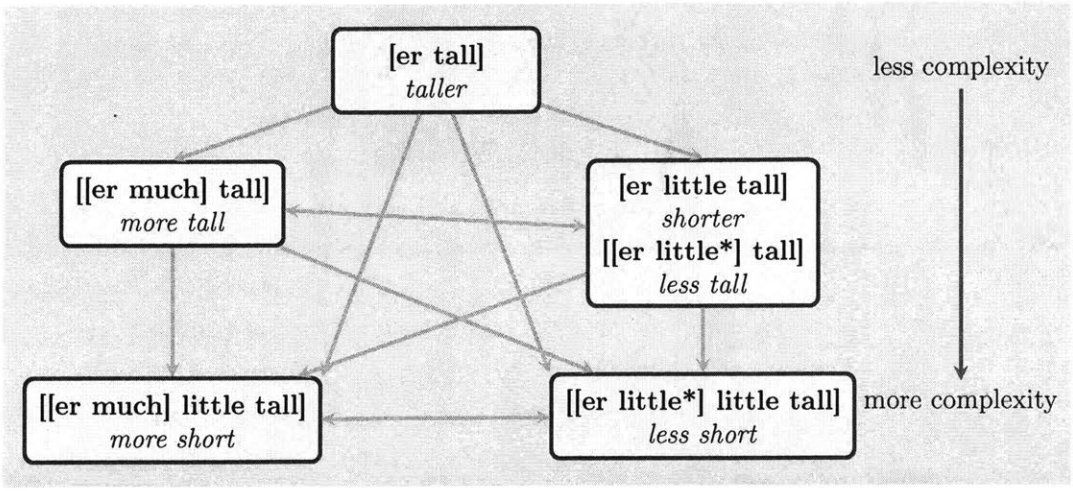


Figure 3-1: Hierarchy of non-evaluative APs

3.2.2 Competition in non-evaluative synthetic/analytic APs

The structural competition account, as introduced in Chapter 2, is applied to the analytic paradigm. When a degree construction is obligatorily evaluative, it is because it lacks a non-evaluative parse. That is, the non-evaluative parse happens to be blocked by a structurally simpler competitor, as an effect of *Minimize DegPs*, repeated in (19) from the previous chapter:

(19) *Minimize APs!*
For any LF ϕ, any AP α in ϕ, α is deviant in ϕ if α can be replaced in ϕ with a formal alternative, β, such that
a. **β is semantically equivalent to α**, and
b. **β is structurally simpler than α**

In particular, in this section, we show that in absence of EVAL, the LF-principle *Minimize APs!* correctly evaluates the different structural alternatives: non-evaluative synthetic constructions preclude their analytic counterparts.

Positive-antonym analytic comparative

Consider the evaluative sentence in (20).

(20) Jane is more tall than Tom is.

On the assumption that the evaluative operator EVAL can optionally modify APs, an analytic comparative like (20) spells out two distinct syntactic representations. Hence, our account generates an evaluative and a non-evaluative parse for analytic comparatives, provided in (21a) and (22a) respectively.

(21) a. [[$_{IP}$Jane$_i$ is [$_{QP}$-er$_1$ much] EVAL tall Jane$_i$] [$_{DegP}$ -er $_1$
[$_{CP}$than [wh$_3$ [$_{QP}$wh$_3$ much]$_2$ [$_{IP}$Tom$_j$ [wh$_3$ much]$_2$] EVAL tall Tom$_j$]]]

b. PF: Jane is [$_{QP}$-er + much] tall than Tom is.
i.e., Jane is more tall than Tom is.

(22) a. [[$_{IP}$ Jane$_i$ is [$_{QP}$-er$_1$ much] tall Jane$_i$]
[$_{DegP}$ -er$_1$ [$_{CP}$than [wh$_3$ [$_{QP}$wh$_3$ much]$_2$ [$_{IP}$Tom$_j$ [wh$_3$ much]$_2$] tall Tom$_j$]]]

b. PF: Jane is [$_{QP}$-er + much] tall than Tom is.
i.e., Jane is more tall than Tom is.

The evaluative parse in (21a), yields the LF in (23) which says that the sentence is true just in case Jane's height exceeds Tom's height and presupposes that and Jane and Tom are considered tall in the context.

(23) LF: **[λ1. [t1 much] eval tall Jane] [-er [λ2. [t2 much] eval tall Tom]]**

a. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

b. Presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
$\wedge\ \{d : \text{HEIGHT}(tom) \succeq d\} \supset \text{Std}_c$

In turn, on the non-evaluative parse in (22a), the sentence is true just in case Jane's height exceeds Tom's height. This is shown in (24):

(24) LF:**[λ1. [t1 much] tall Jane] [-er [λ2. [t2 much] tall Tom]]**

a. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

(24) expresses a weaker claim than (23). So we can construct scenarios in which (24) is true while (23) is false: just imagine that Jane and Tom are jockeys. As such they are considered as rather short individuals. Now let us imagine that Jane is a taller jockey than Tom is. If (24) were a possible reading of the English sentence in (20), then speakers should sometimes be willing to judge it true in this situation. But this is not the case, indicating that (24) cannot be a grammatical LF. We propose that the missing parse is ruled out by *Minimize APs!*.

A natural competitor to *Jane is more tall than Tom is* that comes to mind in the synthetic comparative *Jane is taller than Tom is.* Indeed, on the syntax-semantics

assumed, synthetic comparatives are identical to analytic comparatives except for the presence of a dummy *much*. Therefore, our proposal is that non-evaluative analytic comparatives are ruled out by structural competition with synthetic comparatives, by application of the LF-principle *Minimize APs!*: First, we show that analytic APs are semantically equivalent to the APs contained in their non-evaluative synthetic counterparts, and second we show that the analytic APs are also structurally more complex than synthetic APs.

It is easy to verify the first claim that analytic and synthetic APs yield interpretations that are truth-conditionally equivalent. Indeed, on the proposed semantics, *much* is semantically inert, i.e., it can be included in the composition without inducing any change of meaning. Therefore, the APs contained in the sentences *Jane is more tall than Tom is* and *Jane is taller than Tom is* denote identical sets of tallness degrees as shown in (25a) and (25b):

(25) **Semantically equivalent alternative APs**

a. $[_{AP}$ **1 [-er$_1$ much] tall Jane**]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

b. $[_{AP}$**1 -er$_1$ tall Jane**]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

The second condition imposed by *Minimize APs!* requires that the deviant AP is structurally more complex that its competitor. On our assumption about the syntax of analytic and synthetic comparatives, a synthetic AP is derivable from an analytic AP by deletion of the subconstituent MUCH. This is illustrated in (37):

(26) **Structural alternatives: *more tall - taller***

a. $[_{AP}$ -er ~~much~~ tall Jane]

b. $[_{AP}$ -er tall Jane]

Given (25) and (26), *Minimize APs!* predicts that the non-evaluative parse periphrastic comparatives is precluded by their synthetic counterpart as summarized in (27)-(28):

(27) Jane is more tall than Tom is.

a. LF$_1$: ***[λ1. [t1 much] tall Jane] [-er [λ2. [t2 much] tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

(28) Jane is taller than Tom is.

a. LF_2: **[λ1. t1 tall Jane] [-er [λ2. t2 tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

Negative-antonym analytic comparatives

For completeness, we show that negative-antonym and positive-antonym analytic comparatives are treated uniformly. The syntactic representations we generate for negative-antonym comparatives are just like (21a) and (22a) except that they include LITTLE operators that underly negative antonyms in the matrix and in the standard clause. The evaluative parse and the non-evaluative parse for the sentence *Jane is more short than Tom is* are provided in (29a) and (30a), together with their LF in (29b) and (30b) and PF in (29c) and (30c):

(29) a. [[$_{IP}$Jane$_i$ is [$_{QP}$-er$_1$ much] EVAL LITTLE Jane$_i$ tall] [$_{DegP}$ -er $_1$ [$_{CP}$than [wh$_3$ [$_{QP}$wh$_3$ much]$_2$ [$_{IP}$Tom$_j$ [wh$_3$ much]$_2$] EVAL LITTLE Tom$_j$ tall]]]

b. LF: **[λ1. [t1 much] eval little tall Jane] [-er [λ2. [t2 much] eval little tall Tom]]**

c. PF: Jane is [$_{QP}$-er + much] little+tall than Tom is.
i.e., Jane is more short than Tom is.

(30) a. [[$_{IP}$ Jane$_i$ is [$_{QP}$-er$_1$ much] LITTLE Jane$_i$ tall] [$_{DegP}$ -er$_1$ [$_{CP}$than [wh$_3$ [$_{QP}$wh$_3$ much]$_2$ [$_{IP}$Tom$_j$ [wh$_3$ much]$_2$] LITTLE Tom$_j$ tall]]]

b. LF: **[λ1. [t1 much] little tall Jane] [-er [λ2. [t2 much] little tall Tom]]**

c. PF: Jane is [$_{QP}$-er + much] little+tall than Tom is.
i.e., Jane is more short than Tom is.

The interpretation delivered by (29b) captures the intuitive meaning of the sentence: it says that Jane's height is less than Tom's height and it presupposes that Jane and Tom are short. (30b) also says that Jane's height is less than Tom's height, but it does not impose a restriction on the context of utterance. This is a weaker claim than (29b) and clearly not an available reading for the sentence *Jane is more short than Tom is.* For example, in a context such that Jane and Tom are basketball players and Jane's height is less than Tom's, the English sentence is not a felicitous, indicating that the parse in (30a) is not available.

To see what *Minimize APs!* predicts in this case, consider the LF associated with the non-evaluative parse in (30a) in (31) along with its two possible competitors in (31a) and (31b).

(31) Jane is more short than Tom is.
[λ1. [t1 much] little tall Jane] [-er [λ2. [t2 much] little tall Tom]]

a. Jane is shorter than Tom is.
[λ1. t1 little tall Jane] [-er [λ2. t2 little tall Tom]]

b. Jane is less tall than Tom is.
[λ1. [t1 little*] tall Jane] [-er [λ2. [t2 little*] tall Tom]]

Note that the present account makes it possible that one parse competes with several alternatives. For example, the competitors in (32) and (33) are relevant because their meaning is semantically equivalent to that of the AP in (31). In addition, as illustrated in Figure (3-1), the APs in (31a) and (31b) can be derived from the APs in (31), by deletion of MUCH in the former and substitution of MUCH by LITTLE* and deletion of LITTLE in the latter. This is shown in (32) and (33):

(32) ***Shorter*** $\in$ $\mathbf{Alt}_{str}$***(more short)***

a. *more short:* [$_{AP}$ [-er much] little tall]

b. *shorter:* [$_{AP}$ -er little tall] by *much* deletion

(33) ***Less tall*** $\in$ $\mathbf{Alt}_{str}$***(more short)***

a. *more short:* [$_{AP}$ [-er much] little tall]

i. [$_{AP}$ [-er little*] little tall] Substitution of *much*

ii. [$_{AP}$ [-er little*] ~~little~~ tall] Deletion of *little*

b. *less tall:* [$_{AP}$ [-er little*] tall]

The APs *more short*, *less tall* and *shorter* are also shown to be semantically equivalent in (34): They all denote a set of negative degrees of height.

(34) **Semantically equivalent alternative APs**

a. [$_{AP}$ **1 [-er$_1$ much] little tall Jane**]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

b. [$_{AP}$**1 -er$_1$ little tall Jane**]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

c. [$_{AP}$ **1 [-er$_1$ little*] tall Jane**]
$\{d : \text{HEIGHT}(jane) \succeq d\}$

Consequently, the sentence *Jane is more short than Tom is* admits a parse that is correctly ruled out by both the non-evaluative parse of the synthetic comparative *Jane is shorter than Tom is* or the non-evaluative parse of the *less*-comparative *Jane is less tall than Tom is.* By *Minimize APs!*, the non-evaluative parse of *Jane is more short than Tom is* is therefore deviant.

3.2.3 Puzzle 2: Minimize APs! is too strong

The present analysis correctly explains the missing non-evaluative readings of analytic comparatives. As it stands however, the present account only captures half of the puzzle: it rules out non-evaluative parses of redundant degree expressions, but it does not explain how complex expressions are licensed under their evaluative parse. In the previous chapter, it was argued that the inclusion of EVAL in a parse can break semantic equivalence between alternatives and therefore save a structurally complex parse from ungrammaticality. We will now show that similar reasoning fails to predict that analytic comparative can be evaluative.

The puzzle is formulated as follow: just like on their non-evaluative construal, analytic comparatives on their evaluative construal compete with their synthetic counterpart. Since the meaning they express is logically equivalent to this expressed by their structurally simpler synthetic counterpart, *Minimize APs!* incorrectly predicts that the evaluative parse of analytic comparative is ungrammatical.

The competitors

On the assumption that EVAL is always optional, each of the APs represented in Figure (3-1), admits a parse in which the adjective is modifier by EVAL. In addition, recall that EVAL and LITTLE are both modifiers of type $\langle dt, dt \rangle$, and consequently, their relative scope produces additional configurations for APs that contain both.

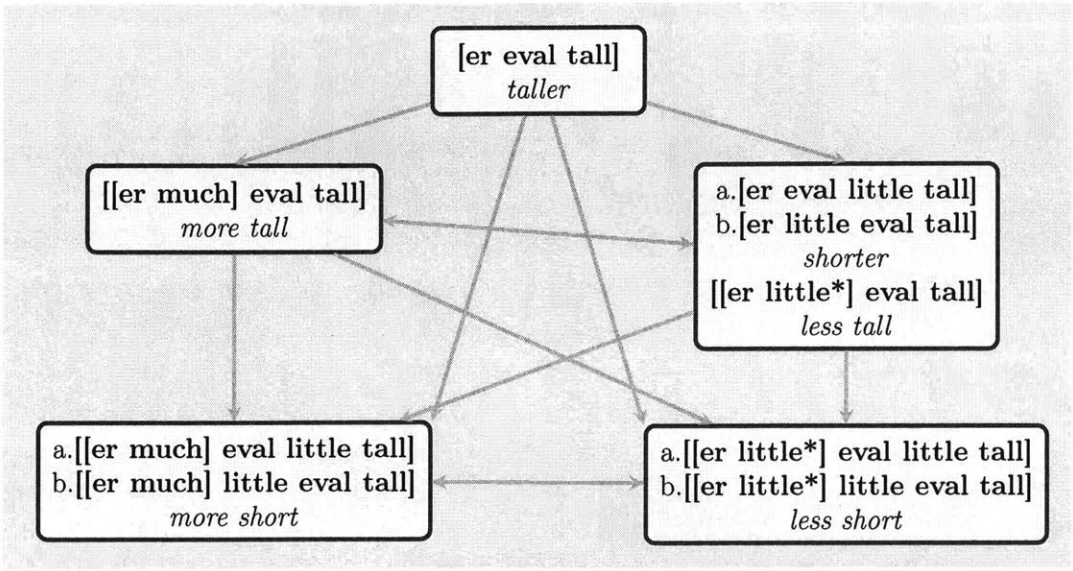


Figure 3-2: Hierarchy of evaluative APs

Positive-antonym analytic comparatives

Let us consider the synthetic and analytic evaluative construals in (35) and (36):

(35) Jane is more tall than Tom is.

a. LF_1: **[λ1. [t1 much] EVAL tall Jane] [-er [λ2. [t2 much] EVALtall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

(36) Jane is taller than Tom is.

a. LF_2: **[λ1. t1 eval tall Jane] [-er [λ2. t2 eval tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

Since the AP *taller* was shown to be structurally simpler alternative to *more tall* under their non-evaluative parse, the inclusion of EVAL in (35) and (36) will preserve the validity of the claim: namely, a synthetic AP is derivable from an analytic AP by deletion of the subconstituent MUCH. This is illustrated in (37):

(37) **Structural alternatives: evaluative *more tall* - *taller***

a. [$_{AP}$ -er ~~much~~ Jane EVAL tall]

b. $[_{AP}$ -er Jane EVAL tall]

Moreover, the inclusion of EVAL in the parse of an analytic and its synthetic counterpart will have exactly the same effect: it modifies the positive antonym and therefore, it contributes the reference to a standard of tallness. Hence, as it was shown for non-evaluative APs, analytic and synthetic evaluative APs yield interpretations that are truth-conditionally equivalent by semantic vacuity of *much*:

(38) **Semantically equivalent alternative APs**

a. $[_{AP}$ **1 [-er$_1$ much] Jane EVAL tall]**
$\{d : \text{HEIGHT}(jane) \succeq d\}$ defined when $\{d : \text{HEIGHT}(jane) \succeq d\} \supset Std_c$

b. $[_{AP}$**1 -er$_1$ Jane EVAL tall]**
$\{d : \text{HEIGHT}(jane) \succeq d\}$ defined when $\{d : \text{HEIGHT}(jane) \succeq d\} \supset Std_c$

By *Minimize APs!* the evaluative parse of the sentence *Jane is taller than Tom is* precludes the evaluative parse of the analytic comparatives *Jane is taller than Tom is.* This is a bad result as the analytic comparatives are predicted to be ungrammatical.

Negative-antonym analytic comparatives

Of course, the issue generalizes to negative-antonym analytic comparatives as well. On its evaluative parse, the sentence is predicted to compete with the sentence *Jane is shorter than Tom is*, and therefore should be ungrammatical. The derivation of relevant structural competitors obtains by the same simplification operation as in (32) (i.e., deletion of MUCH):

(39) Jane is more short than Tom is.

a. LF$_1$: **[λ1. [t1 much] EVAL LITTLEtall Jane] [-er [λ2. [t2 much] EVAL LITTLEtall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$

(40) Jane is shorter than Tom is.

a. LF$_2$: **[λ1. t1 little tall Jane] [-er [λ2. t2 little tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$

Due to the semantic vacuity of *much*, the prediction is that analytic comparatives should always be semantically equivalent to their synthetic counterpart even with the inclusion of EVAL in the parse. This turns out to be a serious shortcoming for the competition account.

In addition to (39a), the present account of degree expressions, predicts that the negative-antonym analytic comparative should admit an alternative evaluative parse (as shown in Figure 3-2), where EVAL occurs within the scope of the LITTLE operator in the AP as shown in (41a):

(41) a. Jane is more short than Tom is.
[λ1. [t1 much] little eval tall Jane] [-er [λ2. [t2 much] little eval tall Tom]]

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

This parse is also blocked by structural competition with the parse of (42a)

(42) a. Jane is less tall than Tom is.
[λ1. [t1 little*] eval tall Jane] [-er [λ2. [t2 little*] eval tall Tom]]

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

Once again, the evaluative parse in (41a) is precluded: The AP it contains – $[_{AP}$ $[_{QP}$ -er much] little eval tall] – is semantically equivalent to the AP in (42a) and it is also structurally more complex than it. In sum, all the possible parses for the negative-antonym analytic comparative are ruled out by *Minimize APs!*.

As it appears, *Minimize DegPs!* alone cannot account for the distribution of evaluative readings. In particular, the inclusion of the EVAL operator does not suffice to break the semantic competition in analytic comparatives as it does in negative-antonym *less*-comparatives. In addition, note that the presence of EVAL drastically increases the number of potential competitors. This is due to the assumption that including the silent morpheme EVAL in a parse does not disrupt PF-processes (like the application of Spellout rules for example), and thus it can be inserted in the representation with no morphological impact on surrounding material, ultimately generating multiple configurations for complex APs. Yet, the relative scope of EVAL has direct

consequences on the type of presupposition it gives rise to. For example, let us observe that if the parse in (42a) was available, it would produce a meaning that doesn't seem to be attested for the sentence *Jane is more short than Tom is.* On this parse, the assertive component of the sentence would say that Jane's height exceeds Tom's, which is fine. But due to the scope of EVAL, it would presuppose that Jane and Tom count as tall in the context: indeed, since EVAL is in the scope of the negative operator, it modifies the positive adjective. Thus, the sentence would be felicitous only in contexts where it is common knowledge that Jane and Tom are both considered tall. However, this reading is not available indicating that this parse is never attested.

This last point raises a question that is independent from the problem of structural competition: if the parse 41a is compositionally fine, any analysis of the construction must account for the fact that it yields a reading which is never attested, while the reading delivered by (39a) is. In sum, at that point, we are left with the two following questions:

1. Why don't we never access the parse of negative-antonym analytic comparative in which EVAL occurs in the scope of the negative operator LITTLE?

2. Why is it that analytic comparatives in spite of having structurally simpler alternatives that express the same meaning are not deviant?

3.3 Proposal: the morpho-phonological well-formedness condition

The decomposition of degree expressions, in addition to provide a metrics for semantic competition, offers an interesting perspective on the formation of morphologically complex expressions. In the comparative paradigm in particular, there are two types of complex words-formation operations: affixation of the comparative head in synthetic comparatives, and portmanteau creation in the case of the negative antonym. Up to this point we have been concerned mainly with the syntax-semantic of degree expressions. In this section, I articulate a proposal that takes into account the scope of the evaluativity operator with respect to elements that participate in the formation of complex words. In particular, the claim is that EVAL can disrupt the structural adjacency which is a pre-requisite for Spell-out rules application. In other words, EVAL acts as an intervener for PF-processes. We propose to analyze EVAL as a

zero-morpheme that is subject to a morphophonological constraint which regulates its distribution. This constraint has two important consequences: it reduces the number of possible parses for analytic comparatives and it reduces the number of competitors with respect to *Minimize APs!*, hence solving the questions raised at the end of the previous section. The resulting picture argues for an account of evaluativity at the crossroads of the LF and the PF components of the grammar.

3.3.1 Myers' Generalization

In this section, I argue that the structural position of EVAL interacts in morpho-phonological processes: For example, when EVAL intervenes between LITTLE and the gradable adjective, it blocks the formation of the portmanteau form that realizes the negative antonym, i.e., it blocks the application of the spellout rule that licenses the negative antonym. This is illustrated in (43):

(43) **EVAL's intervention blocks portmanteau formation:**

a. [little+tall] > *short*

b. [little eval tall] > *

This claim that EVAL is an intervener has further implications: if all morphological operations - including affixation operations - are sensitive to the presence of the EVAL operator, then whenever EVAL intervenes between an adjective and the affixal head it selects for, it should block the formation of synthetic comparatives. As for this last point, a similar proposal is developed in Embick (2007) which compares standard comparatives and metalinguistic comparatives. On Embick's account, the difference between synthetic and analytic forms of comparatives is syntactic in nature. In particular, a silent κ operator is argued to occur in analytic comparatives[2]. This operator is an intervener to affixation processes, which occur post-syntactically, under linear adjacency of the adjective and its affixal head via an operation called *Local dislocation.* Matushansky (2013) offers an alternative account of the facts discussed in Embick (2007): On her account, affixation is argued to be a syntactic operation which proceeds from head-movement. Based on the consideration of impossible **frencher, *faker*, Matushansky proposes that scalarity (= gradability) is a precondition for affixation, in her terms: '*a non-scalar adjective does not bear the [degree] feature and therefore cannot be attracted to Deg°*'. This, she argues, explains why non-scalar (=

[2]On Embick's account κ is argued to be a metalinguistic operator. The proposal does not address evaluative readings of comparative

non-gradable) adjectives *fake* and *French* cannot occur in synthetic comparatives. The alternation *taller/more tall* is discussed in similar terms: when they occur in analytic comparatives, adjectives like *tall* are 'non scalar'. In one option she mentions to implement this idea, Matushansky entertains the possibility that Rett's EVAL operator could remove the scalarity in the adjectives, hence accounting for the analytic look of evaluative comparatives:

> If EVAL is a head that does not attract A^o [...], the derivation of an synthetic form is impossible. As a result, [...] norm-related [=evaluative] adjectives should pattern with non-scalar adjectives in not giving rise to a synthetic comparative or superlative.

This option presents EVAL as an intervener but Matushansky's proposal does not go beyond the simple mention of that possibility[3]. We will follow the insight that EVAL is indeed an intervener to affixation but we depart from Matushansky's account with respect to the semantic contribution of the operator: In our account, an adjective modified by EVAL is necessarily gradable (=scalar). Moreover, we show that the intervention effect triggered by EVAL goes beyond the synthetic/analytic distinction, a prediction that does not follow form Embick's (2007) and Matushansky's (2013) proposals.

We propose to reanalyze the morphophonological intervention effect of EVAL in English as a consequence of *Myers's generalization.* That is, we submit that EVAL is a zero morpheme, subject the following constraint[4]:

(44) *Myers's generalization:*
A zero-derived form cannot undergo further affixation/PF-processes.

Myers's generalization works as a PF-filter on derivations: Once the zero-morpheme EVAL is affixed to a gradable predicate, any bound morpheme on top of it (MUCH, LITTLE, -ER) must be morphologically realized independently. This way, our interpretation of Myers' generalization has two direct consequences on the treatment of evaluative APs, it predicts that the presence of EVAL blocks portmanteau formation and affixation of the comparative head.

[3] For example, her suggestion that EVAL could remove the adjective's scalarity is not explicated and comes with the prediction any adjective modified by EVAL could not occur in comparative constructions. Although our own analysis also builds on the insight that EVAL blocks affixation processes, it does not suffer from this undesirable empirical result.

[4] Thanks to Danny Fox for the discussion.

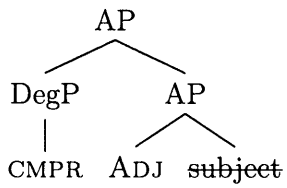
3.3.2 Deriving complex morphological objects in the AP domain

In this section, I provide a morpho-phonological treatment of morphologically complex APs that follows from Bobaljik (2012). I adopt a view of Distributed Morphology (DM) on which the grammar produces syntactically structured morphosyntactic representations that serve as the input for vocabulary insertion (Halle 1990; Noyer 1992; Halle and Marantz 1994; Embick and Noyer 2007). One important aspect of DM for the theory of comparatives to be proposed, is the treatment of portmanteaus forms.

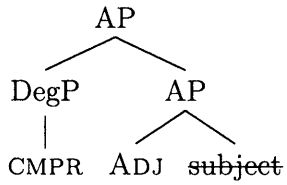
Affixation in DM

Following Bobaljik (2012), I adopt the view that the phonological expression of complex morphological objects is determined by information provided by the syntactic derivation. In particular, a synthetic comparative arises when a movement operation[5] combines the terminal nodes that contain the grammatical feature for the comparative (CMPR) and the adjectival head via a Lowering as in (45), yielding the complex morphological object in (47).

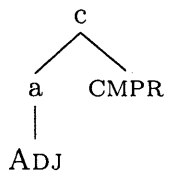
(45)



(46)



(47)



[5]As mentioned in Bobaljik (2012), this merge operation can be achieved using different strategies including (pre- or post-syntactic) Head Movement, Morphological Merger (Marantz 1989) or Local Dislocation (Embick 2007). In this work, we assume with Bobaljik (2012) that comparative affixation in an instance of *Lowering* but we are not especially committed to this claim, as nothing substantial in the analysis will lean on this particular choice.

From there, the relevant rules of exponence will apply to the two nodes of (47), yielding the surface string in (49):

(48) Vocabulary insertion rules:

a. $\sqrt{\text{TALL}} \rightarrow$ *tall*

b. CMPR $\rightarrow$ *-er*

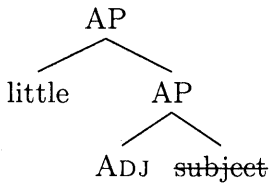
(49) [[$\sqrt{\text{TALL}}$]

a

CMPR $]_c$ = *tall-er*

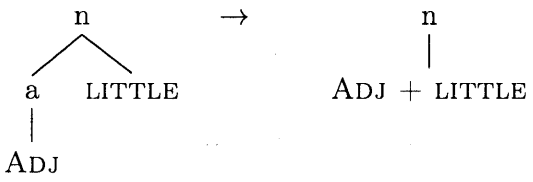
Let us now turn to the formation of negative antonyms. On our approach, a phonological string like *short* appears to correspond to multiple terminal nodes of the morphosyntactic representation: it realizes simultaneously the root TALL and the negative meaning. Following Bobaljik (2012), we treat portmanteaus as complex morphological objects for which the operation of *fusion*, that I represent by the '+' operation, can combine the two sisters of a complex node into a single X^o, hence providing a single locus for vocabulary insertion. The derivation for the negative-antonym is provided in (50). Vocabulary insertion the *short* results from the application of the rule provided in (52).

(50) Lowering of the negation



(51) Fusion operation:

a.[$\sqrt{\text{TALL}}$ + LITTLE $]_n$ = *short*



(52) Vocabulary insertion rule

$\sqrt{\text{TALL}}$, LITTLE $\rightarrow$ *short*

In this section, we provided an account of -ER affixation and portmanteau formation within the Distributed Morphology framework. We proposed that an adjective affixed with the zero-morpheme EVAL cannot undergo further PF-processes. That is, it cannot be further affixed nor can it be subject to a Fusion operation. Intuitively, the zero-exponent signals the prosodic boundary of the morphological 'word'. Some empirical support in favor of this claim, comes from the French data in (53) and (54). In French, all comparative forms are expressed by means of the pre-adjectival morpheme *plus* (*more*)[6]. The comparative morpheme *plus* is pronounced [ply] in adjectival domain and [plys] in other domain of comparison.

(53) Jane est [ply] petite que Mary
Jane is more short than Mary
Jane is shorter than Mary is. (adjectival comparative)

(54) Jane a [plys] de livre que Mary
Jane has more DE books than Mary
Jane has more books than Mary is. (nominal comparative)

Since French does not have synthetic comparatives, the competition that rules out the non-evaluative parse of analytic comparatives in English does not apply. As a result, the evaluative and non-evaluative parse of an adjectival comparative in French are predicted to always be homophonous. However, some speakers contrast the non-evaluative interpretation with the evaluative interpretation by resorting to phonology: that is, the comparative in (55), where the comparative marker *plus* is pronounced [plys] instead of [ply] is judged evaluative by some French speakers:

(55) Jane est [plys] petite que Mary
Jane is more short than Mary
Jane is more short than Mary is. (adjectival comparative)

Even in contexts that would standardly trigger a *liaison* effect, by which *plus* is pronounced [plyz] in front of a vowel-initial adjective, the evaluative interpretation can be disambiguated by realizing *plus* as [plys]:

(56) La porte est [plyz] étroite que la table
the door is more narrow than the table
The door is narrower than the table is.

(57) La porte est [plys] étroite que la table
the door is more narrow than the table
The door is more narrow than the table is.

[6]French admits a few suppletive forms such as *meilleur* (*better*), pire (*worse*).

One way of interpreting the French data, is to argue that the phonology is sensitive to the presence of the zero-morpheme EVAL. First, in the absence of EVAL, a phonological rule deletes the final segment of [plys] in adjectival contexts e.g., [ply#petit]. Second, the example in (56) shows that the deletion rule that applies to the final [s] segment in *plus* creates a hiatus that is repaired by the liaison operation e.g., [plyz͡etroit]. In the presence of EVAL, the contexts of application for these rules are not met, enforcing the realization of the string [plys] e.g., [plys#$\emptyset_{eval}$-petit] and [plys#$\emptyset_{eval}$-etroit].

In addition, note that the comparative morpheme in evaluative comparatives and nominal comparatives in French shares the same phonological signature, it is PF-realized [plys]. As it seems, the presence of DE blocks the deletion rule that suppresses the final [s] segment of the string [plys], as indicated in (58):

(58) a. [plys#DE#livres], ??[ply#DE#livres], *More books*

b. [plys#$\emptyset_{eval}$-petit], *More short*

This surface similarity between the adjectival and the nominal domains might find an echo in English. Indeed, as we discussed in the introduction of this chapter, the relation between the comparative head and the noun phrase in nominal comparatives is necessarily mediated by the null morpheme MEAS, that force the presence of a QP headed by MUCH. The resulting structure closely resemble the structure assumed for analytic comparative with EVAL:

(59) a. [[$_{QP}$ [$_{DegP}$ -er MUCH]] MEAS books]

b. [[$_{QP}$ [$_{DegP}$ -er MUCH]] EVAL short]

If in English, the null morpheme MEAS falls under the same characterization as EVAL, that is, it is subject to *Myers Generalization*, it is expected to systematically block the synthetic form *books-er, *rice-er. All together, the data of French offers support for the claim that EVAL can intervene in PF-processes, and suggests that the idea of a constraint on zero-morphemes like *Myers' generalization* in English that could block affixation and portmanteau formation is on the right track.

Intervention effects of zero-exponence

The major insight behind out proposal is that the presence of the $\emptyset$-exponent associated with EVAL disrupts the condition of structural adjacency necessary for vocabulary insertion rules to apply. As a result, the strings that violate *Myers' Generalization*

are phonologically deviant.

Let us consider our predictions for the derivations of various APs. The morphophonologically well-formed APs are listed in (60), and the strings that produce illegitimate PF objects i.e., the strings that violate *Myers' Generalization*, are listed in (61). A^+ and A- stand for positive and negative gradable adjectives.

(60) **well-formed APs**

a. $[[\sqrt{A^+}]_a \text{ CMPR}]_c = A^+\text{-}er$

b. $[[\sqrt{A^+}]_a \text{ LITTLE}]_n \rightarrow [\sqrt{A^+} + \text{LITTLE}]_n = A^-$ (by *fusion*)

c. $[[\sqrt{A^+}]_a \text{ LITTLE}]_n \text{ CMPR}]_c \rightarrow [\sqrt{A^+} + \text{LITTLE}]_n \text{ CMPR}]_c = A^-\text{-}er$ (by *fusion*)

(61) **Phonological strings that violate *Myers' Generalization***

a. $[[[\sqrt{A^+}]_a \emptyset]_e \text{ CMPR}]_c = *$

b. $[[\sqrt{A^+}]_a \emptyset]_e \text{ LITTLE}]_n = *$

c. $[[\sqrt{A^+}]_a \text{ LITTLE}]_n \emptyset]_e\text{CMPR}]_c \rightarrow [\sqrt{A^+} + \text{LITTLE}]_n \emptyset]_e \text{ CMPR}]_c = *$

With this in mind let us get back to the questions we raised at the end of the previous section:

1. Why don't we never access the parse of negative-antonym analytic comparative in which EVAL occurs in the scope of the negative operator LITTLE?

2. Why is it that analytic comparatives in spite of having structurally simpler alternatives that express the same meaning are not deviant?

The answer to the first question is now straightforward: parses in which EVAL occurs in the scope of the LITTLE operator violate *Myers's Generalization* as demonstrated in (61b), and therefore they are not attested.

The second question pertains to the fact that the LF-principle *Minimize APs!* wrongly predicts that evaluative analytic forms are precluded by their evaluative synthetic alternatives. However, we proposed in this section that a zero-derived form cannot be affixed by the comparative morpheme *-er* (as shown in 61a). It follows the evaluative parse of synthetic comparatives always violate *Myers' generalization.* In that case, can they still count as competitors for *Minimize APs!*? In the next section, I will stipulate that they can't.

3.3.3 Expressibility Condition on competitors

Myers' generalization indirectly constrains the distribution of the EVAL operator, and it does so in a way that appears relevant to be for semantic competition. For the PF principle to have an impact on competition, *Minimize APs!* must be revised accordingly as in (62).

(62) *Minimize APs! (Final version)*
For any LF ϕ, any AP α in ϕ, α is deviant in ϕ if α can be replaced in ϕ with an **expressible structural alternative**, β, such that
   a. **β is structurally simpler than α, and**
   b. **β is semantically equivalent to α**

This modification of *Minimize APs!* adds a well-formedness condition on competitors: it requires that competing APs must be morphologically realizable. In other words, the competition only evaluates APs that satisfy the LF and the PF interfaces (i.e., the APs produce convergent derivations in the sense of Chomsky (1993)). This updated version of the LF-principle is now equipped to rule the competition between analytic and synthetic comparatives

Let us start our investigations with the pair of APs *more tall - tall.* A positive-antonym analytic comparative admit two parses repeated in (23) and (24). As for constructions that involve the AP *taller*, convergence obtains only with the non-evaluative parse, given *Myers' Generalization.* This parse is provided in (36):

(35) Jane is more tall than Tom is.
   a. LF: **[λ1. [t1 much] eval tall Jane] [-er [λ2. [t2 much] eval tall Tom]]**
      i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$
      ii. Presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
      $\wedge \{d : \text{HEIGHT}(tom) \succeq d\} \supset \text{Std}_c$
   b. LF:**[λ1. [t1 much] tall Jane] [-er [λ2. [t2 much] tall Tom]]**
      i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

(36) Jane is taller than Tom is.
   a. LF: **[λ1. t1 tall Jane] [-er [λ2. t2 tall Tom]]**
   b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

The non-evaluative parse of (20) is ruled out by *Minimize APs!* due to the availability of (36). The non-evaluative parse of (20) however obeys the economy principle because it lacks a relevant competitor.

Turning to the pair of APs *more short* - *shorter*, Myers' Generalization predicts two things: first, the synthetic comparative does not admit an evaluative parse, and second, it constrains the distribution of EVAL in the analytic form in such way that EVAL must occurs within the scope of the negative operator LITTLE. On these assumptions, the convergent parses for the analytic comparative and the synthetic comparative are provided in (39) and (40) respectively:

(39) Jane is more short than Tom is.

a. LF: **[λ1. [t1 much] little eval tall Jane] [-er [λ2. [t2 much] little eval tall Tom]]**

i. Assertion: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$
$\wedge \{d : \text{HEIGHT}(tom) \prec d\} \supset \text{Std}_c$

b. LF:**[λ1. [t1 much] little tall Jane] [-er [λ2. [t2 much] little tall Tom]]**

i. Assertion: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

(40) Jane is shorter than Tom is.

a. LF: **[λ1. t1 little tall Jane] [-er [λ2. t2 little tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}$

c. *Presupposition*: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$

The non-evaluative parse of (39) is ruled out by *Minimize APs!* due to the availability of (40). The non-evaluative parse of (39) however, obeys the economy principle because it lacks a relevant competitor.

At last, let us consider again the pair *less short* - *taller* in (63) and (64). In the previous chapter, we showed that the non-evaluative parse of (63) was deviant because of the competition with (64). In addition, we showed that under their evaluative parse, the constructions were not semantically equivalent, hence accounting for the availability of (63a). On the refinement we proposed in this chapter, the evaluative AP *taller* always violates the expressibility condition, and therefore it cannot serve as a competitor for the AP *less short*.

(63) Jane is less short than Tom is. (From Chapter 2)

a. **LF: [λ1. [t1 little*] eval little tall Jane]**
[-er [λ2. [t2 little*] eval little tall Tom]]

i. Assertion: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

ii. Presupposition: $\{d : \text{HEIGHT}(jane) \prec d\} \supset \text{Std}_c$
$\wedge\ \{d : \text{HEIGHT}(tom) \prec d\} \supset \text{Std}_c$

b. LF: **[λ1. [t1 little*] little tall Jane] [-er [λ2. [t2 little*] little tall Tom]]**

i. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

(64) Jane is taller than Tom is.

a. LF: **[λ1. t1 tall Jane] [-er [λ2. t2 tall Tom]]**

b. *Assertion*: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}$

As a result, the present account correctly predicts that negative-antonym *less*-comparative are attested when they give rise to an evaluative reading, while providing a unified account of analytic and synthetic comparatives. A visual summary of the competition between the different evaluative APs that satisfy all interface conditions is provided in Figure 3-3.

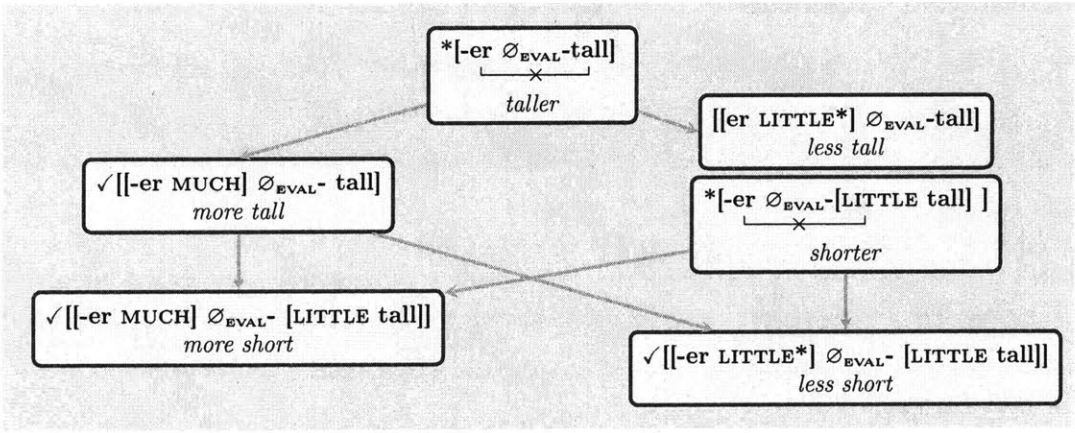


Figure 3-3: Attested evaluative APs in comparative constructions

3.3.4 Further implications

Inherently evaluative adjectives

For a relatively small class of adjectives that permit the synthetic/analytic alternation, the surface form of the comparative they can occur in does not seem decisive regarding the evaluative inferences they license. Consider the pair of constructions in (65) and (66):

(65) a. Jane is stupider than Tom is.

b. Jane is more stupid than Tom is.

(66) a. Jane is sadder than Tom is.

b. Jane is more sad than Tom is.

Contrary to the cases studied in this section, the analytic and the synthetic forms of the adjective *sad* and *stupid* yield identical meanings: the adjective obligatorily receives a context-dependent interpretation. If EVAL is blocked in synthetic comparatives, why do (65a) and (66a) give rise to evaluative readings? I will follow Morzycki (2012) (and also Rett 2015) in considering extreme adjectives as inherently evaluative. That is, the context-dependent meaning component of adjectives like *sad* and *stupid* is argued to be part of their lexical meaning. It follows from this assumption that those adjectives are not modified by EVAL (presumably because the operator would add complexity to the structure and therefore trigger a competition with the the AP without EVAL), and for that reason, the synthetic forms in (65a) and (66a) do not violate *Myers' Generalization.*

3.4 Distribution of EVAL and projective properties

In this section, I explore the pattern of evaluativity in positive constructions, and I address issues that have been raised concerning the distribution of the evaluativity presupposition in the matrix and than-clause of bi-clausal degree constructions.

3.4.1 EVAL in positive constructions

In Bierwisch's (1989) classification of evaluative constructions, positive constructions are notable in that they license an evaluative inference regardless of the antonym they involve. Moreover, in positive constructions, evaluativity does not seems to be

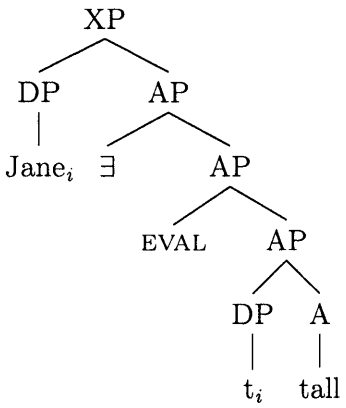
part of the presuppositional component of an utterance but rather of its assertive component. Consider the sentences in (67). These sentences express a meaning like 'x is more Adj than the standard for Adj'.

(67) a. Jane is tall.

b. Tom is short.

Recall that on our approach a gradable adjective like *tall* has a relational interpretation that holds between the measurement of an object x and a degree d, such that the measurement of x is at least as great as d on the relevant scale. In von Stechow 2007, it is assumed that in positive constructions, a null degree operator called POS binds the degree argument of the gradable predicates and restricts the set of degrees by requiring that it properly contains the standard set. On the EVAL approach however, Rett(2008) proposes to divorce the two roles of POS so that EVAL introduces the reference to the standard, while the binding of the degree argument is achieved by standard existential closure. On this account, the positive construction in (67a) has a representation along the lines of (68):

(68)



I adopt the representation in (68) for a positive construction like (67a) where the subject *Jane* reconstructs for interpretation. On our semantics, EVAL has the denotation in (69), and therefore we predict that (67a) has the meaning in (70):

(69) Denotation for EVAL (Repeated from Chapter 2)
$[\![\textbf{EVAL}]\!]^c = \lambda D_{\langle d,t\rangle} : D \supset Std_c.$ D

(70) Semantic composition:

a. $[\![\textbf{tall Jane}]\!] = \lambda d.\text{HEIGHT}(jane) \succeq d$

b. $[\![\textbf{eval tall Jane}]\!] = \lambda d.\text{HEIGHT}(jane) \succeq d$
defined iff $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

c. $[\![\exists d$ [**eval tall Jane**]$]\!] = \exists d\,[\text{HEIGHT}(jane) \succeq d]$
defined iff $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

Given that EVAL is a freely-occurring morpheme, we also generate an alternative parse for (67a), which does not include the *eval* operator:

(71) LF: [$\exists d$ [**tall Jane**]]

(72) Semantic composition:

a. $[\![$**tall Jane**$]\!] = \lambda d.\text{HEIGHT}$

b. $[\![(67a)]\!] = \exists d\,[\text{HEIGHT}(jane) \succeq d]$

Neither (70c) nor (72b) delivers the intuitive meaning of positive construction. First, (70c)asserts that Jane has some degrees of tallness and presupposes that Jane counts a tall in the context. However as shown by the sentence in (73) the evaluative meaning component does not survive negation, suggesting that evaluativity contributes in fact to the assertion the these constructions:

(73) Jane is not tall. $\not\rightarrow$ Jane counts as tall in the context.

Second, the truth-conditions in (70c) are too weak as well. On this construal, *Jane is tall* is true just in case Jane has degrees of height. Moreover, the gradable adjective *tall* maps its individual argument on a open-bounded scale of height, hence presupposing that its argument has a height. Thus, under a non-evaluative interpretation, the presuppositional content and the assertive content of positive constructions ends up being somehow redundant.

Rett (2008) proposes that positive constructions lack of non-evaluative readings by virtue of being uninformative and thus, that the well-formedness of positives depends on the presence of EVAL. This reasoning go through in Rett's account, because EVAL contributes to the assertion in positive constructions. On the present account however, EVAL has a presuppositional contribution. Therefore in our account, we claim that the well-formedness of positive constructions depends on obligatory accommodation of the evaluative presupposition. In particular, I adopt Stalnaker's (1978) *Assertability condition* defined in (74)[7].

(74) **EXTENDED ASSERTABILITY CONDITION**[8]: (Stalnaker 1978)
An utterance of ϕ is felicitous at a context C if and only if (a) for every $w \in C$, $[\![\phi]\!](w) \in \{0,1\}$, and (b) for some $w, w' \in C$ $[\![\phi]\!]$(w) $\neq$ $[\![\phi]\!]$(w')

[7]This formulation of *the Extended assertability condition* is taken from Marty's (2017)

[8](a) is the traditional formulation of the *Bridge Principle* and (b) is the Triviality Filter which requires that an utterance substantially updates the Common ground.

The *Extended Assertability condition* predicts that the positive construction under its evaluative (75a) construal and its standard non-evaluative (75b) construal do not substantially update the Common ground. To solve this issue, we contend that as a last resort, the A-operator commonly used to account for presupposition accommodation can be invoked as in (75c).

(75) ϕ: Jane is tall.
For every $w \in C$, it is already part of the common ground that the individual argument of 'tall' has a height.

a. LF_1: $\#\exists d\ [\text{HEIGHT}(jane) \succeq d]$ $(\#\phi)$
presupposition: –

b. LF_2: $\#\exists d\ [\text{HEIGHT}(jane) \succeq d]$ $(\#\phi_{\text{EVAL}})$
presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

c. LF_3: $\exists d\ [\text{HEIGHT}(jane) \succeq d]\ \&\ \{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
presupposition: – $(\ \text{A}(\phi_{\text{EVAL}}) = [\phi \wedge \phi_p])$

We have seen that in negative environments, evaluativity is not presuppositional (see 73). We claim that the presupposition must be accommodated as well in this environment:

(76) ϕ: Jane is not tall.
For every $w \in C$, it is already part of the common ground that physical objects have a height.

a. LF_1: $\#\neg\exists d\ [\text{HEIGHT}(jane) \succeq d]$ $(\#\phi)$
presupposition: –

b. LF_2: $\#\neg\exists d\ [\text{HEIGHT}(jane) \succeq d]$ $(\#\phi_{\text{EVAL}})$
presupposition: $\{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$

c. LF_3: $\neg\exists d\ [\text{HEIGHT}(jane) \succeq d]\ \&\ \{d : \text{HEIGHT}(jane) \succeq d\} \supset \text{Std}_c$
presupposition: – $(\ \text{A}(\phi_{\text{EVAL}}) = [\phi \wedge \phi_p])$

$\neg\ [\phi \wedge \phi_p] = \neg\ \phi \vee \neg\phi_p$. By assumption, the left disjunct cannot be false.

The presupposed content conveyed by positive constructions is 'informative'. Given that their assertive content is not with respect to the EAC, the accomodation process takes place.

3.4.2 EVAL in bi-clausal constructions

Analytical options

EVAL is a predicate-modifier type – it maps from properties of degrees to properties of degrees and it can optionally occur in a tree with minimal disruption. In bi-clausal constructions, there are two occurrences of the adjective: one in the matrix clause, and one in the *than*-clause. The inclusion of evaluative operators in a parse therefore yields the four analytical possibilities in (77):

(77) **The four possible parses associated with bi-clausal comparatives**

a. [*Matrix-Clause* ...] -er [*Standard-Clause* ...]

b. [*Matrix-Clause* ...] -er [*Standard-Clause* ... EVAL ...]

c. [*Matrix-Clause* ... EVAL ...] -er [*Standard-Clause* ...]

d. [*Standard-Clause* ... EVAL ...] -er [*Standard-Clause* ... EVAL ...]

As we discussed in this chapter, *Myer's Generalization* provides us with a way of diagnosing the presence of EVAL in matrix clauses: since EVAL is a zero-morpheme, its presence blocks the affixation of the comparative head on the adjective and thus comparatives which permit affixation do not contain EVAL in their matrix-clause.

Hence, synthetic comparatives such as *Jane is shorter than Tom is* shall only be compatible with the parses in (77a) and (77b). But are both these parses available? We claim that they are not. On the assumption that Comparative Deletion requires strict identity between the elided AP and its antecedent, it follows that EVAL must occur in the matrix clause whenever Comparative Deletion applies to a standard clause containing an occurrence of EVAL, hence ruling out the parse in (77b)[9]. More generally, the identity condition between matrix and standard clauses required by Comparative Deletion rules out any asymmetrical distribution of the EVAL operator in the two clauses. As a result, (77c) is ruled out for the same reason as (77b) is.

[9]As we shall see in the next chapter (Chapter 4), some synthetic constructions do not require a strict application of Comparative Deletion. Consider for example the (synthetic) subcomparative in (1). Intuitively, this sentence does not presuppose that the rope is short, suggesting that the construction admits the parse in (77b). In Chapter 4, we provide evidence that this is indeed the case and propose an account of this fact in terms on informational structure and the placement of focus.

(1) The rope is shorter than the gap is narrow. (subcomparative

a. Presupposition: the gap is narrow.

b. Assertion: the width of the gap exceeds the length of the rope

We are left with the parse in (77d), which suitable for constructions that comply with *Myers's Generalization*, and for which *Minimize APs!* forces the inclusion of EVAL in the parse. The list of these constructions is repeated in (78)[10]:

(78) a. **Analytic comparatives**

i. Jane is more tall than Tom is.

ii. Jane is more short than Tom is.

b. **Negative antonym less-comparatives**

i. Jane is less short than Tom is.

In the following section we show that (77d) indeed is the right parse for analytic comparative and negative-antonym *less*-comparatives, that is, we show that EVAL is always present in both the matrix and the standard clause of these constructions.

In addition, we show that the projective pattern of evaluative presuppositions is similar in essence to that of other presuppositions with the following interesting exception: in specific environments, local accommodation of evaluative presuppositions appears to be favored over global accommodation.

3.5 Projective properties of evaluative presuppositions

[11] On the classical view, a sentence ϕ has a presupposition p only if ϕ cannot be uttered felicitously unless the speech act participants take p for granted. For example, on our account, a sentence like (79) may be deemed 'neither true, nor false' unless it is common beliefs among the interlocutors that (79a) holds. For instance, in a context in which Jane and Tom are two giants, the requirement imposed by the evaluative presuppositions would fail to be met and the sentence in (79) would give rise to presupposition failure.

(79) Jane is less short than Tom is.

[10]Equatives, which are the object of investigation in the final chapter of the dissertation (Chapter 5), pattern like *less*-comparatives. In particular, as we will show, negative-antonym equatives are subject to structural competition which in turn, forces the inclusion of EVAL is their grammatical parse. Hence, we submit that negative-antonym equatives also admit the parse in (77d).

[11]This section explores the projective properties of evaluative presuppositions. For these reasons, we exclude from our investigation the case of negated positive construction which has been discussed in (76), where we show that the evaluative presupposition in both positives and negated positives always has to be accommodated as a result of the *Extended Assertability Condition.*

a. Presupposition: Jane is short and Tom is short.

b. Assertion: Jane is taller than Tom is.

Since presuppositions must be mutually accepted or assumed by the interlocutors for the utterance to be considered as felicitous, the *Wait a minute!* test or the denial test can be used to target the evaluativity inferences associated to both clauses of *less*-comparatives. As shown in (80) and (81), the addressee can refuse to take for granted these presuppositions of 80.

(80) ***Wait a minute!* test**

A: Jane is less short than Tom is.

a. B: Hey! Wait a minute, I didn't know that Jane was short!

b. B: Hey! Wait a minute, I didn't know that Tom was short!

(81) **Denial test**

A: Jane is less short than Tom is.

a. B: Wait that can't be true — Jane is not even short!

b. B: Wait that can't be true — Tom is not even short!

Another way for detecting the presence of these evaluative presuppositions consists is to investigate their projective properties, for instance by embedding the relevant degree constructions under the negative operator. In negated environments, the assertive content of the embedded degree constructions is no longer conveyed by the utterance as a whole because this content is negated. However, its presuppositional content, i.e. the evaluative presuppositions, content survives negation.

(82) **Negation test**

a. Jane is not less short than Tom is.

i. Presupposition: Jane is short and Tom is short

ii. Assertion: Jane's height does not exceed Tom's height

This test tells us that, just like any other presupposition, evaluative presuppositions do project under negation. If it were not the case, then the negative operator would end up negating the assertion (ϕ) together the two evaluative inferences (β_1 and β_2), yielding in effect a very weak disjunctive meaning (i.e., $\neg\phi \vee \neg\beta_1 \vee \neg\beta_2$). In addition, we can verify that evaluative presuppositions behave like other presuppositions in other well-studied environments like universally-quantified sentences. First, observe that presupposition universally project from the scope of the quantifier *every*.

(83) **Presuppositions in the scope of *every***

a. Every student invited his sister.
   → Every student has a sister

b. Every student is less short than Mary.
   → Every student is short, Mary is short.

In the restrictor of *every*, on the other hand, some presuppositions project (see 84a), while others don't, i.e., they are interpreted in the restrictor of *every* (see 84b). The generalization that seems to hold is that a presupposition containing an occurence of an (individual) variable bound by *every* (e.g., x has a sister in 84b) does not project out of the restrictor of *every* and must be locally accommodated (Paul Marty, p.c.).

(84) **Presuppositions in the restrictor of *every***

a. Every student who called Mary's sister, invited her for lunch.
   → Mary has a sister

b. Every student who called his sister, invited her for lunch.
   $\not\rightarrow$ Every student has a sister.

Now observe that when bi-clausal comparatives are embedded in the restrictor of *every*, they pattern with (84a) and (84b) depending on whether the relevant presupposition co-vary or not with *every*. Consider (85a) for example. The matrix presupposition - tall(x) $\supset$ Std_c (i.e., 'x' is considered short in the context) - contains a bound variable whose interpretation co-varies with that of *every student*, and it remains in the restrictor of *every*. Alternatively, note that the standard presupposition does not involve such bound variables and projects out of the quantifier's restrictor.

(85) a. Every student who is less short than Mary might be able to join the local basketball team.
   $\not\rightarrow$ Every student is short.
   → Mary is short.

In (86a), neither the matrix nor the standard presuppositions are bound, and both now project above *every*.

(86) a. Every student who knows that Jane is less short than Mary chooses her in the basketball team.
   → Jane is short
   → Mary is short

In sum, the projective behavior of evaluative presuppositions is similar so far to that of other presuppositions: they project under negation and they project out of universal quantifiers when permitted. However, the picture becomes more intriguing once we look at further environments: questions and conditionals. As we will see, in both these environments, speakers tend in run-of-the-mill contexts to accommodate the evaluative presupposition of the matrix clause locally rather than globally.

Let us start with the case of questions. The expectation is that, in this environment, evaluativity should also project. This is the case for the positive construction in (87a) which clearly indicates that the speaker takes for granted that Jane is short. However, in bi-clausal constructions (see (87b) and (87c)), the picture is less clear. In run-of-the-mill contexts, the evaluativity presupposition associated with the standard clause projects globally, yet the one associated with the matrix clause need not do so. To illustrate, suppose first that it is known that Mary is short, and that the speaker is ignorant as to whether Jane is also short. both (87b) and (87c) can be felicitously uttered in this context, despite the speaker's state of ignorance. By contrast, if the speaker is believed to be ignorant as to whether Mary is short, then both (87b) and (87c) are deemed infelicitous.

(87) **Questions**

a. How short is Jane?

b. Is Jane more short than Mary?

c. Is Jane less short than Mary?

Let us now turn to cases of degree constructions appear in the antecedent of conditionals.[12] In this environment, (88), we observe that the evaluative presupposition associated with mono-clausal degree constructions and with the matrix clause of bi-clausals can be locally accommodated: all the sentences in (88) can be felicitously

[12]The fact that the evaluative presupposition need not project in these environments has been seen as a challenge for EVAL-based accounts of evaluativity. For example, Rett (2008) concludes from the behavior of matrix presuppositions in conditionals that EVAL cannot occur in matrix clauses: '*[...] it should be clear that there are some problems with the* EVAL *account. [...] in order to account for the internal argument asymmetry, the fact that negative-antonym equatives presuppose that the internal argument (but not the external argument) is evaluative, the account switched from an intuitive, propositional-level semantic competition to a stipulative degree-quantifier- level competition.*' Rett (2015). Although I do not offer a fully-fledged theory of the projective behavior of these presuppositions in these environments, it is believed that the explanatory scope of the present theory, the new datapoints discussed in this section together with the preliminary experimental presented in section 3.5 provide evidence in favor of the view that EVAL does occur in both clause of bi-clausal comparatives (contra Rett (2015)).

uttered by a speaker who would be known to be ignorant as to whether Jane is short; in fact, in the case of the positive construction in (88a), this state of ignorance appears to be mandatory. By contrast, the presuppositions contributed by the standard clause in bi-clausals, (88b) and (88c), keep projecting globally, as demonstrated by the fact these sentences are perceived as odd if the speaker is known to be ignorant as to whether Mary is short.

(88) **Conditionals**

a. If Jane is short, she won't be selected in the local basketball team.

b. If Jane is more short than Mary, she won't be selected in the local basketball team.

c. If Jane is less short than Mary, she won't pass under the limbo bar.

So what are the factors responsible for the particularities of this projective behavior? As a starting point, let us consider the case in (88a). We know from the previous literature that conditional environments of the form 'if ϕ, then ψ' generate (speaker) ignorance inferences about ϕ and ψ, i.e. $I_s(\phi)$ and $I_s(\psi)$ (a.o., Gazdar 1979). We propose that it is the presence of these ignorance inferences that forces in this case the evaluativity presupposition to be accommodated for accommodating it globally would result in a contradictory representation. To see this, consider the two possible accommodation sites of this presupposition, global and local, given in (89a) and (89b) respectively.

(89) If ϕ_p, then...: If A is short, then...

a. #**Global accommodation:** $p \wedge$ *if* ϕ, *then*... $\rightsquigarrow B_s(p) \wedge I_s(\phi)$
i.e., A is short and if A has a height, then...

b. **Local accommodation:** *If* $[p \wedge \phi]$, *then*... $\rightsquigarrow I_s(p \wedge \phi)$
i.e., If A is short and has a height, then...

If the relevant presupposition p were accommodated globally, the antecedent of the conditional would express the presupposition ϕ: 'A has some degrees of shortness'. As this proposition is trivially true (the gradable adjective presupposes that its individual argument has a height), it follows that the speaker must be opinionated about ϕ, and this contradicts the ignorance inference that $I_s(\phi)$. Thus, local accommodation is the only option that permits to avoid a contextual contradiction: on this parse, the speaker is now required to be ignorant about $p \wedge \phi$ and therefore, since $B_s(\phi)$ must hold, about p, consistent with our intuitions.

Does this line of explanation extend to bi-clausal constructions in questions and conditionals? In these environments, it was observed that, although global accommodation is possible, there seems to be a strong preference for local accommodation in run-of-the-mill contexts. We suggest that this preference is also a by-product of the interaction between the ignorance inferences triggered by these environments and what we can reasonably assume about the speaker's epistemic state. To begin with, consider the question *Is A less short than B?* and the two possible accommodation sites for the matrix presupposition:[13]

(90) $Q(\phi_p)$: Is A is less short than B is?

a. **Global accommodation:** $p \wedge Q(\phi)$
i.e., A is short. Is A less short than B?

b. **Local accommodation:** $Q(p \wedge \phi)$
i.e., Is A short and less short than B?

Intuitively, a question of the form $p \wedge q?$, as paraphrased in (90b), triggers the inference that the speaker is ignorant about both p and q (otherwise the speaker would not ask such a question). Hence, in the present case, if the speaker is known to believe p, i.e. the presupposition that A is short, we predict that local accommodation should be ruled out by speakers, for this parse would otherwise generate the inference that $I_s(p)$ and consequently a contextual contradiction. The following test cases confirm this prediction.

(91) a. **Opinionated speaker: global satisfaction**
Tonight, Tony and Pedro compete in a boxing tournament. Last time the speaker saw them boxing, they belonged to the featherweight division.[14] After weigh-in, the event organizers announce the names of the boxers who will fight in the featherweight division: Tony is called but Pedro isn't. Surprised, the speaker asks:
✓ *Is Pedro less light than Tony is?* $\rightsquigarrow B_s$(Pedro is light)
(cf. *#Is Pedro light but less light than Tony is?*)

b. **Unopinionated speaker: local accommodation**
The speaker is a journalist who needs to take a picture of a boxer for a magazine. Tony could be the one, but the speaker's boss would prefer

[13] As we have already established, the standard presuppositions always project globally, so we will set them aside in the following discussion. Thus, in the notation ϕ_p, p is intended to stand for the matrix presupposition.

[14] A featherweight boxer weighs in at a limit of 126 pounds (57 kg).

the picture of another boxer, also light but slightly more impressive. The event organizer tells the speaker about some boxer called Pedro. To clarify the situation, the speaker asks:
✓*Is Pedro less light than Tony is?* $\not\rightsquigarrow B_s$(Pedro is light)
(cf. ✓*Is Pedro light but less light than Tony is?*)

Turning now to conditionals, consider the two possible accommodation sites for the matrix presupposition in *If A is less short than B, then...*:

(92) If ϕ_p, then...: If A is less short than B, then...

a. **Global accommodation:** $p \wedge if\ \phi,\ then \ldots$
i.e., A is short. If A is less short than B, then...

b. **Local accommodation:** $If\ [p \wedge \phi],\ then \ldots$
i.e., If A short but less short than B, then...

Given the ignorance inferences triggered by conditionals, we also expect local accommodation to be ruled out in these environments whenever the speaker is known to believe that A is short. This prediction is also borne out.

(93) a. **Opinionated speaker: global satisfaction**
Tonight, Tony and Pedro compete in a boxing tournament. Last time the speaker saw them boxing, they belonged to the featherweight division, yet the speaker knows that Tony fits right at the limit to qualify in thus division. Before the weigh-in, the speaker declares:
✓*If Pedro is less light than Tony is, they won't box in the same division.*
$\rightsquigarrow B_s$(Pedro is light)
(cf. #*If Pedro is light but less light than Tony is, ...*)

b. **Unopinionated speaker: local accommodation**
The speaker is a journalist who needs to take a picture of a boxer for a magazine. Tony could be the one, but the speaker's boss would prefer the picture of another boxer, also light but slightly more impressive. The event organizer tells the speaker about some boxer called Pedro. The speaker declares:
✓*If Pedro is less light than Tony is, I'll take a picture of him.*
$\not\rightsquigarrow B_s$(Pedro is light)
(cf. ✓*If Pedro is light but less light than Tony is, ...*)

In sum, in environments like questions and conditionals, speakers show some preference for accommodating the matrix presupposition of bi-clausal constructions lo-

cally rather than globally. However, as shown in the above scenarii, the local accommodation is not obligatory, it is simply a preference by default which manifests itself in run-of-the-mill contexts. I suggest that this preference might receive a simple explanation along the lines of Schlenker (2005)'s proposal. As we have seen, questions and conditionals are environments that give rise to ignorance inferences. When such inferences target comparative constructions like *A is less short than B*, the the speaker's ignorance translates into a state of ignorance with respect to the ordering relation between A and B. Arguably, in order for this state of ignorance to be pragmatically plausible, the speaker must not be taken to be well acquainted with both A and B, e.g. have a precise idea of how tall they are, for otherwise he would not be ignorant about the relevant ordering relation. In this case, accommodating locally appears to be a good solution as it minimizes the risk to attribute to the speaker a too strong epistemic state.

Towards a quantitative study of evaluativity

Following our overview, the presuppositional and assertive content of negative-antonym *less*-comparative and analytic comparatives is as shown in (94) and (95) respectively, where the relevant evaluative presuppositions are triggered by the obligatory presence of EVAL in both the standard and the matrix clause.

(94) **Negative-antonym *less*-comparative**
Joe is less short than Jack is.
   a. Presupposition:
      i. Jack counts as short
      ii. Joe counts as short
   b. Assertion: Joe's height exceeds Jack's height

(95) **Analytic comparative**
Joe is more short than Jack is.
   a. Presupposition:
      i. Jack counts short
      ii. Joe counts short
   b. Assertion: Jack's height exceeds Joe's height

On this analysis, the above sentences are thus expected to be infelicitous whenever used in utterance contexts where either of their evaluative presuppositions is false and

thus cannot be satisfied. To put it informally, in such contexts, speakers should feel very 'squeamish' about these sentences (the term is borrowed from Strawson 1964). A variety of taks and behavioral response measures can be employed to demonstrate experimentally that the putative presuppositions in (94)/(95) are indeed present (see Križ and Chemla 2015 and Schwarz 2016 for an overview). In the following, we describe a simple sentence-picture matching task, used so far in informal studies with naive informants, which can be built upon in future works towards this end. In this task, participants are presented with a picture like that in (3-4), which essentially shows four characters of different heights.

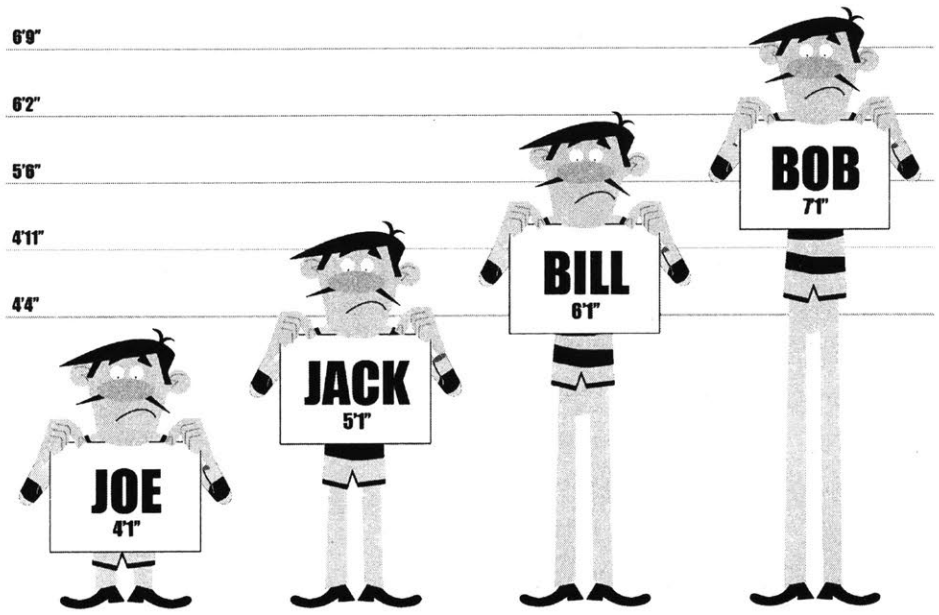


Figure 3-4: Picture presented to participants in the sentence-picture task

Participants are told that the two characters on the left (i.e., Joe and Jack) are small while the other two on the right (i.e., Bill and Bob) are tall. This part of the instructions is intended to make explicit beforehand which characters on the picture count as short vs. tall, as participants will have to rely on those assumptions in the experiment in order to assess whether the evaluative inferences we are interested in are contextually supported or inconsistent. To make sure that these assumptions are well-entrenched, participants are asked to validate or invalidate statements like *Joe is short/tall* prior to exposure to the test items.

For the test items, the picture is paired with various comparative constructions. Target sentences involve the degree constructions *X less short than Y*, *X more short*

than Y and *X more tall than Y*, which are hypothesized to trigger evaluative presuppositions. Control sentences involve the degree constructions *X taller than Y* and *X shorter than Y*, which are hypothesized to be free of evaluative presuppositions.[15] Sentences are constructed by comparing both ways every character to his closest neighbor(s) (i.e., Joe vs. Jack, Jack vs. Bill and Bill vs. Bob), thus resulting in a total of 36 test items (3 pairs×2 orderings×6 degree constructions). Examples of target and control sentences used for direct comparisons are given in (96) and (97). The assertive contents of all these examples are true of the picture; yet for the target sentences, both, only one or neither evaluative presuppositions are true.

(96) **Example of target sentences (*less short*-sentences)**

a. Jack is less short than Joe is. *true, both presuppositions true*

b. Bill is less short than Jack is. *#, only one presupposition true*

c. Bob is less short than Bill is. *#, neither presuppositions true*

(97) **Example of control sentences (*taller*-sentences)**

a. Jack is taller than Joe is. *true*

b. Bill is taller Jack is. *true*

c. Bob is taller is. *true*

A subset of these items has already been used in consultations with native speakers of English to collect graded acceptability judgments (following the methodology in Tiemann et al., 2011). Informants were asked to rate the acceptability of the different sentences on a 7-point Likert scale. True control sentences like (97) received high ratings. On the other hand, the pattern of responses for their target counterparts was gradual: (96a) received the highest rating, (96b) the lowest and (96c) a rating somewhere in between. In sum, (96c) was rated as less acceptable than (96a) but as more acceptable than (96c). These results are expected only if one assumes that these sentences are associated with two inferences of evaluativity, both of which independently contributes to impose a felicity contraint on the context of utterance.

Although these preliminary results are promising, they should only be regarded as suggestive for now, i.e. in the absence of a sufficiently powered study and use of inferential statistics. Yet the task we described seems to be appropriate for diagnosing

[15]We notice here that one may also want to test speakers' comprehension of *less tall*-sentences (e.g., *John is less tall than Mary* as it seems to exists intra-speaker variation, some considering these sentences to be obligatory evaluative, while others considering them only optionally evaluative. Including these sentences in this experiment could help us determine whether such variations are to be attributed to distinct grammars (e.g., bi-modal distribution of participants' responses).

the presence of EVAL in the different clauses of bi-clausal degree constructions. In addition, we notice that these items can be implemented in various tasks commonly used for detecting presuppositions by means of other kinds of behavioral response measures such as temporal measures (e.g., reading and response times). For instance, instead of asking for acceptability ratings, we could force participants to provide a binary truth-value judgment (e.g., 'clearly true' or 'clearly false'), and then asked them to tell us how difficult it was for them to decide by choosing one of three options — 'easy', 'moderate' or 'difficult' (resulting in effect in a form of 6-point scale with two levels). Following previous studies (Kim 2007, Schwarz 2015), we would expect subjects to take longer in providing a truth value judgment when this judgment is based on an unmet presupposition (in contrast to cases where presuppositions are absent or contextually met), and possibly longer in cases where both presuppositions are unmet as the difficulty for deciding between *clearly true* or *clearly false* increases. We hope to develop further this line of investigation in the near future.

3.6 Conclusion

In this chapter, we derived the synthetic/analytic alternation as an interaction between constraints at the LF and the PF interfaces. First, we showed that non-evaluative analytic comparatives differ from synthetic comparatives only by the presence of an abstract MUCH morpheme that underlies analytic QPs; *more tall* =[[-er much] tall]. Because *much* is semantically inert, non-evaluative analytic comparatives are necessarilly equivalent to synthetic ones and therefore they are always deemed deviant by structural competition. On their evaluative parse however, only analytic comparatives are well-formed due to the constraint on zero-affixation that precludes synthetic evaluative APs. We proposed a new formulation of *Minimize APs!* that is sensitive to the PF well-formedness of alternatives. On the new definition of the economy principle, synthetic evaluative APs cannot compete with analytic APs, hence allowing licensing their evaluative parse in spite of their structural complexity. A summary of the competition is provided for the pair of APs *taller* and *more tall.*

(98) *Competition: non-evaluative construals of taller vs. more tall*

a. $[_{AP}$ er tall$] \prec [_{AP}$ er much tall$]$

b. $[_{AP}$ er tall$] \equiv [_{AP}$ er much tall$]$

By *Minimize APs!*: non-evaluative construal of *more tall* is not available.

(99) *No competition: evaluative construals of more tall vs. taller*

a. $[_{AP}$ er eval tall$] \prec [_{AP}$ er much eval tall$]$

b. $[_{AP}$ er eval tall$] \equiv [_{AP}$ er much eval tall$]$

By Myers' constraint and *Minimize APs!*: evaluative *taller* is not an expressible alternative and therefore it cannot compete with *more tall.* Hence, the evaluative construal of *more tall* is available.

In the second part of this chapter, we investigated the distribution of evaluativity across clauses of bi-clausal constructions. Our first observation was that evaluativity always project from standard clauses. In matrix clauses however, it is more difficult to provide evidence for the presence of EVAL because the presupposition fails to project globally in environments where we would typically expect it (e.g., in questions and in the antecedent of conditionals). However, we suggested that when evaluativity presuppositions did not project out of matrix clauses it was because speakers showed some preference for local accommodation. We hope that the experiment proposed in section 3.5 will allow us to confirm this expectation. As this point of the dissertation then, we submit that the distribution of evaluativity across clauses is conform with the configurations in (100a) or (100b).

(100) **Attested parses associated with bi-clausal comparatives**

a. $[_{\textit{Matrix-Clause}}$ ...] -er $[_{\textit{Standard-Clause}}$ ...]

b. $[_{\textit{Matrix-Clause}}$ ... EVAL ...] -er $[_{\textit{Standard-Clause}}$ ... EVAL ...]

Chapter 4

The role of information structure

Subcomparatives such as *the rope is longer than the gap is wide* pose a collection of challenges for linguistic theory. One of the most prominent has been to determine whether subcomparatives and comparatives should receive the same analysis (Bresnan (1973), 1975, Izvorski 1995, Kennedy 2002, Bacskai-Atkari 2014, 2018 and others) or if there are good reasons for assigning them different syntactic structures (Corver 1993, Corver and Lechner 2017 and others). Another central question relates to the nature of the process by which an element is omitted in the standard clause (the *than*-clause) of a subcomparative. For instance, this missing element has been claimed to result form an unbounded deletion rule (Bresnan 1973, 1975, Lechner 2004) while alternative analyses argue that it follows from a displacement operation, namely, the movement of a null wh-operator (Chomsky 1977, Kennedy 2002 and others).

In addition, as noted by Kennedy (1997), the study of subcomparatives offers a window into the semantic properties of gradable adjectives and in particular their relation to scales, ultimately raising questions of commensurability. For example, the polarity of adjectives plays a central role in the wellformedness of subcomparatives as illustrated by the contrast in (1): the cross-polar non-antonymous pair of adjectives allows for comparison in (1a) but not in (1b).

(1) **Cross-polar comparison**

a. The rope is shorter than the gap is wide.

b. *The gap is wider than the rope is narrow.

In an attempt to solve this puzzle, the study of cross-polar subcomparatives has initiated attempts to decompose the negative antonym, and remains one of the most compelling evidence for it (Rullmann 1995, Büring 2007a, Heim 2008).

This chapter tackles the distribution of EVAL in subcomparatives. Negative-antonym subcomparatives such as *the rope is shorter than the gap is narrow* obligatorily give rise to an evaluative presupposition that the gap is narrow whereas the cross-polar counterpart of this construction – *the rope is shorter than the gap is wide*, need not be evaluative (Bierwisch 1989, Doetjes 2009). From this observation, it appears that the negative antonym in the standard clause correlates with the presence of an EVAL operator. Up to this chapter, I have assumed that the content of standard clauses is deleted by Comparative Deletion only when matches the content of the matrix clause, and therefore, that the presence of the evaluativity operator in the standard is conditioned by its presence in the matrix clause. In this chapter, we investigate the asymmetrical distribution of EVAL in constructions in which the gradable predicate is seemingly not affected by Comparative Deletion, and we observe that in that case, EVAL is licensed in the standard clause even though it is not part of the matrix.

We adopt a unified account of comparative and subcomparative constructions. On this approach, the adjective located in the standard clause of a subcomparative which contrasts with the adjective in the matrix clause can resist comparative (sub)-deletion by virtue of being focus-marked. The assignment of focus-marking is regulated by a constraint called AVOIDF which minimizes as much as possible the size of a focus-marked constituent (Schwarzschild 1999). From there, we account for the distribution of EVAL in subcomparative by comparing well-formed cross-polar subcomparatives and negative-antonym subcomparatives: In the absence of EVAL the two constructions are semantically equivalent, and of equal structural complexity. However, while the cross-polar subcomparatives comply with information structure requirements, the negative-antonym subcomparative violates AVOIDF. As a result, the non-evaluative parse of a negative-antonym subcomparative is blocked, and forces the evaluative parse, which satisfies the constraint on focus-marking.

4.1 Conditions of wellformedness

Subcomparatives are a kind of exotic comparative in which the degree operator (*-er*) operates on distinct gradable properties. And those distinct gradable properties are directly observable as the adjective inside the standard clause is not silent (as it is in

comparatives). Informal paraphrases of the readings for the comparative in (2a) and the subcomparative in (3a) are provided in (2b) and (3b):

(2) a. The rope is **longer** than the hose is. *Comparative*

b. The set of degrees d_1 such that the rope is at least as long as d_1 properly contains the set of degrees d_2 such that the hose is at least as long as d_2.

(3) a. The rope is **longer** than the gap is **wide**. *Subcomparative*

b. The set of degrees d_1 such that the rope is at least as long as d_1 properly contains the set of degrees d_2 such that the gap is at least as wide as d_2.

Although the mechanism by which the adjective is elided in the comparative in (2a) does not apply in the subcomparative example, note that the subcomparative complement *the gap is wide* must be understood as denoting the set of degrees to which the gap is wide. How exactly does the reference to degrees obtain in the subclause of (3a)? What occupies the degree-denoting argument of the gradable predicate? On the surface, this is evidently a phonologically null element. It is commonly assumed in the literature that the standard clause formation of comparatives and subcomparatives is analogous to a relative clause in which movement of a bare **wh**-operator has taken place. The degree variable at the foot of the chain created by movement, saturates the degree argument of the gradable predicate (Chomsky 1977):

(4) **Structures of complement clauses in (2a) and (3a):**

a. than $[_{CP}$ ~~wh~~ λd_1 the hose is d_1-~~long~~]

b. than $[_{CP}$ ~~wh~~ λd_2 the gap is d_2-wide]

As it stands then, both comparatives and subcomparatives involve unpronounced material, which minimally includes the *wh*-operator. The surface form of comparative subclauses if shaped by a construction specific ellipsis operation called *Comparative Deletion* whereas in subcomparatives subclauses, nothing is covert except the bare *wh*-operator. In this case, subcomparative subclause are said to be derived via *Comparative Subdeletion* (Bresnan 1973)[1]. On the picture just given, comparatives and subcomparatives are very much alike except for the ellipsis operation they involve,

[1]In addition to this silent degree argument in the *than*-clause, it has been shown that ellipsis could also take place in subcomparatives. Compare the comparative in (1a) and the minimally different subcomparative in (1b):

(1) a. Jane bought more books than Mary did. *Comparative Deletion*

b. Jane bought more books that Mary did movies. *Comparative Subdeletion*

and the type of comparison they allow for. What is very interesting about subcomparatives, is that they involve different adjectives in the two clauses. In the next section, we discuss the semantic constraints that ensure that comparison will obtain.

4.1.1 Dimension parameter and incommensurability

The formation of a subcomparative is constrained by the linguistic properties of adjectives that participate in the construction: they have to be commensurable. To be more specific, degrees denoted by adjectives can't be compared across scales:

(5) Subcomparative wellformedness (version 1 of 2)
A subcomparative construction is semantically well-formed only if the compared adjectives project on the same scale.

The wellformedness condition directly follows from the property of scales and the semantics of degree operators. Given that scales are totally-ordered sets, it is possible to compare their members - the degrees - because they are ordered with respect to each other (Kennedy (1997)). In the case that degrees belong to different scales, they are not ordered with respect to each other, and thus they remain distinct and incommensurable. Yet, some adjectives of different dimensions have the common property that they project on the same scale. This is the case for the adjectives *long, wide, high...*, which measure different dimensions of an object (LENGTH, WIDTH, HEIGHT...) while projecting on the 'spatial extension scale' (or 'spatial distance scale' in Büring 2007a). As a consequence, subcomparatives can relate sets of degrees denoted by gradable properties such as *long* and *wide* (6) but fail to relate sets of degrees denoted by gradable properties that do not share a common scale (7).

(6) **Anomalous subcomparatives**
   a. #Bill is taller than Sue is rich.
   b. #My bed is heavier than the door is far (from it).

(7) **Well-formed subcomparatives**
   a. The turkey is bigger than the fridge is large.
   b. The rope is longer than the gap is wide.

4.1.2 Polarity and incommensurability

There is yet another source of incommensurability discussed in the literature on subcomparatives, that is triggered by pairs of adjectives that mismatch in terms of po-

larity (like *big-short, wide-narrow...*). Following the terminology in Kennedy (1997), such subcomparatives yield so-called *cross-polar anomalies.* The phenomenon is exemplified in (8c). Compare this construction to the well-formed subcomparatives in (8a) and (8b) that involve two instances of adjectives of the same polarity:

(8) a. The rope is longer than the gap is wide. POS-POS

b. The rope is shorter than the gap is narrow. NEG-NEG

c. *The rope is longer than the gap is narrow. *POS-NEG

Descriptively, a *cross-polar anomaly*, is what we observe when a subcomparative operates on adjectives of opposite polarity (like *long-narrow*). A convincing explanation for the polarity-induced anomaly in (8c) is grounded in the semantic properties of antonyms (Kennedy 1997, 2001): the type of measurement induced by negative antonyms and their positive counterparts is of a different nature. On the abstract scale of spatial extension, positive members of a pair of antonyms such as *long, wide...* denote a *positive extent* – whereas negative members such as *short, narrow...*denote a *negative extent.* Since positive and negative extents represent disjoint sets of degrees, they cannot be related by the degree operator. In order to predict the infelicity of examples like (8c), the wellformedness-condition is therefore updated as in (9):

(9) Subcomparative wellformedness (version 2 of 2)
A subcomparative construction is semantically well-formed only if the compared adjectives project on the same scale, and on the same part of the scale.

Yet, the condition in (9) fails to predict the wellformedness of the subcomparative in (10) which also operates across indirect antonym adjectives (Büring 2007a). Crucially, this last addition completes the paradigm in (8) and presents a puzzle for the distribution of cross-polar adjectives in subcomparatives since cross-polar comparison appears to be permitted when the negative antonym occurs in the matrix clause (compare 8c to 10):

(10) The rope is shorter than the gap is wide. NEG-POS

Different accounts have been developed to deal with this perplexing fact and most of them take some version of (9) to hold: instead of challenging the wellformedness conditions, those accounts assign logical forms to (10) that comply with it. For example, Büring (2007a) provides a theory of polarity sensitivity based of the idea that (10) is a possible spell-out for the structure associated with the comparative of inferiority *The rope is less long than the gap is wide.* Since the *less*-comparative operates

on two positive antonyms, the condition (9) is satisfied. Alternatively, Heim (2008) proposes that the sentence in (10) really means *the rope is shorter than the gap is narrow*, but the negation that underlies the negative antonym *narrow* in (10) is silent, leaving *wide* to be pronounced by itself[2].

Let us contemplate an implementation of this idea in detail. Under the syntactic negation theory of antonymy endorsed by Heim (2008), negative adjectives like *short* and *narrow* spell out a negative operator (LITTLE), which turns a set of positive degrees into a set of negative degrees. Hence, the subcomparative *The rope is shorter than the gap is narrow* operates on two negative sets of degrees and therefore, it complies with the wellformedness condition. As we have seen however, the treatment of cross-polar subcomparatives requires some extra machinery. In particular, it follows from the wellformedness condition in (9), that any subcomparative that operates on adjectives of different polarity is semantically deviant. In that regard, the two sentences in (11) and (12) are obvious violations of the condition: (11) operates on the indirect antonyms *long* and *narrow* and likewise, (12) operates on the indirect antonyms *short* and *wide*. Put differently, the two cross-polar subcomparatives should be semantically deviant, and moreover, they should be deviant for the same reason; in the two cases, the comparative operator (*-er*) incorrectly relates a set of 'positive degrees' to a set of 'negative degrees':

(11) *The rope is longer than the gap is narrow. POS-NEG

a. Structure: [the rope t_{-er} is long <the rope>] [-er than $\emptyset_{wh}$ [the gap is t_{wh} LITTLE wide <the gap>]]

b. *LF: **[2[t_2 long r] -er [1[t_1 little wide g]]]**

(12) The rope is shorter than the gap is wide. NEG-POS

a. Structure: [the rope t_{-er} is LITTLE long <the rope>] [-er than $\emptyset_{wh}$ [the gap is t_{wh} wide <the gap>]]

b. *LF: **[2[t_2 little long rope] -er [1[t_1 wide gap]]]**

If the adjectives that occur in cross-polar subcomparatives are incommensurable, why is it that the POS-NEG subcomparative is always deviant whereas its NEG-POS

[2] Büring's (2007) and Heim's (2008) accounts make similar predictions for non-evaluative subcomparative. However, we detect the difference between the two approaches for the treatement of evaluative subcomparatives. In particular, Büring's account in not compatible with the concept of ungrammatical redundancy as it is presented in this dissertation. We elaborate on this point in Appendix 1, where an in-depth comparison of the two approaches is conducted.

counterpart is grammatical? Heim's answer is that (12) spells out two distinct syntactic representations: the one in (12a) which is semantically deviant, and the one in (13a) that complies with the wellformedness condition.

(13) a. Structure: [the rope is $t_{\text{-}er}$ LITTLE long <the rope> [-er than [$\emptyset_{wh}$ LITTLE] [the gap t_{wh} wide <the gap>]]]

b. LF: **[2[t_2 little r long] -er [little 1[t_1 g wide]]]**

c. Truth-conditions: $\{d : \neg long(r, d)\} \supset \{d : \neg wide(g, d)\}$

Under the licit parse for (12) in (13a), the negative operator (LITTLE) that underlies the negative antonym (i.e., *short*) in the matrix clause licenses a matching negative operator in the standard clause, hence resolving the cross-polar mismatch. However, stipulating a silent *little* operator in the standard clause for interpretability reasons comes at a cost: the surface look of the subcomparative in (12) does not reflect the presence of the standard clause negation, raising the question of whether (13a) delivers the right PF-input. To solve this issue, Heim (2008) invokes Comparative Deletion, a construction specific operation that deletes some standard constituent on the way from the syntax to PF. This assumption, however, is difficult to justify in the case of cross-polar subcomparative: given the presence of a 'remnant' adjective, the operation must only elide a substring of the standard clause, as noted by Heim herself: *" Even though the adjective, 'wide', has stayed behind, there still is deletion of a larger phrase surrounding the* WH, *namely the little-phrase* WH LITTLE. *Presumably, this deletes under identity with the matching little-phrase in the main clause in whatever way Comparative Deletion works".* (Heim 2008, p.224)

Let us assume for now that the deletion operation as suggested in Heim 2008 can yield elliptical cross-polar comparatives. The derivation in (12) involve ellipsis of the moved [WH LITTLE] phrase and licenses the positive antonym *wide* – instead of the negative antonym *narrow* – in the *than*-clause.

(14) PF-Alteration for (12): **Ellipsis of subordinate negation**
the rope is [-ER LITTLE LONG] (> *shorter*) than <~~[$\emptyset_{wh}$ LITTLE]~~> the gap is wide

Finally, on the assumption that Comparative Deletion applies exclusively in standard clauses – and not in matrix clauses, the account predicts that POS-NEG subcomparatives are always ungrammatical. Indeed, if (11) was to be semantically reanalyzed as containing an occurrence of LITTLE in the matrix clause to resolve the cross-polar mismatch, it could never be pronounced as *The rope is longer than the gap is narrow*:

(15) PF-Alteration for (11): **Impossible ellipsis of the matrix negation**
*the rope is [-ER <~~LITTLE~~> LONG] (> *shorter*) than $\emptyset_{wh}$ the gap is [LITTLE WIDE] (*narrow*)

In sum, on Heim's account of cross-polar subcomparatives, it is crucial that the polar mismatch is resolved by the presence of an elided LITTLE operator in the subclause. However, as noted in Heim (2008), the kind of deletion operation that deletes LITTLE in cross-polar subcomparatives is somewhat unconventional: it is obligatory, limited to the *little*-phrase at the exclusion of the adjective, and it must be regulated in some ways by the grammar in order to avoid the rescue of cross-polar anomalies like (11). In other words, it is a necessary stipulation that Comparative Deletion applies in the standard clause only. We return to this issue in section 2.

4.1.3 Evaluativity in subcomparatives

The characterization of the subcomparative paradigm would be rather incomplete without the observation that negative antonyms necessarily give rise to an evaluative presupposition when they occur in the standard clause of subcomparatives (Bierwisch 1989, Doetjes 2009). Accordingly, the sentence in (16) has the assertive content in (16a) and the presuppositional content in (16b), and it can only be used felicitously when the standard clause adjective receives a context-dependent interpretation, that is, when (16b) holds.

(16) The rope is shorter than the gap is narrow. NEG-NEG
   a. *assertion*: The length of the rope exceeds the width of the gap.
   b. *presupposition*: The gap is narrow.

The evaluative presupposition imposes a condition on the context such that it must be common knowledge for discourse participants that the gap 'counts as narrow'. Whenever this condition is not satisfied, the presuppositional sentence like (16) can't be assigned a truth-value (it is neither true nor false), i.e., it suffers from presupposition failure. This is illustrated in (17) in a context where it is common knowledge that avenues are wide. In this conversational situation, the context-dependent interpretation of the negative adjective is not taken for granted by the discourse participants, and as a result the sentence in (17) is judged infelicitous.

(17) *Context: Avenues are wide.*
#The car is smaller than the avenue is narrow. NEG-NEG

On the consideration of sentences like (16) and (17), we see that the contribution of an evaluative presupposition is connected with the presence of a negative antonym in the standard clause. More generally, this shows that the acceptability of NEG-NEG subcomparatives does not solely depend on commensurability matters, but always also on a relevant context that satisfies the evaluative presupposition it conveys. In contrast, the POS-POS and NEG-POS subcomparatives in (18a) and (18b) are acceptable in contexts that would not satisfy the context-dependent interpretation of their standard adjective. Based on the observation that the sentences do not give rise to infelicity, it follows that (18a) and (18b) admit a parse in which the standard adjective receives a context-independent interpretation. In other words, the POS-POS and NEG-POS subcomparatives are felicitous under their non-evaluative reading:

(18) a. *Context: The mountain track is not wide.*
Unfortunately, the car is bigger than the track is wide. POS-POS

b. *Context: The mountain track is not wide.*
Luckily, the car is smaller than the track is wide. NEG-POS

For completeness, let us observe that POS-NEG cross-polar constructions should pattern with NEG-NEG because they involve a negative antonym in the standard clause. Therefore, they are predicted to give rise to an evaluative presupposition. However, the source of ungrammaticality for POS-NEG subcomparatives is independent from considerations about evaluativity. Indeed, they are predicted to be deviant by the wellformedness condition in (9), by virtue of the fact that the negative antonym in the standard clause and its polar opposite in the matrix clause creates a case of incommensurability:

(19) *The rope is longer than the gap is wide. POS-NEG

So far, the evaluative status of the matrix clause adjective has not been discussed. But it follows from the discussion of the analytic/synthetic alternation (in Chapter 2) that the distribution of evaluativity in matrix clauses is restricted by a PF-filter, defined as in (20):

(20) *Myers' generalization:*
A zero-derived form cannot undergo further affixation/PF-processes.

In particular, by *Myers' Generalization*, evaluativity is expected to arise only in environments where the evaluative operator EVAL, which is a zero morpheme, does not block the affixation of the head *-er* to the adjective that selects for it. This in turn, predicts that the analytic form, but not the synthetic form, can be evaluative in the matrix clause. The paradigm in (21) and (22) provides additional empirical support for this analysis (examples are based on Kennedy 2001):

(21) **Synthetic subcomparative are non-evaluative**

a. The ficus, which is rather short, turned out to be taller than the ceiling is high.

b. The ficus, which is rather tall, turned out to be shorter than the ceiling is high.

(22) **Analytic subcomparatives are evaluative**[3]

a. # The ficus, which is rather short, turned out to be more tall than the ceiling is high.

b. # The ficus, which is rather tall, turned out to be more short than the ceiling is high.

A general (schematic) picture of the synthetic subcomparative paradigm is provided in (23). The diacritic (E^+) indicates that the standard clause adjective is obligatorily evaluative:

(23) a. ✓POS-POS b. ✓NEG-POS c. *POS-NEG d. ✓NEG-NEGE^+

As noted by Doetjes (2009), NEG-NEG subcomparatives have a reduced acceptability rate[4]. Yet it is clear that some speakers accept sentences like (10) when the right discourse requirements are met (i.e., these constructions must be uttered in a

[3]Interestingly, the sentence in (22a) and (22b) should be acceptable under a comparative of deviation reading (Kennedy 1997 for a description of the phenomenon). Under this reading, for example, the comparative operator -ER in (22a), compares the extent to which the ficus' tallness deviates from its standard to the extent to which the ceiling's hight deviates from its own standard. In this case then, evaluativity seems to be asserted rather than presuppositional. Although it would be interesting to reduce comparatives of deviation to simple analytic subcomparatives, it is not clear that this goal can be achieved easily. I discuss the phenomenon in section 2.4.

[4]Bierwisch (1989) reports that NEG-NEG comparatives are ungrammatical. The judgment is challenged in recent literature on the subject (Kennedy 2001, Büring 2007a, Heim 2008 among others)

context that satisfies the evaluative presupposition). In fact, the relative dispreference for NEG-NEG subcomparative is similar to the markedness effect discussed in the case of analytic comparatives of dimensional adjectives which have been shown to be acceptable when uttered in the right evaluative contexts. For example, in a context where I am comparing the heights of two famous giants, Goliath and Gargantua, it is fine to say *Gargantua is more tall than Goliath.* If analytic comparatives and NEG-NEG subcomparatives share similar evaluative properties, it is not surprising then to observe this type of degraded acceptability judgment. However things may stand, although NEG-NEG subcomparative constructions have a limited distribution because of their specific discourse requirements, the absence of non-evaluative parse associated with these constructions remains puzzling and as far as I know, an unsolved issue.

On the present approach, evaluativity is hypothesized to follow from the presence of the optional EVAL operator that contributes the reference to a contextually-supplied standard. In the cases studied so far, the inclusion of EVAL in the parse of a degree construction can be forced when its non-evaluative parse is itself blocked. For example, the non-evaluative parse of *Jane is less short than Tom* is precluded by the non-evaluative parse of *Jane is taller than Tom.* Alternatively, the exclusion of EVAL in a parse follows whenever the optional morpheme intervenes in morpho-phonological processes. This predicts for instance, that the synthetic comparative *Jane is taller than Tom* is necessarily non-evaluative and that its analytic counterpart *Jane is more tall than Tom* is necessarily evaluative. In sum, the distribution of EVAL is tightly regulated by two principles: *Minimize APs!* which rules out a parse whenever it admits a structurally simpler alternative which is expressible and which conveys the same meaning, and *Myers' Generalization* a PF-constraint on zero-derived forms that prevents an adjective that is modified by EVAL to enter further PF-processes such as affixation. We can thus formulate the expectation that the distribution of evaluativity in subcomparatives complies with similar requirements.

A brief statement of the puzzle

On the account of subcomparatives developed earlier, NEG-POS subcomparatives and NEG-NEG subcomparatives have in common that they relate negative extents, but only NEG-NEG subcomparatives have an additional inference that the standard adjective is evaluative:

(24) **Markedness associated with the standard clause negative adjective**

a. ψ: The rope is shorter than the gap is wide. NEG-POS
   $\not\rightsquigarrow$ the gap is wide.

b. ϕ: The rope is shorter than the gap is narrow. NEG-NEG
   $\rightsquigarrow$ the gap is narrow.

The contrast between (24a) and (24b) is reminiscent of the cases we have studied so far: in principle, the negative and the positive adjective in the standard clause of (24a) and (24b) have both an evaluative reading and a non-evaluative reading. However, under the non-evaluative readings of the adjectives, the two subcomparatives have the same meaning. As a result, the non-evaluative reading of *narrow* in *The rope is shorter than the gap is narrow* should be blocked by the non-evaluative reading of *wide* in *The rope is shorter than the gap is wide* forcing in turn, the evaluative reading of the NEG-NEG subcomparative to surface. Therefore, on the present approach, the treatment of (24b) should fall under the scope of the LF-principle, *Minimize APs!*, in that the missing non-evaluative reading should be precluded by a structurally simpler alternative, which is morphologically expressible and semantically equivalent. We will now see that this prediction is wrong, and that what appears to be a counterexample to the theory developed so far, calls for deeper understanding of the relation between Comparative Deletion and recoverability in subcomparatives.

On our analysis, the predicted truth-conditions delivered by the non-evaluative meaning of a sentence like *the rope is shorter than the gap is narrow* are logically compatible with a situation in which the gap's width exceeds the rope's length as in (25). An identical meaning is conveyed by the non-evaluative cross-polar construction in (26) under the assumption that the presence of a LITTLE operator in the standard clause resolves the polarity mismatch between the matrix and the standard adjectives:

(25) ϕ: The rope is shorter than the gap is narrow. NEG-NEG

a. LF: ***[[λ2. t_2 little long r] [-er [λ1. t_1 little wide g]]]**

b. Truth-conditions: $\{d : \neg long(r, d)\} \supset \{d : \neg wide(g, d)\}$

(26) ψ: The rope is shorter than the gap is wide. NEG-POS

a. LF: **[[λ2. t_2 little long r] [-er [little [λ1. t_1 wide g]]]]**

b. Truth-conditions: $\{d : \neg long(r, d)\} \supset \{d : \neg wide(g, d)\}$

In order to convincingly show that with respect to *Minimize APs!*, the standard AP in (25a) cannot be a relevant competitor for the standard AP of (26a), let us review the formal requirements imposed by the LF-principle, repeated in (27):

(27) *Minimize APs!*
For any LF ϕ, any AP α in ϕ, α is deviant in ϕ if α can be replaced in ϕ with an **formal expressible alternative**, β, such that
a. β **is semantically equivalent to** α, and
b. β **is structurally simpler than** α

It is straightforwardly shown that the first condition imposed by *Minimize APs!* holds: we have already observed that the two sentences have identical meanings under their non-evaluative construal. Let us take one step further and observe that their subclause APs are necessarily semantically equivalent as well, as shown in (28)[5]:

(28) **Standard clause of NEG-NEG and NEG-POS subcomparatives**
a. γ: $[_{DegP}$ [wh LITTLE]$_i$ $[_{CP}$ the gap is t$_i$ wide]
$\lambda d.\neg wide(g)(d)$
b. χ: $[_{DegP}$ wh$_i$ [the gap is t$_i$ LITTLE wide]
$\lambda d.\neg wide(g)(d)$

In turn, the second condition imposed by (27) requires that a DegP α admits a simpler structural alternative β. However, upon consideration of the two DegPs in (28) it appears that this condition is never satisfied: γ and χ are equally complex. To be more precise, it is impossible to derive γ by substituting or deleting subconstituent of χ, therefore showing that $\chi \notin Alt_{Str}(\gamma)$.

As it appears then, the non-evaluative parse of the sentence *the rope is shorter than the gap is narrow* cannot be ruled out by the LF-principle. In fact, it is predicted to be grammatical on any account of evaluativity for which markedness competition

[5] In the case of the NEG-POS standard clause, we assume that there are two equally good positions where LITTLE can be merged. First, *wh* and LITTLE can be generated in the AP, and then the movement of the *wh-operator* pie-pipes the negative operator LITTLE as in (1). Alternatively, and this is the idea we prusue here, *little* is inserted late after the movement of *wh* creates the right position for LITTLE to be inserted (see 2). In this second case, note that LITTLE is merged once and it does not leave copies.

(1) γ': $[_{DegP}$ [wh LITTLE]$_i$ $[_{CP}$ the gap is [wh LITTLE]$_i$ wide]
(2) γ": $[_{DegP}$ [wh$_i$ LITTLE $[_{CP}$ the gap is [wh]$_i$ wide]]

Under the copy theory of movement, (1) would be more complex that (28b) and (2) because each wh-phrase would contain a copy of *little* as demonstrated in (1). This parse would thus be penalized by *Minimize APs!* by availability of (28b) and (2).

is based on the notion of structural complexity. In this perspective, the Manner Implicature account (Rett 2015) discussed in Chapter 1 faces the same problem as the present proposal. Indeed, the Manner-implicature account fails to predict for the fact that NEG-NEG subcomparatives are evaluative, since the *Marked Meaning Principle* just like *Minimize APs!* requires competitors to be of different structural complexity. However, contrary to the Manner Implicature approach, the present account makes it crucial that the distribution of evaluativity does not solely depend on this structural competition. Instead, it is regulated at the two interfaces: the LF-principle is designed to account for the deviancy of structurally redundant degree expressions whereas the PF-filter imposes a wellformedness condition on morphologically complex expressions. If this is right then, the present account leaves it open that the (un)evaluative effects observed in subcomparatives can be accounted for on independent grounds.

Before closing this section, let us observe that under the proposed structures in (25) and (26), it seems that the only dissimilarity between NEG-POS and NEG-NEG constructions concerns the amount of material that can be pronounced in the standard clause:

(29) PF-Alterations:

a. *the rope is [-ER LITTLE LONG] than $< \emptyset_{wh} >$ the gap is [LITTLE WIDE]
The rope is shorter than the gap is narrow.

b. the rope is [-ER LITTLE LONG] than $<$~~[$\emptyset_{wh}$ LITTLE]~~$>$ the gap is [WIDE]
The rope is shorter than the gap is wide.

In other words, if something like Comparative Deletion applies in (29b), then on the consideration that (29b) is grammatical and (29a) is not, it seems that Comparative Deletion is preferred over subdeletion.

4.2 Proposal

A full account of subcomparatives lies at the interface of syntax, semantics, and morphophonology. Up to this point, we have been concerned mainly with the interpretive aspect of the interface: for a subcomparative to be well-formed, it must operate on gradable predicates of similar polarity. On the surface, the NEG-POS subcomparative frame does not comply with this requirement, but we showed how, on Heim's analysis, the presence of a covert negative operator in the standard clause could resolve the cross-polar mismatch. As discussed in the previous section, a worry one can have

about this analysis is that it does not comprehensively explain how Comparative Deletion operates in subcomparatives. In the present section, I suggest a modification of Heim's (2008) account of cross-polar constructions that incorporates a modern view of Comparative Deletion in comparatives and subcomparatives, adapted from Bacskai-Atkari (2018) (see also Kennedy 2002). On this view, the unified syntax for English (sub)comparatives involves overt movement plus obligatory deletion of the compared constituent. A remnant adjective in the *than*-clause of a subcomparative can be pronounced to ensure recoverability of deletion, on the condition that it bears appropriate focus marking.

This last feature will be crucial for our discussion of NEG-POS and NEG-NEG subcomparatives. In particular, I show that, in the absence of the EVAL operator, a NEG-NEG subcomparative violates an economy constraint on F-assignment (AVOIDF) due to the availability of the more optimal NEG-POS candidate. As a result, the non-evaluative parse of the former construction is precluded by the non-evaluative parse of the latter. Besides accounting for the distribution of evaluativity in synthetic subcomparatives, the account achieves the following two results:

1. It provides additional evidence for the existence of EVAL, by showing that its inclusion in the parse of NEG-NEG subcomparatives allows for a specific focus-marking that is otherwise unavailable.

2. It suggests that analytic subcomparatives and comparatives of deviation are distinct degree constructions.

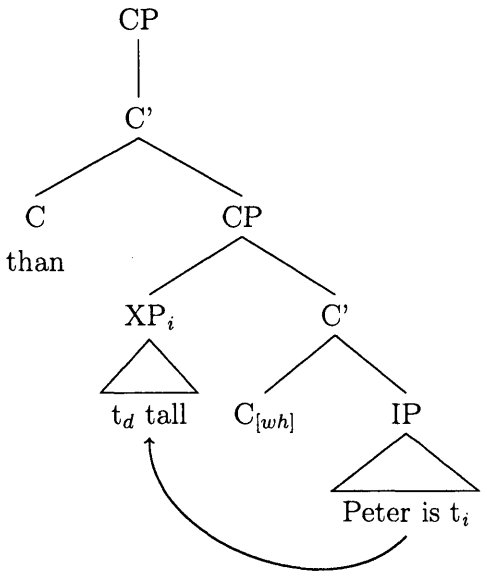
4.2.1 Assumptions about Comparative Deletion

Bacskai-Atkari's (2014) approach belongs to a family of approaches that derive the surface representation of comparatives and subcomparatives by means of the same syntactic operations (see also Izvorski 1995, Kennedy 2002). Yet this proposal takes the similarities between both constructions one step further by advocating for the position that the deletion operation at work in comparatives and subcomparatives is identical in nature. On this view, (a) Comparative Deletion results from a language-specific requirement, and (b) it uniformly applies to the two constructions at the same point of the derivation. In turn, the surface dissimilarity between subcomparatives and comparatives boils down to an information structure requirement that urges constituents to remain overt for recoverability of deletion.

The Overtness Requirement

At the heart of the proposal is the observation that, in languages where Comparative Deletion is not mandatory, the formation of the comparative degree clause directly follows from a representation where the DegP moves to the left periphery of the standard clause together with the AP-phrase where it gets pronounced, (30)[6].

(30) *Than*-clause derivation:



This is the case in Hungarian for instance, where the moved *wh*-phrase overtly occurs at the left periphery of the standard clause, together with the stranded AP:

(31) Mari magasabb, mint [$_{XP}$ amilyen magas] Péter volt
Mary taller than how tall Peter was.3SG
'Mary is taller than Peter was'.

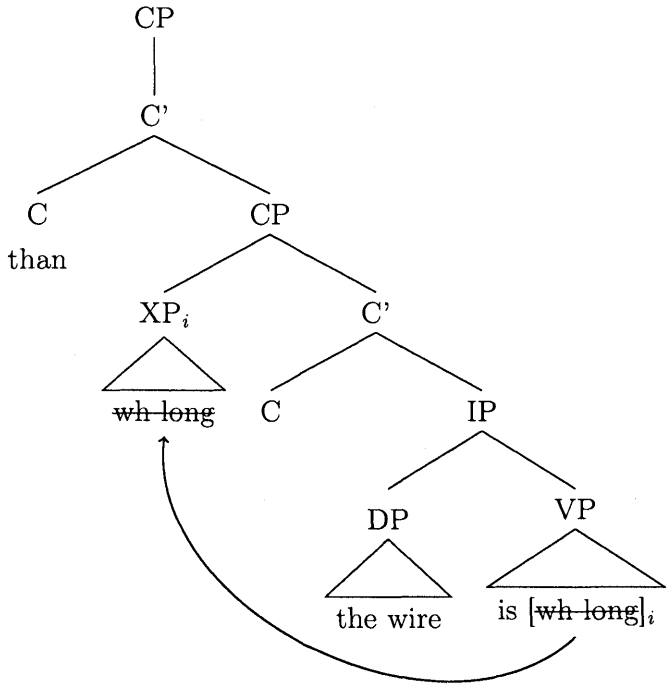
Based on this observation, Bacskai-Atkari (2014) hypothesizes that Comparative Deletion is a language-specific mandatory operation which follows from the *Overtness Requirement*, a principle meant to distinguish languages in which the *wh*-operator is overt, permitting the realization of the standard AP, from languages where the *wh*-operator is null, and for which the deletion of the moved AP is mandatory (32).

[6]On Bacskai-Atkari's (2014) account, this movement is triggered by the presence of a [+rel] feature on the C head. However, the operator movement is constrained by the *Left Branch Condition* (Ross 1967; Corver 1990) which prevents extraction out of left branches in English. Since the operator cannot be extracted from the functional projection that contains it (namely, the AP), the AP must move together with the operator in [Spec, CP] (see also Kennedy 2002).

(32) **Overtness Requirement** (adpated from Bacskai-Atkari, 2014, 2018)
A lexical XP in a standard constituent can be overtly realized (= pronounced) in an operator position such as [Spec,CP] only if the degree operator itself is overt.

Since English standard clauses have a phonologically null *wh*-operator, the higher copy of the displaced AP must be deleted by Comparative Deletion as a consequence of (32). Moreover, the fact that the lower copy *must* be unpronounced is attributed to properties of chains: PF deletes a copy whenever there is no additional instruction to preserve it. As it turns out, the two copies created by syntactic movement of the *wh*-phrase are unpronounced in English. Based on these assumptions, the *than*-clause of a comparative such as (33a) admits thus the representation in (33b).

(33) a. The rope is longer than the wire is.
b. *...than the wire is*



Subdeletion and focus assignment

The structure Bacskai-Atkari has in mind for subcomparatives is identical to that of comparatives, except that the former involve contrastive focus, which turns to

have direct consequences for the PF-realization of standard APs. The idea that subcomparatives are associated with a specific information structure marking has been extensively discussed, especially to account the acceptability of (34) (a.o., Sag, 1976; Chomsky, 1977; Kennedy, 2002). Throughout this chapter, I will use small caps to indicate that a constituent is prosodically marked (i.e., it bears the main accent).

(34) **Contrastive focus in comparatives**

a. Speaker A: Annie drank more scotch than Jim drank bourbon.
Speaker B: (No, you've got it all wrong.) Annie drank more scotch than Jim drank SCOTCH. Sag (1976, p.235)[7]

b. Speaker A: The is desk is higher than that one is wide.
Speaker B: What's more, this desk is higher than that one is HIGH.
Chomsky (1977, p.122)

The examples in (34) are run-of-the-mill cases of contrastive focus. For instance, the accented (focussed) NP *scotch* in (34a) is contrastive with the antecedent NP *bourbon*. Likewise, the context in (34b) licenses contrastive focus on the standard predicate HIGH by availability of an antecedent previously mentioned in the discourse, namely *wide*. Crucially, these examples show that focus-bearing elements must remain overt for recoverability reasons.

On the perspective of Bacskai-Atkari's account then, there seems to be a conflict between the *Overtness Requirement* that enforces deletion of the moved AP and the realization of a focus-bearing element in the subcomparative *than*-clause. This conflict is resolved on the assumption that the procedure at PF is the following: interpret (i.e., pronounce) the higher copy unless doing so would violate recoverability of deletion. Crucially, in English, the higher copy of a contrastive AP in the standard clause must remain unpronounced to meet the *Overtness Requirement*. In that case then, pronouncing the lower copy of the AP is the only way to satisfy the condition of recoverability of deletion. In that perspective, the overt realization of the standard AP is epiphenomenal of Comparative Deletion: since the *Overtness Requirement* overrides the PF instruction to pronounce F-marked material in the higher copy, the lower copy must be exceptionally pronounced. To illustrate this point, consider the derivations in (35). Since Jackendoff (1972), it is customary to represent focussed constituents by $[\cdot]_F$-brackets. The presence of this feature on the adjective *wide* ensures that the constituent must be PF-realized, hence the ungrammaticality of (35b).

[7]Sag (1976) attributes the observation that contrast focus on the standard predicate can bleed PF-deletion to Larry Horn.

(35) **Focus placement and PF-realization in the *than*-clause**

a. This desk is higher than <~~wh high$_F$~~> that one is <wh high$_F$ >.
PF: This desk is higher than that one is HIGH.

b. This desk is higher than <~~wh high$_F$~~> that one is <~~wh high$_F$~~ >.
PF: *This desk is higher than that one is. Pronounce F!

Remarkably on this account, the surface properties of the standard clauses are directly (and solely) linked to their information structure. That is, (35a) involves the same derivation steps as a standard comparative, but its information structure representation involves reference to F-marking (due to contextual factors), which in turn drives its PF-realization. Similar contextual factors, as Bacskai-Atkari claims, govern the distribution of contrastive focus in subcomparatives. Specifically, the antecedent for the contrastive predicate occurs in the matrix clause of the construction:

(36) **Contrastive focus in subcomparatives**
The rope is longer than <~~wh wide$_F$~~> the gap is <wh wide$_F$ >
PF: The rope is longer than the gap is WIDE.

The constraints on focus distribution and realization make sentences with contrastive non-F-marked predicates deviant because those sentences violate the condition on recoverability of deletion.

(37) **Violation of the condition on recoverability of deletion**
The rope is longer than <~~wh wide~~> the gap is <~~wh wide~~>
PF: *The rope is longer than the gap is. Recoverability!

The upshot of the discussion is that the surface differences between comparatives and subcomparatives in English does not follow from the operation of deletion itself, but instead from different treatments of the lower copies of the APs: *"the role of information structure is not directly related to Comparative Deletion itself: CD is treated as a mechanical process eliminating material from the lower [Spec,CP] position and the fact that the lower copy of the [AP] can remain overt is due to F-marking"* (Bacskai-Atkari, 2014, p.97).

Our primary concern is to understand the mechanisms that license contrastive positive and negative antonyms in subcomparatives when the matrix clause contains a negative antonym. Recall that, on the view adopted here, negative antonyms spell out a negative operator (i.e., *short* spells out [LITTLE tall]) and, whenever this operator is

licensed in the matrix clause of (sub)comparative constructions, a matching operator is postulated in standard clauses as well to avoid incommensurability. Hence, the standard AP is of the form [WH LITTLE ADJ]. I believe that the proposal discussed in this section offers an interesting starting point for reconsidering the difference between cross-polar and negative-antonym subcomparatives. In particular, since the information structural properties of a lexical AP determine the realization of the predicate in the *than*-clause, the account makes the following two predictions. First, whenever the positive antonym surfaces in the standard clause, it must bear an F-marker and, in addition, the negative operator is eliminating from the representation unless it violates the condition on recoverability of deletion. Second, whenever the negative antonym surfaces in the standard clause, the focus assignment ensures that both the negative operator and the positive adjective survive deletion and are PF-realized as the negative portmanteau form.

Yet, before moving on with the analysis of these constructions, two further assumptions are needed. One concerns the constraints that govern the distribution of focus and the other concerns the timing of deletion.

4.2.2 GIVENness and constraints on focus-assignment

Depending on the context, sentences may deviate from their default prosody to meet pragmatic requirements. For instance, the baseline question in (38) licenses the accent pattern of (38a). By contrast, the accent pattern of (38b) is somewhat deviant in the same context.

(38) {Who congratulated Mary?}

a. LEO congratulated Mary.

b. #LEO congratulated MARY.

Unlike all other elements of the sentence in (38a), the subject DP LEO has not been previously mentioned in the discourse. A common idea is that the prosodic signature of this DP indicates that it bears *semantic focus*. In the context of (38), the focus corresponds to the subject *wh*-phrase in the question. Of course, the focus can be a constituent larger than the word that bears prosodic prominence. For example, in the context of (38), the DP that corresponds to the *wh*-word contains, yet is not identical to the accented word in (39a). Again, deviating from the appropriate accenting, even within the focussed constituent, can lead to infelicity, (39b).

(39) a. [Her favourite TEAcher]$_F$ congratulated Mary.

b. #[HER favourite teacher]$_F$ congratulated Mary.

Any suitable theory of focus must thus explain the interplay between the prosodic patterns of sentences and the contextual factors that cause constituents to be focussed in these sentences. In the following, I briefly review one such theory, Schwarzschild's (1999) GIVENness theory.

In this theory, focus is not interpreted. Instead, the interpretive component of the system is GIVENness, defined in (40): GIVENness requires that each constituent of a sentence stand in an anaphoric relationship with some element of the context, except if it bears an F-mark. On Schwarzschild's terminology, a constituent is 'GIVEN' on two possible conditions: either it is implied by the context, or it has an antecedent in the context that entails it, (41). In turn, the F-feature has no direct interpretive effect on this theory: it only identifies elements that need not be GIVEN.

(40) **GIVENness** (Schwarzschild, 1999)
If a constituent is not F-marked, it must be GIVEN.

(41) **Definition of GIVEN** (Schwarzschild, 1999)
A constituent U counts as GIVEN iff it has a salient antecedent A and
i. if U is of type e, then A and U corefer;
ii. otherwise: modulo ∃-type shifting, A contextually entails the Existential F-Closure of U.

By definition, GIVENness drives the distribution of F-marks and, in principle, the semantics cannot exclude structures in which all constituents are F-marked. Indeed, in such cases, GIVENness would be trivially satisfied, since the existential F-closure of a constituent consists in replacing F-marks with appropriate variables and in existentially type shifting the result of this process. To avoid a pervasive use of F-marks, a constraint called AVOIDF is posited to minimize their presence in a structure.

(42) **AVOIDF** (Schwarzschild, 1999)
F-mark as little as possible, without violating GIVENness.

Let us consider (38a) and (38b) again. Since the subject *Leo* is not GIVEN it must be F-marked. On the parse in (43), the GIVENness calculations for (38a) yield the same results for the IP and VP constituents:

(43) [Leo$_F$ [congratulated Mary]]
GIVENness is satisfied:
the discourse antecedent ∃x[x congratulated Mary] contextually entails the F-closure of LEO$_F$ *congratulated Mary.*

By contrast, in (38b), both LEO and MARY are accented. The parse associated with this sentence should look like (44):

(44) [Leo$_F$ [congratulated Mary$_F$]]

The parse in (44) constitutes a case of overfocussing: since Mary is GIVEN in the context (i.e., Mary is mentioned in the question), it does not need to bear an F-mark. In this case, AVOIDF penalizes this focus placement on *Mary* because of the availability of the more optimal F-placement discussed for (38a).

Recall now that, in the case of subcomparatives, non-F-marked (i.e., GIVEN) constituents in the *than*-clause are unpronounced at PF. Note that Schwarzschild's (1999) Focus theory does not include a procedure for instructing PF about whether GIVEN constituents should be PF-realized or not. Thus, the following question arises: if ellipsis can target GIVEN constituents, what are the interface conditions that license it? Several mechanisms have been proposed in the recent literature that aim at answering this question. The first family of approaches, which I will call syntactic approaches, assumes that ellipsis is induced in the syntax. In particular, some accounts invoke an ellipsis feature [E] which triggers PF-deletion of the sister of the constituent that bears it (Merchant, 2001; Chung, 2013). Another family of approaches takes ellipsis to occur in the post-syntactic component. On that view, PF-deletion of a constituent corresponds to the non-insertion of vocabulary items (Bartos, 2001; Murphy, 2018). In the rest of the dissertation, I will remain agnostic as to which of these two kinds of approaches better accounts for the PF-deletion of AP copies. All that will matter is that the deletion mechanism applies prior to morphological operations relevant for the formation of the standard predicate.

4.2.3 Focus competition in non-evaluative subcomparatives

We are now ready to address the puzzle re-stated in (45): NEG-POS subcomparatives and NEG-NEG subcomparatives are predicted to share the same parse, with yet different information structure patterns. Crucially, unlike (45a), (45b) is ungrammatical under the suggested non-evaluative parse.

(45) **Non-evaluative NEG-POS and NEG-NEG subcomparatives**

a. The stroller is smaller than the entrance is wide. NEG-POS
LF: [[λ2. t$_2$ little big stroller] [-er [λ1. t$_1$ little wide$_F$ entrance$_F$]]]

b. The stroller is smaller than the entrance is narrow. NEG-NEG
LF: *[[λ2. t$_2$ little big stroller] [-er [λ1. t$_1$ [little wide]$_F$ entrance]]]

The constituents within the standard clause of the NEG-POS subcomparative in (45a) verifies GIVENness: they all have a suitable antecedent whose existentially type-shifted meaning entails the existential F-closure of that constituent.

(46) **Constituents that satisfy GIVENness in (45a):**

a. [wide$_F$ the entrance$_F$]:
$\exists d$[big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[Q(x)(d)]

b. [little wide$_F$ the entrance$_F$]:
$\exists d$[$\neg$big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[$\neg$Q(x)(d)]

From there, it is easy to verify that the alternative parse in (45b) also comply with focus requirements: if narrow F-marking on *wide* satisfies GIVENness, then a broader F-marking on [little wide] will also allow the constituent to comply with this constraint.

(47) **Constituents that satisfy GIVENness in (45b):**

a. [wide$_F$ the entrance$_F$]:
$\exists d$[big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[Q(x)(d)]

b. [[little wide]$_F$ the entrance$_F$]:
$\exists d$[$\neg$big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q \exists P$[P(Q(x)(d))]

However, it has been established in the previous section that, by AVOIDF, an F-marker on the phrase [α β] is always disfavored if F-marking on one of its parts is possible and this F-assignment satisfies GIVENness. Since the structure with focus on the adjective and the one with the focus on the *little*-phrase containing this adjective both satisfy GIVENness, AvoidF tells us that the latter must be used.

At PF, the grammatical parse in (45a) is instructed to interpret (i.e., pronounce) the F-marked adjective. The surrounding material, however, is regularly deleted. This correctly predicts the surface form in (45a). Remarkably, the timing of deletion is important here. If *little* were to create a portmanteau with its sister *tall*$_F$ before deletion applies, the F-marking on the positive antonym would be inherited by the complex morphological word and, in turn, we would expect the negative antonym to surface. This indicates that PF-deletion applies prior to morphological operations.

(48) **Post-syntactic operations**

a. **Step1**: Comparative Deletion + Deletion of irrelevant copies
The stroller is little big er than <little wide$_F$ the entrance$_F$> the entrance$_F$ is <little> wide$_F$ <the entrance$_F$>

b. **Step 2**: Morphological operations (MOs):
The stroller is [little+big]+er (> smaller) than the entrance$_F$ is wide$_F$

At last, note that on the assumption that F-marking is not syntactically restricted, we could have considered alternative candidates for the standard clause. However, all of them would violate either GIVENness or AVOIDF. Indeed, the smallest F-marking (namely, the focus placement on the positive antonym) is necessary (see 49a and 49b) and sufficient (see 49c) to satisfy GIVENness. Therefore, the following candidates are disfavored by transderivational comparisons.

(49) **Hypothetical competitors for the standard AP constituent**

a. [little wide the entrance$_F$]	violates GIVENness
b. [little wide the entrance$_F$]$_F$	violates GIVENness
c. [little$_F$ wide$_F$ the entrance$_F$]	violates AVOIDF

In sum, the unavailability of (45b) is accounted for by the economy condition AVOIDF which compares the information structure patterns of (45b) and (45a). Since both parses satisfy GIVENness, AVOIDF applies and tell us that only (45a) is licensed because it contains fewer F-marks. Besides, note that current assumptions only concern the treatment of subcomparatives; in 'standard' comparatives, for instance, a standard AP is predicted to be GIVEN, because it satisfies syntactic and semantic identity with the matrix AP. In that case, Comparative Deletion regularly applies to the higher copy of the moved AP (by the *Overtness requirement*) and the lower copy of the AP is not interpreted at PF since it does not involve focus-marked material. The following section aims at deriving the evaluative interpretation of NEG-NEG and NEG-POS subcomparatives. It will be argued that the presence of the EVAL operator (a) requires F-marking because it contributes new information in the standard clause and (b) forces the PF-realization of LITTLE in order for morphological operations to apply under linear adjacency.

4.2.4 Evaluativity as new information

We have seen so far that non-evaluative cross-polar subcomparatives comply with information-structure requirements whereas non-evaluative negative-antonym subcomparatives always violate AVOIDF. As a result, the non-evaluative parse of NEG-NEG subcomparatives is blocked and, consistent with the logic adopted throughout the dissertation, the lack of a non-evaluative reading forces the grammatical evaluative parse to surface. This section aims at verifying this last claim. Recall that on the

evaluative parse, the a NEG-NEG subcomparative gives rise to an evaluative presupposition that projects from the standard clause. This presupposition is contributed by the evaluative operator which scopes over the *little*-phrase in the standard clause. Since the *little*-phrase denotes a set of negative degrees of width, its modification by EVAL gives rise to the presupposition that some of those degrees are 'narrow' degrees. Crucially, in this configuration, EVAL occurs in the standard clause but not in the matrix clause and therefore, EVAL is not GIVEN: it needs to be bear focus (by GIVENness). In the following, I will consider two possible information structure patterns for (50), provided in (50a) and (50b).

(50) The stroller is smaller than the entrance is narrow.

a. LF_1: [1 t_1 little big the stroller] [-er [2 t_2 [$EVAL_F$ little $wide_F$ the $entrance_F$]]

b. LF_2: [1 t_1 little big the stroller] [-er [2 t_2 [$EVAL_F$ $little_F$ $wide_F$ the $entrance_F$]]

Similarly as before, let us verify that each constituent of the standard clause of the NEG-NEG subcomparative is going to be contextually entailed by the existential closure of a matrix antecedent.

(51) **Verifying GIVENness**:

a. The existential closure of [big the stroller] contextually entails the existential focus closure of [$wide_F$ the $entrance_F$]:
$\exists d$[big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[Q(x)(d)]
Therefore [$wide_F$ the $entrance_F$] is GIVEN.

b. The existential closure of [little big the stroller] contextually entails the existential focus closure of [little $wide_F$ the $entrance_F$]:
$\exists d$[$\neg$big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[$\neg$Q(x)(d)] Therefore [little $wide_F$ the $entrance_F$] is GIVEN.

c. The existential closure of [little big the stroller] also contextually entails the existential focus closure of [$EVAL_F$ little $wide_F$ the $entrance_F$]:
$\exists d$[$\neg$big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d \exists x \exists Q$[Q(x)(d)] defined only if $\exists P$[P($\neg$Q(x))(d)]
Therefore [$EVAL_F$ little $wide_F$ the $entrance_F$] is GIVEN.

On the information structure pattern suggested, the parse for the standard clause in (50a) complies with GIVENness. Its alternative in (50b) admits the same salient antecedents in the discourse but in addition it F-marks *little*. If the parse without focus marking on *little* satisfies GIVENness, then, it is expected that the parse where it is F-marked satisfies it as well:

(52) **Given constituents:**

a. The existential closure of [little big the stroller] contextually entails the existential focus closure of [EVAL$_F$ little$_F$ wide$_F$ the entrance$_F$]:
$\exists d[\neg$big(stroller) $\succeq$ d] $\Rightarrow$ $\exists d.\exists x.\exists Q.\exists R$[R(Q(x))(d)],
defined only if $\exists P$[P(R(Q(x)))(d)]
Therefore [EVAL$_F$ little$_F$ wide$_F$ the entrance$_F$] is GIVEN.

As it seems then, (50b) also comply with GIVENness. However, by AvoidF, the structure with focus on *little* is ruled out by the same structure without focus on *little*. On these grounds, the information-structure pattern in (50a) should be preferred over (50b). Yet, before drawing hasty conclusions, let us consider the PF computation associated with these two parses. So far, we have been working under the following PF-assumptions:

- EVAL is a zero-morpheme (null morpheme) subject to Myer's generalization which prevents a zero-derived morphological word to be further affixed.
- Affixation occurs under structural adjacency only; any morpheme intervening between the adjective and its affixal head blocks morphological merge.

First, I will consider the post-syntactic operations that apply to (50a). Recall from Bacskai-Atkari's (2014) deletion analysis that the standard AP raises to a position where it is subject to PF-deletion (cf. Comparative Deletion). This movement+deletion process, which is mandatory is English, can force F-marked material to be pronounced in the lower copy of the standard AP for recoverability of deletion, as shown in (53a), where angle brackets represent unpronounced material at PF. After deletion applies, the morphological operations take place as in (53b). First, in the matrix clause, the negative morpheme fuses with the positive adjective (*big*) to yield the negative antonym (*small*). Next, the comparative head combines with the resulting pormanteau form to yield the comparative form *smaller*. In the standard clause, given the timing assumed for deletion operation, the *little*-ellipsis bleeds the formation of the the negative antonym *narrow*.

(53) **Post-syntactic operations given the F-marking in (50a)**

a. **Step1**: Comparative Deletion + PF-deletion of irrelevant copies
[$_{TP}$ The stroller is -er little big]
[$_{DegP}$ <-er> than <$\emptyset_{\text{EVAL}F}$ little wide$_F$ the entrance$_F$> the entrance$_F$ is $\emptyset_{\text{EVAL}F}$ <little> wide$_F$ <the entrance$_F$>]

b. **Step 2**: Morphological operations (MOs) under linear adjacency:
*[The stroller is [[little+big]+er]] (> smaller)
[than <$\emptyset_{\text{EVALF}}$ little wide$_F$ the entrance$_F$> the entrance$_F$ is
[$\emptyset_{\text{EVALF}}$+[<little> + wide$_F$]](>PF crashes!)]

Remarkably, the fact that the deletion of *little* bleeds the formation of the negative antonym cannot be the whole story, here. Indeed, we have seen that the elimination of *little* in non-evaluative NEG-POS subcomparatives was non-problematic. Thus, the fact that the derivation crashes at PF must be caused by the interaction between the deletion process and the affixal requirements of EVAL. In particular, I suggest that in the context of *little*-deletion, the morphological operation that should merge the zero-morpheme EVAL with its structurally adjacent terminal node cannot apply. More specifically, the sister of EVAL is the unpronounced LITTLE, which does not qualify as a suitable host for the zero-morpheme. Alternatively, EVAL cannot be pronounced on the positive adjective either, as the unpronounced LITTLE structurally intervenes in the affixal process. This is summarized in (54).

(54) **Deletion bleeds affixation**

a. EVAL cannot be merged with *little*:
*[$\varnothing_{\text{EVAL}}$ ~~little~~]

b. EVAL cannot be merged with *tall*:
*[$\varnothing_{\text{EVAL}}$ ~~little~~ tall]

I suggest that this blocking effect might receive a simple explanation that follows from Bartos's (2001) *Ellipsis-Morphology (Elmo) Generalization*, which describes situations where the deletion of a particular constituent renders that constituent inaccessible to further post-syntactic operations (see also Murphy 2018; Saab et al. 2016).

(55) *Ellipsis-Morphology (Elmo) Generalization*
For every morphological operation MO that affects the domain of X, where X contains the target of MO, MO cannot apply in X if X is subject to ellipsis.

If the Elmo generalization appropriately describe our data, then the domain of X is the sister of EVAL, that is, the *little*-phrase. Note however that, in our case, only a subconstituent of X is PF-deleted namely, *little*. But this is only the case because the positive antonym bears F-marking due to the discourse requirement. Under these circumstances, I believe that the facts described in (54a) fit the characterization in

(55). In conclusion, since the parse in (50a) is ruled out at PF on the information structure pattern discussed, we are forced to consider the alternative parse in (50b). As demonstrated in (56b), the blocking effect triggered by the deletion of *little* does not apply with this alternative parse. Indeed, the F-marking on the *little* ensures that it survives deletion. In turn, the PF-insertion of *little* feeds in turn further morphological operations that ultimately license the zero-derived negative antonym, (56b).

(56) **Post-syntactic operations given the F-marking in (50b)**

a. **Step1**: Comparative Deletion + PF-deletion of irrelevant copies
[$_{TP}$ The stroller is -er little big]
[$_{DegP}$ <-er> than <$\emptyset_{\text{EVALF}}$ little$_F$ wide$_F$ the entrance$_F$> the entrance$_F$ is $\emptyset_{\text{EVALF}}$ little$_F$ wide$_F$ <the entrance$_F$>]

b. **Step 2**: Morphological operations (MOs) under linear adjacency:
The stroller is [[little+big]+er] (> smaller) than
the entrance$_F$ is [$\emptyset_{\text{EVALF}}$+[little$_F$+ wide$_F$]] (> narrow)

In sum, the grammaticality of (50b) is determined by convergence requirements of the phonological interface and economy considerations on the distribution of focus. To put it differently, since AVOIDF is a violable constraint, (50b) is ruled in, in the absence of a more optimal candidate that converges at PF.

For sake of completeness, the representation for the evaluative NEG-POS subcomparative is provided in (57b). In this case, the EVAL operator must occur below the negative operator. This way, it triggers the presupposition that some degrees in the set denoted by the gradable property *wide*, count as 'wide' degrees. Now, in this scope configuration, the best way of satisfying both AVOIDF and GIVENness minimally requires focus placement on the constituents [EVAL]$_F$ and [wide]$_F$ at the exclusion of LITTLE which, if it were part of the F-marked phrase, would violate AVOIDF.

(57) **Evaluative NEG-POS subcomparatives**

a. The stroller is smaller than the entrance is wide.

b. LF: [1 t_1 little big the stroller] [-er [2 t_2 [little EVAL$_F$ wide$_F$ the entrance$_F$]]

At the PF interface, after deletion applies, the EVAL operator is structurally adjacent to the positive adjective *tall*. Hence, the two morphemes can fuse, and the result yields the zero-derived positive antonym.

(58) **Post-syntactic operations**

a. **Step1**: Comparative Deletion + Deletion of irrelevant copies
The stroller is little big er than <little EVAL$_F$ wide$_F$ the entrance$_F$> the entrance$_F$ is <little> EVAL$_F$ wide$_F$ <the entrance$_F$>

b. **Step 2**: Morphological operations (MOs):
The stroller is [little+big]+er (> smaller) than the entrance$_F$ is $\emptyset_{\text{EVALF}}$-wide$_F$

On this account, a NEG-POS subcomparative is thus ambiguous between the evaluative and the non-evaluative reading. Both readings have distinct LFs, but the same surface structure. Crucially, the evaluative parse of (57b) has the same assertive component as the non-evaluative one, but in addition it presupposes that the standard adjective is evaluative. Thus, the evaluative reading is simply logically stronger than the non-evaluative one: any situation that makes (57b) true is a situation that makes its non-evaluative counterpart true as well. As things stand then, this ambiguity appear to be unproblematic for the EVAL theory.

4.2.5 Summary and consequences

We have derived the distribution of evaluativity of NEG-NEG subcomparatives on the assumption that their non-evaluative parse was precluded by the non-evaluative parse associated with NEG-POS subcomparatives. The blocking effect was attributed to a constraint on focus marking – AVOIDF – that favors information structure patterns with the fewest F-marks possible. In the absence of EVAL, the most optimal candidate is one that yields the positive antonym. The evaluative parse for a NEG-NEG subcomparative was also shown to satisfy the constraint on the assumption that the inclusion of EVAL introduces new information (it is not GIVEN). In turn, its inclusion in the parse forces the placement of focus on *little*, thereby allowing the morphological operations that license the negative antonym to apply. These assumptions about information structure in subcomparatives and the constraints that govern the distribution of focus features provide an empirically adequate description of the paradigm, which is summarized in (59) and (60).

(59) **Non-evaluative subcomparatives**
a. ✓POS-POS b. ✓NEG-POS c. *POS-NEG d.*NEG-NEG

(60) **Evaluative subcomparatives**
a. ✓POS-POS^{+E} b. ✓NEG-POS^{+E} c. *POS-NEG d. ✓NEG-NEG^{+E}

4.3 More about (sub)comparatives

The goal of this chapter has been to account for the distribution of evaluativity in subcomparatives. However, on the way, we have drastically flouted the distinction we make between what we call 'comparatives' and 'subcomparatives' in the adjectival domain. Indeed, we have worked under the assumption that these two constructions shared the same steps of derivation and that Comparative Deletion uniformly applied to remove material from their standard clauses. As it seems then, a better characterization of what we perceive as two different syntactic objects could be the following: *a subcomparative is a comparative whose standard predicate bears contrastive focus.*

In this section, I will push the comparison between comparatives and subcomparatives a little further. First, I will discuss an empirical prediction generated by the present account of evaluativity: if the presence of the evaluative operator can force the PF-realization of its sister in the *than*-clause, we should expect to see remnant adjectives in 'standard' comparatives. Second, I will discuss the status of constructions that involve the analytic form of the comparative operator in the matrix clause together with contrastive adjectives. These constructions will be called analytic subcomparatives (e.g., *The double-stroller is more big than the entrance is wide*). Capitalizing on Chapter 2 and the present chapter, I will provide an account of analytic comparatives. Besides, analytic comparatives closely resemble in their surface morphosyntax, constructions known as *comparatives of deviation.* I will argue that, in spite of their resemblance, analytic comparatives and comparatives of deviation must receive separate analyses.

4.3.1 Non-contrastive adjectives

In the literature, conflicting acceptability judgments are reported concerning sentences like (61). These sentences differ from our previous examples of subcomparatives in that they involve the same underlying positive adjective across the two clauses of the construction. Thus for instance, in (61a), the positive antonym *long* is part of the pre-spellout representation of *short* in both the matrix and the standard clause. A consequence of the semantic identity between the matrix and the standard predicate is that contrastive focus should not be licensed on the standard adjective.[8]. Nonetheless, according to the literature, these sentences vary in acceptability. For instance,

[8]Focus can be licensed on an adjective that matches with the positive antonym, but only if it contrasts with another predicate previously mentioned in the discourse, see the discussion of example (35) in Section 4.2.1

(61d) is reported as anomalous in Kennedy (1997). In turn, (61b) is reported as very degraded ('?*') in Büring (2007a) and (61c) is reported as really marked ('??') but not completely deviant in Morzycki (2012) (see also Bierwisch 1989).

(61) a. The hose is shorter than the ladder is short.

b. The hose is shorter than the ladder is long. Büring (2007a, p.2)

c. Floyd is shorter than Clyde is tall. Morzycki (2012, p.122)

d. *The Idiot* is shorter than *The Brothers Karamazov* is long. Kennedy (1997, p.194)

I believe that this variability of acceptability can be explained by two interrelated factors. First, the sentences in (61) are ambiguous between an evaluative parse and a non-evaluative parse. On their non-evaluative parse, these sentences violate the constraint on focus distribution AVOIDF. This explains why, when uttered out-of-the-blue, these sentences are very much degraded. On their evaluative parse, on the other hand, the acceptability of these sentences improve. The presence of an F-marked EVAL in the standard clause licenses exceptional F-marking on its sister, the (derived) adjective. This F-assignment in the only one that guarantees PF-convergence when EVAL is included in the parse. In turn, EVAL is licensed in the parse only when the discourse context supports the evaluative presupposition. This brings us to the second factor: since such contexts are rare and quite peculiar, the acceptability of the sentences in (61) is marked. Let us consider the derivations that this analysis generates together with their associated PFs. The non-evaluative parse in LF_1 violates AVOIDF by availability of $LF_{1'}$. Hence the former is ruled out and the latter can only be overtly realized as in $PF_{1'}$, that is, as a standard comparative. On the evaluative parse, the F-marking on EVAL spreads to adjacent elements for PF-convergence (i.e., the adjective A is F-marked in absence of *little*, or both *little* and the adjective are F-marked). As a result, LF_2 does not violate AVOIDF and PF_2 converges.

(62) **Non-evaluative parse**

a. LF_1: *[1 t_1 (little) A ...] [-er [2 t_2 [(little$_F$) A$_F$ ...]]]

b. $LF_{1'}$: [1 t_1 (little) A ...] [-er [2 t_2 [(little) A ...]]]

c. $PF_{1'}$: ...[(little)+A+-er] than ...<(little) A ...>
e.g., the hose is shorter than the ladder is

(63) **Evaluative parse**

a. LF_2: [1 t_1 little A ...] [-er [2 t_2 [EVAL$_F$ little$_F$ A$_F$ ...]]]

b. PF_2: ... [(little)+A+-er] than ... [EVAL_F[(little$_F$)+A$_F$]] ...
e.g., the hose is shorter than the ladder is short$_F$

In the above cases, since matching adjectives can be overtly realized only in the presence of a standard EVAL, we predict that environments that do not license this operator in the standard clause should not license overt adjectives either. As it will be further discussed in the next chapter, differential subcomparatives have that property. To verify this claim, consider the contrasts in (64). The differential *2 inches* renders the NEG-NEG subcomparative ungrammatical, (64a). Note that the ungrammaticality must result from the interaction between the differential and the EVAL operator since the non-evaluative subcomparative is perfectly fine with the differential, (64b), and as we have discussed at length, the evaluative NEG-NEG version of the subcomparative without the differential is fine as well, (64c).

(64) **Subcomparatives and measure phrase (MP) differentials**

a. *The rope is 2 inches shorter than the gap is narrow. NEG-NEG

b. ✓The rope is 2 inches longer than the gap is wide. NEG-POS

c. ✓The rope is shorter than the gap is narrow. NEG-NEG

Returning to the subcomparatives in (61), we predict that the inclusion of the EVAL operator should conflict with MP differentials, and therefore that the result should be ungrammatical. According to my informants, this is indeed the case:

(65) **Evaluativity conflicts with MP differentials**

a. *The hose is 2 inches shorter than the ladder is short.

b. *The hose is 2 inches shorter than the ladder is long.

c. *Floyd is 10 inches shorter than Clyde is tall.

d. **The Idiot* is 300 pages shorter than *The Brothers Karamazov* is long.

In turn, when the context satisfies the evaluative presupposition that projects from the standard clause, the acceptability of the sentences in (61) should improve.

(66) Speaker A: The ladder is really long, I'm sure I can reach the roof.
Speaker B: Yes, but this isn't the problem:
The hose is shorter than the ladder is long.

Given the relative difficulties to judge data like (65) and (66), the present analysis might only partially account for the facts in (61). Indeed, we have already encountered an example where the standard adjective can resist deletion even though it matches the matrix adjective in surface. Such an example is repeated in (67):

(67) **Extra-sentential contrast in the *than*-clause**
Speaker A: The is desk is higher than that one is wide.
Speaker B: No, you've got it all wrong:
This desk is higher than that one is HIGH.

A similar example is offered in Sag (1976) and reproduced in (68). Interestingly, in this case, it is the matrix adjective that contrasts with an adjective previously mentioned in the discourse:

(68) **Extra-sentential contrast in the matrix clause**
Speaker A: The table is wider than the desk is long.
Speaker B: No, you've got it all wrong.
The table is LONger than the desk is long.

Note that this contrastive focus effect reproduces with cross-polar subcomparatives. That is, the matrix negative antonym *short* contrasts with the discourse antecedent *narrow*.

(69) **Extra-sentential contrast in the matrix clause**
Speaker A: The table is narrower than the desk is long.
Speaker B: No, you've got it all wrong:
The table is SHORter than the desk is long.

Given Sag's observation, it is thus puzzling that the standard adjectives in (68) and (69) resist deletion in spite of having an antecedent in the discourse context. For now, I shall leave it as an open question whether these facts reflect a peculiar property of corrective contexts or whether they call for a more in-depth explanation. Notice however, that nothing hinges on the claim that the examples in (61) are only acceptable in corrective contexts.

In this section, I extended the *eval* account to subcomparatives that involve non-contrastive adjectives, and I suggested that these constructions were grammatical under their evaluative parse. Specifically, I argued that the morpho-phonological requirement on the realization of the standard F-marked EVAL favored a candidate that would otherwise violate *AvoidF*. This conclusion, however, is quite tentative since the judgments are particularly complex and subject to variability. Nevertheless, the study of evaluativity in non-contrastive subcomparatives seems to confirm the importance of the role of information structure at the PF interface.

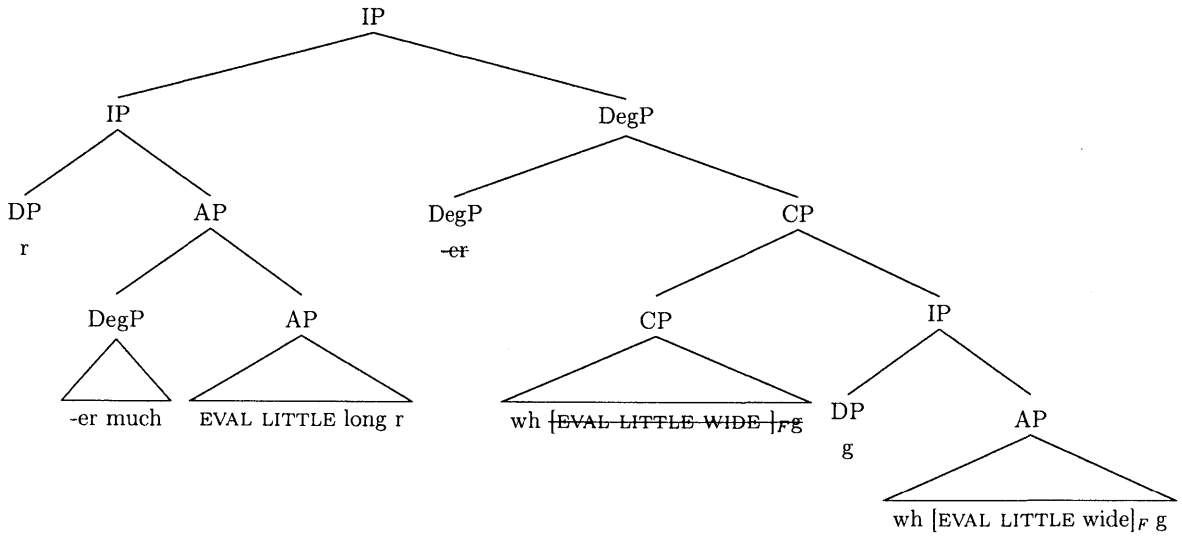
4.3.2 Analytic subcomparatives and comparatives of deviation

In order to recast the discussion on cross-polar comparisons in a broader picture, let us observe that the subcomparatives investigated in this chapter all have a synthetic form. That is, the matrix degree expression in a sentence like *the rope is shorter than the gap is wide* results from affixation of the comparative operator *-er* to the matrix adjective *short*. We have seen in the previous chapter that standard comparatives present an alternation between synthetic (e.g., *taller*) and analytic (e.g., *more tall*) forms. Therefore, we can formulate the expectation that this alternation also extends to the subcomparative paradigm. Let us consider the sentence in (70) which presents these characteristics:

(70) The rope is more short than the gap is narrow.

For now, we will abstract away from our intuitions about the meaning of (70). Instead, we will try to deduct from the surface morpho-syntax of (70) the building blocks that are predicted to underlie the sentence under the present theory. In particular, we shall focus on the matrix DegP *more short* and the standard DegP *narrow*. Assuming as in Chapter 1 and 2 that the surface shape of the matrix clause is constrained by the PF-filter *Myers' Generalization* and the LF-Principle *Minimize APs!*, we predict that the only grammatical parse for (70) contains an EVAL operator that modifies the matrix adjective. Why is that? The presence of the semantically vacuous *much* that underlies the degree operator *more* is a structure detector: (a) in the perspective of *Myers' generalization*, it allows EVAL to occur in a position in which it would not be allowed otherwise and (b) in the perspective of *Minimize APs!*, it forces the inclusion of EVAL in the derivation. In turn, the presence of the negative antonym *narrow* in the standard clause of (70) suggests that it is modified by an EVAL operator as well. This is enforced by the interaction of the constraints on focus placement AVOIDF and GIVENness that militate for the F-marking of the smallest possible constituent that does not contain GIVEN material. However, since both the matrix and the standard adjectives are modified by an evaluativity operator, we need an additional assumption to account for AP deletion in the standard clause. This assumption is that, not only does the standard EVAL contribute new information, but it is also constrastive: the standard for a rope's length is presumably different from the standard for a gap's width. On these assumptions, we might consider the underlying representation of an analytic subcomparative like (70) to be necessarily decomposed along the lines in (71) (the subjects 'the (r)ope' and 'the (g)ap' are abbreviated).

(71) The rope is more short than the gap is narrow.



The representation in (71) yields the LF in (72):

(72) LF:[[2 [t_2 eval little long r]] -er [1 [t_1 eval little wide g]]]

a. Assertion: $\{d : \neg long(r, d)\} \supset \{d : \neg wide(g, d)\}$

b. Presupposition: $\{d : \neg long(r, d)\} \supset Std_c \wedge \{d : \neg wide(g, d)\} \supset Std_c$

In line with the proponents of the Syntactic Negation Theory of antonymy, the derivation above assumes that a *little* operator underlies the negatives adjectives in the matrix and the standard clause. When *little* combines with the (already saturated) gradable property in the matrix clause, it yields a set of negative degrees, namely the set of degrees d to which the rope is less long than d. Composing with EVAL returns an identical set of negative degrees that is defined just in case it properly contains the contextual standard set for length. In a similar fashion, the standard clause denotes a set of negative degrees of width that is defined just in case it properly contains the contextual standard set for width. Whenever defined, (72) is thus true if and only if the set of shortness degrees of the rope properly contains the set of narrowness degrees of the gap. In other words, the sentence is true just in case the rope is consider as 'short' in the given context, the gap is considered as 'narrow' in the given context and the width of the gap exceeds the length of the gap. Given that this meaning is available for (71), our current theory seems to make the right predictions.

Yet it is not clear that (72) is the only interpretation for the analytic subcomparative in (70). To see that, consider the following scenario. We first imagine an artificial way of representing the standards in (70). For instance, we posit that ropes count as

'short' whenever their length is less than 20 meters long. Similarly, we create an artificial standard for gaps: gaps count as 'narrow' when their width is less than 5 meters wide. Now, we imagine a situation where the rope is 10 meters long and the gap is 4 meters wide. What is important here is, on one hand, the distance (or difference) between the rope's length and the standard for length ($20 - 10 = 10$ meters) and, on the other hand, the distance between the gap's width and the standard for width ($5 - 4 = 1$ meter). The question that arises is whether (73) can be felicitously uttered in this situation to evaluate the relation that 10 meters is more than 4 meters. As reported by English speakers, the sentence in (73) is judged as true in this scenario.

(73) The rope is more short than the gap is narrow.
Can mean: *'The distance between the length of the rope and the standard for shortness is more than the distance between the width of the gap and the standard for narrowness'.*

Crucially, note that, in the described scenario, the length of the rope (10 meters long) is more than the width of the gap (5 meter long). It means that, on the interpretation we proposed in (72), this sentence should now come up as false.

Conversely, we can imagine a context in which the 'standard' analytic reading is true while the deviation reading is false. For example, suppose that we slightly modify our artificial standards for ropes and gaps so that a rope is considered as short when it measures less than 12 meters, and a gap is considered as narrow when it measures less than 16 meters. Now, in the critical situation, the rope is 10 meters long and so it deviates from its standard by 2 meters, and the gap is 11 meters wide and so it deviates from its standard by 5 meters. In this situation, the 'standard' analytic reading for (72) is true. Indeed, the context satisfies the evaluative presupposition of this sentence since the rope is short and the gap is narrow, and moreover the rope is shorter than the gap is narrow. By contrast, the deviation reading given by the paraphrase in (73) is false in this scenario since the deviation between the rope and its standard is less great than the deviation between the gap and its standard.

At this point, the present analysis covers the basic analytic subcomparatives, but it does not derive the meaning of (73). In the literature, similar analytic cross-adjective comparatives are known as *comparatives of deviation.* Examples of such comparatives are given in (74) as reported in Kennedy (1997):

(74) a. *The Brothers Karamazov* is more long than *The dream of a ridiculous man* is short.
b. San Francisco Bay is more shallow than Monterey Bay is deep.

c. Robert is as short as William is tall.

d. Alex is as slim now as he was obese before.

e. A St. Bernard is more large than a pug is small.

As suggested by their name, the standard interpretation of the sentences in (74) follows when the degree word compares the amount to which the matrix predicate and the standard predicate deviate from their standard. Thus, (74a) can be paraphrased as: *the extent to which 'The Brothers Karamazov' exceeds the standard for length is more that the extent to which 'The dream of a ridiculous man' exceeds the standard for shortness.* This 'deviation' reading does not belong to the category of subcomparatives discussed so far. One argument that supports this claim comes from the observation that Comparatives of Deviation appear to obviate the POS-NEG anomaly. In short, (74a) is not perceived as deviant although it operates on a positive and a negative antonym. On the present account, this constitutes a violation of the *Well-formedness Condition.* In addition, the gradable properties compared in the different examples in (74) happen to form pairs of direct antonyms (e.g., *long-short, shallow-deep, short-tall*). In our earlier discussion of ungrammatical subcomparatives like **the rope is shorter than the wire is long*, we concluded that subcomparatives only operate on indirect antonyms for reason of focus placement: the standard adjective can be PF-realized only when it contrasts with the matrix adjective. As it stands then, analytic subcomparatives and comparatives of deviation must be considered as distinct degree constructions. While an analysis of comparatives of deviation that would rely on richer syntactic representations seems promising, I don't know at this point how to accommodate it in the present proposal. I shall thus leave this puzzle for future research.

4.4 Conclusion

This chapter offers additional evidence for the existence of the morpheme EVAL, and for a treatment of evaluativity as a grammatical phenomenon, whose distribution is constrained at the LF and the PF interfaces. Specifically, it was claimed that an account of evaluativity that solely relies on structural competition fails to capture the distributional properties of evaluativity in subcomparatives: In the absence of EVAL, NEG-NEG and POS-NEG subcomparatives have undistinguishable logical forms and their APs are of equal structural complexity, hence excluding a competition in terms of *Minimize APs!*. Yet NEG-NEG subcomparatives are necessarily evaluative,

indicating that their non-evaluative parse ruled out by the grammar. To solve the puzzle, we have put forward a view of subcomparatives on which part of the standard AP must be PF-realized for recoverability of deletion via focus marking of the relevant material. We have seen that, on this view, the ungrammaticality of non-evaluative NEG-NEG subcomparatives is explained by independently needed economy constraints on focus placement.

In addition, the findings of this chapter pile up with the findings of the previous chapter as we provide a more fine-grained account of the distribution of evaluativity across clauses of bi-clausal comparatives. Essentially, the subcomparative case teaches us that EVAL can occur in standard clauses without being part of matrix clauses. In our account, this directly falls out from recoverability of deletion. At is stands then, the distribution of evaluativity corresponds to the three possible configurations listed below.

(75) **Attested parses for bi-clausal comparatives**

a. *Synthetic (sub)comparative*

[$_{\textit{Matrix-Clause}}$ ⋯] -er [$_{\textit{Standard-Clause}}$ ⋯]

b. *Analytic (sub)comparatives*

[$_{\textit{Matrix-Clause}}$ ⋯ EVAL ⋯] -er [$_{\textit{Standard-Clause}}$ ⋯ EVAL ⋯]

c. *Subcomparatives*

[$_{\textit{Matrix-Clause}}$ ⋯] -er [$_{\textit{Standard-Clause}}$ ⋯ EVAL ⋯]

Chapter 5

Extension of the account: superlatives and equatives

5.1 Introduction

The competition account offered in this dissertation, which handles the distribution of evaluativity is (sub)comparatives, crucially relies on economy considerations (structural economy and economy of Information Structure markings) and expressibility of alternatives. Therefore, we expect it to be at work in other degree constructions with similar evaluativity signature. This section follows up on these expectations. Section 5.2 spells out the analysis of superlatives, whose semantics has been argued to encapsulates the comparative meaning. Not surprisingly then, the account offered for superlatives straightforwardly follows that of comparatives. Nevertheless, the case of superlatives provide insights about the nature of the evaluativity presupposition that offers support for the view that the degree operator EVAL can occur in the matrix clause of bi-clausal constructions. Section 5.3 tackles the distribution of evaluativity in equatives. Likewise other degree constructions, I suggest that equatives are also subject to the structural competition and that in the critical cases, the right competitor to the *as short as* equative AP is the structurally simpler comparative form *no taller than*. Foreshadowing this point, I will argue that the general analysis of equatives reduces to the analysis of *less-comparatives*, i.e., the equative morpheme will be argued to spell out a negative operator. I will entertain the idea that in absence of EVAL, this negative operator interacts with the negation that syntactically forms the negative antonym thereby yielding ungrammatical structural redundancy.

5.2 Superlatives

The general purpose of this section is to illustrate the systematic nature of the relationship between the polarity of antonyms (positive vs. negative adjectives) and degree operators. The data in (1a) exemplify the evaluativity pattern I want to account for in this subsection. Since the discussion will mostly consist of a comparison between comparatives and superlatives, I will transfer the terminology used for the different forms of the comparative head to the superlative paradigm for ease of reference. Consequently, (1a) and (1b) are instances of *synthetic superlatives* and the data in (1c - 1f) will be referred to as *analytic superlatives.*

(1) **Evaluativity of the superlative paradigm**

a. Jane is tallest. E^-
   $\not\rightsquigarrow$ Jane is tall.

b. Jane is shortest. E^-
   $\not\rightsquigarrow$ Jane is short.

c. Jane is most tall. E^+
   $\rightsquigarrow$ Jane is tall.

d. Jane is most short. E^+
   $\rightsquigarrow$ Jane is short.

e. Jane is least tall. $E^+/{}^?E^-$
   $\not\rightsquigarrow$ Jane is tall.

f. Jane is least short. E^+
   $\rightsquigarrow$ Jane is short.

First, synthetic superlatives have a non-evaluative reading. That is, both (1a) and (1b) express an order relation between Jane and other relevant salient entities regardless of whether Jane counts as short, or tall in the context. In contrast, any state of affairs where Jane is considered short renders (1c) infelicitous. In the same way, contexts in which Jane is considered tall are inappropriate for uttering (1d) and (1f). A remark concerning (1e): whenever this sentence is judged grammatical by native speakers, it tends to be associated with an evaluative reading. The availability of the non-evaluative interpretation is not clear in English and call for further investigation. However, note that this superlative forms in French is perfectly felicitous in context that do not support the evaluative presupposition:

(2) Jane est la moins grande.
Jane is the less tall

'Jane is the least tall/shortest.'

Clearly, the paradigm in (1) reveals a one-to-one correspondence between the APs of the comparative paradigm and superlative paradigm and their respective evaluativity signature. The comparative data is repeated below as a reminder:

(3) **Evaluativity of the comparative paradigm**

a. Jane is taller than Mary is. E^-
   $\not\rightsquigarrow$ Jane is tall.

b. Jane is shorter than Mary is. E^-
   $\not\rightsquigarrow$ Jane is short.

c. Jane is more tall than Mary is. E^+
   $\rightsquigarrow$ Jane is tall.

d. Jane is more short than Mary is. E^+
   $\rightsquigarrow$ Jane is short.

e. Jane is less tall than Mary is. E^-/E^+
   $\not\rightsquigarrow$ Jane is tall.

f. Jane is less short than Mary is. E^+
   $\rightsquigarrow$ Jane is short.

Given the similarities between comparatives and superlatives, we should be able to reconstruct the reasoning we adopted to account for the former and apply it to the latter. This reasoning thus, is the following: Any degree construction admits two parses, one with the evaluative operator, and one without it. We observe that the sentences in (1c), (1d) and (1f) obligatorily carry the evaluative presupposition, signaling that evaluative parse is licensed by the grammar. What about the non-evaluative parse of these sentences? On our approach, it is precluded by an alternative parse which is semantically equivalent and structurally simpler. The next section identifies the appropriate competitors, an offers an analysis of the different superlative APs.

5.2.1 The syntax of superlatives

To capture the superlative data, we need to enrich the set of primitive units of comparison assumed so far with the meaning of the superlative *-est*. This will allow us to derive the set of superlative APs.

We adopt the meaning of *-est* given in (4) (Heim 1985, 1999; Szabolcsi 1986; Hackl 2009). On this denotation *-est* is a degree quantifier restricted by a covert variable C

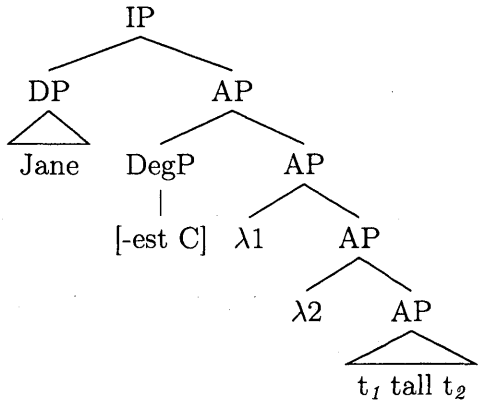
that provides a comparison class. The second argument of the superlative is a degree property P of type $\langle e, dt \rangle$. When combined, they yields a predicate that is true of a given x if x has the degree property to a higher degree than any alternative to x in C. In addition, the superlative operator contributes a presuppositional component that the comparison class contains at least two individuals, including the subject of the superlative.

(4) [[**-est**]](C, P, x) is defined only if $x \in C$ & $\exists y$ $[y \neq x$ & $y \in C]$.
When defined, [[**-est**]] (C, P, x) =1 iff $\forall y \in C[x \neq y \rightarrow P(x) \supset P(y)]$

The structure of simple predicative AP superlatives is modeled on the syntax of other degree APs. That is, the subject is the internal argument of the adjectival predicate and the *-est* degree head is the external argument, based-generated in [Spec, AP]. However, type-wise, [-est C] and the saturated adjective (type $\langle d, t \rangle$) cannot combine in situ as the sister node of *-est* needs to be of type $\langle e, dt \rangle$ to saturate its second argument. This conflict is solved by *Parasitic scope* derivation of the superlative (Heim 1999, Barker 2007, Kennedy and Stanley 2007)[1]. The right scope configuration obtains when the subject AP *Jane* undergoes QR and serves as a scope host to parasitic [-est C]: the superlative morpheme lands between the moved subject and its binder. In turn, λ-abstracting over two variables creates the right two-place relation ($\lambda x.\lambda d.\text{HEIGHT}(x) \succeq d$). Finally, the predicate [[-est C] 1 2 t_1 tall t_2], will be true of an individual that is taller than any other individual in the comparison class. These assumptions produce the LFs in (5a) and the denotations for the superlative is provided in (5b).

(5) Jane is (the) tallest.

a.



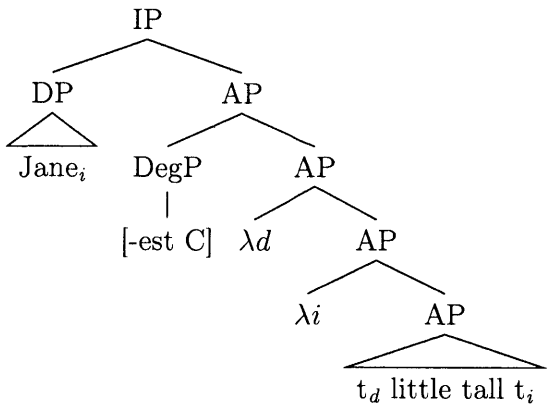
[1] *Parasitic scope* has been independently invoked in order to account for the interpretation of phrasal comparatives (Heim 1985; Bhatt and Takahashi 2007; Bhatt and Takahashi 2011)

b. $[\![$**[-est C] [1 2 t_1 tall t_2]**$]\!]$(x) is defined only if
$x \in C$ & $\exists y$ $[y \neq x$ & $y \in C]$.
When defined, $[\![$**[-est C] [1 2 t_1 t_2 tall]**$]\!]$ (x) = 1, iff $\forall y \in C[y \neq x \rightarrow$ $\{d$: HEIGHT$(x) \succeq d\} \supset \{$HEIGHT$(y) \succeq d\}$

On these assumptions about the syntax-semantics of superlatives, the negative-antonym superlative which involves the negative operator *little*, has the LF in (6a).

(6) Jane is (the) shortest.

a.



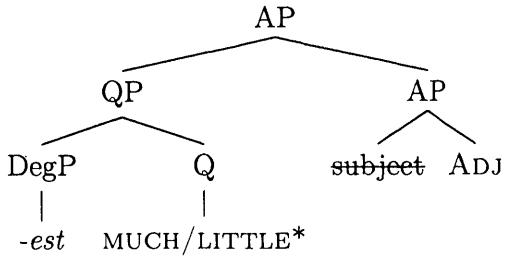
b. $[\![$**[-est C] [1 2 t_1 little tall t_2]**$]\!]$(x) is defined only if
$x \in C$ & $\exists y$ $[y \neq x$ & $y \in C]$.
When defined, $[\![$**[-est C] [1 2 t_1 little tall t_2]**$]\!]$ (x) = 1, iff $\forall y \in C[y \neq$ $x \rightarrow \{d$: HEIGHT$(x) \prec d\} \supset \{$HEIGHT$(y) \prec d\}$

How do we get to the surface form of a superlative? At PF, the moved subject is realized outside the AP, and therefore the low copy (or subject trace) that remains is the base-generated position is invisible to PF. On the other hand, *-est* is PF-visible in its base-generated position, in the lowest [Spec, AP]. In that configuration, the superlative is structurally adjacency to the adjectival root. The superlative can therefore be merged to the adjective by a lowering operation, generating the morphologically complex object $[[\sqrt{tall^+}]_a$ -EST$]_c$ that licenses the vocabulary insertion of the form *tallest.*

Whenever *-est* does not appear as an affix on the adjectival roof, we assume that the superlative morpheme is part of a QP headed by *much* or *little** (see 7). In that case, the superlative morpheme forms a complex morphological object with the Q head (MUCH, LITTLE*) rather than being realized as an affix on the adjective. I

assume that *Fusion* generates the complex nodes that licenses the portmanteau forms *most* and *least* (Bresnan 1973):

(7)



(8) **Spell out rules**

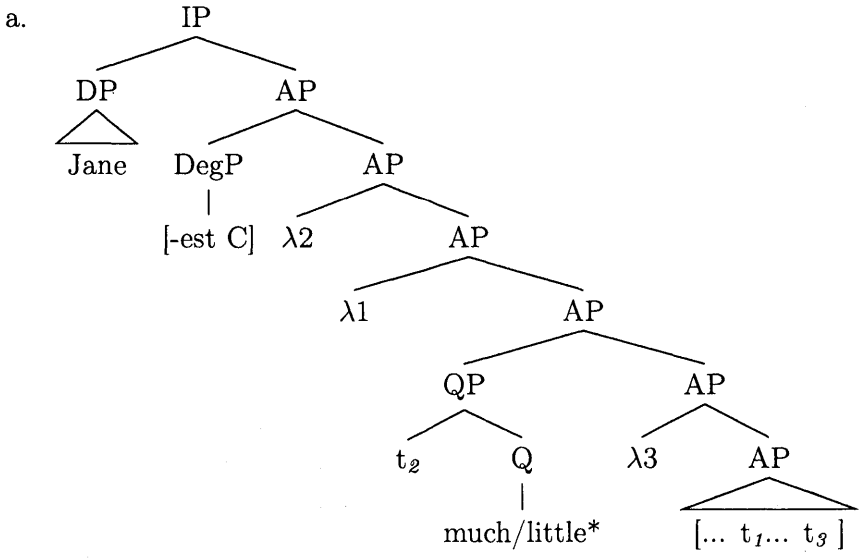
a. [-est much] > *most*

b. [-est little*] > *least*

When [-est C] is based generated as a sister of the Q head rather than in [Spec, AP], the constituent [-est C] still needs to move out of the QP for interpretation. As in the synthetic case, it tucks in between the moved subject and its binder. On these assumptions then, the underlying representation of analytic superlative is decomposed along the lines in (9a).

(9) Jane is (the) most/least short.

a.



5.2.2 Predictions for the distribution of EVAL

In the previous section, we provided the basic assumption for the morphosyntax of synthetic and analytic superlatives. In this section, we discuss the predictions of our

theory concerning the distribution of (non)-evaluativity for these constructions. In particular, we expect that, just as in the case of comparatives, the distribution of EVAL in superlative is regulated at the LF and the PF interfaces by *Minimize AP!* on one hand and *Myers' Generalization* on the other hand.

Non-evaluative readings

Let us begin the investigation with non-evaluative readings. In absence of EVAL, all the possible APs that our compositional account of superlative generate have possible PF output: Affixation occurs whenever *-est* is structural adjacent to the adjectival root, and alternatively, whenever the superlative morpheme is located inside the QP, -EST forms a morphologically complex object with *much* or *little**, that licenses one of the spellout rules in (8). The possible surface strings for superlative APs are listed in (10):

(10) **Wellformed strings**

a. $[[\sqrt{A^+}]_a$ -EST$]_c = A^+$-*est*

b. $[[\sqrt{A^+}]_a$ LITTLE$]_n$ -EST$]_c \rightarrow [\sqrt{A^+}$ + LITTLE$]_n$ -EST$]_c = A^-$-*est* (by *fusion*)

c. $[[\sqrt{much}]_a$ -EST$]_c \rightarrow [\sqrt{much}$ + -EST$]_c$ = *most* (by *fusion*)

d. $[[\sqrt{little*}]_a$ -EST$]_c \rightarrow [\sqrt{little*}$ + -EST$]_c$ = *least* (by *fusion*)

Just like in the comparative paradigm, LITTLE, LITTLE* and MUCH add structural complexity to APs. And therefore, the decompositional account of superlatives provides us with combinations of building blocks that generate PF-realizable APs of gradient structural complexity, as illustrated in Figure 5-1.

Given the hierarchy in Figure (5-1), certain superlative APs should be precluded by availability of their structurally simpler competitors, if they are semantically equivalent to them, by application of *Minimize APs!*. Let us verify these predictions.

(11) **Competition #1: *tallest* vs. *most tall***

a. Jane is tallest.

i. LF_1: [Jane [-est C] 1 2 t_1 tall t_2]

b. Jane is most tall.

i. LF_2: *[Jane [-est C] 1 2 [t_1 much] tall t_2]

The competitors for the AP *most tall* in LF_1 include the AP *tallest*. Indeed, the latter can be derived form the former by deletion of subconstituent, namely *much* and therefore: *tallest* $\in$ Alt$_{Str}$(*most tall*). Moreover, given our assumption that *much* is

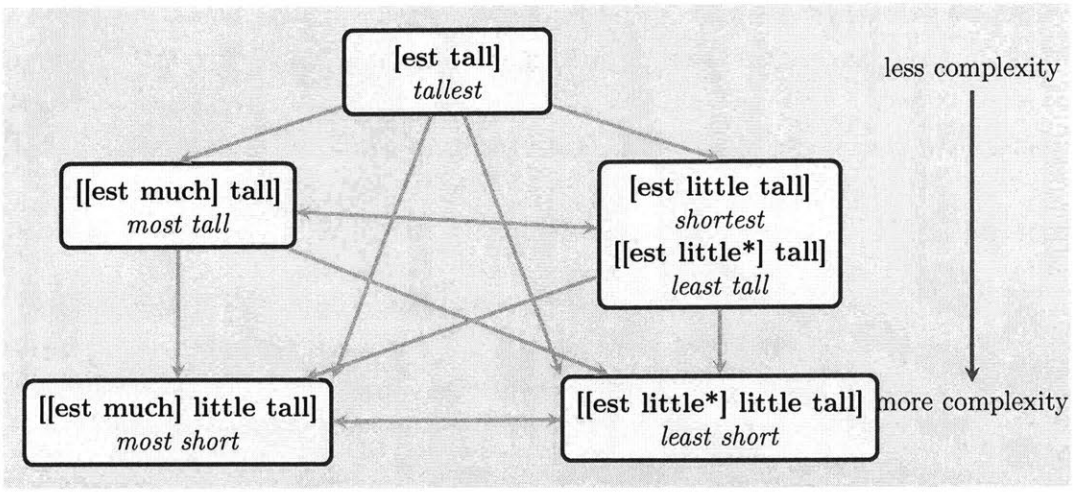


Figure 5-1: Hierarchy of non-evaluative superlative APs

semantically inert, the two APs *most tall* and *tallest* are also semantically equivalent; they describe a set of individuals that possess the property of being tall more than all the other individuals in their comparison class.

(12) **Semantically equivalent alternatives**

a. $[_{AP}$**[-est C] 1 2 t$_1$ t$_2$ tall**$]$ =
$\lambda x.\ \forall y \in C[y \neq x \rightarrow \{d : \text{HEIGHT}(x) \succeq d\} \supset \{\text{HEIGHT}(y) \succeq d\}$

b. $[_{AP}$**[-est C] 1 2 t$_1$ [t$_2$much] tall**$]$ =
$\lambda x.\ \forall y \in C[y \neq x \rightarrow \{d : \text{HEIGHT}(x) \succeq d\} \supset \{\text{HEIGHT}(y) \succeq d\}$

As a result, LF$_1$ is ruled out by *Minimize APs!* due to the availability of LF$_2$. The same account extends to negative-antonym analytic superlatives in (13); *most short* has *shortest* as a simpler structural alternative AP. Moreover, by vacuity of *much*, *most short* is semantically equivalent to *shortest*. Therefore, *Minimize APs!* correctly predicts that the non-evaluative parse for (13b) is deviant.

(13) **Competition #2: *shortest* vs. *most short***

a. Jane is shortest.

i. LF: [Jane [-est C] 1 2 t$_1$ little t$_2$ tall]

b. Jane is most short.

i. LF:* [Jane [-est C] 1 2 [t$_2$ much] little t$_1$ tall]

At last consider the pair in (14). We have argued that *least* spells out a negative operator LITTLE*. Moreover, an additional negative operator underlies the negative-

antonym in APs *least short*. It is obvious then, that the AP *tallest* can be derived from the AP *least short* by deletion of those two negations. Moreover, given that the two negation operators cancel each other out, the meaning that we obtain for (14b) is that Jane's height exceeds every body's height in the comparison class. This meaning is equivalent to that of the superlative in (14a). As a result, (14b) is deemed deviant by *Minimize APs!*.

(14) **Competition #3: *tallest* vs. *least short***

a. Jane is tallest.
LF: [Jane [-est C] 1 2 t_1 t_2 tall]

b. Jane is least short.
LF: *[Jane [-est C] 1 2 [t_2 little*] little t_1 tall]

To summarize: We have shown that sentences containing the APs *most tall, most short* and *least short* lack a non-evaluative reading, because of the existence of competitors that are structurally simpler and semantically equivalent to them. Thus *Minimize APs!* correctly captures the structural competition at work in superlatives. In turn, the non-evaluative superlative APs *tallest, shortest* and *least tall* all obey the economy principle and therefore they are compatible with the non-evaluative reading. Let us see how the present proposal accounts for the evaluative readings available to superlatives.

Evaluative readings

Whenever EVAL modifies adjectives in superlatives, the expectation is that it structurally intervenes between the affix *-est* and the adjective that selects for it. In this case, the strings violate Myers' constraint on zero-derived forms. For example, the strings in (15a) and (15b) represent the hypothetical evaluative parses for *tallest* and *shortest*, which do not admit a wellformed PF-output.

(15) **Phonological strings that violate *Myers' Generalization***

a. $[[[\sqrt{A^+}]_a \emptyset]_e$ -EST$]_c$ = *

b. $[[\sqrt{A^+}]_a$ LITTLE$]_n \emptyset]_e$-EST$]_c \rightarrow [\sqrt{A^+}$ + LITTLE$]_n \emptyset]_e$ -EST$]_c$ = *

By virtue of Myers' constraint then, the only evaluative APs that should be attested are APs in which the evaluative operator EVAL does not intervene between item that form morphologically complex object. Synthetic are thus excluded from the list. Therefore, we are left with the APs *most tall, most short, least tall, least short*. These APs are ranked in terms of structural complexity in Figure 5-2:

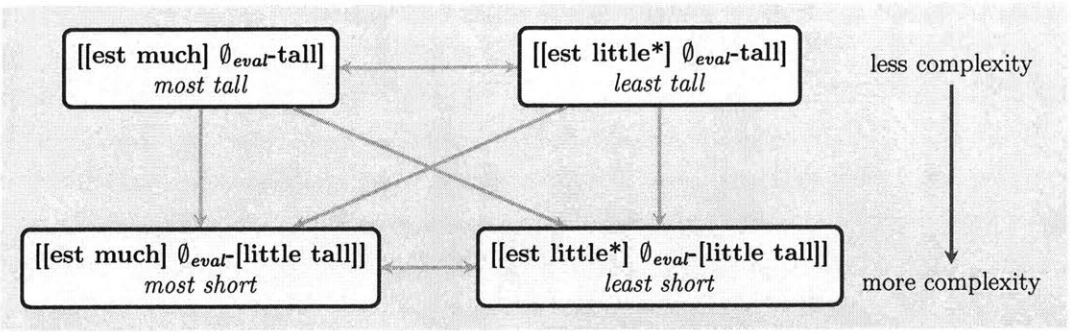


Figure 5-2: Hierarchy of evaluative superlative APs

In spite of their relative structural complexity, the APs in Figure 5-2 are grammatical because they express a meaning that would not be available otherwise. For instance, the evaluative AP *most short* is structurally more complex than the AP *shortest*, but whenever the synthetic superlative involves the EVAL operator, it violates Myers' constraint. Since a sentence that involves *shortest* cannot carry the evaluative presupposition, the only way to express the evaluative meaning is to resort to the analytic form *most short*. Similarly, the structural complexity in *most tall* and *least short* ensures that the presence of the EVAL operator does not conflict with PF requirements. Note that, the AP *least tall* is the only superlative AP that is truly ambiguous, in the sense that both its evaluative and its non-evaluative construals are theoretically available: The presence of EVAL in this form obeys Myers' constraint and none of its parses compete with a structural alternative, that is semantically equivalent to it. Out of these two construals however, it seems that we perceive only the non-evaluative reading of a sentence like *Jane is the least tall*. This is presumably the case because the non-evaluative reading is weaker than the evaluative reading. As far as synthetic superlatives are concerned, their parse cannot include the EVAL operator (without violating *Myers Generalization*). The remaining parse does not give rise to a context-dependent interpretation of the gradable adjective, in accordance with our intuitions about the meaning of (1a) and (1b).

5.2.3 Conclusion

The modular account of evaluativity correctly captures the inferential pattern in superlatives. On this account, the variety of surface forms of superlative APs arises from the various arrangements of primitive meanings of comparison. At the LF interface, combinations of meanings are limited by an economy principle that requires

that a given meaning should be associated with the simpler structure possible (cf. *Minimize APs!*). At the PF interface, surface forms are subject to filters like *Myers Generalization* which block the surface realization of morphologically complex units in presence of the EVAL operator.

5.3 Equatives

In the previous section, we added one piece of meaning in the inventory of primitive units of comparison, namely the morpheme *-est* and we discussed the array of syntactically possible APs that involve the superlative meaning. In the present section, we will turn to equatives. First, I will consider adding the morpheme *as* to the set of primitive units of comparison, but I will reject this idea, based on considerations about the distribution of evaluativity in equatives which motivate a decompositional account of *as* in the syntax.

5.3.1 Distribution of evaluativity

Our discussion of equatives starts with the observation of the contrast between the positive-antonym equative in (16a) and the negative-antonym equative in (16b).

(16) Equatives:

a. Jane is **as tall as** Tom is.
   $\not\rightsquigarrow$ Jane/Tom counts as tall.

b. Jane is **as short as** Tom is.
   $\rightsquigarrow$ Jane/Tom counts as short.

The evaluative signature of the pair of equatives in (16) is reminiscent of the familiar one with degree questions for example. Namely, negative antonyms are necessarily evaluative, whereas positive-antonym are in principle compatible with both an evaluative and a non-evaluative reading. Under these circumstances, one might suggest that evaluativity is the result of a polarity-driven competition between the positive-antonym equative and its negative-antonym counterpart. However, as Neogricean accounts convincingly show, the meaning of the equative morpheme is better captured by assuming a weak *at least*-meaning ($\geq$) that can be turned into a strong *exactly*-meaning via implicature reasoning whenever the context allows it (Horn 1972; Klein 1980; Bierwisch 1989; Chierchia 2004; Rett 2014). As a consequence of the *at least*-semantics for *as*, the positive and the negative-antonym equatives are not semantically equivalent, i.e., *Jane is at least as tall as Tom is* does not entail *Jane is at*

least as short as Tom is. Thus, we are forced to conclude that *Minimize APs!* fails to rule the competition between equatives or alternatively, that the positive-antonym equative is not the right competitor for negative-antonym equatives. I am going to argue for the second option. Specifically, in order to maintain *Minimize APs!*, we need a theory that preserves the *at least*-semantics of *as* while providing the right competitor for negative-antonym equatives like (16b).

On our account so far, there are two types of structurally redundant APs: those that contain the semantically inert component MUCH, and which induces competition regardless of the adjective's polarity (e.g., *Jane is more tall/short than Tom is* vs. *Jane is taller/shorter than Tom is*) and APs in which LITTLE and LITTLE* co-occur, and which cancel each other out in non-evaluative contexts. In this second case, structural redundancy only happens in the presence of a negative antonym, because it contributes a LITTLE operator. Consider again the *less*-comparatives in (17):

(17) *Less*-comparatives

a. Jane is **less tall** than Tom is
   $\not\rightsquigarrow$ Jane/Tom count as tall.

b. Jane is **less short** than Tom is
   $\rightsquigarrow$ Jane/Tom counts as short.

The juxtaposition of the data in (17) and (16) shows that *less*-comparatives and equatives share the same evaluative signature, namely, the negative-antonym is obligatorily evaluative, whereas its positive counterpart isn't. This observation suggests that *less*-comparatives and equatives could receive a parallel treatment. The suggestion I will make here is quite tentative, but overall, what I have in mind is an analysis that reduces the case of equatives to the case of *less*-comparatives. So here I will pursue a variation of the account for (17b) which posits negative operators in the sources of both *as* and *short.* On this account, *as* is a complex head: it spells out a LITTLE* operator which creates redundancy when it co-occurs with the LITTLE operator that underlies the negative antonym in (16b). Furthermore, I claim that the equative head is underlyingly composed of the negated comparative *no -er.* On this assumption, the relevant competitor for the AP in (16b) repeated in (18a) is the AP in (18b): the two APs are semantically equivalent, and *no taller* is structurally less complex than *as short.* In conformity with *Minimize APs!* then, the non-evaluative parse of (18b) is predicted to be ruled out.

(18) **Equative AP competitors**

a. Jane is **as short as**[2] Tom is.

b. Jane is **no taller than** Tom is.

On this view, since *no* is assumed to be part of the DegP, it must move together with the head *-er*.

5.3.2 Structural competition in the equative paradigm

In the previous section, I provided the basic assumption for the morphosyntax of synthetic and analytic equatives. In this section, I discuss the predictions of our theory concerning the distribution of evaluativity presupposition for these constructions. In particular, it is shown that *as*-equatives pattern with *less*-comparative with respect to evaluativity and that *no -er*-comparatives pattern with *-er*-comparatives.

On our account, the equative paradigm is modeled after the comparative paradigm. Therefore, in absence of EVAL, all the possible equative APs have possible PF outputs: affixation of *-er* occurs whenever the complex degree head is structural adjacent to the adjectival root, and alternatively, whenever the complex degree head is part of the QP headed by MUCH or LITTLE* it forms a morphologically complex object with them. The resulting possible surface strings for equative APs are listed in (19):

(19) **Wellformed strings**

a. $[[\sqrt{A^+}]_a$ -ER$]_c = A^+$-*er*

b. $[[\sqrt{A^+}]_a$ LITTLE$]_n$ -ER$]_c \rightarrow [\sqrt{A^+}$ + LITTLE$]_n$ -ER$]_c = A^-$-*er* (by *fusion*)

c. $[[\sqrt{\text{MUCH}}]_a$ -ER$]_c \rightarrow [\sqrt{\text{MUCH}}$ + -ER$]_c =$ *more* (by *fusion*)

d. $[[\sqrt{\text{LITTLE}^*}]_a$ NO -ER$]_c \rightarrow [\sqrt{\text{LITTLE}^*}$ + NO+-ER$]_c =$ *as* (by *fusion*)

LITTLE, LITTLE* and MUCH add structural complexity to APs. And therefore, the decompositional account of equatives provides us with combinations of building blocks that generate PF-realizable APs of gradient structural complexity, as illustrated in Figure 5-3.

In conformity with previous cases, the presence of MUCH in non-evaluative parses (i.e., in *no more tall* and *no more short*) leads to violation of *Minimize APs!* due to the availability of the synthetic forms (i.e., *no taller* and *no shorter*). Indeed, as shown in Figure (5-3) analytic forms with MUCH are structurally more complex than

[2]I do not make specific assumptions about the equative standard marker *as*. Just as *than*, it is treated as a semantically vacuous morpheme.

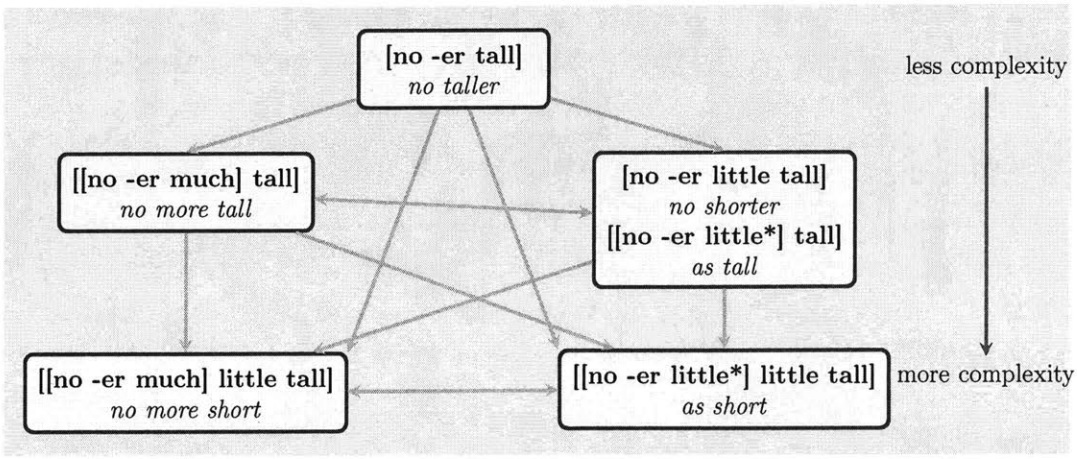


Figure 5-3: Hierarchy of non-evaluative equative APs

their synthetic counterparts. In addition, be semantic vacuity of MUCH those APs are also semantically equivalent. As a result, the non-evaluative parse of analytic equatives is deemed deviant by competition.

(20) **Competition #1: *no more tall* vs. *no taller***

a. Jane is no more tall than Tom is.

i. LF_1:***[λ1. [t1 much] tall Jane] [no -er [λ2. [t2 much] tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}]$

b. Jane is no taller than Tom is.

i. LF_2: **[λ1. t1 tall Jane] [no -er [λ2. t2 tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}]$

(21) **Competition #2: *no more short* vs. *no shorter***

a. Jane is no more short than Tom is.

i. LF_1:***[λ1. [t1 much] little tall Jane] [no -er [λ2. [t2 much] little tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}]$

b. Jane is no shorter than Tom is.

i. LF_2: **[λ1. t1 little tall Jane] [no -er [λ2. t2 little tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \prec d\} \supset \{d : \text{HEIGHT}(tom) \prec d\}]$

At last, the decomposition assumed for *as* allow us to account for lack of non-evaluative reading in negative-antonym equatives. The AP *as short* involves two

negative operators. When these negations are canceled out, the meaning conveyed by *as short* is equivalent to the meaning conveyed by the AP *no taller*. Because *no taller* is structurally simpler than *as short*, *Minimize AP!* predict that the latter AP is deviant. As a result, the parse in (22a-i) is precluded by the availability of the parse in (22b-i).

(22) **Competition #3: *as short* vs. *no taller***

a. Jane is as short as Tom is.

i. LF_1:***[λ1. [t1 little*] little tall Jane] [no -er [λ2. [t2 little*] little tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}]$

b. Jane is no taller than Tom is.

i. LF_2: **[λ1. t1 tall Jane] [no -er [λ2. t2 tall Tom]]**

ii. *Assertion*: $\neg[\{d : \text{HEIGHT}(jane) \succeq d\} \supset \{d : \text{HEIGHT}(tom) \succeq d\}]$

For the remaining APs of the paradigm (i.e., *no taller no shorter* and *as tall*), *Minimize APs!* makes no specific predictions for the reason that these APs do not admit a structurally simpler alternative or because the structural alternatives they admit are not truth-conditionally equivalent. And therefore, sentences involving these APs admit a non-evaluative reading in accordance with our intuitions.

Turning to equative parses that which involve the EVAL operator, we predict that any occurrence of EVAL that disrupts the structural adjacency within the complex word, will result in a violation of Myers' constraint. This is the case for the APs *no taller* and *no shorter* for which the complex words *taller* and *shorter* preclude the presence of EVAL, as it is the case in the comparative paradigm:

(23) **Phonological strings that violate *Myers' Generalization***

a. $[[[\sqrt{A^+}]_a \emptyset]_e \text{ -ER}]_c = *$

b. $[[\sqrt{A^+}]_a \text{ LITTLE}]_n \emptyset]_e\text{-ER}]_c \rightarrow [\sqrt{A^+} + \text{LITTLE}]_n \emptyset]_e \text{ -ER}]_c = *$

The remaining evaluative APs of the equative paradigm which conform with the expressibility constraint of alternatives are ranked by gradient structural complexity in Figure (5-4)

In the absence of better alternative APs, the complex forms *no more tall, no more short* and *as short* are licensed under their evaluative reading in conformity with our

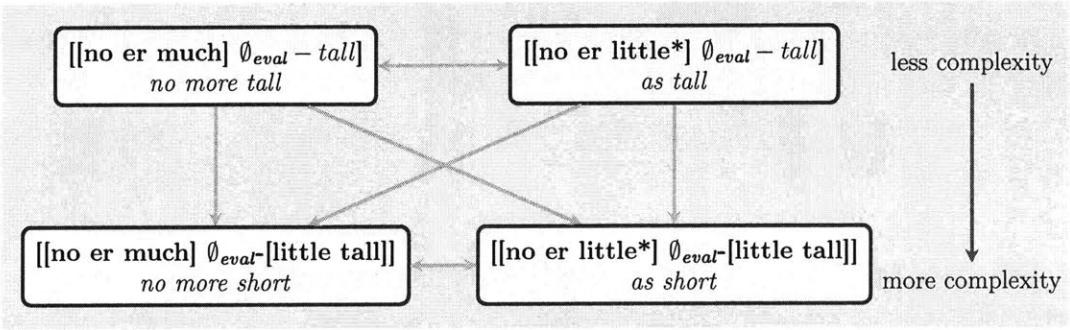


Figure 5-4: Hierarchy of evaluative equative APs

intuitions. The AP *as tall* in turn, is ambiguous between the evaluative and the non-evaluative construal, but we only perceive the non-evaluative because the meaning it conveys is weaker than the one expressed by the evaluative interpretation.

5.4 Open question

I conclude this chapter with a problem, that is left unsolved by the present theory of evaluativity. This problem relates to the behavior of EVAL in the environment of measure phrases. A certain type of measure phrase (MP) differentials is not licensed in constructions that should, in principle, give rise to an evaluativity presupposition. A few examples are given in (24):

(24) a. *Jane is 2 cm more tall than Tom is.

b. *Jane is 2 cm less short than Tom is.

c. *The rope is 2 inches shorter than the gap is narrow.

In the non-evaluative counterparts of these constructions, the same MPs are fine. For example, in (25a), the MP *2 cm* characterizes the interval that starts above Tom's maximal shortness up to Jane's maximal shortness. The subcomparatives in (24c) and (25b) also differ in their evaluative status, but the ungrammaticality of (24c) specifically suggests that MP differentials are illicit even when EVAL is located only in the standard clause of the degree construction.

(25) a. Jane is 2 cm taller than Tom is.

b. The rope is 2 inches shorter than the gap is wide.

If we adopt von Stechow and Stechow's (2009) account of differentials, the MP *2 cm* for instance is to be analyzed as a PP that modifies the comparative morpheme.

(26) $[\![2\text{ cm}]\!] = \lambda R_{\langle dt,\langle dt,t\rangle\rangle}$: R = [-er]]. $\lambda D_1.\lambda D_2.R(D_1)(D_2)$ & LENGTH(D_2 -D_1) = 2 cm

The way differentials are integrated into the semantics of comparison should not conflict with the presence of an evaluativity presupposition. Consider for example the analysis of the synthetic comparative in (25a), whose derivation is provided in (27a), and the analysis of its analytic counterpart in (24a), derived in (28). On the approach advocated in this dissertation, the fact that the parse in (24a) is ungrammatical comes at a surprise for it is not predicted by our system. Indeed, there is in principle no reason why (24a) could not receive the interpretation that the difference between Jane's shortness and Tom's shortness measures 2 cm and that the sentence is defined only when Jane and Tom are considered short. This issue generalizes to the other evaluative degree constructions in (24).

(27) a. LF: [λ1. t1 tall Jane] [2 cm -er [λ2. t2 tall Tom]]

b. $[\![(25a)]\!]$ = 1 iff LENGTH($\{d$: HEIGHT($jane$) $\succeq d\}$ - $\{d$: HEIGHT(tom) $\succeq d\}$) = 2 cm

(28) a. LF: [λ1. [t1 much] eval Jane tall] [2 cm -er [λ2. [t2 much] eval tall Tom]]

b. $[\![(24a)]\!]$ is defined if Jane is tall and Tom is tall.
If defined, $[\![(24a)]\!]$ = 1 iff LENGTH($\{d$: HEIGHT($jane$) $\succeq d\}$ - $\{d$: HEIGHT(tom) $\succeq d\}$) = 2 cm

Yet this apparent incompatibility between MPs and evaluativity might not be as strict as it seems. In fact, a certain class of MPs is attested in evaluative comparatives: for instance, the vague (or imprecise) MPs *way, a lot* are fine in environments that block precise MPs such as *2cm* and in fact, for some English speakers, they improve the acceptability of evaluative constructions:

(29) a. Jane is way more tall than Tom is.

b. Jane is a lot less short than Tom is.

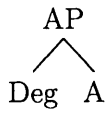
c. The rope is a lot shorter than the gap is narrow.

As it seems then, only precise MPs precludes evaluativity. So far the present proposal cannot account for this observation but, given the availability of sentences like (29), there are some reasons to believe that it is the vagueness introduced by EVAL that precludes precise MP modification of degree heads. In turn, imprecise MPs are suitable because, by definition, they characterize vague intervals.

5.5 Concluding remarks

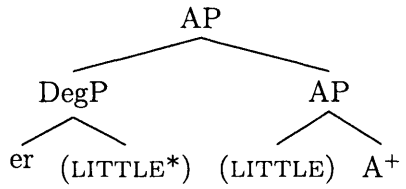
The study of degree constructions has always been guided by the idea that wellformed APs minimally involve two distinct semantic building blocks: a gradable predicate and a degree morpheme.

(30) **Semantic primitives of comparison: {A, Deg}**



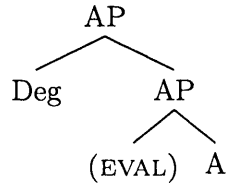
The traditional semantics for gradable adjectives has been later supplemented with an innovative approach to antonymy accounting for a set of otherwise puzzling facts about antonyms in various environments (e.g., cross-polar subcomparatives, modal contexts): negative antonyms and the degree operator *less* are not primitive units but morphosyntactically complex forms derived from their positive counterparts via negative operators, LITTLE and LITTLE*, respectively (Rullmann, 1995; Heim, 2006, 2008; Büring, 2007b).

(31) **Deriving antonymy: {A$^+$, -ER, LITTLE, LITTLE*}**



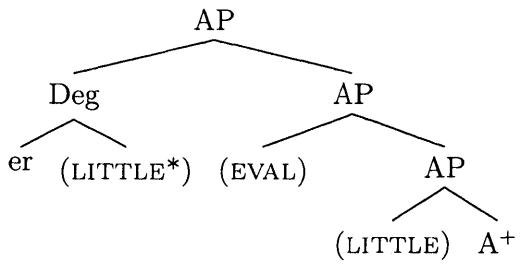
In parallel, semanticists have tried to account for another intriguing fact about adjectives which pertains to their context-sensitivity across degree constructions: while APs are always context-sensitive in positive constructions (Bartsch and Vennemann 1972; von Stechow 1984), they exhibit much more semantic flexibility in other constructions (Bierwisch 1989). An elegant solution to this puzzle, generalizing to all degree constructions, attributes the context-dependent interpretation of adjectives to the presence of an additional and optional morpheme, the EVAL operator (Rett 2008).

(32) **Deriving evaluative interpretations of APs: {A, Deg, EVAL}**



Considering these two independent lines of research together, the goal of this dissertation was to investigate the sort of mophosyntactic objects that can be generated from a set of primitives containing all the pieces mentioned above. The challenge is raised by the following two, apparently contradictory observations. On theoretical grounds, since the primitives LITTLE and EVAL are both predicate modifiers composing with degree properties, they can co-occur in syntactic representations and compose recursively, permitting thus a wide range of possible meanings. On empirical grounds, the systematic ambiguities we could have expected from the availability of the EVAL operator are not always reflected: some AP-containing constructions systematically lack a non-evaluative parse (e.g., *less short*) and, for certain constructions, it is methodologically impossible to establish whether they really admit an evaluative parse (e.g., *taller*).

(33) **Merging the two inventories: {A$^+$, -ER, LITTLE, LITTLE*, EVAL}**



(34) **Some combinations of lexical primitives**

a. [-er tall] → *taller*

b. [-er LITTLE tall] → *shorter*

c. [-er LITTLE* tall] → *less tall*

d. [-er LITTLE* EVAL tall] → *less tall*

e. [-er LITTLE* EVAL LITTLE tall] → *less short*

f. ...

The challenge I have addressed is thus that of explaining the apparent discrepancy between, on the one hand, the broad set of possible meanings that can in principle be generated from this enriched inventory and, on the other hand, the narrower set of meanings that are actually attested. I have argued that this challenge can be addressed if one adopts a modular approach to evaluativity: the set of possible combinations of primitives and their associated meanings is constrained in the grammar by interface principles, which all together adequately derive the set of attested meanings. Accordingly, I have offered an account of the distribution of the EVAL morpheme

by integrating a compositional analysis of evaluativity within a non-lexicalist view of antonymy, and I have shown that the observed restrictions on the distribution of evaluative readings follow from independently motivated conditions that regulate the presence of the EVAL operator at the interfaces. Specifically, this investigation has led me to uncover the role of three major interface principles:

- At LF, APs are subject to a structural economy condition, *Minimize APs!*, which executes transderivational comparisons over semantically equivalent APs. The inclusion of EVAL in a parse licenses derivations that would otherwise be deemed deviant by this economy condition (Chapter 2).

- At PF, EVAL morphophonologically interacts with its surrounding environment: it is a zero-morpheme subject to *Myers' Generalization*, a PF-filter preventing further morphological operations from applying to a zero-derived form. As a result, EVAL is licensed only where it does not disrupt post-syntactic operations that apply within the AP (Chapter 3).

- Finally, the distribution of EVAL is further conditioned by certain aspects of Information Structure. In degree constructions that license contrastive adjectives, the distribution of focus is governed by AVOIDF which, in turn, interacts with conditions on deletion. The presence of EVAL can license a surface form which would otherwise get eliminated by PF-deletion (Chapter 4).

Leaving the details aside, one of the core messages I hope to have offered here is that a grammatical account of evaluativity improves in many ways upon previous (competition-based or implicature-based) accounts relying on the stipulative notion of pragmatic markedness. Finally, the success of this grammatical account of evaluativity should be evaluated not only based on what attested forms it can describe but also on how accurately it improves our understanding of the morphosyntax and semantics of degree expressions. As I showed in Chapter 5, in this framework, evaluativity can now be used as a tool to probe for the elementary pieces composing other degree expressions like superlative and equative APs, for which our account was also shown to adequately capture the set of attested meanings. Thus, the grammatical account offers a window into the word-internal structure of complex degree expressions and contributes to the search for the basic building blocks of natural language meanings.

Bibliography

Bacskai-Atkari, J. (2014). *The syntax of comparative constructions: Operators, ellipsis phenomena and functional left peripheries.* Ph. D. thesis, Potsdam.

Bacskai-Atkari, J. (2018). *Deletion phenomena in comparative constructions: English comparatives in a cross-linguistic perspective.* Berlin: Language Science Press.

Barker, C. (2007). Parasitic scope. *Linguistics and Philosophy 30*(4), 407–444.

Bartos, H. (2001). Sound-Form Non-Insertion and the Direction of Ellipsis. *Acta Linguistica Hungarica 48*, 3–24.

Bartsch, R. and T. Vennemann (1972). The Grammar of Relative Adjectives and Comparison. *Formal Aspects of Cognitive Processes*, 168–185.

Beck, S. (2012). DegP scope revisited. *Natural Language Semantics 20*(3), 227–272.

Bhatt, R. and R. Pancheva (2004, jan). Late Merger of Degree Clauses. *Linguistic Inquiry 35*(1), 1–45.

Bhatt, R. and S. Takahashi (2007). Direct Comparisons: Resurrecting the Direct Analysis of Phrasal Comparatives. In T. Gibson and M. Friedman (Eds.), *Proceedings of SALT XVII*, Ithaca, NY. CLC Publications.

Bhatt, R. and S. Takahashi (2011, jun). Reduced and unreduced phrasal comparatives. *Natural Language and Linguistic TheoryLinguistic Theory 29*(3), 581–620.

Bierwisch, M. (1989). The semantics of gradation. In B. Manfred and E. Lang (Eds.), *Dimensional adjectives*, pp. 71–261. Berlin: Springer-Verlag.

Bobaljik, J. D. (2012). *Universals in Comparative Morphology: Suppletion, Superlatives, and the Structure of Words.* Cambridge, Mass.: MIT Press Ltd.

Breakstone, M. (2014). *Evaluativity and Measurement in Natural Language.* Ph. D. thesis, Cambridge: Massachusetts Institute of Technology PhD dissertation.

Bresnan, J. W. (1973). Syntax of the Comparative Clause Construction in English. *Linguistic Inquiry 4*(3), 275–343.

Bresnan, J. W. (1975). Comparative Deletion and Constraints on Transformations. *Linguistic Analysis 1*, 25–74.

Büring, D. (2007a). Cross-Polar Nomalies. In *Proceedings of Semantics and Linguistics Theory 17*, Number May, pp. 37–52.

Büring, D. (2007b). More Or Less. *Proceedings of Chicago Linguistics Society 43* (May).

Chierchia, G. (2004). Scalar Implicatures, Polarity Phenomena, and the Syntax/Pragmatics I nterfac. In Belletti (Ed.), *Structures and Beyond*, pp. 39–103. Oxford University Press.

Chomsky, N. (1965). *Aspects of the Theory of Syntax*. Cambridge, MA: MIT Press.

Chomsky, N. (1977). On Wh-Movement. *Formal Syntax* (5), 71–132.

Chomsky, N. (1993). A minimalist program for linguistic theory. In K. Hale and S. J. Keyser (Eds.), *The view from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, pp. 1–52. Cambridge, MA: MIT Press.

Chung, S. (2013). Syntactic identity in sluicing: How much, and why. *Linguistic Inquiry 44*, 1–39.

Corver, N. (1990). *The Syntax of Left Branch Extractions*. Ph. D. thesis, University of Brabant PhD dissertation.

Corver, N. (1993). A note on subcomparatives. *Linguistic Inquiry 24*(4), 773–781.

Corver, N. (1997). Much-support as a last resort. *Linguistic Inquiry 28*(1), 119–164.

Corver, N. and W. Lechner (2017). Comparative deletion and comparative subdeletion. In M. Everaert and H. van Riemsdijk (Eds.), *The Wiley Blackwell Companion to Syntax, Second Edition*, pp. 1–56. John Wiley & Sons.

Cresswell, M. J. (1977). The Semantics of Degree. In B. H. Partee (Ed.), *Montague Grammar*, pp. 261–292. New York, NY: Academic Press.

Doetjes, J. (2009). Cross-Polar (A)nomalies without degrees. In A. Cornilescu and L. Avram (Eds.), *Proceedings of the International conference of the English Department at the University of Bucharest*.

Dunbar, E. and A. Wellwood (2016). Addressing the 'two interface' problem: Comparatives and superlatives. *Glossa: a journal of general linguistics 1*(1), 1–29.

Embick, D. (2007, mar). Blocking effects and analytic/synthetic alternations. *Natural Language and Linguistic Theory 25*(1), 1–37.

Embick, D. and R. R. Noyer (2007). Distributed morphology and the syntax/morphology interface. In G. C. Ramchand and C. Reiss (Eds.), *Oxford Handbook of Linguistic Interfaces*, pp. 289–324. Oxford University Press.

Gazdar, G. (1979). *Pragmatics: Implicature, Presupposition, and Logical Form.* New York: Academic Press.

Grano, T. (2012). Mandarin 'hen' and universal markedness in gradable adjectives. *Natural Language and Linguistic Theory 30*, 513–65.

Grano, T. and S. Davis (2017). Universal markedness in gradable adjectives revisited. *Natural Language & Linguistic Theory 36*(1), 131–147.

Hackl, M. (2000). *Comparative Quantifiers.* Ph. D. thesis, Cambridge: Massachusetts Institute of Technology PhD dissertation.

Hackl, M. (2009, mar). On the grammar and processing of proportional quantifiers: most versus more than half. *Natural Language Semantics 17*(1), 63–98.

Halle, M. (1990). An approach to morphology. In *NELS 20*, University of Massachusetts, Amherst, pp. 150–184.

Halle, M. and A. Marantz (1994). Some key features of Distributed Morphology. In A. Carnie and H. Harley (Eds.), *MITWPL 21: Papers on phonology and morphology*, pp. 275–288. Cambridge.

Heim, I. (1985). *Notes on Comparatives and Related Matters.* Ph. D. thesis, Ms, University of Texas, Austin.

Heim, I. (1999). Notes on superlatives. In *Manuscript, MIT*, Cambridge, MA.

Heim, I. (2000). Degree Operators and Scope. In *Proceedings of SALT 10, Cornell University*, Number 1, Ithaca, NY, pp. 40–64. CLC Publications.

Heim, I. (2006). Little. In M. Gibson and J. Howell (Eds.), *Proceedings of SALT 16,*, Ithaca, NY, pp. 35–58. Cornell University.

Heim, I. (2008). Decomposing Antonyms? In *Proceedings of Sinn und Bedeutung*, Volume 12, University of Oslo, pp. 212–225. ILOS.

Heim, I. (2009). Lecture notes on antonyms. MIT Lecture notes.

Heim, I. and A. Kratzer (1998). *Semantics in Generative Grammar*, Volume 2. Malden, MA: Blackwell.

Horn, L. R. (1972). *On the Semantic Properties of the Logical Operators in English.* Ph. D. thesis, University of California, Los Angeles.

Horn, L. R. (1984). Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature. In D. Schiffrin (Ed.), *Form and Use in Context (GURT '84)*, pp. 11–42. Washington: Georgetown University Press.

Izvorski, R. (1995). A Solution to the Subcomparative Paradox. In J. Camacho, L. Choueiri, and M. Watanabe (Eds.), *Proceedings of the 14th West Coast Conference on Formal Linguistics*, pp. 203–219.

Jackendoff, R. S. (1972). *Semantic interpretation in generative grammar.* Cambridge MA: MIT Press.

Johnson, K. (2012). Pronouns vs. Definite Descriptions. In J. Becker, J. Grinstead, and J. Rothman (Eds.), *Generative linguistics and acquisition: Studies in honor of Nina M. Hyams*, pp. 157–184. John Benjamins Publishing Companie.

Katzir, R. (2007). Structurally-defined alternatives. *Linguistics and Philosophy 30*(6), 669–690.

Kennedy, C. (1997). *Projecting the Adjective: The syntax and semantics of gradability and comparison.* Ph. D. thesis, University of California PhD dissertation, New York.

Kennedy, C. (2001). Polar Opposition and the Ontology of 'Degrees'. *Linguistics and Philisophy 24*(March 1997), 33–70.

Kennedy, C. (2002). Comparative deletion and optimality in syntax. *Natural Language & Linguistic Theory 20*(3), 553–621.

Kennedy, C. (2007). Vagueness and grammar: The semantics of relative and absolute gradable adjectives. *Linguistics and Philosophy 30*(1), 1–45.

Kennedy, C. and J. Stanley (2007). What an Average Semantics Needs. In T. Friedman and S. Ito (Eds.), *Proceedings of SALT 18*, Number 2007, Ithaca, NY, pp. 465–482.

Kim, C. (2007). Processing presupposition: Verifying sentences with âĂŸonly'. In *In Proceedings of the 30th Penn Linguistics Colloquium , vol. 14.1*, University of Pennsylvania. Working Papers in Linguistics, PWPL.

Kiparsky, P. (2005). Blocking and periphrasis in inflectional paradigms. *Yearbook of Morphology 2004*, 113–135.

Klein, E. (1980). A semantics for positive and comparative adjectives. *Linguistics and Philosophy 4*, 1–2.

Križ, M. and E. Chemla (2015). Two methods to find truth-value gaps and their application to the projection problem of homogeneity. *Natural Language Semantics 23*(3), 205–248.

Lechner, W. (2001). Reduced and phrasal comparatives. *Natural Language & Linguistic Theory 19*(Kluwer Academic Publishers), 683–735.

Lechner, W. (2004). *Ellipsis in Comparatives.* Berlin,Boston: Mouton de Gruyter.

Marantz, A. (1989). Clitics and phrase structure. In Alternative Conceptions of Phrase Structure. In M. Baltin and A. Kroch (Eds.), *In Alternative Conceptions of Phrase Structure*, pp. 99–116. Chicago: The University of Chicago Press.

Marty, P. P. (2016). Minimize DPs! (Notes on i-within-i effects, circular referentiality and Minimize restrictors!).

Marty, P. P. (2017). *Implicatures in the DP domain.* Ph. D. thesis, Cambridge: Massachusetts Institute of Technology PhD dissertation.

Matushansky, O. (2013). More or Better : On the Derivation of Synthetic Comparatives and Superlatives in English. In Ora Matushansky and A. Marantz (Eds.), *Distributed Morphology Today: Morphemes for Morris Halle*, pp. 59–78. Cambridge, MA: MIT Press.

Merchant, J. (2001). *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis.* Oxford: Oxford University Press.

Meyer, M.-C. (2016). Redundancy and Embedded Exhaustification. *Semantics and Linguistic Theory 25*, 491.

Mondorf, B. (2009). *More support for more-support: The role of processing constraints on the choice between synthetic and analytic comparative forms.* Amsterdam: John Benjamins.

Moracchini, S. (2018). Evaluativity and structural competition. *Semantics and Linguistic Theory 28*(1), 727.

Morzycki, M. (2012). Adjectival extremeness: Degree modification and contextually restricted scales. *Natural Language and Linguistic Theory 30*(2), 567–609.

Murphy, A. (2018). Pronominal inflection and NP ellipsis in German. *Journal of Comparative Germanic Linguistics 21*(3), 327–379.

Noyer, R. R. (1992). *Features, positions and affixes in autonomous morphological structure.* Ph. D. thesis, Cambridge, Massachusetts: Massachusetts Institute of Technology PhD dissertation.

Pancheva, R. (2006). Phrasal and clausal comparatives in Slavic. *Formal approaches to slavic linguistics*, 236–257.

Rett, J. (2007). Antonymy and Evaluativity. In T. Freidman and M. Gibson (Eds.), *SALT XVII*, Ithaca, NY, pp. 210–227. Cornell University.

Rett, J. (2008). *Degree Modification in Natural Language.* Ph. D. thesis, State University of New Jersey PhD Dissertation.

Rett, J. (2014). Measure phrase equatives and modified numerals. *Journal of Semantics 32*(February), 425–475.

Rett, J. (2015). *The Semantics of Evaluativity.* Oxford University Press.

Rett, J. and A. Brasoveanu (2018). Evaluativity across adjective and construction types: An experimental study. *Journal of Linguistics, 54*(2), 1–67.

Ross, J. (1967). *Constraints on Variables in English.* Ph. D. thesis, MIT.

Rullmann, H. (1995). *Maximality in the Semantics of WH-Constructions.* Ph. D. thesis, University of Massachusetts/Amherst.

Saab, A. A., A. Lipták, and A. Liptak (2016). Movement and Deletion after Syntax: Licensing by Inflection Reconsidered. *Studia Linguistica 70*(1), 66–108.

Sag, I. A. (1976). *Deletion and Logical Form.* Ph. D. thesis, MIT, PhD dissertation.

Schlenker, P. (2005). Minimize restrictors!(Notes on definite descriptions, condition cand epithets). In *Proceedings of SuB9*, pp. 385.

Schwarz, F. (2015). False but slow: Evaluating statements with non-referring definites. *Journal of Semantics.*

Schwarz, F. (2016). Experimental work in presupposition and presupposition projection. *The Annual Review of Linguistics 2*(1), 273–292.

Schwarzschild, R. (1999). Givenness, AvoidF and other constraints on the placement of accent. *Natural language semantics 7*, 141–177.

Schwarzschild, R. (2006). The role of dimensions in the syntax of noun phrases. *Syntax 9*, 67–110.

Seuren, P. A. (1973). The Comparative. In F. Kiefer and N. Ruwet (Eds.), *Generative Grammar in Europe*, pp. 528–564. Dordrecht: Riedel.

Solt, S. (2009). *The Semantics of adjectives of quantity.* Ph. D. thesis, The City University of New York.

Solt, S. (2010). Much support and more. In M. Aloni, H. Bastiaanse, T. de Jager, and K. Schulz (Eds.), *Logic, language, and meaning: Proceedings of the 18th Amsterdam Colloquium*, Berlin, pp. 446–455. Springer Verlag.

Szabolcsi, A. (1986). Comparative superlatives. *MIT Working papers in Linguistics 8*, 245–265.

Thomas, G. (2013). Reference to degrees and nominalization in Mbyá. In Uli Sauerland and Luka Crnic (Eds.), *In The art and craft of semantics: a Festschrift for Irene Heim*, Volume 2, pp. 201–225. MITWPL 71.

von Stechow, A. (1984). Comparing semantic theories of comparison. *Journal of Semantics 3*, 1–77.

von Stechow, A. and A. Stechow (2009). The temporal degree adjectives früh(er)/spät(er) 'early(er)'/'late(r)' and the semantics of the positive. In A. Giannakidou and M. Rathert (Eds.), *Quantification, Definiteness and Nominalization*, Volume 3, pp. 214–233. Oxford University Press.

Wellwood, A. (2015). On the semantics of comparison across categories. *Linguistics and Philosophy 38*(1), 67–101.