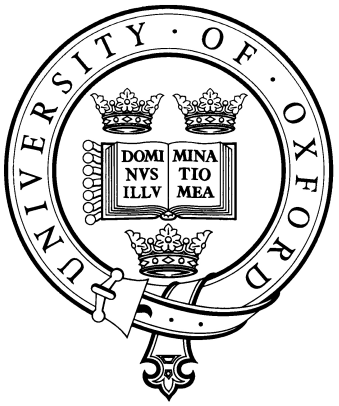
The Morphology and Semantics of Expressive Affixes



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Abstract

This dissertation focuses on two aspects of expressive affixes: their morphological/typological properties and their semantics. With regard to the former, it shows that the expressive morphology of many different languages (including Bantu, West Atlantic, Walman, Sanskrit, Germanic, Romance, Slavic, and others), has the following properties: 1) it is systematically anomalous when compared to plain morphology, or the ordinary processes of word-formation and inflection. From this, it follows that many familiar morphological arguments that adduce the data of expressive morphology ought to be reconsidered; and 2) it is far more pervasive than has been traditionally thought. For example, the Sanskrit preverb, and the Indo-European aspectual prefix/particle generally, are shown to have systematically expressive functions.

With respect to the semantics of expressive affixes, it develops a novel multidimensional account, in the sense of Potts (2005, 2007a), of Spanish "connotative affixes," which can simultaneously convey descriptive and expressive meaning. It shows that their descriptive meaning is that of a gradable adjective, viewed as a degree relation which includes a measure function, in the sense of Kennedy (1997b). The expressive meaning of connotative affixes, and expressives generally, arises as they manipulate the middle coordinate, **I**, of expressive indices which, I propose, is inherently specified on all lexical items and canonically set to $[-.5, .5]$ or "neutral." I propose a new mechanism, **AFF**, which is an algebraic operation for manipulating **I**, and which accounts for the well-known, and seemingly "contradictory," range of meanings that expressive affixes can express. Whereas prior work assumes that expressive affixes are inherently polysemous, this approach derives their many attested meanings and functions (e.g., "small," "young," "bad," deprecation, appreciation, hypocorism, intensification/exactness, and attenuation/approximation) compositionally, from the interactions of their multidimensionality with the meanings of the roots to which they attach.

To my Boogitita

Contents

Acknowledgements

That I ever managed to finish this dissertation is entirely thanks to the following people.

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Finally, I would like to dedicate this work to the person who has been through it all with me: my wonderful wife, the love of my life, my companion, and best friend, Dyane.

List of Abbreviations

Abbreviation	Definition	First use
1SG	First Person Singular	page 37
2SG	Second Person Singular	page 143
3SG	Third Person Singular	page 38
3PL	Third Person Plural	page 57
3RD	Third Person	page 143
ADJ	Adjective	page 104
ADV	Adverb	page 104
ATT	Attenuative	page 99
AUG	Augmentative	page 17
CA	Connotative Affix	page 3
CI	Conventional Implicature	page 2
CIS	Caribbean Islands Spanish	page 138
CMLT	Cumulative	page 96
COND	Conditional Tense	page 39
CPR	Category-preserving rule	page 75
CL	Clitic	page 143
DIM	Diminutive	page 10
DLMT	Delimitative	page 96

Abbreviation	Definition	First use
DSTR	Distributive	page 96
EA	Expressive Affixes	page 2
EM	Expressive Morphology	page 1
ER	Expressive Rule	page 12
FEM	Feminine Gender	page 16
FUT	Future Tense	page 26
GA	Gradable Adjective	page 107
IMP	Impersonal	page 26
IMPRF	Imperfective	page 96
IE	Indo-European	page 17
INCP	Inceptive	page 96
INST	Instrumental	page 38
LA	Lambda-Abstraction-Specification	page 21
LAS	Latin American Spanish	page 138
LMBM	Lexeme-Morpheme Base Morphology	page 15
MASC	Masculine Gender	page 63
ME	Middle English	page 86
NC	Noun Class	page 59
NOM	Nominative case	page 28
OBJ	Object marker	page 116
OE	Old English	page 81
PEJ	Pejorative	page 18
PM	Plain Morphology	page 1
POSS	Possessive	page 60
PRES	Present Tense	page 37
Prt	Particle	page 69
PV	Preverb	page 82

Abbreviation	Definition	First use
PST	Past Tense	page 38
RC	Radial Category	page 20
REFL	Reflexive	page 143
RHR	Right-Hand Head Rule	page 9
RPET	Repetitive	page 96
SG	Singular	page 28
SMH	Split-Morphology Hypothesis	page 43
SPV	Sanskrit preverb	page 77
TV	Terminal Vowel	page 171
VPC	Verb-particle construction	page 86
WFR	Word Formation Rule	page 39

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Chapter 1

Introduction

Expressive modes of language pose a bewildering range of problems to linguistic theory. This dissertation addresses those problems as they relate to the morphology and semantics of expressive affixes such as the diminutive, the augmentative, the affectionate, and the pejorative.

Its primary descriptive claim is that *Expressive Morphology* (henceforth, EM) ought to be distinguished from *Plain Morphology* (henceforth, PM), or the "ordinary" processes of lexeme-formation and inflection, and that a unitary *morphological* account is not possible.[1] Marshalling empirical support for this hypothesis will be the focus of Chapters 2 and 3. To focus and guide the empirical investigation, I adopt a *canonical* approach to typology (Corbett 2005), which is to say: definitions of grammatical phenomena are taken to their logical endpoints, and spaces of theoretical possibilities are built around them. The advantages of this approach should become particularly evident in the analysis presented in

[1]What I refer to as "Expressive Morphology" is called "Evaluative Morphology" by many authors (e.g., Scalise 1984; Stump 1993; Dressler and Merlini-Barbaresi 1994; Grandi 1998). However, the term "evaluativity" has, in recent work, been used to refer to degree constructions that are evaluated against (and exceed) a contextually-specified standard. See Neeleman et al. (2004) and Rett (2008). Furthermore, as my semantic analysis unifies EM with the general theory of expressives, I adopt the interchangeable term "expressive" throughout.

Chapter 2, which addresses the distinction between inflection and derivation. An influential alternative typological understanding of this distinction, due to Bybee (1985), views it as a continuum, with rules and processes as points lying on a two-dimensional scale, between two extremes of perfect inflection and perfect derivation. A consequence of this conception is that it misses certain distinctions that are captured very naturally in the canonical approach. For example, say we are considering five criteria of inflectional processes, and we have two distinct processes that meet three of those criteria, but coincide in only one. Under the continuum view (and *ceteris paribus*) they would lie on the same point on the continuum, three-fifths of the way to perfect inflection. The canonical approach, however, allows for a more nuanced kind of metaphor and, thus, understanding. Grammatical categories and phenomena are calibrated within a (three-dimensional) theoretical space, away from or towards an idealised "best" instance (which meets *all* the relevant criteria), based on how well they fit the criteria.

A further, but closely related, aim of this work will be to provide a complete and uniform account of the semantics of EM. The primary theoretical claim is that expressive affixes (henceforth, EAs) are semantically multidimensional, in the sense of Potts (2005; 2007a). Potts (2004) show that Conventional Implicatures (henceforth, CI)—a class of meaning that includes supplements and expressives—must be distinguished fundamentally from other types of meaning. Below, I show that EM fits all the criteria of expressives and, in contrast to my arguments against a unitary morphological account of PM and EM, in Chapters 4 and 5 I develop a formal, unitary synchronic account, in multidimensional terms, of the semantics of Spanish EAs whose meaning has long been considered

either paradoxical or purely pragmatic, and not amenable to such an analysis.[2]

A core semantic property of the EAs I will investigate in depth is that they can contribute both adjectival and attitudinal/emotive meaning. For example, crosslinguistically, the diminutive can indicate both smallness and affection. I refer to such morphemes as *connotative affixes* (henceforth, CAs). My analysis views the descriptive and expressive meanings as independent of each other, with the former being that of a gradable adjective, in the sense of Kennedy (1997b), and the latter arising from the interactions of expressive indices (Potts 2007a) with a morphosemantic operator which manipulates expressive intervals, AFF. Although, as we shall see, EM presents several challenges for Potts's approach, the modifications I propose not only address these but, I argue, make for a more parsimonious and explanatory theory. I support my claim that the semantics of CAs are multidimensional by showing that it provides principled explanations for a wide range of previously unrelated facts about them, from their distributions to their formal properties.

This introduction broadly sets out the background and motivation for the current investigation. The argument then develops as follows: Chapters 2 and 3 establish the morphological aberrancy of EAs, and Chapters 4 and 5 develop a formal, unitary account of the descriptive and expressive semantics of EM. Chapter 6 recaps the major arguments and conclusions, and highlights avenues for further research.

[2]See, for example, Jurafsky (1996: 559) who argues for a diachronic account and Dressler and Merlini-Barbaresi (1994), who view the meaning of EM as primarily pragmatic.

1.1 Theoretical issues

Broadly speaking, modern theories of morphology can be classified as either *morpheme-based* or *lexeme-based*, a distinction which Aronoff (2000) traces back largely to Chomsky's (1970: 188) suggestion that a generative lexicon could substantially simplify the transformational component. At bottom, the conflict rests on whether one accepts the Structuralist assumption that morphemes are minimal, Saussurean, signs. Most mainstream linguistic theories in the Chomskyan tradition have taken that assumption on board, and are morpheme-based. According to Beard (1995), the three fundamental assumptions of these approaches are:

I. Language contains only one type of meaningful unit, the morpheme, which includes all sublexical items (stems and affixes alike). Beard (1995) attributes this assumption to Baudouin de Courtenay (1895), who defined the "morpheme" as "that part of the word which is endowed with psychological autonomy and for that reason is not further divisible" without distinguishing between stems and affixes. Baudouin initially coined the term "morphological atoms" to refer to "roots in the broad sense" (1877: 144), but he later included any component of a word under the notion of "morpheme." This innovation can be attributed in part to his belief that "analysis, decomposition into features is in all sciences the beginning of precise investigation" (Baudouin de Courtenay 1889: 176). Once the focus of inquiry shifted to linguistic features and their properties, a morpheme-based account became natural, if not inevitable.

Of course, this approach makes strong predictions regarding the nature of stems and affixes: minimally, they should share the same fundamental prop-

erties (whatever they may be) and display (at least roughly) similar behaviour. Baudouin de Courtenay assumed they did, and thus partially erased a familiar and intuitive distinction. The conflation of stems and affixes is therefore referred to as "Baudouin's Single Morpheme Hypothesis" (Beard 1995: 6).

II. Morphemes are Classical, Saussurean signs. Saussure's (1983) notion of the linguistic sign involved a one-to-one pairing of "a concept and a sound-image" (1983: 98), as represented by his famous bipartite, oval diagram.

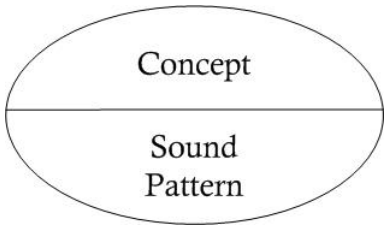


Figure 1.1: The Saussurean sign

For Saussure, signhood was exclusively a relational and differential property of *words*, which he did not decompose into morphemes or features. One problem with this purely differential view is that there is no reason to think that a determinate account of a sign's associative relations is possible, even in principle. As Ducrot (1968) notes,

> Each sign is therefore related to all those signs which delimit it, and which therefore constitute its paradigm. But Saussure was not able to extract a criterion of classification of negative limitation. The only phonic unities which interested him were in effect signifiers, that is unities which are already very complex, and which are as a result delimited by a very large number of neighbouring signifiers. One must therefore accommodate within their paradigm a multitude of terms…As a result, the ordering of terms within a paradigm becomes an impossible task, and furthermore it is not possible to classify them by relating them to each other.
>
> (Ducrot 1968: 74, translation from Holdcroft 1991: 136)

Given this, it seems inevitable that Saussure would not look to decompose signs into features. The absence of the term 'morpheme' in the *Cours*, at a time when it was state-of-the-art linguistics, further demonstrates Saussure's reluctance to do so, even for didactic purposes. Rather, whole words and their more immediate paradigmatic relations are a natural object of inquiry from this point of view.

It was Baudouin de Courtenay who extended and generalised the Stoic concept of "the signifier" (τὸ σήεμαινον) and "the signified" (τὸ σημαινόμενον) to all morphemes. From Baudouin's analytic perspective (in the sense of Chomsky (1951), viz., 'bottom-to-top'), this makes eminent sense. According to Stankiewicz (1976: 39), Baudouin was reacting, in part, against linguists like Fick, Sayce, and Delbrück, who advocated ridding the theoretical ontology of "the empty clatter of stems and affixes" by returning to the Word-and-Paradigm (WP) approach of the Greeks. During his Kazan' School period, Baudouin's attention was therefore focused on reaching both a deeper and more general understanding of the internal structure of words. He sought to achieve the former by studying their morphemic structure, and the latter by subsuming stems and affixes under the single rubric of 'morpheme.' In practice, this meant segmenting words both phonologically and morphologically: for example, his view of phonemes as "combinations of more basic articulatory-auditory activities of a definite type…not like separate notes, but like chords composed of several elements" (Baudouin 1910: 271, quoted in Stankiewicz 1976: 32) presaged, and formed the basis of, Jakobson's theory of distinctive features in phonology.

If one takes the idea that morphemes are signs to be a theory of how words are constructed, derivation becomes the monotonic composition of signs, which are defined as the indissoluble unity of sound and meaning. Anderson (1992: 52)

formalises this as follows:

> Suppose we say that a word has two representations: one as a string of abstract morphemic units (μ's), linked to components of meaning; and one as a string of phonological positions (Xs), linked to actual phonetic content. Then we can draw lines associating the one with the other… In terms of this sort of analysis, we could represent the classical form of the hypothesis about morphemes as involving the claims in (1):

(1) a. Every X is linked to one and only one μ;
b. Every μ is linked to at least one X; and
c. The lines between Xs and μ's do not cross.

Under the morpheme-based view, exceptions to this are merely instances of accidental homophony or synonymy. A further consequence of the monotonicity of derivation is that all derivational relations are directional, i.e., the properties of the base form are presupposed by a derived form that involves an additional marker. Finally, this assumption makes explicit a prediction about the behaviour of stems and affixes alike: it should be prototypically 'sign-like'. Beard (1995: 6) calls this the "Sign Base Morpheme Hypothesis."

III. All morphology resides in the lexicon. An important entailment of Bloomfield's (1933: 162) claim that "the total stock of morphemes in a language is its lexicon" is that stems and affixes must be subject to the same selection and copying processes. Beard (1995) calls this assumption, along with the Single Morpheme and Sign Base Morpheme Hypotheses, the "Lexical Morpheme Hypothesis," and he lays the blame for its faults squarely with Bloomfield's approach to morphology, which was characterised by an emphasis on the study of phonological issues of allomorphy at the expense of semantic considerations. In §1.1.1, I discuss the relevance of EM to the paradigmatically morpheme-based

theories of morphology presented in Selkirk (1982), Lieber (1980; 1992), Williams (1981), and Di Sciullo and Williams (1987).

In contrast, lexeme-based theories advocate the principled separation of affixation, viewed as the output of purely phonological operations, from the semantic features they mark. Since Bazell's (1952) seminal discussion of the asymmetries between morphemic form and meaning noted by Karcevskij (1929), the presumption that analyses at one level will map isomorphically to other levels has been known as the *Correspondence Fallacy*.[3] However, in Chapters 4 and 5, I develop a thoroughly morpheme-based analysis of the semantics of EAs, and I show that the proper way to view them is as carriers of meaning—signs, in other words.[4] Although I am not currently in a position to provide a principled explanation for the formal aberrancy of EM, this *semantic* fact, which fundamentally distinguishes EM from PM, seems to be the correct starting point. Lexeme-based theories impose a strict separation between morphological form and meaning. EM, however, breaks down that wall, to allow the direct, Saussurean association between the two.

Even though EM has seldom been investigated in depth from either a morpheme– or lexeme-based perspective, its influence on both has invariably been disruptive, prompting either major theoretical overhauls (Lieber 1980; Di Sciullo and Williams 1987), or simply despair that the problems raised by EM are currently intractable and have to be bracketed and ignored, temporarily at least (Beard 1995; 1998).[5] I set the stage by showing that EM has, historically, been

[3] I concur with Stump (2001: 3) that the facts of morphology support a lexeme-based view. However, since defending this view is beyond the scope of this dissertation, I refer the reader to Robins (1959), Matthews (1991), Anderson (1992), Aronoff (1994), Beard (1995), Stump (2001), and references therein. In particular, the latter two present a detailed and, in my view, decisive case against morpheme-based morphology.

[4] Maiden (1999) similarly discusses a "form-meaning isomorphism" evident in the diachronic data of Romanian and Spanish diminutives and augmentatives.

[5] The bleak assessment of Beard (1998: 60) is worth quoting in full:

consistently problematic for linguistic theories of many different stripes. I then argue that the best current models of morphology cannot account for EM, for one reason or another.

1.1.1 EM and morpheme-based theories: a brief history

A guiding, programmatic, assumption of morpheme-based approaches is that "a truly simple theory of morphology would be one in which nothing at all needed to be added to the theory of syntax in order to account for the construction of words" (Lieber 1992: 21).[6] From the late 1970s to the early 1990s, Generative Morphologists sought to generalise the phrasal syntax of Government and Binding theory to all morphological structures. For those linguists, as for their constructionalist heirs, morphological rules are simply phrase structure rules. Unfortunately, EM is particularly resistant to this kind of analysis.

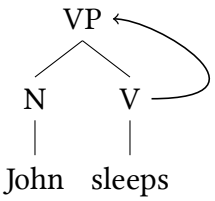
Williams's (1981: 248) influential *Right-Hand Head Rule* (henceforth, RHR) proposed that the syntactic notion of *head* could be applied below the level of a word. In syntax, the head of a phrase is the word that determines the syntactic type of the whole, as the following example illustrates.[7]

> There is no obvious means of relegating expressive derivation to any of the other three types [of lexical derivation: featural, functional, and transpositional]. The categories involved are not found elsewhere in grammar as are functional categories, nor are they inherent lexical categories like gender. Since expressive derivation does not involve a category change, it cannot be a form of transposition. It therefore remains mysterious in many respects.

[6] More recently, this view has been echoed and reformulated in even more radical terms by Marantz (1997), Borer (2005b), and Ramchand (2008b), among others. The presumption that the reduction must be from morphology to syntax may be justified because syntax requires greater expressive power than morphology. However, it also partly reflects the dominance of syntacticians in academic linguistics. As Emonds (2002: 236) aptly puts it, "one can equally well claim that many phenomena seen as syntactic should be subsumed under properly expanded morphological analysis."

[7] In the X-bar schema, the head carries one bar level less than the phrasal node which dominates it. However, if the mother node is a word (zero-level), or part thereof, the daughters are also zero-level.

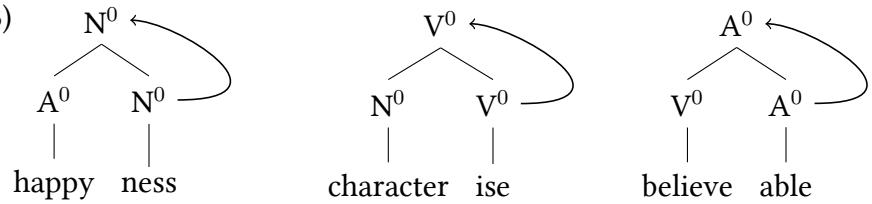
(2)



> **The Right-Hand Head Rule (RHR)**: In morphology we define the head of a morphologically complex word to be the right-hand member of that word.

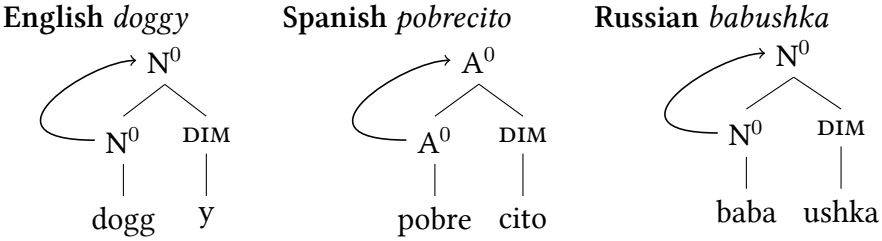
Thus, in the words in (3), the right-hand element is the head, and its category determines the category of the whole word.

(3)



The RHR had to be "relativised" (i.e., weakened) in light of the fact that Spanish diminutives are categorially transparent and neutral (Jaeggli 1980).[8] That is, they can be attached indifferently to members of various lexical categories without changing their category, only their semantics.[9]

(4)



The *Relativised Right-Hand Head Rule* of Di Sciullo and Williams (1987), which defines the head of a word as its rightmost constituent *that is specified for a given*

[8] See Scalise (1988) for the same phenomenon in Italian, and Lieber (1992: 93) for Russian.

[9] The glosses are: Spanish *pobre-cito* poor-DIM ≈'poor' A + sympathy and Russian *babushka* grandmother-DIM ≈'dear grandmother.'

property, is such a dilution of the original position, however, that it amounts to a case-by-case stipulation of what constitutes a head or not. This move was forced by the theory's inability to account for EM.[10]

Similar thinking lies behind Lieber's (1992) *Backup Percolation*, which is designed to account for cases in which head percolation fails to provide a category feature. It is a catch-all, intended to deal with the same kinds of diminutive data that was problematic for Williams (1981).[11]

(5) a. *Head percolation*
Morphosyntactic features are passed from a head morpheme to the node dominating the head. Head percolation propagates the categorical signature.

b. *Backup percolation*
If the node dominating the head remains unmarked for a given feature after head percolation, then a value for that feature is percolated from an immediately dominated nonhead branch marked for that feature. Backup percolation propagates only values for unmarked features and is strictly local.

(Lieber 1992: 92)

The 'categorial signature' is the set of morphosyntactic features that are *allowed* to percolate. As Toman (1998: 315) points out, "such feature sets are category– and language-specific," and are thus an *ad hoc* way of accommodating the difficult data of EM.

1.1.1.1 Scalise's (1984) criteria and architecture

The most radical response to the problems posed by EM to Generative Morphology was that of Scalise (1984), also partly in response to Jaeggli (1980). In his

[10]See Di Sciullo and Williams (1987: 25–28), Anderson (1992: 313) and Carstairs-McCarthy (1992: 107) for discussion.

[11]Di Sciullo and Williams (1987: 27; fn. 2) claim that the RHR and the weakened percolation conventions of Selkirk (1982) and Lieber (1992) were all "actually responses to the same data…namely, the Spanish diminutives reported by Jaeggli (1980)." This shows what a problem EM was for Generative Morphology.

discussion of Italian expressive rules (henceforth, ERs), Scalise proposes the following set of properties that, taken together, distinguish them from the ordinary processes of word-formation and inflection.

(6) *Six properties of expressive affixes in Italian* (Scalise 1984: 32–33)

a. They change the semantics of the base.

b. They allow the consecutive application of more than one rule of the same type, and at every application the result is an existent word.

c. They are always external with respect to other derivational suffixes and internal with respect to inflectional morphemes.

d. They allow, although to a limited extent, repeated application of the same rule on adjacent cycles.

e. They do not change the syntactic category of the base they are attached to.

f. They do not change the (morpho)syntactic features or the subcategorization frame of the base.

For Scalise, the processes of EM are not reducible to PM so, in order to account for these putatively unique characteristics, he proposes a change to the architecture of grammar. The locus for EM is a modular, *Evaluative Subcomponent* of the morphology that resides between the derivational and inflectional subcomponents, as illustrated in Figure 1.2. Scalise derives some of the properties in (6)

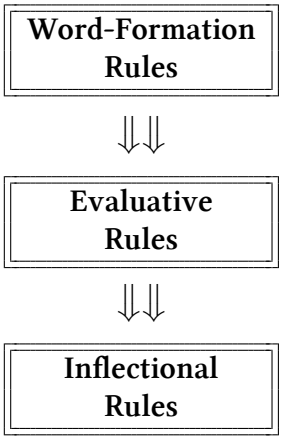


Figure 1.2: Scalise's (1984: 133) conception of morphology

from this architecture of the Morphological component. For example, property (c) follows trivially from the level-ordering because ERs close words to further derivation, and inflection closes words to further ERs, and (e) and (f) are properties of inflection and derivation proper, respectively. The other properties, (b) and (d), are simply stipulated to be distinctive characteristics of ERs.

However, Stump (1993) shows that these properties are language-specific and, moreover, miss some crucial facts about EM. Stump proposes a revised set of criteria for EM but goes on to argue that they are not exclusive to semantically expressive morphology. He shows that Sanskrit preverbs exhibit exactly the behaviour that is supposed to distinguish EM from PM but, he argues, without expressive semantics. He thus aims to undermine the view that EM is "peculiar." In Chapter 3, I address Stump's argument. While his critique of Scalise (1984) and his proposed criteria of EM are sound, I show that his assumption that Sanskrit preverbs "cannot be plausibly classified as evaluative" (Stump 1993: 17) is untenable. I further argue, adducing a range of diachronic and synchronic data, that all Indo-European aspectual morphology has potentially expressive functions.

1.1.1.2 Borer (2005a) and the number/classifier distinction

Borer (2005b) undertakes to eliminate lexical rules from the grammar by relating all productive morphological phenomena to syntactic configurations. One of the central assumptions of the analysis of DPs developed in Borer (2005b: ch.4) is that the basic interpretation of nominalised roots is of a mass or uncountable noun. Count readings require additional functional structure, headed by DIV (for 'division'), and a *Quantity Phrase* provides a syntactic (specifier) position for cardinals and other elements that quantify over the individuals picked out

by DIV. Borer argues that, in languages like English, German, and Dutch, DIV is realised by grammatical number, PL, which induces a count interpretation.

In contrast, languages like Chinese realise DIV as a *classifier*, which itself directly individuates the mass meaning of the noun. Since the choice of DIV head is language-specific, Borer's theory predicts that no language can have both number marking and classifiers. The problem posed by EAs to this theory (which Borer recognises; see also Wiltschko 2005 and Ott 2009 for further discussion) is that, in number-marking languages, they typically turn mass nouns into count nouns. The following data from Borer (2005a: 92; fn. 6), following an observation due to Henk van Riemsdijk, illustrate this point for Dutch.

(7) a. *veel* *zout*
much salt
'much salt'

b. * *veel* *zout-je*
much salt- DIM

c. *veel* *zout-en*
many salt- PL
'many kinds of salt'

d. *veel* *zout-je-* *s*
many salt- DIM-PL
'many salt crackers'

(8) a. *veel* *brood*
much bread
'much bread'

b. * *veel* *brod-* *je*
much bread-DIM

c. *veel* *brood-en*
many bread-PL
'many kinds of bread'

d. *veel* *brood-je-* *s*
many bread-DIM-PL
'many bread rolls'

In these examples, none of the mass nouns can be diminutivised *as mass nouns*. If a diminutive attaches to a noun like *salt* or *bread*, the only possible reading is one where the entity denoted by the root is a unit, like 'salt *cracker*' or 'bread *roll*.' Jurafsky (1996: 555) presents evidence of this phenomenon in many languages of both classifier and number-marking types.[12] Gràcia and Turon (2000)

[12]Examples are given in Table 4.4 on page 128.

give an account of these properties of Catalan diminutives in which a noun must be specified for the morphosemantic feature [±b(ounded)] in order for an EA to convey descriptive semantics. In Chapter 4, I show that the descriptive meanings of EAs are those of gradable adjectives, and I give an account in terms of Kennedy's (1997b) measure functions. Moreover, in §4.4, I discuss in detail this individuating property with respect to Spanish EAs, and develop a purely semantic account in terms of a *presuppositional requirement* of boundedness, which the descriptive meanings of EAs impose on the context. If there is presupposition failure, only the expressive meaning is available. This accurately predicts the varied, productive meanings of EAs.

1.1.2 Separationism and the signlike nature of EM

Beard (1995) is an extensive defence of the radically lexeme-based assumption of a strict separation between form and meaning in morphology, which is built into the architecture of grammar of his theory, Lexeme Morpheme Base Morphology (henceforth, LMBM), as represented in Figure 1.3.[13] The sharp distinction between lexical derivation and purely morphological processes like affixation, stem mutation, and reduplication is known as the *Separation Hypothesis*. 'Separate' in this sense refers to the independence of components that Chomsky (1981) and Fodor (1983) propose for modules of cognitive processing: the input of any one module has access only to the output of others.[14]

[13] Beard (1995) uses the terms "L(exical)-derivation" and "I(nflectional)-derivation" to refer to traditional derivation/word-formation and inflection, respectively.

[14] This hypothesis is designed to account naturally for attested mismatches between derivation and morphology, which morpheme-based approaches must stipulate. Lexical or inflectional derivation without subsequent affixation results in 'zero' morphology. Affixation without prior derivation generates 'empty' morphemes like *–at* in dram-at-ic. Morphological asymmetry, or syncretism, occurs when several different affixes mark a single derivation—for example, compare the phonologically different Spanish agent nominalisers in *cant-ante* sing-er, *pens-ador* think-er, *carni-cero* butch-er, and *bailar-ín* danc-er—or a single phonological affix marks sev-

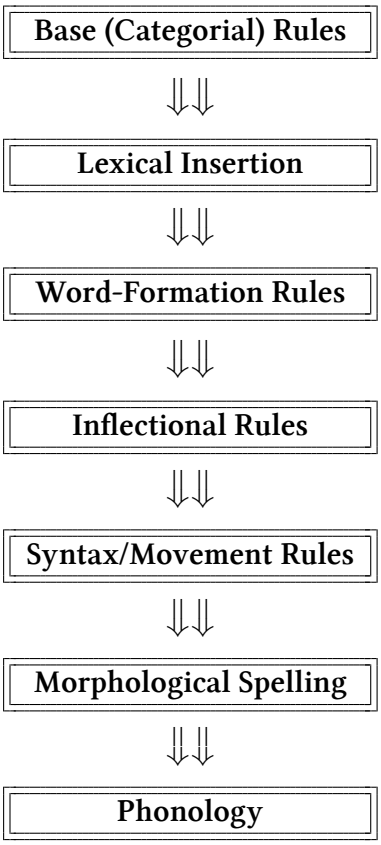


Figure 1.3: An LMBM grammar with autonomous morphology

The problem of EAs, from this perspective, is that they do not exhibit the kinds of mismatches between form and meaning that motivate lexeme-based approaches over morpheme-based ones. Furthermore, semantically, they are signlike, a point which will become especially clear in Chapters 4 and 5. In his brief discussion of EM, Beard (1995: 163–164) concedes that LMBM, "does not as it stands account for [these]." Although ERs are problematic for most theories, they are particularly so for LMBM because they call into question its most fundamental assumption that morphemes are grammatically and semantically empty modifications of stems, which are the purely phonological representations of lexemes. In fact, EAs behave, semantically, very much like signs, with

eral different derivations—for example, *bailar-ina* danc-er.FEM, taur-ina 'Taurean woman' (adj.), *nebl-ina* fog-DIM 'mist.' No further types of mismatch are logically possible and none occur.

both semantic and grammatical content. They also provide counterexamples to other aspects of LMBM, which we now turn to.

As noted by Beard (1995: 164) and Carstairs-McCarthy (1992: 186), ERs do not reflect any of the plausibly reconstructible Indo-European (henceforth, IE) Case functions which Beard claims constrain the range of possible meanings that can be expressed through morphological processes. Although diminutive and augmentative nouns are expressions of a putative semantic category SIZE, ERs in general are always optional, subjective, and non-binary (i.e., gradable and thus capable of marking degrees). Furthermore, the diminutive and augmentative tend to conflate with the affectionate and pejorative forms, crosslinguistically, depending on context.

A characteristic of the Spanish diminutive (and to a lesser extent, the augmentative and pejorative) suffix is that, depending on the root, it can combine with itself and other diminutive suffixes to intensify the meaning of the root: *chiqu-it-o* small-DIM-MASC 'very small,' *chiqu-it-it-o* small-DIM-DIM-MASC 'very, very small/very tiny/teeny-weeny,' *chiqu-i-lin-cit-o* boy-DIM-DIM-DIM--MASC 'small, young boy,' *salón* room-AUG 'a large room or parlour,' *sal-on-cit-o* room-AUG-DIM-MASC 'a small parlour.'[15] This phenomenon of semantic intensification provides one of the clearest challenges to LMBM, as it suggests that the affix is the carrier of the semantic feature [+DIM] or [SMALL] in these cases, and the iteration of the affix itself adds these features to the base. If features are concatenated during iterative intensification, then (simplifying considerably) the input to the semantic derivation must differ by one extra feature [SMALL] each time iteration takes place, along with its directly-associated phonological representation, e.g., [it]. As LMBM assumes the model of derivation described

[15] *chiqu–* is the allograph of *chic–* small–, according to a general rule of Spanish orthography where {c}→{qu} before {e} or {i}.

in Figure 1.3, the only way in which it can account for recursive EAs is by stipulating one morphological spell-out rule for the first ER, and a different one for each iteration, as in the derivation for *chiqu-it-it-o* 'small-DIM-DIM-MASC' in Figure 1.4 (where ⇳ indicates direct form-meaning correspondence and ⁀ indicates conditioned indirect articulation).[16] This cannot be correct—it makes

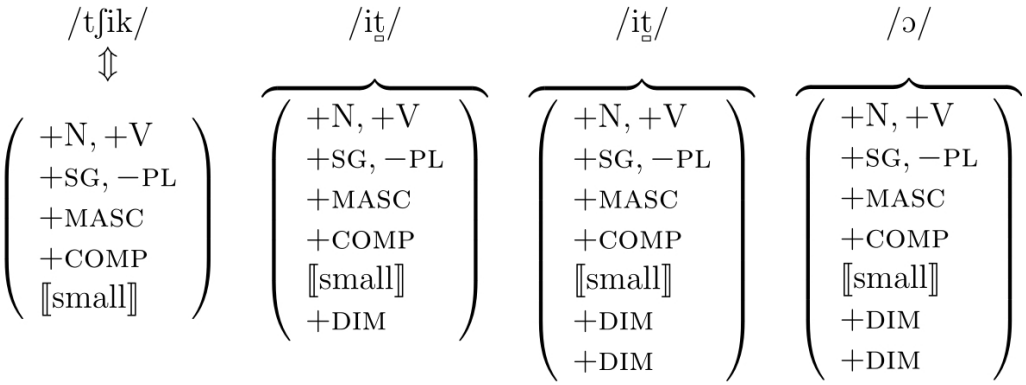


Figure 1.4: An LMBM derivation for *chiquitito*

very little sense to postulate distinct processes and rules for phonologically and semantically identical outputs—yet LMBM is forced into this position. This is intuitively as well as formally suspect because, as we shall see in §1.3.6, Spanish EAs exhibit unbounded iteration with certain roots. For LMBM, this means an unbounded proliferation of rules for what is ostensibly a single operation. A much more straightforward account, both formally and intuitively, would make the morpheme itself the carrier of [+DIM/+AUG/+ PEJ], etc., with its directly-articulated phonological exponent, the expressive affix.

1.2 Jurafsky's (1996) diachronic account

Jurafsky (1996) identifies four characteristics of diminutives which have made

[16] Beard (1987) presents similar analyses of a range of derived words.

them particularly problematic: 1) the diminutive can express a "seemingly unlimited range" and "bewildering variety" of meanings (1996: 534–537). He cites the example of the difference between the meaning of *ahor-ita* now-DIM in Mexican and Dominican Spanish. In the former, the diminutivised form has an intensifying force, meaning 'immediately, right now,' whereas in the latter it has an attenuating force, meaning 'soon, in a little while.'[17]

(9) a. **Venezuelan Spanish**
¡Queremos al Presidente Chávez ahor-ita![18]
want.1PL OBJ.DET President Chávez now-DIM
'We want President Chávez right now!'

b. **Dominican Spanish**
...no te apures Ton, que ahor-ita entras de
not CL.REFL worry.2SG Ton, that now-DIM enter.2SG as
emergente.[19]
pitch hitter
'No need to worry, Ton, you'll be on as pitch hitter soon.'

The task, then, is to find a way of expressing a meaning for the diminutive that can nontrivially cover seemingly contradictory senses (Jurafsky 1996: 534–5); 2) despite these contradictions and idiosyncrasies, the senses of the diminutive display remarkable crosslinguistic regularity. Therefore an account that simply stipulates the varied senses as language-specific will not be an adequate one; 3) the pragmatic senses of the diminutive also display regularity across the languages of the world; and 4) the diachronic semantics of the diminutive have resisted all previous analyses:

[17]From my understanding of Mexican Spanish, 'immediately, right now' is *ahor-it-ita* now-DIM-DIM and *ahorita* merely means 'now.' *Ahora* is a marked form, used primarily in formal contexts. As the facts that Jurafsky describes for Mexican Spanish definitely obtain in Venezuelan Spanish, I use data from that dialect.

[18]From the documentary *La Revolución No Será Transmitida*, pro-Chávez protestor quoted during the coup attempt in Venezuela in 2002.

[19]From Céspedes (2000: 225). In baseball the *pitch hitter* is a substitute batter. The full Spanish term is *bateador emergente.*

> Previously proposed mechanisms of semantic change (metaphor, conventionalized implicature, generalization) can explain the development of some of the senses.... But, for some senses, such as 'approximation' or 'exactness', previous methods are insufficient.
> (Jurafsky 1996: 535)

The *Radial Category* (henceforth, RC) is an explicit representation of a polysemous category with a prototypical, central sense, and a network of peripheral conceptual extensions. These extensions are conventionalised and "cannot be predicted by general rules...but are by no means random" (Lakoff 1987: 84–91). Rather, a system of subcategories determines the possibilities for extension. Jurafsky proposes an RC for the universal diminutive as an explanation of its diachronic development and a description of its synchronic status by acting as a kind of "archæology of meaning." Seen as a synchronic object, the RC describes the relations between the senses of a polysemous category. Seen as a historical object, it accounts for the various mechanisms of semantic change represented by the labelled arcs in Figure 1.5.

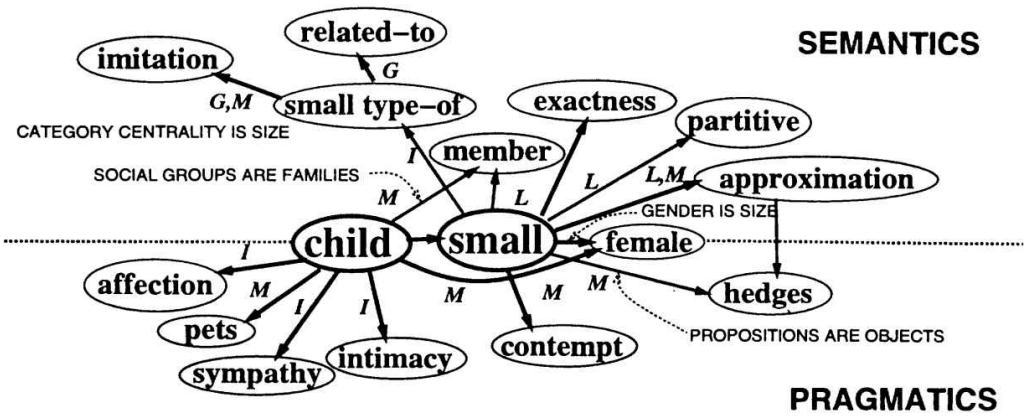


Figure 1.5: Proposed universal structure for the semantics of the diminutive (Jurafsky 1996: 542).

The RC implies unidirectionality of semantic change, because senses shift from the centre to the periphery, but not conversely. Jurafsky argues that the process of semantic change under grammaticalisation can be seen as a result of the interactions of multiple mechanisms: metaphor (M), inference (I), generalisation/bleaching (G), and a new method of diachronic change, lambda-abstraction-specification (L).

(10) **Mechanisms of semantic change** (Jurafsky 1996: 544)

a. *Metaphor*: A meaning shifts to a new domain, based on a general (intuitive) metaphor which maps between the old and new domains. The mapping preserves certain features of the old domain (Sweetser 1990; Heine et al. 1991).

b. *Inference or context-induced reinterpretation*: A morpheme acquires a new meaning which had been an inference or implicature of its old meaning. The historically earlier meaning of a morpheme causes the listener to naturally draw some inference; this inference gradually becomes conventionalised as the literal meaning of the morpheme (Traugott and König 1991; Heine et al. 1991; Bybee 1994).

c. *Generalisation or Bleaching*: A new sense is created from an old one by abstracting away specific features of meaning. The new meaning is more general and less informative than the old one.

d. *Lambda-Abstraction-Specification (henceforth, LA)*: This mechanism accounts for the putatively "contradictory" meanings like intensification/attenuation and approximation/exactness. These are second order predicates, quantifying over predicates (for example, approx($p(x)$))

applies to predicates like red(x)), and the above mechanisms cannot account for it: there is no way to infer 'x is a reddish object' from 'x is a small red object' and generalisation does not seem to play a role ('x approximates y' is not an abstraction of 'x is smaller than y'). Metaphor might be involved, but the causal role played by it is not at all clear. Jurafsky therefore proposes LA, which takes one predicate and replaces it with a variable which ranges over predicates. For the diminutive, it takes as its argument 'small(x)' (which has the meaning 'smaller than the prototypical exemplar x on the scale of SIZE'), and lambda-abstracts it to 'lambda(y)(smaller than the prototypical exemplar x on the scale y)'.

Moreover, the links from the central, descriptive SMALL and CHILD meanings to social domains like GENDER and SOCIAL POWER allow Jurafsky to posit two universal, unidirectional tendencies.

(11) a. UNIDIRECTIONAL TENDENCY I: First order predicates give rise to second order predicates.

b. UNIDIRECTIONAL TENDENCY II: 'child' gives rise to 'diminutive': Diminutives arise from semantic or pragmatic links with children.

A diachronic survey of EM is beyond the scope of this dissertation. However, Fortin (2009) shows that the histories of several Spanish EAs are problematic for this model. These include:

(12) *–ales*

Of very limited productivity, used in very informal contexts to designate a person or their personal characteristics. It typically expresses mockery of a person referred to by the base. The following free translations are all '+ mockery':

viejo 'old person' → *viejales*, *rubio* 'blond(e) person' → *rubiales*, *agrio* 'bitter-tempered person' → *agriales*.

The evolution from Latin *–ālis* via singular Spanish *–al* (meaning, among other things 'related to x' or 'of x,' (cf. English *celestial*, *chemical*, *mathematical*, *biological*) to the metalinguistic hedge *–ales* without ever being diminutive counterexemplifies Jurafsky's model in that there is substantial overlap with diminutive semantics without any relation to 'small' or 'child.' The illicit RC for *–ales* is Figure 1.6. The process by which "related-to" becomes a hedge seems

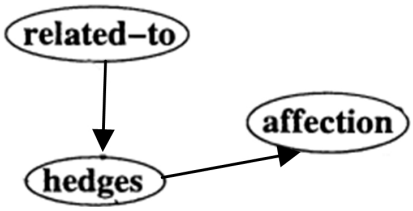


Figure 1.6: The radial category for *–ales*

to be none of those suggested by Jurafsky. Instead, it recalls the earliest abstractionist theories of reconstruction of the Proto-Indo-European diminutive **-ko* (e.g., Brugmann 1891: 262) which posits an original meaning 'related to' or 'tantamount to,' from which the other meanings are derived.

(13) *–ino –iño –ín*

Originating in the Latin adjectival suffix *–inus –a –um*, sometimes meaning 'related to' or 'belonging to', it first appears in words like *vecino* [X] 'of the village,' *femenino* [1484] 'feminine, relating to women,' *bovino* [1444] 'related to the ox.' However, later (for example), *vecino* means neighbour. *–ín* is a variant of *–ino* that has undergone apocopy. They appear to have started out as second-order predicates ("related to") that ended up referring to objects themselves (through metonymy) and then acquired a diminutive sense. Furthermore, the 'related to'

sense seems to have been primitive even in Latin, a double impossibility under the RC model.

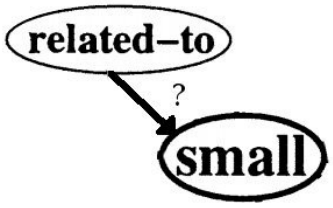


Figure 1.7: An illicit radial category for *–ino*

(14) *–oco*

This is not a diminutive suffix in most dialects of Spanish, but it is in Chilean Spanish, where its meaning varies from 'small' and appreciative to intensifying, exactness and simply jocular.

(15) *chic- oco, siest- oca, fiest- oca, tint- oco, list- oco*
small-DIM, siesta-DIM, party-DIM, red.wine-DIM, ready-DIM
'short kid,' 'short/nice siesta,' 'good party,' 'nice red wine,' 'ready'

There is some speculation that it originates in a putative pre-Roman diminutive suffix **–occus* (due to the existence of a similar pan-Romance suffix, e.g., *–o(c)co* in Romanian), but in Spanish, the expressive force of this suffix was apparently gone by the 11th Century. So the existing diminutive was bleached out of existence to become a 'meaningless' bit of morphology—a canonical case of grammaticalisation—but then somehow revived in only one dialect. *–oco* thus seems to be a counterexample to Jurafsky's theory.

I propose that the key to understanding EM—its functions, distributions, and morphological properties—is its synchronic semantics. The affixes that are problematic for Jurafsky are easily accommodated by the semantic model developed in Chapters 4 and 5. By integrating EM into the general theory of expressives

due to Potts (2005; 2007a), we can begin to motivate its anomalous behaviour. Zwicky and Pullum (1987: 9) argue that the EAs I discuss in this dissertation are not true examples of expressive morphology:

> One example of a morphological process that might be seen as having a limited expressive element to it would be diminutive formation with *–ito* in Spanish. But for a phenomenon to be classified as expressive morphology, it must have a significant number of the [necessary] criterial properties, insofar as the relevant questions can be appropriately brought to bear on it.

However, we will see below that EAs meet all of the semantic criteria of expressives. This militates in favour of the integration of EM into the general theory of expressivity.

1.3 Potts's (2007a) semantic criteria

Expressives are thus named because of certain semantic properties they display. Searle (1976) coined the term to refer to an illocutionary act whose purpose it is "to express the psychological state specified in the sincerity condition about a state of affairs specified in the propositional content." In other words, expressives allow a speaker to provide a subjective commentary on some aspect of the assertive content of an utterance.[20]

Potts (2007a) presents a set of semantic criteria for expressives, which he takes to include the following kinds of lexical items:

[20] Searle (1976; 1979) distinguishes expressives from other types of illocutionary acts: *representatives* (or *assertives*), *directives*, *commissives*, and *declarations*.

(16) **Expressive attributive adjectives**

a. You're only supposed to blow the *bloody* doors off![21]

b. The only programme I'm likely to get on is the *fucking* news.[22]

c. Plug the *damn* hole![23]

(17) **Epithets**

a. Get the car and tear *the damn thing* apart.[24]

b. Mary saw I was feeling down and *the little angel* baked me a cake.

c. *Habrá que echarle la culpa al imbécil de*
ought.FUT.IMP throw.3SG.REFL the blame to.the imbecile of
Piñera no más.[25]
Piñera no more
'We'll just have to put the blame on *that idiot* Piñera.'

(18) **Racial and sexual slurs**

a. The *blue-eyed devil* could not even wait until he got them here![26]

b. No Viet Cong ever called me *nigger*.[27]

(19) **Certain particles and modifiers**

a. Kiss me, *you fool*!

b. *Bugger*, Trump's running for President.

These examples all illustrate the semantic phenomena of expressives, a class of meanings which can be distinguished by the six criteria listed in (20a–f).

[21]From the film "The Italian Job."

[22]From the film "Withnail & I."

[23]Barack Obama to aides, referring to the BP oil spill in the Gulf of Mexico in 2010, reported at http://www.reuters.com/article/2010/05/26/us-oil-rig-obama-trip-idUSTRE64O6Z720100526.

[24]Rep Joe Barton of Texas, quoted at http://www.foxnews.com/politics/2010/02/23/toyota-executives-face-congressional-grilling/

[25]Comment by Benjamin Rojas, dated 30/07/2008, at http://www.lanacion.cl/coment/site/art_ln/20080729220601.html.

[26]Malcolm X (1973: 216–217).

[27]Mailer (1975: 25) attributes this quote to Muhammad Ali. However, there are no known recordings of him saying it, and Keyes (1992) argues that it is apocryphal.

(20) **Criteria for expressive content** (from Potts 2007a: 166–167)

a. *Independence*: Expressive content contributes a dimension of meaning that is separate from the regular descriptive content.

b. *Non-displaceability*: Expressives predicate something of the utterance situation.

c. *Perspective dependence*: Expressive content is evaluated from a particular perspective. In general, the perspective is the speaker's, but there can be deviations if conditions are right.

d. *Descriptive ineffability*: Speakers are never fully satisfied when they paraphrase expressive content using descriptive, i.e., nonexpressive, terms.

e. *Immediacy*: Like performatives, expressives achieve their intended act simply by being uttered; they do not offer content so much as inflict it.

f. *Repeatability*: If a speaker repeatedly uses an expressive item, the effect is generally one of strengthening the emotive content, rather than one of redundancy.

Several of these criteria are related and, to a certain extent, can be reduced to certain abstract properties of CIs that Potts (2005: 11) traces back to Grice (1975).

(21) a. CIs are part of the conventional/lexical meaning of words.

b. CIs are commitments, and thus give rise to entailments.

c. These commitments are made by *the speaker of the utterance* 'by virtue of the meaning of' the words he chooses.

d. CIs are logically and compositionally independent of the descriptive entailments.

EAs of the type I address in this dissertation are of limited productivity in English, when compared to most Romance, Slavic, and Bantu languages, among other languages surveyed. Many authors, including Jespersen (1924: 6) and Wierzbicka (1985) argue that diminutive affixes are restricted to "isolated baby forms." However, examples like *There's an echolet of James Joyce there and something of Saul Bellow's Chi-town bounce...* (Patterson 2002) suggest that the En-

glish diminutive affix is more productive than has traditionally been assumed.[28] Turning to the criteria in (20), we see that Spanish EAs meet all of them.

1.3.1 Independence

The independence property of expressives reflects the fact that one can insert, change, or remove expressive content without affecting the descriptive content of an utterance. Potts (2007a: 168) illustrates this with the following example.

(22) *That bastard* Kresge is famous.

One can accept the truth of (22) as an assertion that Kresge is famous, without having any negative feelings towards Kresge. Conversely, one can disagree about Kresge's level of fame and believe (22) to be false, but share the speaker's animosity towards Kresge. This shows that there are two, independent, dimensions of meaning at work:

(23) a. Descriptive: Kresge is famous.
b. Expressive: Kresge is a bastard/bad in the speaker's opinion.

The EAs in (24) clearly exhibit this independence of expressive meaning.

(24) a. **Spanish**
Los vecinos tienen un pajarr-aco como mascota
the neighbours have a bird- PEJ as pet
i. Descriptive: The neighbours' pet is a bird.
ii. Expressive: The speaker has a negative attitude towards the bird.

b. **Russian**
bab- úl'- a pr'išlá[29]
grandmother-DIM-NOM.SG came
i. Descriptive: Grandmother came.
ii. Expressive: The speaker has a positive attitude (affection) towards grandmother.

[28] See Schneider (2003); Rusek (2008) for discussion.

In both examples, there would be no contradiction if the the hearer believed the descriptive content, while not sharing the speaker's attitudes, and conversely.

EAs themselves can exhibit the independence property, as (25) illustrates.

(25) *El perr-ito de Juan está enfermo.*
the dog-DIM of Juan is ill
≈'Juan's little doggy is ill.'

The semantic contribution of the diminutive in this example is dual. Its descriptive content is adjectival and means 'small,' and its expressive content is one of affection or sympathy for the dog and its predicament. Since these dimensions are independent of each other, negation of one does not entail negation of the other.

1.3.2 Non-displaceability

An utterance of an expressive is strongly tied to the utterance situation, and typically communicates something about the speaker's subjective perspective. Outside of direct quotation, expressives are usually speaker-oriented and cannot be used to refer to past or future events and hypotheticals. The following contrast, adapted from Potts (2007a: 171), illustrates this property.

(26) a. John believes that Mary's dog is dead.
b. John believes that Mary's damn dog is dead.

Both examples assert that John believes Mary's dog to be dead, but (b) also expresses that *the speaker of the sentence* has a negative attitude towards Mary's dog. Expressive non-displaceability is the fact that the attitude towards the dog

[29]Example adapted from Steriopolo (2008: 16–17).

could be neither John's or Mary's, but only the speaker's. CAs exhibit exactly this property.

(27) *Picasso piensa/dice que los cuadros del pintor- cito Dalí son*
Picasso thinks/says that the paintings of.the painter-DIM Dalí are
malos. (#Pero yo encuentro que son grandes obras.)
bad but I find that are.3PL great works
'Picasso thinks/says that the paintings of that mediocre artist, Dalí, are bad. (#But I think they are great works.)'

In (27), even though the speaker is asserting that Picasso thinks/says that Dalí's paintings are bad, any attempt to attribute the pejorative diminutive solely to Picasso is infelicitous. With regard to negation, expressives, unlike conversational implicatures and other kinds of inductive inference, are not cancellable. Hom (2010: 178) argues that expressives are not CIs (in the sense of Potts 2005), because "some occurrences of pejoratives *are* cancellable." However, the only evidence he offers for this are the examples in (28) (from Hom 2010: 178–179).

(28) a. John is a *fucking* lawyer, but I don't think that it's bad or out of the ordinary that he's a lawyer; [he's just having (morally reprehensible) *sex*/he just specializes in laws regarding (morally reprehensible) *sex*].

b. The *damned* pizza delivery boy got my order wrong, but I'm not upset; I'm just pointing out the contrast with the [*Christian/saved*] one who always gets my order right.

This is a bizarre claim. If, in these examples, the hearer interprets *fucking* and *damned* as expressive adjectives, it is because he has simply misheard or misunderstood what the speaker has said. The speaker has not uttered an expressive but, rather, a different, non-pejorative, *lexical item*: his use of *fucking* means 'related to (morally reprehensible) sex' and *fucking lawyer* is a kind of compound noun that means 'lawyer who engages in, or deals with issues of (morally reprehensible) sex' (cf., *divorce/tax/employment lawyer*). When spoken, the difference

would normally be obvious to the hearer because the stress patterns of descriptive and expressive *fucking lawyer* are different. In the former, the stress is typically on *fucking* but, in the latter, it is on *lawyer*.[30]

(29) a. John is a *divorce/tax/fucking* lawyer.
b. John is a retired/great/fucking *lawyer*.

Hom has confused speaker misunderstanding and self-correction with cancellation so, at least on this evidence, the idea that expressives are cancellable can be dismissed. The following illustrate that expressives survive under negation.

(30) a. John's damn dog is ill.
Entailments:
i. John's dog is ill.
ii. The speaker does not like John's dog.
b. It's not true that John's damn dog is ill.
Entailments:
i. John's dog is not ill.
ii. The speaker does not like John's dog.

Tested against these criteria, EAs are unequivocally expressive. Firstly, we can construct a similar diagnostic to (30) using Spanish EAs.

(31) a. *El perr-ito de Juan está enfermo.*
the dog-DIM of Juan is ill
'John's little doggy is ill.'
Entailments:
i. Juan's dog is ill.
ii. The speaker likes Juan's dog.

[30]Cases of contrastive focus provide exceptions to this. For example, compare the following. 1) Q: *Is John a tax evader?* A: *No, he's a tax lawyer.*; 2) Q: *Is John a lawyer?* A: *No, he's a great lawyer.*

b. *No es verdad que el perr-ito de Juan está enfermo.*
not is true that the dog-DIM of Juan is ill
'It is not the case that John's little doggy is ill.'
Entailments:
i. Juan's dog is not ill.
ii. The speaker likes Juan's dog.

This illustrates the non-cancellability property of EAs, and shows that, like expressives and CIs generally, they express commitments which give rise to entailments.

1.3.3 Perspective dependence

There are marked contexts in which a non-quotational expressive can index an emotion of someone other than the speaker, as the following example from Schlenker (2003: 43) illustrates.

(32) I am not prejudiced against Caucasians. But John, who is, thinks/claims that you are the worst honky he knows.

This necessitates a slight weakening of the non-displaceability property: if the context does not supply an agent to attribute the epithet to as a quotation, only the speaker-oriented reading is available. However, if a quasi-quotational interpretation is possible in this same context, then the expressive may be attributed to someone other than the speaker. For instance, compare the illustration of non-displaceability in (27) with the following:[31]

(33) *Picasso piensa/dice que Dalí es un pintor- cito, pero yo encuentro*
Picasso thinks/says that Dalí is a painter-DIM but I find
que es un genio.
that is.3SG a genius
'Picasso thinks/says that Dalí is a mediocre painter, but I think he's a genius.'

[31]Thanks to Ash Asudeh (p.c.) for suggesting an example along these lines.

Because the proposition 'Dalí es un pintorcito' can be quotationally attributed to Picasso in this case, it is his attitude that is indexed, and not the speaker's.

1.3.4 Descriptive ineffability

A somewhat disputed property of expressives is that it does not seem to be possible to give them explicit, descriptive paraphrases that fully capture their emotive or attitudinal force.[32] This is a difficult characteristic to assess and discuss, because there are no objective criteria of what it means for a paraphrase to "fully capture" a meaning, expressive or descriptive. However, Potts (2007a: 176) cites evidence from Blakemore (2002) that speakers are generally unable to give clear meanings for a range of discourse particles, and gives anecdotal evidence that the speakers he has interviewed are not satisfied with any descriptive paraphrases they give. Consider the expressive *damn* in the following examples (from Hom 2010: 166), and their intuitively inadequate descriptive paraphrases.

(34) a. *Damn!* $\neq$ *I'm angry!*
b. *John is a damn good lawyer* $\neq$ *John is a very good lawyer*

My own intuitions are that this is true of Spanish EAs. The free English translation of many of the examples throughout this dissertation will be marked with a $\approx$ sign, which indicates that the translation is not quite right. Furthermore, there will often be some extra material to the right of the free translation, of the form "$+ \langle emotion \rangle$," which is an attempt to capture some of the "emotive and attitudinal force" which the free translation misses.

[32] Schlenker (2007) and Geurts (2007) deny that expressives are descriptively ineffable in any unique way. Note that this property does not necessarily follow from the theory of Potts (2005), in which expressive meaning is, nonetheless, propositional. However, it does follow naturally from the independence of propositional, descriptive content from non-propositional expressive content in Potts (2007a).

1.3.5 Immediacy

Typically, the use of an ethnic slur constitutes an act of racism. In some cases, societal norms can censure even the jocular or quotational utterance of certain words: "[w]hite people, for instance, still cannot say the word *nigger* without evoking some sort of hostile reaction" (Cato 2003); "It's no secret that many blacks either avoid the word entirely or permit its use within their community as a synonym for 'soul brother.' They bristle when whites use it, even in jest" (White 2003). As Potts (2007a: 165) says, epithets are "performative in nature, often destructively so." It is thus very difficult to negate their impact once they have been uttered.[33]

(35) #I am not prejudiced against Caucasians. But if I were, you would be the worst honky I know.

The speaker's claim not to be prejudiced against Caucasians is rendered infelicitous (and insincere) by his subsequent use of the ethnic slur *honky*.

EAs are similarly performative in manner, though they do not typically have the semantic intensity of racial slurs and curse words. The use of a hypocoristic name is an *act* of affection, just as pejorative affixes have an impact simply by being uttered.

1.3.6 Repeatability

Expressives can be repeated, and the effect is one of semantic intensification rather than redundancy.

[33]Incidentally, does this mean that my quotation above, which includes the word "*nigger*," is an act of racism? What about this last one, in scare quotes? The same goes for the quotation in Potts (2007a: 165).

(36) a. *Damn*, I left my keys in the car.
b. *Damn*, I left my *damn* keys in the car.
c. *Damn*, I left my *damn* keys in the *damn* car.

In contrast, repetition of descriptive content usually results in redundancy. For example, compare *Damn! I left my keys in my car. Damn! Damn! Damn!* with *I'm angry! I left my keys in the car. I'm angry!* The continued repetition of *damn!* is felicitous as long as it is appropriate to the level of anger of the speaker. However, even a single repetition of *I'm angry!* is redundant, because its descriptive content is already part of the common ground.[34]

The kind of repeatability illustrated in (36) is difficult to test for with EAs because their use is usually parasitic on the presence of descriptive roots of various kinds, which are not repeatable like expressives are. However, there are cases when the addition of an EA to a root allows it to be repeated, where it otherwise would not be.

(37) *Dímelo (? bajo bajo)/baj- ito, baj- ito*
tell.me.it low low /low-DIM low-DIM
'Whisper it to me.'

Without the diminutive *–ito*, the repetition of *bajo* is odd, at least in my dialect of Spanish.

The second kind of repeatability, which I discussed briefly in §1.1.2, is semantically similar to that of gradable predicates in English, for example, *big big big problem* and *very very very good*, and Romance superlatives like Italian *–ississimo*.[35] A diminutive or augmentative suffix can attach any number

[34]Exceptions, which Potts (2007a: 182) notes, include *big big big apple*. He argues that these are straightforwardly compositional. An important semantic fact about repetition of this kind is that it always reflects the gradability of the predicate.

[35]Although the English comparative *–er* does not typically repeat, it commonly does in early child speak, e.g., A: *I'm strong!* B: *I'm stronger!* C: *But I'm strongerer!*. These 'mistakes' are often

of times to a gradable predicate, and the effect is one of intensification of the base's meaning.[36] For example, there are web hits for up to ten iterations of *–ito* DIM with the root *chico* 'small'.[37] Its meaning is approximated by *very very…very small*, modulo the expressivity, which usually appreciative. Figure 1.8 plots the number of web hits of iterations of *–ito* with root *chiqu–* between 3 and 10.[38] A different type of repetition is found in some dialects of Spanish, where it is

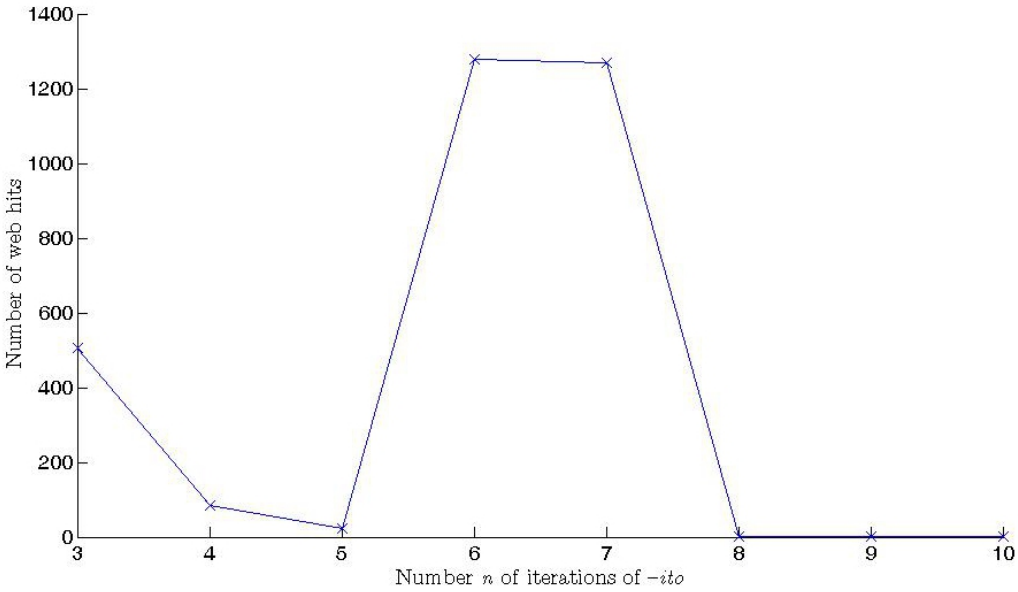


Figure 1.8: Web hits for *chiqu–* small– with *n* iterations of *–ito* DIM

possible to attach both DIM and AUG to the same base. These highly marked usages undoubtedly involve the conscious, jocular, manipulation of morphology by speakers, as in the following examples:[39]

parodied in popular culture, e.g., *Dumb and Dumberer* and the yoghurt advertising slogan *Grow Strongerer*.

[36]However, see Chapter 5 for a refinement of this claim.

[37]As of April 2011, the web hit counter Googlefight.com gives the following results: chiquito (x1) 328,000 hits; chiquitito (x2) 45,100 hits; chiquititito (x3) 506 hits; chiquitititito (x4) 174 hits; chiquititititito (x5) 63 hits; chiquitititititito (x6) 1280 hits; chiquitititititito (x7) 1270 hits; chiquitititititititito (x8) 2 hits, chiquitititititititito (x9) 3 hits; chiquitititititititito (x10) 2 hits.

[38]The values for (x, y) are: $(3, 506), (4, 174), (5, 63), (6, 1280), (7, 1270), (8, 2), (9, 3), (10, 2)$.

[39]From http://mundopoesia.decenturl.com/poemas-de-amor

(38) a. *¡Abrac-it- ote- s constelados desde mi ventan- ita!*
hug- DIM-AUG-PL bespangled from my window-DIM
≈'Lots of big, warm hugs from me!'

b. *Gracias por tus elogios a mi novel- on- cito. Un bes- ot- it- ote.*
thanks for your praise to my novel-AUG-DIM. A kiss-AUG-DIM-AUG
≈'Thank you for praising my novel. A big kiss.'

c. *Modismos Cordobeses... como chiqu-it- it- azo y grand-on- on– ito...*
idioms Cordovan like small-DIM-DIM-AUG and big- AUG- AUG- DIM
'Cordovan idioms like *chiquititazo* and *grandononito*...'

Although this kind of repetition, which putatively involves two different ERs, appears to be different from cases where a single EA iterates, I will show in Chapter 5 that they involve the same algebraic operation.

The criteria discussed in this section typologically characterise expressive lexical items like those in (16)–(19). We have seen that Spanish EAs meet all these criteria. We now turn to other morphological and semantic facts of EAs to be accounted for.

1.4 Productivity

As well as adjectives and nouns, diminutive suffixes may also be used to intensify the meaning of adverbs, participles and verbs (gerunds) in colloquial speech.

(39) *Adverbs*

a. *Vuelvo enseguid- ita.*
return.1SG.PRES immediately-DIM
≈'I'll be back immediately.'

b. *Entraron callad- itos.*
enter.3PL.PST quietly-DIM
≈'They entered without making a sound.'

(40) *Participles*

a. *El bebé se quedó dormid- ito.*
the baby CL.REFL stayed sleeping-DIM
'The baby fell asleep' + endearment

b. *La veo triste-cita.*
OBJ.FEM see.1SG sad- DIM
'I feel like she's sad' + attenuation or sympathy

(41) *Gerunds*

a. *¿Estás tomand- ito tu leche?*
are.you drinking-DIM your milk
'Are you drinking your milk?' + endearment

b. *Caminand-ito al trabajo lo asesinan a bal-*
walking- DIM to work OBJ.MASC.3SG murder.3PL INST bullet-
azo- s.[40]
AUG-PL
≈'As he walks to work, they shoot him to death.'

In some dialects of Spanish, there are also some (particularly informal) contexts in which the diminutive can attach to pronouns, e.g., *algun-itos* some-DIM, *es-ito* that-DIM, quantifiers, e.g., *nad-ita* nothing-DIM, *much-ita* much-DIM, and

[40]Example from http://laverdad.com/detnotic.php?CodNotic=6916. Note that the Spanish suffix *–azo* is ambiguous between several meanings, which do not appear to be cognate with the augmentative use. A common function is to turn the referents of nouns (usually either objects or body parts) into the instruments of a hitting action, e.g., *hachazo* axe.AUG 'axe hit' and *puñetazo* fist.AUG 'punch.' This is semantically similar to the way in which English object-denoting nouns can be transposed to verbs referring to the act of striking someone with that object: *to chair someone*, *to bottle someone* etc. A second function is to refer to a wound inflicted by an object, like *balazo* bullet.AUG in (41b) meaning, literally, 'bullet wound.' Compare *Le di un puñal* 'I gave him a knife' vs. *Le di un puñalazo* 'I knifed him.' A third use of *–azo* is to indicate the *location* of a blow to the body, e.g., *hocicazo* mouth.AUG 'a hit on the mouth.' For discussion of the semantic nuances of *–azo*, see Rainer (1993: 422–429).

even numerals, e.g., *un-ito* one-DIM, *dos-ito* two-DIM, etc. Portuguese also displays this range of diminutive formation, including adverbs, e.g., *pert-inho* near-DIM, *devagar-inho* slowly-DIM, *ced-inho* early-DIM, quantifiers and pronouns e.g., *amb-inhos* both-DIM. These data are powerful *prima facie* counterexamples to Aronoff's (1976) *Unitary Base Hypothesis* which states that Word Formation Rules (henceforth, WFRs) of the same type should have a unique categorial base (cf. Scalise 1988: 234–235).[41]

1.5 Illocutionary mitigation

A well-known property of the diminutive is that it can be used to mitigate or the illocutionary force of a speech act. For example, a diminutive can "soften" a directive speech act, thereby possibly avoiding conflictual perlocutionary sequels with the addressee. Dressler and Merlini-Barbaresi (1994) give the following example from Italian.

(42) *Potrei aver-ne una fett- ina?*
could.1SG haveof.it a slice-DIM
'Could I have a little piece of it, please?'

That work postulates a pragmatic feature [nonserious] which takes scope over the whole utterance, thereby downgrading its illocutionary force. We see the same phenomenon in Spanish.

(43) *¿Me harías un sangüich- ito, porfa?*
OBJ.1SG make.2SG.COND a sandwich-DIM please (colloq).
'Could you rustle me up a quick sandwich, please?'

[41] Similarly, Wiltschko (2006) notes that Halkomelem diminutives apparently violate the standard assumption that C(ategorial)-selection is unique.

In this example, the use of the diminutive is intended to convey that the request is not an imposition on the addressee. If *–ito* were not used, the request would be more of a command, and rather rude.

1.6 Conclusion

A common charge against Potts's theory is that of ontological profligacy. Sauerland (2007); Schlenker (2007); Amaral et al. (2008) and Geurts (2007) argue that Potts's (2007a) novel theoretical entities and modes of combination violate Occam's Razor, and suggest that his analyses be recast using existing mechanisms and a greater interaction between semantics and pragmatics. For example, Schlenker (2007) argues for a presuppositional account of the racial epithet *honky* and the French familiar pronoun *tu*. He gives the following denotation for *honky* (where # means presupposition failure):[42]

> $[\![honky]\!]$(c)(w) $\neq$ # iff the agent of c believes in the world of c that white people are despicable. If $\neq$ #, $[\![honky]\!]$(c)(w) = $[\![white]\!]$(c)(w).

Under this view, the denotation of the diminutive, DIM, could then be as in (44) (where **aff**(i) indicates some emotion or attitude towards i).[43]

(44) $[\![\text{DIM}]\!]^{w,i,c} \neq$ # iff the agent of c believes in the world of c that small(i)→**aff**(i). If $\neq$ #, $[\![\text{DIM}]\!]^{w,i,c} = [\![\text{small}]\!]$.

Paraphrasing, the diminutive, evaluated with respect to a world w, a context c, and an individual i, does not induce presupposition failure iff the agent of c

[42] Schlenker's use of $\neq$ # is not consistent. For example, whereas its first occurrence means "does not induce presupposition failure," its second use means "there is no presupposition failure." An unambiguous notation would be to replace the second $\neq$ # with $\not\#$

[43] In order to prevent the presupposition from applying arbitrarily to any contextually-relevant small individual, I add an individual index i, following Lasersohn (2005).

believes in the world of c that i is cute/loveable/contemptible etc. if i is small. If the presupposition is satisfied, DIM means 'small'.[44]

Although this approach yields correct predictions regarding some uses of CAs, it is difficult to see how one would modify it to account for their attested intensifying and attenuating meanings, which are non-emotive. To the extent that I succeed in integrating EM into the general theory of expressives of Potts (2005; 2007a); Gutzmann (2011) (with or without the more substantive revisions proposed in §5.3.2), the presuppositional approach is less persuasive.

Furthermore, Potts (2007b: 261) counters the above authors' criticism by arguing, convincingly in my opinion, that without objective criteria for assessing the "complexity" of a theory, these claims are largely vacuous. He further states that, if anything, his theory is more conservative than Schlenker's, "since it borrows so heavily from what is already out there." Nevertheless, revisions to the theory of grammar, of any kind, require substantial empirical justification. Providing this will be a major aim of this dissertation.

Having set out some key morphological and semantic problems posed by EM, the dissertation will proceed as follows: Chapters 2 and 3 elaborate the case against uniform *morphological* accounts of EM and PM, and Chapters 4 and 5 present a unitary *semantic* account of EM.

[44]For the augmentative, substitute DIM for AUG, and 'small' for 'big.'

Chapter 2

EM and the inflection/derivation distinction

2.1 The morphological status of expressive affixes

The diminutive and related expressive affixes (augmentative, pejorative, honorific, intensifier, etc.) are generally considered to be derivational categories (cf. Beard 1998; Booij 2004; Stump 1998), and this assumption has formed the basis of several ongoing morphological disputes. In this chapter, I challenge that assumption, and argue that EM cannot be assumed to be universally derivational. In fact, there are several languages in which EM is, by all independent criteria, unmistakeably inflectional. However, intralinguistic criteria also show that the inflectional status of these "inflectional diminutives" is by no means secure, as they do not behave like the canonical inflectional categories of their respective languages. I will therefore argue that, crosslinguistically, EM is neither inflectional nor derivational, but *sui generis*.

As representative examples of the aforementioned disputes, Perlmutter (1988) and Bobaljik (2005) present, respectively, arguments for and against the *Split Morphology Hypothesis* (cf. Anderson 1982; 1992) that rely on data involving diminutive affixes. In §2.3, I argue that, whilst the empirical analyses behind these arguments are sound, their crucial assumption that diminutives are derivational affixes that conform to general morphological principles is untenable. I present a wide range of crosslinguistic data that shows how EAs behave in aberrant ways that cannot be subsumed under either derivational or inflectional morphology. As a result, I argue that the data of EM ought not to be used to settle disputes related to the inflection/derivation distinction, as counterexamples to otherwise well-established principles are all too easy to find.[1]

In §2.3, I show that EM is not derivational and, in §2.5, that neither is it inflectional. I conclude that it must, *a fortiori*, be a separate category, with its own principles and behaviours. In this light, I contend that the widespread morphological arguments in the literature that adduce the data of EM ought to be reconsidered.

2.2 The Split Morphology Hypothesis

The *Split Morphology Hypothesis* (henceforth, SMH) is an influential, but controversial, theory of the architecture of grammar that formalises the traditional distinction between inflection and derivation, and neatly accounts for a wide range of morphological phenomena.[2] The explicit claims of Anderson's (1982) version of the hypothesis are: a) all "lexical derivation" (i.e., stem-formation)

[1]This echoes Zwicky and Pullum's (1987: 9) "modest conclusion [that] it may be inappropriate to use [EM] as the sole basis for arguments that support revisions to the general theory of grammar."

[2]See, for example, Matthews (1972; 1991) and Anderson (1982).

takes place in the lexicon; b) morphosyntactically relevant features are added, in fully-formed bundles, to stems in the syntactic component; and c) inflectional rules determine the phonological form for each combination of a stem with a morphosyntactic representation, and are part of a post-syntactic interpretive phonological component. The SMH thus assumes a strict separation between derivation and inflection, with the former literally preceding the latter in the course of the morphological computation.[3] This places the SMH in sharp contrast with the integrated, Strong Lexicalism of, e.g., Jensen and Stong-Jensen (1984), Chomsky (1995), LFG, and HSPG and, more radically, with the antilexicalist constructionalism of, e.g., Marantz (1997), Borer (2005b), and Ramchand (2008b). While the precise details of the various implementations of the SMH differ in their complexity, the basic intuition behind it requires only a modular, generative lexicon and syntax, which makes it relatively theory-independent.[4]

One important entailment of the SMH has been referred to as the "criterion of closure" (Stump 1998: 18), which states that inflection "closes" a word off from further derivation. This follows from the linear architecture of the grammar in which derivation literally precedes inflection. In other words, the SMH predicts that inflectional affixes will always appear "outside of" (i.e., more peripherally than) derivational ones, and the orderings of affixes will be limited to the schema

[3]The term 'derivation' is used ambiguously in the literature, so some clarification is required. For example, Beard's (1995) Lexeme-Morpheme Base Morphology model uses the terms I-derivation and L-derivation to refer (more-or-less, though see footnote 6 on page 46) to traditional inflection and derivation, respectively. On the other hand, in the generative tradition (since at least Chomsky 1955), the term refers to a set of syntactic operations which generate a sentence. However, the predominant meaning in morphological theory is the traditional, narrower one, referring to the processes involved in word-formation. This is the sense of 'derivation' I adopt in this chapter and I reserve the term 'computation' for the generative sense.

[4]It is in this respect that the SMH is ruled out, radically and in principle, by constructionalist theories that seek to "eliminate…[the lexicon] as a module with its own special primitives and modes of combination" (Ramchand 2008b: 7). Without a generative lexicon, it makes no sense to talk of "lexical morphology/derivation," let alone the separation of derivation from inflection, as evidenced by the complete eschewal of the distinction in Distributed Morphology (Marantz 1997).

in (45), crosslinguistically:

(45) (INFLECTION–)(DERIVATION–)ROOT(–DERIVATION)(–INFLECTION)

Notably, the schema excludes the logically-possible orderings in (46) and (47):[5]

(46) *ROOT–INFLECTION–DERIVATION

(47) *DERIVATION–INFLECTION–ROOT

This prediction is borne out by Greenberg's (1963: 93) Universal 28:

> **Universal 28.** If both the derivation and the inflection follow the root, or they both precede the root, the derivation is always between the root and the inflection.

Despite Greenberg's own caveats regarding the proposed universals ("... the absence of exceptions to most of the universals asserted here cannot be fully assured." (1963: 73)) and Universal 28 in particular ("...the following generalization appears plausible..." (1963: 93)), this criterion has proven remarkably resilient because, with the exception of the kinds of data discussed below, it holds with overwhelmingly greater-than-chance frequency across the world's languages.

2.2.1 Perlmutter's analysis

Perlmutter (1988) presents the following *prima facie* counterevidence to the SMH in the form of certain Yiddish data that take the illicit form shown in (46); specifically, ROOT–PLURAL–DIMINUTIVE, as shown in Table 2.1. In these examples, the plural affixes *–er–* and *–im–* are closer to the root than the diminutive

[5] In fact, the "logically possible" orderings would include, for words composed of a root and n affixes, $(n+1)!$ permutations, crosslinguistically. For example, across all polysynthetic languages, words with 3 derivational and 3 inflectional affixes would have $7! = 5040$ potential orderings, half of which would show some inflectional affix closer to the root than derivational ones. This is far from the case, as Universal 28 notes.

	Singular	Plural	Diminutive Plural
a.	kind	kind-er	kind-er-lex
	child	*child*-PL	*child*-PL-DIM
b.	guf	guf-im	guf-im-lex
	body	*body*-PL	*body*-PL-DIM

Table 2.1: Yiddish Diminutive Plurals

affix *–lex*. If diminutive affixes are assumed to be derivational in nature, as they standardly are, then we have here a derivational affix appearing "outside" of an inflectional one, and the SMH appears to be falsified.[6] However, Perlmutter argues convincingly that Yiddish plural forms ending in *–er* and *–im* are suppletive,[7] and that the apparent Yiddish counterexamples are, in fact, composed of a suppletive plural root, followed by a diminutive suffix. As suppletive forms are morphotactically opaque and, by hypothesis, stored in the lexicon, these plural forms remain available for further derivation, and the SMH holds.[8]

2.2.2 Bobaljik's counterargument

Bobaljik (2005) argues that Perlmutter's analysis, and the SMH generally, are untenable, on the basis of Itelmen data that display identical affix ordering to the Yiddish suppletive examples, in fully productive paradigms, illustrated in Table 2.2. In the diminutive plurals in these examples, the plural inflection *–ʔn*

[6] I will leave aside the matter of whether Number is, in fact, an inflectional category, as is assumed without question in most of the literature. This assumption has been challenged (cf., Beard 1982; 1995; 1998), so it is worth noting that, if Number is instead a derivational category, then the Yiddish and Itelmen examples are no longer anomalous from the point of view of the SMH. See Stump (1990: 105) for an argument against Beard's position.

[7] Yiddish regular plurals are marked either by *–en* or *–s*, depending on the phonological context.

[8] Rice (1998) discusses a similar case in Slave (Northern Athapaskan) in which a possessive marker appears closer to the root than the diminutive and augmentative markers. This, according to Rice (1998: 655), is a "striking counterexample" to the criterion of closure, albeit only a *prima facie* one. Rice's solution resembles Perlmutter's for certain cases, and involves a complex prosodic condition for others. However, note that the putative problem again only arises if EAs are assumed to be derivational.

	Singular	Plural	Sg. Dim	Pl. Dim
'morsel'	ansx	ansx-aʔn	ansx-čaχ	ansx-aʔn-č
'house'	kist	kis-t-eʔn	kist-čaχ	kist-eʔn-č
'pond'	kəɬɸ	kəɬɸ-eʔn	kəɬɸ-čaχ	kəɬɸ-aʔn-č
'hut'	mem	mem-eʔn	meme-čχ	meme-ʔn-č
'woman'	mimsx	mimsx-eʔn	mimsx-čaχ	mimsx-əʔn-č
'girl'	lʲaŋe	lʲaŋeʔn	lʲaŋe-ʔn-čχ	lʲaŋe-əʔn-č

Table 2.2: Itelmen Diminutive Plurals

(Bobaljik 2005: 2)

is closer to the root than the diminutive marker *–č*, a situation that should be impossible under the SMH, if diminutives are derivational.[9]

Bobaljik (2005: 1) acknowledges, by way of caveat, that diminutives are not uncontroversially derivational, but he somewhat glosses over this fact by stating that it is not relevant as "[his] aim is to address the specific argument from Yiddish." However, the question of whether the diminutive is a derivational category is as central to the argument from Yiddish as it is to other arguments that rely crucially on diminutive data, including Bobaljik's own argument from Itelmen. If diminutives can be shown not to be derivational, or to be anoma-

[9]The status of the singular diminutive ending *–χ* is unclear from Bobaljik's description. The question of why it is deleted (and what, if anything, is left in its place) in the plural diminutive is potentially relevant to the affix-ordering analysis. Jonathan Bobaljik (p.c.) states that there is no known "synchronic explanation of the singular/plural alternation in Itelmen." The plural ending *–č* is one of three allomorphs of the diminutive (the other two being the singular *–čaχ* /C___ and *–čχ* /V___) (Bobaljik 2006: 12). However, the fact that it only surfaces in plural contexts, for no obvious phonological reasons, suggests that this could be a case of extended, discontinuous exponence of the plural, marked ***-aʔn-č-Ø***. As Stump (1993: 10) notes, the "sandwiching of an evaluative rule between two inflectional rules is not an unusual phenomenon," as evidenced by such examples as Breton *bag-ig* 'little boat', PL. *bag-où-ig-où*, Portuguese *animal-zinho* 'little animal', PL. *animai-zinho-s* (compare *animai-s* 'animals'), Shona *mu-rume* 'man', PL. *va-rume*, AUG. *zi-mu-rume*, PL. AUG. *ma-zi-va-rume* 'big men'.† Jonathan Bobaljik (p.c.) suggests that the case of *halvesies* might be better understood on analogy with low numerals "where the first *–s–* is part of the diminutive, not synchronically a plural (the Oxford English Dictionary gives the singular forms, *onesie*, *twosie*, *threesie* etc. back to the late 1800s, alongside the plurals, and suggests a segmentation with diminutive *–sy*/*–sie*, the same one that shows up in names, etc)." This seems plausible; however, the remaining examples still stand.

†Stump (1993: 10) incorrectly glosses the Shona augmentative prefix *zi–* as DIM.

lously so, then the force of both the Yiddish and the Itelmen data is greatly diminished.[10] In §2.3, I present a range of crosslinguistic data that shows that the diminutive cannot be assumed to be derivational.

Firstly, however, I would like to address what I believe is an erroneous assumption of Bobaljik's. He claims that Perlmutter 'weakens' the SMH to apply only to productive morphology, and characterises this as an *ad hoc* stipulation.[11] He contends further that Perlmutter's putative 'modification' of the SMH cannot rescue it because, whilst Yiddish ROOT-PLURAL-DIMINUTIVE ordering may well be considered diminutivisations of suppletive (and unusual) plurals, Itelmen displays the identical ordering in entirely productive patterns. Because Perlmutter considers the SMH to constrain the order of affixes only in productive paradigms, Bobaljik argues that these data make the SMH untenable. Moreover, he claims, "even the weaker version of the SMH advanced by Perlmutter is untenable." Bobaljik thus aims to demonstrate (by implication) that any 'stronger' version of the SMH stands no chance of working. However, it can easily be shown that the assumption that Perlmutter's SMH is a 'weakening' of the original is incorrect.

In stating that the SMH applies to productive morphology, Perlmutter is not modifying it in any way, but merely pointing to a consequence of a strong version of the SMH that straightforwardly accounts for the apparent Yiddish counterexamples. Since irregular inflectional forms are stored in the lexicon,[12]

[10]Incidentally, Bobaljik seems not to dispute Perlmutter's analysis of the Yiddish data as suppletive, so presumably he would agree that, *per se*, it constitutes evidence in favour of the SMH.

[11]Similarly, Stump (1990: 103) views Perlmutter's SMH as a "plausible refinement."

[12]A narrow view of the lexicon, due to Bloomfield (1933: 274)—and inherited by the aforementioned antilexicalist constructionalists as the "Encyclopedia" (Marantz 1997)—takes it to be merely "an appendix of grammar, a list of basic irregularities." As Anderson (1982: 593) notes, the "base notion of the lexicon [is] as the repository of all idiosyncratic information about a word.... Lexical [entries]...must contain not only the regular stem...but also the unpre-

it should come as no surprise that they are available for derivational operations. On the contrary, if one assumes the strongest version of the SMH, it would be surprising to find suppletive inflected forms that could not serve as input to further lexical processes. This fact simply follows from the architecture of the grammar assumed by the SMH, and no *ad hoc* moves are required.

2.3 Diminutives are not derivational

In the following section, I present evidence from languages in which the diminutive is, on the surface, unambiguously inflectional. This evidence, in turn, undermines both Perlmutter's and Bobaljik's arguments from their premises, in that the data they present cease to be even *prima facie* counterexamples.

2.3.1 Inflectional diminutives

Grandi (1998), following work by Anderson (1982), Bybee (1985), and Scalise (1994), summarises some of the formal characteristics of expressive morphology, relative to derivation and inflection, which I present in Table 2.3. The extensive data Grandi presents to motivate this list clearly militate in favour of expressive morphology as derivational. However, the fact that expressive morphology cannot usually change the category of the base[13] leads him to conclude,

dictable stem variant…"—in other words, the irregular or suppletive stem. Indeed, Anderson (1982: 610) seems to anticipate *prima facie* counterexamples like those presented by Perlmutter and Bobaljik: "…in languages with significant inflectional structure, derivational rules often operate on lexically restricted irregular stems…. This follows, on the view taken here, since the derivational rules in the lexicon have access to any stem listed there (*including lexically restricted irregular subentries*), but not to the output of inflectional rules" [emphasis mine]. It should be clear from this that Anderson's SMH and Perlmutter's are equivalent on this matter; Perlmutter merely makes explicit a consequence of Anderson's assumptions.

[13]There are cases where an expressive affix changes certain morphosyntactic properties of the base. For example, in German the diminutive form of a word is always neuter, irrespective of the gender of the base, e.g., *der Baum* DET.MASC tree → *das Bäum-chen* DET.NEUT tree-DIM, *die*

	Property of the morphological rule	*Derivation*	*Inflection*	*Expressive*
a.	Can change the category of the base	YES	NO	NO
b.	Can change the subcategorisation frame of the base	YES	NO	YES
c.	Can change the conceptual meaning of the base	YES	NO	YES
d.	Can change the grammatical meaning of the base	NO	YES	NO
e.	Are completely productive	NO	YES	NO
f.	Are relevant to syntax	NO	YES	NO
g.	Are obligatory	NO	YES	NO
h.	Their possible outputs are predictable and "closed"	NO	YES	NO

Table 2.3: EM vs. inflection and derivation (my translation from Grandi 1998: 644)

with Dressler and Merlini-Barbaresi (1994: 21) that the diminutive is not "a prototypical representative of derivational morphology." Put slightly differently, EAs are not canonically derivational, but derivational nonetheless. This is the prevailing view of EM.[14]

The data I present below, tested against the above criteria, lead to the opposite conclusion. There are clear, documented cases of languages in which the diminutive behaves, in most respects, like an inflectional category. These include Fula (Arnott 1970; 1974), Walman (Brown and Dryer 2008), and Bantu. Once again, however, they are not "prototypical representatives" of inflectional morphology. In order to assess the status of the diminutive in these languages, I adopt a canonical approach (Corbett 2006).

2.3.2 Canonical inflection

Surveying the literature on the definition of inflection (e.g., Anderson 1982; Stump 1998), we arrive at the following list of properties of canonical inflection:[15] 1) full inflectional paradigm with no empty cells; 2) obligatoriness; 3) full

Flasche DET.FEM bottle → *das Fläsch-chen* DET.NEUT bottle-DIM.

[14]See, for example, Beard (1995; 1998), Booij (1996) and Melissaropoulou and Ralli (2008).

[15]I exclude from this list the standard criterion of inflection that it does not create new lexemes because it is a negative property, the converse of which is that inflection creates different forms of a lexeme. This positive property follows from the property of paradigmatic completeness.

productivity; 4) invariance across lexemes (viz., no allomorphy or suppletion); 5) no duplication within a single lexeme (viz., no syncretism/homonymy); 6) semantic regularity and predictability; and 7) relevance to syntax.[16]

I take a grammatical category that meets all of these criteria to be the canonical, or "ideal" (in the Platonist sense), inflectional form. As one never finds a perfect circle in nature, so one should not necessarily expect to find a "perfect" inflectional category in natural language. Thus, Corbett (2007: 9) points out that canonical forms "are likely to be rare or even nonexistent."

I will use these criteria to assess the uncontroversially inflectional categories in the languages discussed below, and then locate expressive affixes in the theoretical space relative to those categories.

2.3.3 Fula diminutive noun classes

Fula is a language of the West Atlantic branch of the Niger-Congo family spoken by 10-16 million people throughout West Africa, both as a national language and as a *lingua franca*. It has a complex nominal class system that is reflected in full paradigms of agreement with co-referential adjectives, demonstratives, pronominals, interrogatives, and numerals.[17] Noun classes are often called "grammatical gender" (cf. Comrie 1999; Corbett 1991; Matthews 2007: 269), and this conflation means that the two- to four-gender systems of Indo-European languages are viewed as special cases of the general system of nominal classification. Consequently, inasmuch as masculine, feminine, common, and neutral genders are prototypically inflectional, so are the noun classes of

[16]Martin Maiden (p.c.) notes that the vocative case, though "crosslinguistically unusual," "is usually seen as extrasyntactic."

[17]Data and grammatical description in this section based on Arnott (1970) and Anderson (1976).

the Niger-Congo languages. I therefore consider the Fula noun class system to be representative of that language's inflectional system, and use the term "prototypical inflection" to refer to its non-expressive noun classes or genders.

Of its 25 noun classes,[18] four are diminutive (classes 3-6), and two are augmentative (classes 7 and 8). Each adjective is capable of occurring with suffixes

(48)

a. *gim- ɗo* person-1 'person'	h. *loo- nde* pot-9 'storage pot'
b. *yim- ɓe* person-2 'people'	i. *loo- ɗe* pot-24 'storage pots'
c. *gim- ŋgel* person-3 'little person'	j. *loo- ŋgel* pot-3 'small pot'
d. *gim- ŋgum* person-5 'worthless (little) person'	k. *loo- ŋgum* pot-5 'worthless little pot'
e. *ŋgim- kon* person-6 'little people'	l. *loo- kon* pot-6 'small pots'
f. *ŋgim- ŋga* person-7 'large/important person'	m. *loo- ŋga* pot-7 'big pot'
g. *ŋgim- ko* person-8 'large/important people'	n. *loo- ko* pot-8 'big pots'

Table 2.4: Fula nominal classes

of all classes, and thus belongs to a full paradigm. The full noun paradigm in

[18]The number of noun classes in Fula is subject to some dialectal variation, up to a maximum of 25 (Arnott 1974: 13).

Fula, illustrated in Table 2.4 includes the following classes:[19] a) one of the neutral singular classes (1, 9–23); b) one of the neutral plural classes (2, 24, or 25); and c) each of the classes 3, 5, 6, 7, and 8. The great majority of noun stems combine with suffixes of seven classes, as can be seen in Table 2.4: *gim–* 'person' and *loo–* 'storage pot' have full paradigms. To this extent, the Fula noun class system is canonically inflectional. However, there are certain nouns for which, for example, there is no plural form, or the pejorative diminutive or augmentative forms may not exist. There are also three types of two-class or three-class paradigms. Firstly, nouns in the following classes: a) one of the neutral classes (10, 20, or 22, referring to mass nouns); b) the 'small quantity' class, 4; c) the diminutive plural class, 6. Secondly, nouns in a) the diminutive or augmentative singular class with no counterpart in any of the neutral classes; b) the corresponding plural form; and c) a pejorative diminutive form in class 5. Thirdly, nouns in a) class 24 or 25 with no plural meaning; b) a corresponding class 6 form with diminutive meaning; c) a corresponding class 8 form with augmentative meaning.[20]

Of particular interest here is the fact that even nouns that have "defective" paradigms can always be combined with some diminutive. This means that there are no defective expressive inflectional paradigms, and expressive affixes are fully productive, as either a diminutive or augmentative form is always "potentially existent" (Arnott 1970: 79). It also indicates that, in these respects, the expressive classes are more canonically inflectional than the prototypical grammatical classes.[21]

However, with regard to obligatoriness, the opposite is the case. Although one or another expressive suffix can be applied to any noun, apparently with-

[19]I exclude Class 4 from this list because it is applied to mass nouns to signify a 'small quantity' of a substance, and therefore cannot be pluralised.

[20]For further details and data, see Arnott (1970: 79f.)

[21]See §2.5.3 below.

out exception, its use is entirely optional for the speaker, and is licensed solely based on the semantics/pragmatics, not the grammar. This characteristic of the expressive classes is an extreme deviation from canonical inflection.[22]

Turning to the property of syntactic relevance, consider the agreement patterns in (49).

(49) a. *wude*-re *ranee*-re *njogii-mi* nde'e
cloth-9a white-9b grasp.me this
'This white cloth I am holding'

b. *tuute*-yel *ɓale*- yel *njogi-daa* ndeya
flag- 3b black-3b grasp.you those
'Those little black flags you are holding'

c. *na'*- i *bodɗee*-ji *ɗiɗ*-i ɗin
cattle-25b red- 25b red-25b the
'The two red cattle'

d. *na'*- hon *bodɗee*-hon *ɗiɗ*-hon ɗin
cattle-6b red- 6b red-6b the
'The two small red cattle'

As can be seen here, the categories of diminutive and augmentative formation in Fula are "completely integrated into the inflectional noun class system" and enter into the same kinds of agreement patterns as person and number, both within the NP and between subject and verb (Anderson 1982: 586).

The reader may have noticed two things about the above data: firstly, that there is a considerable amount of allomorphy in Fula nominal paradigms and, secondly, that certain nominal stem-initial consonants alternate with a change in noun class. Anderson (1976) argues that both these phenomena are part of a single system of morphologically-conditioned initial consonant mutation, characteristic to Fula. With regard to allomorphy, each noun class has four orthogo-

[22] See §2.5.2 below.

nal series or "grades" of suffixes in complementary distribution, with each stem belonging exclusively to one grade, irrespective of the class.[23] Arnott (1970: 87) labels the grades A, B, C, and D and illustrates how they work in Table 2.5. As

	Grade A	Grade B	Grade C	Grade D
	baobab fruit/ fruits, etc.	orange/ oranges, etc.	calabash/ calabashes, etc.	storage-pot/ pots, etc.
9	**ɓoy-re**	**leemuu-re**	**tummu-de**	**loo-nde**
24	**ɓoy-e**	**leemuu-je**	**tummu-ɗe**	**loo-ɗe**
3	**ɓoy-el**	**leemuu-yel**	**tummu-gel**	**loo-ŋgel**
5	**ɓoy-um**	**leemuu-yum**	**tummu-gum**	**loo-ŋgum**
6	**ɓoy-on**	**leemuu-hon**	**tummu-kon**	**loo-kon**
7	**ɓoy-a**	**leemuu-wa**	**tummu-ga**	**loo-ŋga**
8	**ɓoy-o**	**leemuu-ho**	**tummu-ko**	**loo-ko**

Table 2.5: Inflectional grades in Fula

can be seen, the grade system applies to all classes, including the expressive ones (3 and 5-8).[24] Nevertheless, they mark a deviation from the canonical situation. In this respect, although the system as a whole deviates from the canon, the expressive categories are typical of inflection *intralinguistically*.

With regard to the alternation of stem-initial consonants, the reader may have also noticed that the examples in Table 2.5 do not display this phenomenon. This is because *ɓ*, *l* and *t* are among the "invariable" consonants that do not enter the system of alternation, exemplified in the left-hand column of (48).[25]

[23] There is the potential here for extreme terminological confusion, which Arnott thankfully avoids with this coinage. The "grades" appear to be what in traditional grammars are called "inflectional classes." However, Bantuists since Bleek (1851) have used "class" to refer to nominal classification systems. It may, therefore, be better to use "(grammatical) gender" to refer to all types of nominal classification system, and reserve the term "class" for "inflectional class". Considering the long history, traditions, and specialised nomenclature of Bantuism, this may not be realistic. Nor would it be a theoretically innocent move, as there are linguists who distinguish between grammatical genders that have some affinity to natural gender (masculine, feminine, etc.), and the more extensive nominal classification systems covered here.

[24] As grades are an inherent characteristic of stems, one can have adjectives of one grade combining with nouns of another, in which case each stem will inflect accordingly. Superficially, this gives the impression of a lack of agreement. However, this is not the case, as the adjective does agree in terms of noun class. For example, *les-de ɓalee-wol* earth-11c black-11b 'black earth'.

[25] The others are *m*, *n*, *ny*, *ŋ*, *ɗ*, *'y*, *'*, and *c*.

The majority of consonants, however, do alternate. Corbett (2008: 3) argues that, in the canonical situation, the stem contributes lexical meaning alone, and is otherwise "inert." Thus, differences between paradigmatic cells should be exclusively due to inflectional processes. The facts of this "consonant gradation" are systematic and well understood (Anderson 1976), and signal one more deviation from canonical inflection. Again, however, the expressive categories behave like the other noun classes in this respect.

One also finds a considerable amount of syncretism in Fula paradigms. For example, *–kon* occupies both 6c and 6d, *–ko* is in 8c and 8d, *–re* in 9a and 9b, and *–ɗe* in 24c and 24d.[26] In the canonical situation, inflectional material is different in each cell of a paradigm, so these cases are evidence of non-canonicity across several Fula noun classes, both grammatical and expressive.

It should be clear from the above discussion that the expressive noun classes in Fula meet most of the central criteria of inflection and, with the exception of obligatoriness, are at least as canonically inflectional as the language's prototypical inflectional markers. Having tested the noun classes in Fula against the properties of canonical inflection, I will now turn to some interesting facts in other languages with so-called "inflectional diminutives."

2.3.4 Walman diminutive gender

Walman is an endangered language of the Torricelli family spoken on the north coast of Papua New Guinea. The Walman inflectional diminutive is unique in that it cannot appear on nouns but only on words that agree with nouns. Like the other Walman inflectional markers of Gender and Number, it occurs exclu-

[26] Arnott's (1970) practice is to use lower-case letters for grades only if they are preceded by a noun class number

sively in agreement slots on verbs, adjectives, and certain numerals and pronouns. This is an interesting and unusual type of agreement mismatch and non-canonicity, in that the controller does not overtly express the agreement features which are reflected in the target. However, it is clear from the following examples (adapted from Brown and Dryer 2008: 2), that it is the controller that triggers agreement. For instance, in example (e) in Table 2.6, the referent (controller) must be more than one dog; however, there is no obvious way to make sense of the notion of a plural target ("naughtinesses"?), and it is certainly not what the plural marker on the adjective indicates. Similarly, the diminutive marker on the target *aykiri* 'bark' does not mean that the barking is quieter than usual. It simply shows agreement with the controller, *pelen* 'dog', which is diminutivised.[27] As can be seen from these examples, the diminutive

On verbs		
a. Pelen **n**-aykiri dog 3SG.MASC-bark 'The dog is barking'	b. Pelen **w**-aykiri dog 3SG.FEM-bark 'The bitch is barking'	c. Pelen **l**-aykiri dog 3SG.DIM-bark 'The puppy is barking'
On adjectives		
d. Pelen woyue-**n** dog naughty-3SG.MASC 'The dog is naughty'	e. Pelen woyue-**y** dog naughty-3PL 'The dogs are naughty'	f. Pelen woyue-**l** dog naughty-3SG.DIM 'The puppy is naughty'
On numerals		
g. Pelen ngo-**n** dog one-3SG.MASC n-aykiri 3SG.MASC-bark 'One dog is barking'	h. Pelen ngo-**Ø** dog one-3SG.FEM w-aykiri 3SG.FEM-bark 'One bitch is barking'	i. Pelen ngo-**l** dog one-3SG.DIM l-aykiri 3SG.DIM-barking 'One puppy is barking'
On pronouns		
j. Ru**non** n-oruen 3SG.MASC 3SG.MASC-cry 'He is crying'	k. Ri y-oruen 3PL 3PL-cry 'They are crying'	l. Ru**l** l-oruen 3SG.DIM 3SG.DIM-cry 'It (young one) is crying'

Table 2.6: Prototypical and Expressive Genders in Walman

[27] A simple, morpheme-based way to account for this would be to assume that there is covert inflectional marking on the noun, e.g., *pelen-**Ø** **n**-aykiri*.

enters into the same agreement patterns as other agreement markers and is in paradigmatic opposition to Number and Gender, which makes it unambiguously inflectional in these respects. Since the Walman diminutive is exclusively contextual, viz., it is not marked inherently on nouns but only on words that agree with nouns—hence, its appearance is determined by syntactic context—its non-derivational status is unquestionable.

2.3.5 Bantu diminutive noun classes

As with Fula, Bantu diminutive affixes pattern with other inflectional (noun class) affixes. In Bantu, inflectional affixes are prefixal and other words in construction with them take an appropriate matching prefix.[28] The diminutive noun classes (12 and 13, singular and plural, respectively) are marked prefixally on nouns and trigger 'concord' (agreement)—in other words, they function like typical inflectional categories, with 'inherent' and contextual expression, and therefore constitute an inflectional noun class *per se*. The following section presents data from the Bantu language Shona, which clearly illustrates this point.

2.3.5.1 Inflection and derivation in Shona

Shona is a Bantu language spoken primarily in Zimbabwe, where it is the native language of around 80 percent of its 12 million inhabitants.[29] It is also a minority language in Mozambique, Botswana, Zambia and South Africa. As is typical of the Bantu languages, it has a complex verbal morphology and noun classification system, and is highly agglutinative. One interesting property of Shona, and

[28]With a few exceptions, e.g., Adere, a language of Cameroon, in which noun classes are marked either prefixally or suffixally, depending on grammatical context (Voorhoeve 1980).

[29]Thanks to all the Zimbabwean friends and teachers who acted as my informants for the data in this section. I would especially like to thank the late Gladys Mugwara, Phillemon Kamota, Beauty, Paul Rogers and Emmanuel 'Mannex' Motsi for their friendship and patience.

other Bantu languages, is that it distinguishes inflectional and derivational affixes by their positions relative to the root. The former precede the base, whereas the latter follow it.[30] Both transpositional and category-preserving (but valency-

	Derivation				**Inflection**		
a.	V –kur-a_V 'grow'	⇒	A –kur-**u**$_A$ 'big'	b.	non-finite –kur-a_V 'grow'	⇒	3P-PRES **ano**-kur-a_V 'he/she grows'
c.	V –famb-a_V 'travel'	⇒	N –famb-**i**$_N$ 'traveller'	d.	non-finite –famb-a_V 'travel'	⇒	1P-PAST **ndaka**-famb-a_V 'I travelled'
e.	V –teng-a_V 'buy'	⇒	V_{CAUSE} –teng-**es**-a 'cause to buy', 'sell'	f.	NC1 mw-ana 'children'	⇒	NC7 **ch**-ana 'childishness'
g.	V –tor-a 'take'	⇒	$V_{PASSIVE}$ –tor-**w**-a 'be taken'	h.	NC1 mu-sik-ana 'girl'	⇒	NC12 **ka**-sik-ana 'little/small girl'
i.	V –uray-a 'kill'	⇒	$V_{RECIPROCAL}$ –uray-**an**-a 'kill each other'	j.	NC9 i-mbwa 'dog'	⇒	NC13 tu-mbwa 'little dogs'

Table 2.7: Derivation and inflection in Shona

changing) derivational operations are suffixal. In contrast, all morphosyntactic

[30]See Mkanganwi (2002) for an elaboration of this positional analysis of Shona affixes. As the examples in Table 2.7 show, Shona has the affix ordering INFLECTION-ROOT-DERIVATION, which means that it does not satisfy the antecedent of Universal 28 and, therefore, cannot be used to test it. Nevertheless, the clear tendency in Shona towards a positional separation of derivational and inflectional affixes does point to a sharp distinction between the two, which lends support to theories that distinguish inflection from derivation in a principled manner. However, although Mkanganwi (2002: 2) states that in Shona, "the morphological distinction between inflection and derivation... seems to be very neat and straightforward, and need never have been uncertain," this appears not to be entirely incontrovertible. For one, Shona does not conform to at least one traditional criterion used to distinguish inflection from derivation—namely, that derivation creates new lexemes whereas inflection creates different word-forms of a lexeme (Matthews 1991). Examples (d) and (f) in Table 2.7 show how a new lexeme can be created by changing the noun class of a word. See §2.5.5 for further evidence of the way noun-class prefixes occasionally blur the distinction between derivation and inflection.

operations (e.g., conjugations and noun class shifts) are prefixal. The diminutive markers in Table 2.7 (h) and (j) are prefixal and therefore, on this simple positional criterion, inflectional.

Even more decisively, the Bantu diminutive is a noun class *per se*, and in Shona it is class 12 for the singular diminutive and class 13 for the plural diminutive. As with all EM, it allows the speaker to convey a subjective, attitudinal perspective, so it is optionally marked on subject nouns. However, the diminutive is contextually (and obligatorily) marked on any words in construction with a class 12/13 subject noun, in exactly the same way as all other noun classes, as shown in (50).[31]

(50) a. *va-swera- sei v-ana ve-nyu*
2- spent.the.day-how 2-child 2- 2SG.POSS
'How has your children's day been?'

b. *twa-swera tu-v-ana tu-diki tw-angu*
13- spent.the.day 13-2-child 13-small 13-1SG.POSS
'My dear little children have had a nice day'

By all independent criteria, then, the Shona diminutive is inflectional: it is highly productive,[32] semantically regular, and encodes a feature that is syntactically relevant. Like the Fula diminutive, the Shona diminutive displays the

[31]The interaction of EAs and the roots to which they attach is not entirely consistent, which complicates the picture somewhat. For example, certain bases require a prototypical class marker between themselves and the plural diminutive form, even for roots of class 5, which has no overt marker. (Note that *nanazi* 'pineapple' can be of class 5 or class 6 (*ma-nanazi*), with no change in meaning or function.) Compare: *(ma-)nanazi* (6-)/5.pineapple → *ka-nanazi* 12.DIM.SG-pineapple but *tu-*(ma-)nanazi* 13.DIM.PL-*(6-)pineapple and *tu-*(*zvi-)nanazi* 13.DIM.PL-(8.PEJ-)pineapple. For reasons that are unclear, the non-expressive class 8 plural marker *zvi–* becomes a pejorative marker in this case. As these data do not directly affect the present argument, I merely point them out for future research.

[32]Furthermore, as Jaeggli (1980) has observed for Spanish diminutives, the kind of productivity displayed by these expressive rules goes beyond that of any known derivational rules, in that it clearly violates Aronoff's (1976) "Unitary Base Hypothesis," which states that derivational rules may only operate over a single type of base (see also Scalise 1984).

contextual marking of subject concord, and the fact that it is prefixal further confirms its inflectional status.

One straightforward, if inelegant, way to salvage the Yiddish and Itelmen data (as counterexamples to the SMH) would be to parametrise the status of EAs, so that they could be derivational in some languages and inflectional in others. This raises the question of whether this is even a legitimate or possible type of category of UG. In other words, are there any other categories that are derivational in one language and inflectional in others? For example, is there a language in which the agentive nominalisation morpheme enters into agreement patterns? These are matters for further research, although a positive answer to the above questions seems doubtful.[33] Katamba (1993: 244) states that even an "extensional" (i.e., enumerative or ostensive) definition of inflection and derivation is not possible because "the same category may be derivational in one language and inflectional in another." However, the only evidence he offers for this is a brief comparison of putatively "derivational" diminutives in English and German, and the "inflectional" Fula diminutives, which raises precisely the question posed in this chapter.

This technical point notwithstanding, this (dubious) move can be shown not to work for Bantu languages. In Shona and in Bantu generally, there exists another productive diminutive marker, *–ana*, derived from the stem for 'child.'[34]

[33]However, see §3.2.4 for a possible counterexample which actually corroborates my general approach.

[34]Although native speaker intuitions are not uniform, there appear to be suggestive gaps in the productivity of the diminutive; for example, *(*ka-)nyanza* 'large body of water/ocean.' The explanation for occasional paradigmatic gaps of this kind is likely to be purely semantic, in that the meanings of the stem and the suffix are contradictory.

(51) a. *i-mbwa* ⇒ *i-mbw-ana*
'dog' 'small dog/doggy/puppy'

b. *shoma* ⇒ *shom-ana*
'few' 'very few'

Furthermore, the markers *ka–*/*tu–* and *–ana* are not even in complementary distribution, as they can occur simultaneously:

(52) a. *ka-mbw-ana*
12-dog- DIM
'very small dog/little doggy/tiny puppy'

b. *tu-sik- ana*
13-girl-DIM
'little girls'

In contrast to the inflectional diminutive markers, *–ana* is suffixal and functions like other substantives (e.g., adjectives and intensifiers) in the language, in that it can be iterated indefinitely to intensify the meaning conveyed (53a) and (b), whereas this is not possible with *ka–* or *tu–*, the singular and plural inflectional diminutives (53c):

(53) a. *-kuru* → *-kuru-kuru* → *-kuru-kuru-kuru*
big big- big big- big- big
'big' 'very big' 'very very big'

b. *-shoma* → *-shom-ana* → *-shom-ana-ana*
few few- DIM few- DIM-DIM
'few' 'very few' 'very very few'

c. *mu-koma-ana* → *ka-koma-ana-ana-…-ana* →* *ka-ka-koma-ana*
12- child- DIM 12-child DIM-DIM-…-DIM 12-12-child-DIM
'boy' 'tiny little boy'

Moreover, *–ana* is a noun root *per se*, of class 1, e.g., *mw-ana* 1-child, and can also be used as a derivational suffix meaning 'child of' or 'young of' (examples in (54) adapted from Mkanganwi 2002: 180n).

(54) a. *-mbwa* → *-mbwa-ana*
dog dog- DIM
'dog' 'puppy'

b. *dhongi* → *dhongi- ana*
donkey donkey-DIM
'donkey' 'donkey calf'

c. *-rume* → *-rume-ana*
man man- DIM
'man' 'boy, son'

The coexistence of 'inflectional' and 'derivational' diminutive markers in Shona entails that the status of the diminutive is not a parameter of UG.

2.4 Free-morpheme diminutives

In this section I briefly present evidence from other languages that counter-exemplifies the assumption that diminutives are derivational.

2.4.1 Khasi

In their conclusion, Brown and Dryer (2008: 18) briefly mention the Khasi (Mon-Khmer) diminutive which, like Number and Gender, is marked by a free morpheme, which they call a "noun phrase marker."

(55) a. *u* *briew*
MASC man
'the/a man' (Nagaraja 1985: 87)

b. *ka* *khɨnna?*
FEM girl
'the/a girl' (Nagaraja 1985: 88)

c. *ki* *dieŋ*
PL tree
'trees' (Nagaraja 1985: 9)

d. *i* *khuːn*
DIM child
'the/a child' (Nagaraja 1985: 9)

They argue that, because "these noun phrase markers are separate words…diminutive is not an inflectional value in Khasi, unlike Walman." This conclusion appears to be unwarranted, for two reasons. Firstly, if the diminutive is derivational by virtue of its being marked by a separate word then, by the same token, Number and Gender must also be derivational in Khasi. This would be a controversial claim, to say the least. Secondly, Beard (1995: 102) proposes a criterion, which he calls the "Free Analog Test," to distinguish derivational categories from inflectional ones at the level of UG: "grammatical functions marked by free morphemes…must be controlled by syntax, since only syntax assigns structure." Under this criterion, it is the very fact that the diminutive is a separate word that makes it inflectional, and the same applies to Number and Gender, presumably a desirable result. However, if one accepts Beard's (1995: 17) assumption—which he refers to as *Principle V*—that "the parameters of morphology are universal" then it follows that number, gender and, surprisingly, diminutive are universally inflectional categories.[35]

2.4.2 Italian

Italian diminutive suffixes may appear as autonomous words in certain contexts, as in the following examples from (Dressler and Merlini-Barbaresi 1994: 102).

[35]As we saw in §2.3.5.1, Bantu has two types of diminutive affix: one best described as inflectional, the other derivational. This would seem to falsify both the Free Analog Test and Principle V. However, I would argue that the correct way to approach these data is not to immediately discard these two hypotheses but, rather, to recognise that the diminutive is neither an inflectional nor derivational category.

(56) a. *Questo vino è proprio* uccio
This wine is really DIM
'This wine is really bad'

b. *Mi dia una porzion-cina, proprio* ina *di piselli*
Me give a portion-DIM really DIM of peas
'Can I have a small portion of peas, but a very small one?'

Here, the diminutive affix is functioning very much like an adjective and, indeed, can be substituted *salva veritate* by an appropriate one in these contexts. For example, *Questo vino è proprio schifoso* 'This wine is really disgusting' preserves the meaning of (56a). This shows that, unlike expressives in general, these forms can be paraphrased.[36] It is reasonable to assume that a process of lexicalisation, whereby an expressive affix has become an independent lexical unit, has taken place. It should be noted that this is very much an exceptional, jocular, and probably conscious, manipulation of morphology by speakers. However, although it is colloquial, it is not restricted to informal *speech*, as evinced by its use in published reviews by two different authors:

(57) a. *Il film non è accio accio...*[37]
the film not is DIM DIM
'The film isn't that terrible...'

b. *c'è il Sigma 24mm f2.8AF che non è accio...*[38]
there.is the Sigma 24mm f2.8AF that not is DIM
'There's the Sigma 24mm f2.8AF lens, which isn't bad...'

Despite its marginality and context-dependency, the phenomenon of free-morpheme diminutives nevertheless further highlights the aberrancy of the dimin-

[36] See §1.3.4 on the 'descriptive ineffability' of expressives.

[37] Review of *Mio fratello è figlio unico* at http://radiocole.blogspot.com/2007/05/mio-fratello-figlio-unico.html

[38] Flickr.com user (zoootty) comment at http://www.flickr.com/groups/analogica/discuss/72157624154022526/72157624029948557/

utive which, in these Italian examples, functions both as a derivational and an inflectional category in a single sentence.

2.5 Inflectional diminutives as anomalous

In this section, I will show that, what have been presented above as unambiguously inflectional diminutives in three languages, paradoxically display behaviour that does not conform to that of the canonical inflectional markers in those languages. Moreover, some of these differences are common to all three languages.

2.5.1 Inherence

Most nouns in Fula and Shona are inherent members of a single noun class (and its corresponding plural class) and thus obligatorily take their class marker.[39]

(58) **Fula**

a. *laam-ɗo* chief-1	b. *loo- nde* pot-9	c. *loo- ɗe* pot-24.PL
d. *'ullu-ndu* pot- 11	e. *ɗem- ngal* tongue-16	f. *'ullu-ɗi* cat- 25.PL
g. * *laam-ndu* chief-11	h. * *ɗem- nde* tongue-9	i. * *'ullu-ɗe* cat- 24.PL

(59) **Shona**

a. *mu-rume* 1- man	b. *mu-kaka* 3- milk	c. *mi- ti* 4.PL-tree

[39]Where the markers of different singular classes are homonyms (e.g., classes 1 and 3, and 15 and 17 in Shona and 7 and 12, and 8 and 20 in Fula) the classes are distinguished on the basis that their plural demonstratives, pronouns and concords differ. For example, compare Shona *uyu mu-rume* 'this man' → *ava va-rume* 'these men' with *uyu mu-ti* 'this tree' → *iyi mi-ti* 'these trees'.

d. *chi-koro* 7- school	e. *ma-nheru* 6- evening	f. *ma- oko* 11.PL-hand
g. * *ma-rume* 6- man	h. * *ku-kaka* 15- milk	i. * *mi- oko* 4.PL-hand

In contrast, very few nouns are inherent members of the diminutive classes in either Fula or Shona. Those few nouns for which the diminutive class marker is obligatory are not semantically diminutive, which suggests that processes of grammaticalisation and semantic bleaching have occurred. Examples include the following, from Shona.

(60)

a. *ka-bayo* 12-pneumonia	b. *ka-hambakwe* 12-colon (punctuation)	c. *tu-mbare* 13-bagworm

Similarly, in Walman, every noun is grammatically either masculine or feminine, but can occur either with its inherent (Gender) feature (61a) or with the diminutive marker (61b), but not with the opposite Gender feature (61c).[40]

(61) a. *Ngolu pa n- o lapo- n*
cassowary that 3SG.MASC-be large-MASC
'That cassowary is large'

b. *Ngolu pa l- o lapo- l*
cassowary that 3SG.DIM-be large-DIM
'That baby cassowary is large'

c. * *Ngolu pa w- o lapo- Ø*
cassowary that 3SG.FEM-be large-FEM
'That cassowary is large'

The diminutive is unlike Gender in that there are no Walman nouns that are inherent diminutives (Brown and Dryer 2008: 9).

[40] The cassowary, *ngolu*, is a tall, ostrich-like bird, and is grammatically masculine in Walman.

2.5.2 Optionality

While inherent features such as Gender and Number are grammatically and/or semantically obligatory, the diminutive is entirely optional, and is required neither by the grammar nor by semantic context. If a referent is plural, a speaker must use a plural form to refer to it. For example, several dogs cannot be referred to as *dog*. In contrast, if a referent is small, the speaker may or may not choose to use the diminutive form. For example, a Shona speaker could, without contradiction, refer to the same man as *ka-rume* DIM-man on one occasion and *zi-rume* AUG-man on another, even within a single discourse, depending on her mood and what kind of image she wants to convey. Similarly, in Walman, diminutive agreement is not obligatory if the referent is small or even a baby, so that (61a) is appropriate "even if the cassowary referred to is a baby" (Brown and Dryer 2008: 10). In a very narrow sense, crosslinguistically the EM resembles derivational processes in that its use is "a choice made by the language user for purely semantic reasons." (Booij 2004: 3). The similarities end there however, because, as Beard (1995: 164) points out, "one may not...refer to a baker as a *bakery* or as *baking* depending on one's mood."

The diminutive is somewhat like the plural feature[41] in that its optional use on nouns (for semantic, not grammatical, reasons) triggers a certain kind of agreement, and unlike Gender and the majority of other noun classes, which are inherently specified on nouns. In Walman, for example, both the diminutive and the plural affixes can replace the inherent gender marker on nouns.

(62) *Ngolu* *pa* *l-* *o* *lapo-* *l*
cassowary that 3SG.PL-be large-PL
'Those cassowaries are large'

[41]But unlike the Number category which is obligatory, as demonstrated by the difference between singular and plural agreement patterns in all three languages.

However, they differ in that, whereas the diminutive can co-occur with feminine or masculine singular forms associated with the same referent (63a), the plural form, if specified at all, must occur with all such forms (63b). From this it follows that diminutives and plurals cannot co-occur (63c).[42]

(63) a. *ako nyanam nngkal-lngkal alpa-l n- ama Riak pa*
then child small- small one- DIM 3SG.MASC-like Riak Prt
n- ayukul kulkul
3SG.MASC-lift fireplace
'But one small boy like Riak lifted the fireplace'

b. *Ngolu pa (* n-) y- o lapo- y*
cassowary that (3SC.MASC-)PL-be large-PL

c. * *Ngolu pa<l>ten y- o lapo- y*
cassowary that<DIM> 3SG.PL-be large-PL

Furthermore, the diminutive and the plural are crosslinguistically differentiated in the following ways: 1) whereas the diminutive is entirely optional (as the licit question and response in (50) demonstrates), the plural is obligatory once it is salient in the discourse;[43] and 2) the plural is required if the referent is plural.

2.5.3 Productivity in nominal paradigms

Adjectives in Shona and Fula display the full range of noun class agreement.

[42]Example (63a) is from Becker (1971), quoted in Brown and Dryer (2008: 11), and (63c) is from Brown and Dryer (2008: 11).

[43]By this, I mean that once a referent's Number has been set by the speaker, it cannot be changed in the discourse without changing the referent. However, this may be due more to pragmatic than strictly grammatical reasons.

(64) **Shona**

a. *mu-rume mu-refu*
1- man 1- tall
'a/the tall man'

b. *mi-ti mi-refu*
4- tree 4- tall
'tall trees'

c. *chi-sikwa chi-refu*
7- creature 7- tall
'a/the tall creature'

(65) **Fula**

a. *laam-ɗo meere- jo*
chief-1 worthless-1
'a/the worthless chief'

b. *'ullu-ndu meere- eru*
cat- 11 worthless-11
'a/the worthless cat'

c. *loo-ɗe meere- je*
pot-24.PL worthless-24.PL
'a/the worthless pot'

In contrast, nouns generally belong to a smaller set of comparable forms which, of the neutral classes, is usually restricted to their inherent singular and plural classes and, in some cases, a limited range of meaning-changing classes. However, each noun can occur with any of the expressive classes, with few restrictions. Full productivity is characteristic of inflection, whereas derivation "may exhibit different degrees of productivity" (Booij 2004: 9), so this would point to the expressive classes being inflectional. However, in the cases of Fula and Shona, the canonical inflectional classes display limited productivity and can thus be differentiated from the expressive ones. In Fula, this means that a full noun paradigm contains just two inherent classes: one of the neutral singular classes (1, 9-23) and one of the neutral plural classes (2, 24, or 25) (Arnott 1970: 79). However, every noun can potentially occur with any expressive class marker (classes 3, 5, 6, 7, and 8). The important point here is that, even though the expressive classes seem to be more canonically inflectional in this respect

than other inflectional categories in Fula and Shona, this difference in behaviour is enough to conclude that they are anomalous.

Although the Fula and Shona expressive affixes are undoubtedly "relevant to syntax" and therefore meet a central criterion of inflection, it can also be shown that key aspects of their semantic and morphological behaviour differ from the behaviour of those languages' more typically inflectional markers.

2.5.4 Prefix stacking

Certain classes—for example, noun class 7, which denotes, among other things, curtatives (short and stout things/people), 'outstanding people,' mannerisms and languages (Katamba 2003: 115)—can replace the inherent class marker on some nouns in order to change or add a desired meaning.

(66) a. *ma-shona*
6- shona
'the Shona (people/culture)'

b. *chi-shona*
7- shona
'the Shona language'

c. *mu-rume*
1- man
'man'

d. *chi-rume*
7- man
'male behaviour/masculinity'

In contrast, as example (50b) shows, the diminutive affix does not always replace a noun's inherent class marker, but often instead attaches peripherally to it (*tu-v-ana* 13-2-child), and all agreeing words must display class 12/13 concord, as the ungrammatical (67) shows.[44]

[44]Contra Brown and Dryer, who state that in Shona "the inherent noun class prefix is retained when the Noun Class 13 [*sic*] prefix is attached," there are many nouns that, when diminutivised, only occur with the class 12/13 prefix (e.g., example (h) in Table 2.7). The reasons for this alternation, which depends on the noun, are presently unclear. (Brown and Dryer (2008: 13–15) unconventionally refer to the Shona singular diminutive as "class 13" and the plural as "class 12").

(67) * *va-swera* *tu-v-ana* *va-diki* *va-ngu*
2- spent.the.day 13-2-child 2- small 2- 1SG.POSS

2.5.5 The semantics of the diminutive classes

One interesting feature of Bantu noun classes, noted by Mufwene (1980), is that when a class prefix is attached to a root, it often creates a new lexical item with an idiosyncratic meaning, as the examples in (66) demonstrate. This is very much unlike inflection, which generally produces regular meanings that can be computed compositionally and "on-the-fly." In fact, it is so similar to the parochial operations of compounding, that Mufwene hypothesises that lexical derivation is the primary function of Bantu noun class prefixes.

As noted above, the semantics of the few inherent members of the diminutive classes in Fula and Shona are not regular, perhaps due to grammaticalisation of the diminutive affix, and subsequent lexicalisation. Ironically, however, the semantics of expressive classes behave formally in a more prototypically 'inflectional' manner than the other noun classes. The vast majority of nouns that have class 12/13 marking are semantically regular and predictable, and simply mean 'small(x).'

A related point is that the expressive classes (diminutive and augmentative/pejorative, 12/13 and 21, respectively) are the most semantically coherent of all classes, with the exception, perhaps, of the personal classes (1 and 2).[45] The

[45]Class 1 is exceptionally coherent and used only on 'human' nouns, whereas class 3 denotes other living, non-animal entities. Class 15 denotes non-finite verbs and verbal nouns, and class 17 members are exclusively locatives, while all other classes are, apparently, semantically incoherent. Although these facts are currently mysterious, and recent attempts to uncover the logic of the semantics of noun class (e.g., Contini-Morava 1997, Moxley 1998) have left many outstanding problems, they are highly unlikely to be due to mere coincidence.

semantic content of the majority of noun classes is heterogeneous and incoherent (Richardson 1967).

2.6 Conclusion

Table 2.8 summarises the similarities and differences between prototypical and expressive inflection, with regard to the canonical properties of inflection in the languages surveyed.

Property	Prototypical inflection	Expressive inflection
Full paradigms	DEPENDS ON STEM	YES
Obligatoriness	YES	NO
Full productivity	YES, BUT STEM-DEPENDENT	YES
Allomorphy	SOME	SOME
Syncretism	SOME	SOME
Semantic regularity	YES, THOUGH NOUN CLASS SEMANTICS UNCLEAR	YES
Syntactic relevance	YES	YES

Table 2.8: Prototypical vs. expressive inflection

The above data and analyses demonstrate the following: 1) expressive affixes cannot be assumed to be derivational; in fact, there are languages in which EM behaves in typically inflectional ways and further, in some of those, it displays more canonically inflectional behaviour than the languages' typical inflectional morphology; 2) expressive affixes are not inflectional and, even in languages that have "inflectional diminutives", they behave in aberrant ways; 3) if the categories of inflection and derivation are to be preserved, expressive morphology must, perforce, belong to a category distinct from either. The fact that many of

the features of expressive affixes that distinguish them from both inflection and derivation are common to all the investigated languages suggests that EM may be differentiated at the level of UG.

The preceding discussion does not present a decisive case in favour of the Split Morphology Hypothesis. However, it is apparent that the distinction between inflection and derivation is, crosslinguistically, a relatively robust one, *modulo the data from EM*. If this is correct, it means that standard linguistic arguments for or against this or that analysis of plain morphology, based on the assumption that EM is derivational, lose their force. The question of whether the distinctions between derivation, inflection, and expressive morphology should be reflected in the architecture of grammar is beyond the scope of this dissertation. What is clear, however, is that the traditional paradigm of inflectional and derivational morphology breaks down when it comes to expressive affixes. And this means that we ought to consider EM on its own terms.

Chapter 3

The "peculiarity" of EM, redux

The aim of this chapter is to elaborate the case against uniform treatments of plain and expressive morphology. Stump (1993) mounts a sustained attack on theories which take expressive morphology (EM) to be "peculiar," and which therefore fundamentally distinguish it from plain morphology (PM). If Stump's analysis is correct, then the major descriptive and theoretical claims of this dissertation become problematic. However, the analysis below shows that Stump's argument is based on a flawed assumption and that, once this is recognised, the data he presents as counterevidence to the peculiarity of EM becomes evidence *for* it.

3.1 EM and category-preserving rules

Stump (1993) argues that, despite their *prima facie* "peculiarity," expressive rules are simply a type of *category-preserving* (lexical) rule (henceforth, CPR) whose behaviour and properties exactly match those of semantically non-expressive

rules of the same type.[1] In this section, I question several assumptions that are crucial to Stump's analysis, and present empirical counterevidence to it. I conclude that Stump's analysis does not permit a uniform treatment of PM and EM.

3.1.1 Stump's criteria for expressive affixes

Stump (1993) presents a detailed and, arguably, decisive argument against Scalise's (1984) criteria for EM and his postulation of a separate expressive subcomponent of grammar.[2] In turn, he proposes a revised set of criteria for EM, listed in (68), and gives account of them in terms of his *Paradigm Function Morphology* theory, which incorporates a unique typology of morpholexical rules. These cri-

(68) *Six properties of expressive rules* (Stump 1993: 12–13):

a. They change the semantics of the base.

b. Two or more such rules may apply in succession, and at every application the result is an existent word or root.

c. Expressive rules may apply before or after both derivational rules and inflectional rules.

d. To a limited extent, the same rule may apply on adjacent cycles.

e. They do not change the syntactic category of the base they apply to.

f. Although expressive rules by definition preserve at least one of the morphosyntactic feature specifications of the base, they do not necessarily preserve all of them.

teria appear, at first glance, to fit the behaviour of the EAs discussed so far, so I will assume them without comment for now. Stump builds a strong case that the rules that form compound-verbs from a preverb and a verb root in Sanskrit

[1] Stump uses the interchangeable term "evaluative."

[2] See the discussion of Scalise (1984) in §1.1.1.1.

and, more generally, what he calls "category-preserving" rules, also conform to these criteria. Since, he argues, the Sanskrit preverb (henceforth, SPV) exhibits all the formal properties of EAs, but none of the semantic ones, there is no need for a special treatment of EM. His argument, therefore, crucially hinges on the assumption—which he adopts without evidence or discussion—that the Sanskrit preverb "cannot be plausibly classified as evaluative" (Stump 1993: 17), because it does not express "diminution, augmentation, endearment, or contempt" (Stump 1993: 14).

As one of the typological claims of this dissertation is that EM ought to be fundamentally distinguished from what Zwicky and Pullum (1987) call "Plain Morphology"—that is, the ordinary processes of lexeme-formation and inflection— Stump's argument is certainly problematic, and requires a response. There appear to be two options: 1) show that the behaviours of SPVs and EAs are, in fact, sufficiently different to justify—indeed, require—a special treatment of EM; 2) show that Stump's assumption that SPVs are not expressive is false. I believe the first option to be untenable and that SPVs and EAs are very similar in terms of their formal properties, as Stump shows. The second option is a more direct way of undermining Stump's argument, and has the advantage of permitting a unified treatment of SPVs and EAs.

The following sections show, on the basis of data from formally similar phenomena in other languages, and various arguments about lexicography and dead languages, that Stump's crucial assumption is unsupportable. Not only is it not self-evident that SPV's expressivity but, furthermore, a detailed, crosslinguistic, typological comparison suggests strongly that the SPV is far more expressive than has traditionally been assumed. Moreover, Stump's definition of what constitutes expressivity is far too narrow. As Jurafsky (1996) and Dressler

and Merlini-Barbaresi (1994) show, the range of meanings expressed by the diminutive alone is much wider than simply "diminution, augmentation, endearment, or contempt." With a more accurate picture of the semantics of EM, it immediately becomes clear that even Stump's own glosses of SPVs convey intensifying or pejorative expressivity. The assumption that SPVs "cannot be plausibly classified as evaluative" therefore rests on a bare assertion which turns out to be false upon close inspection.

Finally, I show that the criteria in (68) miss certain aspects of the behaviour of the EAs discussed in Chapter 2. Although I argue in §3.3 that there are important differences between SPVs and EAs, they are not significant enough to compromise Stump's claim that they are a similar type of rule. Whereas Stump argues that expressive affixes are not "peculiar" because they are of a kind with Sanskrit preverbs, I contend that Sanskrit preverbs are peculiar precisely because they are a kind of expressive affix.

3.2 The Sanskrit preverb as expressive

Many languages have systems of prefixal verbal modifiers, comprising adpositional and adverbial particles. If an investigation shows that they are formally similar to SPVs while also having expressive functions, this will be sufficient to refute Stump's claim that SPVs cannot be expressive.

3.2.1 Intensification of verbal meaning

Following Stump, I assume that SPVs meet all of the criteria of EAs in (68). However, some of the examples Stump gives (in particular, the crucial data involving iteration of preverbs; see Stump 1993: 15) look suspiciously like EAs, in that they

function as intensifiers. For example, the various meanings of the preverb *ati–* can range from the descriptive 'across, beyond, past, over' to 'to excess,' when it is iterated, as in (69).[3]

(69)

	Preverb	**Root**	**Compound Verb**
a.	*ati–* 'across, beyond, past, over, to excess'	*ric–* 'leave behind'	*aty-ati-ric–*[4] 'surpass exceedingly'
b.	*upa–* 'to, unto, toward'	*parā-mṛś–* 'touch'	*upa-upa-parā-mṛś–* (→ *upopaparāmṛś–*) 'touch closely'
c.	*pra* 'forward, onward, forth, fore'	*sthā–* 'stand'	*pra-pra-sthā–* 'rise'
d.	*saṃ–* 'along, with, together'	*yu–* 'unite'	*saṃ-saṃ-yu–* 'unite completely with one's self, consume, devour'

Similarly, Latin, German, Greek (from Homeric to Modern), Slavic, and Old English[5] (among many other languages) all have a type of preverb which, among other possible functions, can intensify the meaning of the verb to which it attaches.[6]

(70) Latin intensifying preverbs

a. *facio* 'do' ⟶ *per-facio* (*perfectum*) 'do thoroughly, finish'

b. *ructo* 'burp' ⟶ *e-ructo* 'belch'

c. *candesco* 'become white' ⟶ *in-candesco* 'glow'

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[3] Katz (2003) cites an argument due to Stephanie Jamison that the preverb *upa–* is the "preverb of intimacy," both emotional and physical. While this is not a view that I have been able to independently corroborate, Elizabeth Tucker (p.c.) notes that *upa–* is "common in sexual terminology." This certainly suggests that *upa–* has expressive uses.

[4] *aty–* is a phonologically-conditioned allomorph of *ati–*, according to the following general rule: [i] → [y] / ____ V

[5] See §3.2.2 for a discussion of Old English prefix verbs.

[6] These verbal prefixes and particles have a common origin in the IE preverb (Elenbaas 2007: 131).

(71) Greek intensifying preverbs

a. Homeric: *kathairo* 'clean' ⟶ *ek-kathairo* 'clean thoroughly'

b. Koiné: *esthio* 'eat' ⟶ *kat-esthio* 'devour'

c. Modern: *vlepo* 'see' ⟶ *apo-vlepo* 'aim'

(72) Russian intensifying preverbs

a. *varit'* 'cook (sth)' ⟶ *pere-varit'* 'overcook (sth)'

b. *chuvstvovat'* 'feel' ⟶ *pro-chuvstvovat'* 'feel keenly'

c. *kormit'* 'feed (s.o.)' ⟶ *ob-kormit'* 'overfeed (s.o.)'

While it may be argued that intensification is not necessarily or obviously attitudinal or emotive,[7] it should be noted that intensification of a root's meaning is a common use of EM in many languages, as illustrated in Tables 3.1 and 3.2, both adapted from Jurafsky (1996).

	Unmarked Form		**Augmentative**	
Spanish	*guapo*	'handsome'	*guapetón*	'really handsome'
Spanish	*español*	'Spanish'	*españolón*	'typically Spanish'
Navaho	*–tsoh*	'be yellow'	*–tsxoh*	'be very yellow'
Nahuatl	*(toma-c)-tli*	'it is fat'	*tomacpōl*	'it is very fat'
Canela-Krahó	*pej*	'good'	*pej-ti*	'very good'

Table 3.1: Intensifying use of the augmentative (Source: Jurafsky 1996: 550)

That the augmentative should have this function is not surprising, given that *intensification* and *augmentation* are virtually functional synonyms. However, as Table 3.2 illustrates, the diminutive affix can also intensify the meaning of a root. In Chapters 4 and 5 I develop an account of the semantics of connotative

[6] Heidegger (1977: 9) gives an idiosyncratic interpretation of *veranlassen*, which nonetheless elucidates the process of intensification from *lassen* 'letting' to *anlassen* 'actively letting' to *veranlassen* 'letting all the way to the end' (Rojcewicz 2006: 32). Heidegger states: "*Ver-an-lassen* is more active than *an-lassen*. The *ver–*, as it were, pushes the latter toward a doing."

[7] Indeed, this is implied by Stump's glosses, which show the intensifying properties of SPVs, while Stump nevertheless denies that they are expressive. As noted above, this reflects too narrow a view of expressivity—the most extensive study of EM (Dressler and Merlini-Barbaresi 1994) takes intensification to be one of its core semantic properties. Yakimova (2000: 153), Bergeton (2004) and Navarro Ibarra (2009) also define intensification as an increase in expressiveness.

	Unmarked Form		Diminutive	
Turkish	*şurada*	'there'	*şuracıkta*	'just over there'
Turkish	*şimki*	'wheat'	*şimdicik*	'just now, right away'
Hakka			*li˧˧ xa˧˧ tsi˧˧*	'right now'
Dutch	*hart*	'heart'	*in het hartje van der stadt*	'in the very heart of the city'
Koasati	*páːna*	'over'	*páːna-si*	'right over'
Karok	*ʔáfiva*	'bottom'	*ʔáfiva-îːč*	'the very bottom'
Mexican Spanish	*ahora*	'now'	*ahorita*	'just now, right now'
Mexican Spanish	*llegando*	'when we arrive'	*llegandito*	'immediately after we arrive'

Table 3.2: Intensifying use of the diminutive (Source: Jurafsky 1996: 550)

affixes that elucidates all of these descriptive and expressive meanings.

It seems clear that, *contra* Stump, EAs and SPVs share at least some semantic features, alongside their formal similarities. This alone should be enough to cast doubt on Stump's key assumption that SPVs "cannot be plausibly classified as expressive." However, the argument against Stump is not yet decisive, so we now turn to a more detailed typological investigation.

3.2.2 Old English verbal prefixes

Old English (henceforth, OE) has the prefixes *a–*, *be–*, *ut–*, *for–*, *ge–* *of–*, *to–*, *on–*, *þurh–*/*ðurh–*, *ymb–*, *wið–*/*wiþ–*. Their transparent meanings are predominantly either aspectual or spatial (Elenbaas 2007: 115), like SPVs which typically "add a locative or directional meaning to the verbal head with which they are compounded" (Stump 1993: 14). However, according to Bosworth and Toller (1954), Hiltunen (1983), and Elenbaas (2007), they can also have expressive func-

tions alongside descriptive ones. Consider the various effects of *for–* in (73).[8]

(73) The uses of *for–* in Old English

a. **Intensification of verb meaning**
   i. *for-deman*
      PV-judge
      'to condemn, sentence, doom'
   ii. *for-brecan*
      PV-break
      'to break in pieces'

b. **Verb transitivisation**
   for-seon
   PV-look
   'to overlook, neglect, scorn'

c. **Privative** *(reversal of meaning)*
   for-beōdan
   PV-command
   'to forbid'

d. **Deprecation** *(pejorative meaning)*
   for-cweðan
   PV-spoken
   'to speak ill of, abuse, revile'

Similarly, *ge–* can have the diverse uses illustrated in (74).

(74) The uses of *ge–* in Old English

a. **Intensification**
   ge-brytan
   PV-break
   'to destroy, exterminate'

b. **Perfectivisation**
   i. *ge-rīdan*
      PV-ride
      'to reach by riding'
   ii. *ge-acsian*
      PV-ask
      'to learn by asking'

[8]Examples compiled from Elenbaas (2007), Hogg (2002), and Bosworth and Toller (1954).

c. **Transitivisation**
ge- byrhtan
PV-shine
'to brighten, illuminate'

d. **Deprecation**
ge- ōnettan
PV-hurry
'to make useless, destroy'

(73a) and (d), and (74a) and (d) are certainly expressive by the standards of Dressler and Merlini-Barbaresi (1994) and Jurafsky (1996), but note that (73b and c) also have pejorative overtones. The fact that SPVs are known to have the expressive property of meaning-intensification opens up the possibility, contra Stump (1993), that they may also have other, undocumented, expressive qualities.

(75) provides further examples of OE prefixes with expressive functions.

(75) **Pejorative OE prefixes**

a. *glīdan* 'to glide' ⟶ *geglīdan* 'to slip, fall'

b. *hogian* 'to care for' ⟶ *forhogian* 'to despise'[9]

c. *ðyncan* 'to seem, appear' ⟶ *ofðyncan* 'to give insult, offense, displease'

SPVs can have all these functions including, crucially, intensification and deprecation (pejorative meaning).

(76) The uses of Sanskrit preverbs

a. **Perfectivisation**
adhi-gam–
PV- go
'go up to'

[9] *forhogian* appears to be pejorative *and* privative, although it may be the case that it is simply the latter, and that the pejorative semantics follow from the reversal of the meaning of the root.

b. **Transitivisation**
vi- budh–
PV-wake
'become conscious of'

c. **Privative meaning**
á- hīḍ–
PV-be.hostile
'not be hostile'

d. **Deprecation**
pra-labh–
PV- seize
'cheat, deceive, fool'

e. **Intensification**
i. *saṃ-tap–*
PV- be.hot
'consume utterly by burning'
ii. *vi- bhī–*
PV-fear
'be terrified (of sth.)'

Finally, OE particles can display *prefix doubling*, a process which fits Stump's criterion (68b) and is reminiscent of SPVs with multiple preverbs, as illustrated in (77), adapted from Elenbaas (2007: 157).

(77) a. *& þæt geswell* ***of*** ***a-*** *nimð*
and the swelling PV_{away} PV-takes
'and removes the swelling'

b. *& þone cyng Dufenal* ***ut*** ***a-*** *dræfde*
and the king Dufenal PV_{out} PV-drove
'and the King expelled Dufenal'

Examples (69)–(77) show that the verbal particles and prefixes found throughout the Indo-European language family share semantic properties, including expressive functions like intensification and deprecation.[10] This is extremely pow-

erful evidence against Stump's claim that SPVs cannot be viewed as expressive.

It should be noted, however, that our semantic and pragmatic judgements of examples from dead or extinct languages are very likely to be unreliable. This is especially true when it comes to the semantics of expressivity, which are so intimately bound with context, performance, and other *Gestalt* factors. Moreover, dictionaries and, worse, interlinear glosses are severely limited in their capacity to encode and convey the semantic subtleties of expressive modes of language.[11] An illustrative example comes from the first-ever Spanish grammar, published in 1492, which omits any mention of the expressive qualities of the diminutive from its definition: "Diminutivo nombre es aquel que significa diminución del principal de donde se deriva, como de ombre ombrezillo que quiere decir pequeño ombre…" (Nebrija 1980: 61–62).[12] It is undoubtedly true that the lexicographer's problems are compounded when it comes to expressive modes of language, which have the property of *descriptive ineffability* (Potts 2007a). This means they are extremely difficult, if not impossible, to paraphrase using descriptive language.[13] The problem only seems to increase by several orders of magnitude when one attempts to analyse the expressivity of a language that has not been uttered by a native speaker for centuries. Porter and Thompson (1989: 1) identified this very obstacle during the process of compiling *The Dictionary of Old English* (Cameron et al. 1986), recognising that it was not possible to capture "the full range of the language's expressiveness." As Elizabeth Tucker (p.c.) points out, "the grammars and lexica of Sanskrit and Vedic [e.g., Whitney (1981)

[10]All Sanskrit examples taken from Stump (1993: 14–17), with original translations.

[11]Lexicographers have been aware of the limitations of dictionaries and glosses since (at least) Samuel Johnson famously complained that "no dictionary of a living tongue can ever be perfect" (1755). See Quine (1980: 56–60) for a different, but also relevant, conception of the "lexicographer's problem."

[12]"A Diminutive noun is that which signifies the diminution of the base noun from which it is derived, e.g., man → man-DIM which means *small man*" [my translation].

[13]See §1.3.4 and chapters 4 and 5 for further discussion.

and Monier-Williams (1899)] are very old-fashioned and their authors would never have considered that preverbs might have an expressive value."

It is therefore unsurprising that the nuances of expressivity would not be captured by the Sanskrit works mentioned—assuming the authors were even aware of them, given that there have been no true native speakers of Classical Sanskrit since around 900 AD, and of Vedic Sanskrit for over two and a half millennia.[14] In order to really test Stump's claim that Sanskrit preverbs cannot possibly have expressive functions, it will be necessary to look at a similar phenomenon from a living language. Fortunately, there are constructions in at least two present-day languages which seem to fit the bill.

3.2.3 From prefix-verb to verb-particle

Ogura (2008) traces the evolution of the OE prefix-verb to the Middle English (henceforth, ME) and Present-Day English (henceforth, English) *verb-particle construction* (henceforth, VPC), which is exemplified by the pattern in (78a)–(d).[15]

[14]The media in India regularly report on the southern village of Mattur, a supposed modern-day "Sanskrit-speaking village" (see e.g., Kushala 2005) and, since 1991, the census of India has recorded thousands of registered native speakers around the country (Mallikarjun 2001). However, it is widely acknowledged that, whatever the figures, the re-emergence of Sanskrit as a mother tongue is almost entirely due to the efforts of the "Sanskrit Revivalist" movement, led by the *Samskrita Bharati* group (Hastings 2008). It is therefore certain that the first schoolchildren who learned Sanskrit as their mother tongue in the 20th Century were not taught by native speakers. This means that something akin to creolisation will almost certainly have taken place, as was the case with Modern Hebrew, another revived language (Eilam 2008). Thus, it is safe to assume that, barring coincidence, the expressive subtleties of Classical and Vedic Sanskrit will not have been preserved in Modern Sanskrit.

[15]There is some disagreement in the literature regarding this evolution. While Hiltunen (1983) and Ogura (1997; 2008) argue for "a gradual shift from the PV (prefix-verb) order to the VP (verb-particle) order" (Ogura 1997: 1), Elenbaas (2007) claims that the VPC arose from the OE "separable complex verb." According to her, the OE prefix-verb was an "inseparable complex verb" which had more-or-less disappeared by the 12th Century. Ogura (2008: 154) shows that "'prefix-verb' and 'verb-particle' can be used in the same meaning" and denies that the separable/inseparable distinction existed in OE (as it does, for example, in Modern German). She argues that the situation was comparable to that of Modern Dutch, where some verbs can be used separably or inseparably according to stress shift. The important points for the present argument are that both verbal prefix and particle evolved from the IE preverb, and that the

As its name suggests, the VPC is a construction which involves a verb and an

(78) *Verb-particle constructions*

a. Mary *tore down* the banner.

b. They *handed over* the money.

c. Bill loves to *point out* the obvious.

d. John *screwed up* his thesis.

e. The manager *cut short* the meeting.

f. John needs to *let go* his fears.

g. I *give up*.

obligatory particle, which is typically an intransitive preposition (78a)–(d and g), but can also be an adjective (78e) or a verb (78f), and which can form a transitive (78a)–(f) or an intransitive (78g) complex verb.[16] The VPC is regarded as the "English correlate of *preverbs*" (Beard 1998: 61; original emphasis).

It should be noted that, although the process that creates VPCs may not be, strictly speaking, *morphological*, VPCs are nonetheless verbs, and thus they are (complex) lexemes. The process that forms SPVs is, similarly a "verb-compounding" operation. Just as compounding is, at once, derivational and syntactic, English VPCs are "ambiguous" and "straddle the boundary between syntax and morphology" (Elenbaas 2007: 18). This is reflected in the fact that there are both morphological and syntactic accounts of VPCs in the literature, as well as some hybrid ones. Morphological analyses typically combine the verb and particle in the lexicon (or other morphological component) to form a complex head with the structure $[_{V}$ V Prt$]$.[17] In contrast, Zeller (2001) and Booij (1990),

semantics of these elements have remained remarkably consistent through time.

[16]The standard view since Emonds (1972) is that particles are intransitive prepositions, which also accurately describes SPVs. See also Huddleston and Pullum (2002: 272, 612–613), and Toivonen (2003), who develops a general account of such "non-projecting words."

for example, insert the verb and particle into the syntax as separate heads which form a V′ to which the object DP is external. Haegeman and Guéron (1999) and Harley and Noyer (1998), on the other hand, base-generate the particle and object as a constituent which is a PrtP complement to the verb, and derive various head properties of the VPC by incorporating the particle to the verb. Hybrid accounts include Toivonen (2003), who argues that VPCs are morphological in English and German, but syntactic in Swedish, and Wurmbrand (2000), who proposes that VPCs in West Germanic involve two, independent structures, one a "small-clause," the other a "complex head." Turning to the properties of ERs listed in (68), we see that VPCs meet almost all of them.

Property (68a): ERs change the semantics of the base The precise descriptive semantics of English verb particles (from OE onwards) has been a matter of much debate and controversy for many years, but there is general agreement that they can all express a "change-of-state" meaning, which can be aspectual, and most often resultative (Visser 1963; Jackendoff 2002; Ramchand and Svenonius 2002; van Kemenade and Los 2003; Elenbaas 2007). The particle indicates the resultant state of the activity expressed by the verb, as can be seen if one removes the particles from the examples in (79), selected at random from various websites.

[17] In order to account for the various syntactic distributions of VPCs, purely morphological approaches often violate the Lexical Integrity Principle, which states that the internal structure of words is invisible to the syntax; see, for example, Johnson (1991) and the discussion and references in Dehé (2002b; a). On the face of it, this is somewhat ironic, since purely syntactic approaches, unlike morphological ones, do not assume Lexical Integrity in the first place. However, Beard (1998: 61–62) argues that the various configurations of these morphemes are *morphologically* predictable by Anderson's (1992) *General Theory of Affixation*, and require no syntactic projection.

(79) a. Emma Watson chopped (off) all her hair!
b. Gaddafi tore (up) the UN Charter.
c. Sidney Dalton tore (down) Justin Bieber posters.
d. And the girls dressed (up) for the party of course.

Semantically, the particle performs a similar function to that of secondary resultative predicates in English, as illustrated in (80).

(80) a. Mary wiped the table (clean).
b. John beat the panel (flat).
c. The lake froze (solid) overnight.

Clearly, particles change the semantics of the root verb to which they attach and, therefore, exhibit property (68a).

Property (68b): Two or more ERs may apply in succession It is not possible to attach multiple particles onto a verb in English. However, this is not a universal property of ERs. For example, diminutive and augmentative Bantu prefixes and Fula suffixes cannot iterate: Shona *(*zi-)zi-rume* AUG-AUG-man, Fula *gim-ŋel(*-ŋel)* person-DIM-DIM. Moreover, since the Slavic counterparts of VPCs and SPVs (discussed below) do allow up to seven prefixes to attach to the base verb, there is no *a priori* prohibition on successive cyclic applications of rules of aspectual morphology.

Property (68c): ERs can apply before or after both inflection and derivation Stump (1993: 16–19) shows that SPVs "interact very freely with rules of derivation and inflection." For example, they can be compounded with derived verb roots, as in (81a), and each compounded verb root is subject to nominalisation,

as in (81b). Further, SPVs may be compounded with verbs that have already undergone inflection, as in (81c).

(81) a. *artha–* ⇒ *arthaya–* ⇒ *abhy- arthaya–*
aim strive PV_{unto}-strive
'request, ask for'

b. *abhi- car–* ⇒ *abhi- cār- a*
PV_{unto}-move- PV_{unto}-move-MASC
'exorcism, incantation, employment of spells for a malevolent purpose'

c. *abhi- car- at- i* ⇒ *abhi- a- car- at*
PV_{unto}-move-MASC-PRES PV_{unto}-PAST-move-MASC
'he puts a spell on (s.o.)' ⇒ 'he put a spell on (s.o.)'

The examples in (82), from Elenbaas (2007: 16), show that VPCs also exhibit this property.

(82) a. These determined *lookers-on* are not likely to leave before dawn.
b. The slug in her lettuce was a bit of a *turn-off*.
c. Clubs have the right to refuse entrance to girls who are not *tarted-up*.

(82a) shows the particle attaching to a derived verb root; in (82b), the VPC undergoes nominalisation; in (82c) the particle attaches to an inflected verb. Therefore, VPCs—like expressive rules and SPVs—exhibit property (68c).

Property (68d): The same ER may apply on adjacent cycles As this is a special case of property (68b), which is the only one VPCs do not exhibit, it does not require further comment.

Property (68e): ERs are non-transpositional This appears to be true by definition, since VPCs are canonically verbs. However, Stump (1993: 19) notes

that the output of a transpositional rule need not be of a different category than the base. For example, French *cérisier* 'cherry tree' is derived from *cérise* 'cherry'—both are nouns, but *–ier* is an agentive nominaliser, and therefore the nominal category feature is not inherited from the base noun. In the case of VPCs, it is immediately obvious that particles are categorically transparent and inert, since they are prepositional elements and not verbalisers. Therefore, the operation that compounds simple verbs and particles in English is non-transpositional.

Property (68f): ERs preserve at least one morphosyntactic feature specification of the base, but not necessarily all of them The rule that creates VPCs always preserves the tense of the base, as can be seen if one alternates between the simple verb and the VPC.

(83) a. John likes to tear (up) his bills.
b. John tore (up) his bills.
c. John will tear (up) his bills this month.

However, whereas the simple verb in these examples is an *activity* verb (in the sense of Vendler 1957), the VPC is an *accomplishment* verb, as the standard tests in (84) show.

(84) a. John tore his bills for an hour/*in an hour.
b. John tore up his bills in an hour/for an hour.[18]

[18]The other Vendlerian classes are *states* and *achievements*, e.g., *John knows French* (stative) and *John finished the race in an hour/*for an hour* (achievement). A distinguishing feature of accomplishment verbs is that they generally allow modification by both adverbial *in–* and *for–* phrases, whereas all atelic verbs only allow *for–* phrases, and achievements only allow modification by *in–* phrases.

Therefore, not all the morphosyntactic features of the base are preserved in VPCs. This demonstrates that they meet not only the necessary condition of property (68f), but also the "optional" condition that not necessarily all morphosyntactic features have to be preserved, which Stump (1993: 11) illustrates with Tigre diminutive data. Certain Spanish EAs also exhibit this property. For example, the augmentative *–ón* can change the gender of the root from feminine to masculine: *mancha* 'stain' → *manch-ón* stain-AUG 'big stain', *noticia* 'news' → *notición* news-AUG 'big news', *novela* 'novel' → *novelón* 'big novel' and *película* 'film' → *peliculón* 'long film'.

The above discussion shows that VPCs and Sanskrit compound–verbs share a wide range of formal properties, including nearly all of those properties that SPVs share with EAs. The expressivity of VPCs has not been widely or thoroughly investigated, but this is not surprising since expressivity has generally been neglected. However, it is now widely recognised that certain uses of particles are inherently expressive, as we shall see.

3.2.3.1 The expressivity of VPCs

In English, the expressive qualities of the OE prefix-verb persist in those constructions, also known as *particle verbs* or *phrasal verbs*, which Bolinger (1971) describes as "a floodgate of metaphor." Hampe (2000; 2002) provides a wealth of evidence from corpora that "the phrasal verb is more expressive [than the simple verb] and can index an evaluative/emotive dimension at the speaker level" (Hampe 2000: 98). She develops a *multi-layered* semantic model to account for the way VPCs encapsulate both propositional and emotive meaning.[19]

[19]Hampe's theory is intuitively and conceptually similar to Potts's (2005) (see Chapter 5), though formally very different.

On the basis of examples such as *close (up) the suitcase* and *finish (off) the meal*, Jackendoff (2002: 76) argues that particles are often semantically redundant, as there is no obvious, truth-conditional difference if one includes or omits the particle. However, Hampe (2002) and Elenbaas (2007) show that, far from being semantically empty or redundant, the contribution of these particles is expressive. Hampe (2002: 101–103) argues that where simple verbs and VPCs are truth-conditionally equivalent, the VPC is the marked form which "can function as an *index of an emotional involvement* of the speaker" [original emphasis] and is "stylistically connoted…as a colloquial/informal lexical item." Consider the following examples, discussed by Hampe (2002):

(85) a. This will help you *narrow* your choice (*down*) to two or three schools.
b. Mango juice. And it was refreshing. She proceeded to *drink* (*down*) half the contents of the glass, then sat back in her chair.
c. My nose is *stuffed* (*up*), I cannot breathe and will have to take my nose drops.

Although the distinctions are rather subtle, it should nevertheless be intuitively clear to native speakers of English that the VPC forms are emphatic (or "superlative," in Hampe's terms) and informal variants of the simple verb. The particle acts both as an intensifier and as a *profiler* (in the sense of Lindner 1981) of the endpoint of the action described by the verb, which makes the description more vivid (Hampe 2002: 188). Other such examples include *finish* (*up/off*), *beat* (*up*), and *fall* (*off*). However, these particles can also emphasise the atelicity of an event, as in *play* (*around*), *muck* (*about*), and *chat* (*away*).

VPCs are traditionally considered to be synonymous with certain Latinate words. However, there is (at least) one important difference. VPCs are always more idiomatic and informal than their Latinate counterparts. This is clearly seen in the differences in register between the (a) and (b) examples in (86)–(89).

(86) a. The government *sorted out* the problem.
b. The government *resolved* the problem.

(87) a. I *give up*!
b. I *surrender*!

(88) a. The firemen *put out* the fire quickly.
b. The firemen *extinguished* the fire quickly.

(89) a. Most politicians are good at *covering up* their emotions.
b. Most politicians are good at *concealing* their emotions.

A central feature of canonical EM is that it is informal. Dressler and Merlini-Barbaresi (1994) argue at great length that a kind of informality is its *defining* characteristic, and that EAs introduce a global discourse feature [nonserious].[20] Therefore, if SPVs have expressive properties, it follows that they will also have this property of informality, to some degree at least. Settling this question will require a detailed study of Sanskrit corpora, so I note this prediction for further research.[21]

VPCs and Sanskrit compound verbs clearly share many formal properties. While the expressivity of VPCs is underdocumented in the literature, it is nevertheless a real property. The fact that this aspect of the semantics of VPCs has

[20]If, as Hampe (2002) suggests (following Hübler 1998), expressive VPCs are indexical signs which refer to speaker emotions, then their denotations should include a rule of use rather than truth-conditions. Rules of use are typically of the following form: α is to be used to refer to entities of type x. For example, 'this' is to be used to refer to proximate, salient objects. Expressive affixes are only appropriately used in informal contexts, so that should be part of the rule. I propose the following rule as a first approximation:

An EA is to be used in informal contexts to refer to the speaker's attitudes.

[21]Clearly, the Vedic predecessors of SPVs were not informal, as they are only attested in the Rigveda, the Yajurveda, the Samaveda and the Atharvaveda, the oldest sacred texts of Hinduism.

only recently been acknowledged, demonstrates how easily the expressivity of SPVs could simply not have been noticed by even the greatest Sanskritists.

There is one final property or cluster of properties of VPCs that further demonstrates their expressivity. McCawley's (1978) criteria of *Alternative Outputs* and *Interspeaker Variation*, cited by Zwicky and Pullum (1987: 8) as key properties of EM, state: "many speakers have alternative forms derived from the same source by the same rule" and "there is considerable variation from speaker to speaker with respect to the conditions eligible structures must satisfy," respectively. Native speakers of English find it notoriously difficult to agree (even with themselves!) on the correct form of agentive nouns derived from VPCs, such as *washer-up* vs. *wash-upper* vs. *washer-upper*, *runner-up* vs. *runner-upper*, *fixer-up* vs. *fixer-upper* and even more extreme, attested examples like *fixer-upperer*, *pointer-outerer*, *sorter-outerer* and *giver-upperer* (Elenbaas 2007: 18). The plurals of these forms cause even greater confusion, e.g., *passers-by* vs. *passer-bys* vs *passer(s)-byers* and *pickers-up* vs. *picker-uppers* vs. *pickers-uppers* vs. *pickers-upperers*, where the rule for the "correct" (conventional) form is different in each case and has to be learnt by speakers (Cappelle 2007; Blevins 2006).[22]

3.2.4 Slavic verbal prefixes

Like Sanskrit, Russian has some twenty verbal prefixes which are homophonous with and derived from prepositions.[23] These prefixes primarily mark modifica-

[22] As with the SPVs and anomalous Yiddish and Itelmen EAs discussed in Chapter 2, these plural examples violate Universal 28. A possible explanation for these alternative outputs is that there is a tension between the tendency for endocentric compounds to inflect on their heads (Stump 1994) and the fact that this means that inflection has to occur inside of derivation in these cases, in violation of the criterion of closure.

[23] Matushansky (2002) argues that Russian prepositions and prefixes comprise a single category P, and that the semantic differences between them are the result of their differing syntactic contexts.

tions to the event structure (*Aktionsart*) of a predicate, most commonly telicity or grammatical perfectivity.

Slavic prefixes in general, like SPVs, allow stacking (property (68b)), to mark aspectual properties such as delimitation, distributivity, inceptivity, repetition, accumulation, completion, exhaustivity, and intensity. Bulgarian is particularly productive in this sense, as illustrated in (90), adapted from Istratkova (2005).[24]

(90) a. *po- na- raz- kaža*
DLMT-CMLT-around-say
'tell a little of many'

b. *iz- pre- raz- kaža*
CMPL-RPET-around-say
're-narrate completely'

c. *za- pre- raz- kaža*
INCP-RPET-around-say
'start re-narrating'

d. *iz- po- raz- kaža*
CMPL-DSTR-around-say
'narrate completely, one by one'

e. *iz- po- na- pre- raz- kaža*
CMPL-DSTR-CMLT-RPET-around-say
'narrate completely, one by one, of many'

f. *za- iz- po- na- pre- raz- kazvam*
INCP-CMPL-DSTR-CMLT-RPET-around-say.IMPRF
'start narrating again many stories, little by little'

Note that up to seven prefixes can attach to a single verb, a clear instance of property (68b).

[24]Current syntactic analyses of Slavic prefixes group them (broadly) into two categories: *lexical* (or *inner*) and *superlexical* (or *outer*) (see, e.g., Svenonius 2004a; b; Ramchand 2004; Istratkova 2005; Markova 2009). Although both types come from the same stock of morphemes, their semantics and functions vary according to their morphological or syntactic environment. Lexical prefixes are semantically idiosyncratic, non-compositional, and unstable, and derive new lexemes. Superlexical prefixes, on the other hand, are semantically transparent, aspectual or adverbial verbal modifiers. In (90), Bulgarian *raz–* 'around' acts as a lexical prefix, which

Verbal perfectivisation and imperfectivisation are usually seen in the literature as two different types of process. Although they are both aspectual categories, the former is derivational (Booij et al. 2000), while the latter is inflectional. This, in itself, recalls the ambiguous status of EAs described in detail in Chapter 2. However, Manova (2007) argues that Bulgarian aspectual prefixes are consistently inflectional. This again patterns with EM, which is closer to being derivational in some—possibly most—languages, but quasi-inflectional in others.

The Russian prefixes *pere–*, *pro–* and *ob–* produce the expected *Aktionsarten* effects (Svenonius 2004a) but also have expressive (specifically, pejorative, augmentative or intensifying) potential, as shown in (91)–(92) below, adapted from Flier (1975).[25] The Grammar of the Russian Academy of Sciences (discussed by Gvozdanović 1992: 114) classifies the pejorative uses as colloquial, which further supports the view that they are truly expressive.

means it must be VP-internal and adjacent to the verb. It and other lexical prefixes produce idiomatic (to varying degrees) meanings in combination with verbs, as illustrated in (90′), from Markova (2009: 2).

(90′) *kaža* 'say'

a.	*na-kaža* 'punish'	d.	*iz-kaža* 'express'	g.	*o-kaža* 'render'
b.	*raz-kaža* 'narrate'	e.	*po-kaža* 'show'		
c.	*do-kaža* 'prove'	f.	*ot-kaža* 'deny'		

An investigation is needed into whether the distinction between inner and outer prefixes is reflected in the different functions of canonical EAs.

[25]Transliterations in this section are my own. Glosses are adapted from Garfield (1979). Flier (1975: 223) notes that these affixes "have evaluative connotations."

(91) The expressive uses of *pere–*

a. **Superiority**
   i. *pere- krichat'*
   PV_{pere}-shout
   'shout s.o. down'
   ii. *pere- khitrit'*
   PV_{pere}-dodge
   'outsmart'

b. **Excess**
   i. *pere- varit'*
   PV_{pere}-boil
   'overcook sth.'
   ii. *pere- solit'*
   PV_{pere}-salt
   'oversalt'
   iii. *pere- glyadet'*
   PV_{pere}-look
   'stare'

(92) The expressive uses of *ob–*

a. **Superiority**
   ob- gonyat'
   PV_{ob}-drive
   'leave s.o. behind, surpass'

b. **Excess**
   ob- "est'
   PV_{ob}-eat
   'overeat'

c. **Error/detriment**
   o(b)-govorit'
   PV_{ob}-speak
   'slander'

d. **Deception**
   ob- merit'
   PV_{ob}-measure
   'cheat in measuring'

(93) The expressive uses of *pro–*

a. **Thoroughness**
   pro- varit'
   PV_{pro}-boil
   'overcook sth.'

b. **Satisfaction**
   pro- spat'
   PV_{pro}-sleep
   'sleep in'

c. **Inadequacy**
   pro- smotret'
   PV_{pro}-look
   'overlook'

d. **Error/detriment**
   pro- merit'
   PV_{pro}-measure
   'measure incorrectly'

e. **Loss**
   pro- igrat'
   PV_{pro}-play
   'lose'

f. **Unintentional revelation**
   pro- boltat'
   PV_{pro}-chatter
   'blurt out a secret'

Furthermore, Titelbaum (1990: 45n) gives examples of informal or colloquial uses of prefixes, including the following: *výbegat'*, *izlázit'*, *ob"ézdit'*, *perelázit'* (these all mean ≈'traverse'); *nabégat'*, *naézdit'* (both mean ≈'acquire'); *doézdit'*, *zaézdit' izletát'*, *otbégat'*, *proézdit'*, *raz"ézdit'*, *uxodít'* (these words all mean ≈'wear out');[26] *výxodit'* 'nurse to health, rear'; *probégat'* 'miss'; *naézdit'*, *raz"ézdit'* 'drive smoothly'; *sxodít'* 'urinate or defecate'; and *s"ézdit'* 'whack.'

Finally, Steriopolo (2008: 176–177) briefly discusses the Slavic delimitative prefix *po–*, which "indicates a short event." She suggests that there may be an interesting correlation with diminutives, which "indicate the small size of the referent," but does not pursue the question. However, it seems that *po–* has a more direct correlation with expressivity because one of its uses is as an attenuator, which is the inverse of intensification. In Bulgarian, when *po–* attaches to a complex verb, it "lowers the degree of intensity of the following prefix" (Istratkova 2005: 314). For example, when *iz–* CMPL– 'completely' follows *po–*, it means 'almost completely': *po-iz-prodam* ATT-CMPL-sell 'sell almost completely' (Istratkova 2005: 315). As we saw in Chapter 1, attenuation is a common expressive function of the diminutive. In Chapter 5, I develop a formal account of this and other aspects of the expressive semantics of EAs.

Clearly, Slavic verbal prefixes can convey expressive meaning in certain contexts, very much like VPCs. Given the extensive formal and semantic correlations between these constructions and SPVs, the natural conclusion would be that SPVs must also have expressive potential. It would indeed be peculiar if the only property that SPVs did not share with IE verbal prefixes and VPCs was expressivity.

[26]Depending on context, these words can also mean 'use up,' 'expend,' 'exhaust,' 'ruin,' 'injure,' or 'damage.'

3.3 Differences between preverbs and EAs

In this section, I highlight some differences between Sanskrit preverbs and EAs, which will have to be accounted for in any analysis which unifies the two, be it Stump's, which simply views them as category-preserving rules, or mine, which views them as fundamentally expressive. With regard to the six properties of EAs listed in (68), I propose a number of necessary amendments or additions.

3.3.1 Valency-changing compound-verb rules

The class of Latin preverbs discussed in §3.2.1 can also govern the Accusative and transitivise intransitive verbs, as shown in (94), and in (95) for the same phenomenon in German.

(94) Latin applicative preverbs
   a. *dūcere* 'lead, guide' ⟶ *ab-dūcere* 'take away'.
   b. *loquī* 'speak' ⟶ *ad-loquī* 'speak to'.
   c. *vādere* 'go' ⟶ *per-vādere* 'go through'.

(95) German applicative preverbs
   a. *leben* 'to live' ⟶ *er-leben* 'to experience'.
   b. *lügen* 'to lie' ⟶ *be-lügen* 'to lie to'.
   c. *schlafen* 'to sleep ⟶ *be-schlafen* 'to sleep on'.

Recall also that OE prefixes like *for–* in (73b) increase the valency of certain verbs. Here are further examples involving other prefixes.

(96) a. *ærnan* 'run' ⟶ *ge-ærnan* 'to reach'.
   b. *seon* 'to look' ⟶ *of-seon* 'to behold'.
   c. *wacian* 'to be awake' ⟶ *be-wacian* 'to watch, guard'.

Certain Sanskrit preverbs also exhibit this property, as can be seen in (97).

(97) a. *gam* 'go' ⟶ *abhi-gam* 'go near to'.
b. *gam* 'go' ⟶ *api-gam* 'enter'.
c. *budh* 'wake' ⟶ *vi-budh* 'become conscious of'.

Transitivisation appears to be a common potential function of preverbs, crosslinguistically, and may be a universal property. Two important conclusions arise from these data: firstly, no known expressive rules of the type discussed in previous chapters have the ability to increase the valency of verbs to which they attach, and this appears to genuinely distinguish preverbs from more canonical types of EM.[27]; secondly, the consistent, crosslinguistic, correlations in behaviour between SPVs and both preverbs and VPCs provide further support for the strategy adopted here to determine whether or not SPVs are expressive.

3.3.2 Semantics of EM

One assumption that is crucial to Stump's argument is that ERs "derive the root (or some inflected member) of one lexeme's paradigm from the root (or corresponding inflected member) of another lexeme's paradigm" (1993: 22). In other words, ERs derive lexemes from other lexemes. Stump thus states that the reason ERs change the semantics of the base to which they apply is because "different lexemes are associated with different meanings" (1993: 23). Under this view, the difference between *chico*, *chiquito* and *chiquitit...itito* (and, for that matter, between *dog* and *doggy*) comes from the fact that each one is a distinct lexeme. This is not only a very unintuitive way of viewing the relation between a lexeme and its diminutivised forms, but it is also formally problematic because it

[27]Grandi (2009) argues that "approximately 72% of Italian evaluative verbs are intransitive with aux *avere*, often irrespective of the argument structure of the base." See also Kiaer (2010), for evidence that the Korean expressive particle –*tul* emphasises the progressive aspect on verbs.

entails a huge—indeed, unbounded—proliferation of lexemes, as each iteration of an EA creates a new one.

Furthermore, it is highly questionable to claim that ERs change the semantics of the base to which they apply *in the same way* that derivational rules can, for example, change predicates into referring expressions. One striking difference is that ERs do not change the referential scope of the base to which they attach.[28]

3.3.3 Productivity

As shown in §2.5.3, EAs, whether "derivational" or "inflectional," have very few or no paradigmatic gaps and are fully productive, often across several grammatical categories. In the case of languages with noun classes, the expressive classes are even more productive than the prototypical noun classes. Sanskrit compound verbs are, apparently, also very productive (Stump 1993: 13), but they involve an adpositional or adverbial element (which can also be an independent word) attaching to a verb. According to Monier-Williams (1899: 210), preverbs can also attach to deverbal (action) nouns, although Stump does not discuss this. This may seem to be the most natural analysis; however, Burrow (2001: 288) argues that, "[i]n combination with the nominal derivatives of verbal root [*sic*] the verbal prefixes appear fully compounded from the beginning." Burrow's analysis is in line with Stump's (1993: 16) view that compounded verb-roots may undergo nominalisation, but that preverbs may not be attached to nominalised verbs.

[28] Beard (1995: 163) goes further and states that ERs "*do not change the meaning* or lexical class of the lexemes over which they operate" [emphasis mine]. Clearly, it is incorrect to say that ERs do not have a semantic effect. However, what Beard appears to mean, which is consistent with my own analysis, is that ERs do not *add* meaning to a base but rather "flesh out perspectives inherent in the object itself" (Flier 1975: 2).

If we assume, contra Monier-Williams (1899), that Stump's position is correct and that preverbs can only attach to verbs, SPVs may not be quite as "promiscuous" as the canonical expressive categories, which can attach *with little or no restriction* to nominal and adjectival bases, and with some restrictions to other categories. The few gaps that I have been able to find in the expressive nominal paradigms of the languages I have surveyed can be explained straightforwardly in semantic, rather than grammatical, terms, and therefore are not related to productivity, *per se*.[29]

The data presented in Chapter 1 includes Spanish EAs attaching to nouns (*gat-ito* cat-DIM, *cas-ita* house-DIM), adjectives (*pequeñ-ito* small-DIM, *tont-ito* stupid-DIM), adverbs (*ahor-ita* now-DIM, *cerqu-ita* near-DIM), verbs (*caminand-ito* walking-DIM, *comiend-ito* eating-DIM),[30] and even pronouns (*tod-itos* everyone-DIM) and interjections (*cha-ito* goodbye-DIM, *ay-cito* ouch-DIM). This kind of productivity goes far beyond that of any other type of known rule (cf. Jaeggli 1980), including those which generate Sanskrit compound verbs. We therefore need to append something like the following criterion to the list of properties of EAs in (68):

g. Expressive rules can apply to nominal and adjectival roots without grammatical restriction on their productivity, and to all other syntactic categories to a more limited extent.

3.3.4 Phonological constraints on iteration

Although criterion (68b) states that two or more ERs may apply in succession, Stump (1993: 13) argues that iteration of the same category-preserving rule,

[29] See footnote 34 on p.61 for an example from Shona.

[30] Spanish EMs can only attach to gerunds and past-participles (cf. **comiste-cito* eat.PAST.2SG-DIM). ERs in Spanish must apply before inflectional rules.

whether expressive or one such as Sanskrit verb compounding, is limited by a putative, universal, presumably phonological "tendency for languages to avoid sequences of identical affixes (compare, for example, the avoidance of *–lily* adverbs in English)."[31] This is how he accounts for the fact that Sanskrit compound verbs are limited to two of the same preverb. However, this analysis does not explain why more than three *different* preverbs cannot stack up (as in Bulgarian), or why the same preverb cannot iterate repeatedly with another preverb.[32] As emphasised in §1.1.2 and §2.5.4, EAs exhibit potentially unbounded iteration.

The differences highlighted in this section, between Sanskrit preverbs and EM, should not be taken as arguments in favour of a non-uniform treatment of the two, but rather as descriptive facts that any unitary analysis of them will have to accommodate. As the canonical approach emphasises, and as Stump (1993: 13) argues with respect to EAs, "independent factors" may cause preverbs to deviate from canonical EM. Indeed, since the expressive functions of preverbs, verb-particle and similar constructions seem to be secondary to their descriptive ones (crosslinguistically, when compared with diminutives, for example), one would expect significant deviations.

3.4 Boundedness as the key parameter

The most general descriptive meaning of verbal prefixes is that of change-of-state, but their most common function is to add telicity. The key difference

[31]Examples include well-known cases of otherwise-productive ADJ → ADV transposition, such as *gingerly* → **gingerlily* and *daily* → **dailily*. However, see Bauer (1992) for evidence that this restriction is not absolute.

[32]It remains possible, of course, that SPVs *do* allow for unbounded iteration, but that no record of it happens to have survived. If this seems implausible, consider the fact that even the unbounded iteration of EAs in a modern language like Spanish receives no mention at all in a seminal work on Spanish diminutives (Alonso 1937).

between telic and atelic markers is that the former require their domain to be individuated, disjoint, and *bounded* eventualities whereas the domain of the latter includes only eventualities that are non-individuated and *unbounded* (Smith 1997; 2007; Spencer and Zaretskaya 1998).

When a particle attaches to an activity verb, it adds telicity. When it attaches to an accomplishment verb (which is already telic), it emphasises the *endpoint* of the action. More generally, it could be said that telicity adds boundedness to the concept of Time, which is otherwise "a single, unbounded dimension" (Smith and Erbaugh 2009: 1). The following passage from Bybee (1994: 1) neatly captures the intuition behind perfectivity and the function of aspectual prefixes:

> Perfective aspect can be characterized as viewing the situation (expressed by the predicate) as a bounded unit. The imperfective does not take the situation to be bounded, but rather views it as having some sort of internal structure.

This insight will form part of a novel analysis of the semantics of EAs to be developed in Chapter 4.

3.5 Conclusion

With regard to Stump's argument against a special treatment of EAs, I have shown that his key assumption that Sanskrit preverbs cannot be expressive is flawed. I have argued that it is impossible for Stump to know this, both in practice and in principle, for the following reasons: 1) Sanskrit is a dead language, and has been so for many hundreds of years; 2) dictionaries and grammars are inherently limited in their capacity to capture the *Gestalt* factors that are so important to expressivity; and 3) expressive modes of language are *descriptively ineffable*, from which it follows that even the best dictionary will not be able

to fully capture expressive nuances. Although these facts are sufficient to cast doubt on Stump's premises and, thus, his conclusions, I have further demonstrated that SPVs pattern, both formally and semantically, with constructions known to have expressive functions, crosslinguistically.

In every language investigated in this chapter, adverbial or prepositional particles exhibit, at a minimum, the following potential semantic characteristics when in construction with verbs: 1) perfectivity/telicity; 2) transitivisation; and, crucially, 3) expressivity. It would therefore be unreasonable to assume—without evidence—that SPVs are the only such category which "cannot be plausibly classified as expressive." In terms of their formal characteristics, 1) they do not change the category of the base; 2) they can change the valency of the base; 3) they change the meaning of the base; 4) they are productive. All of these properties are criteria of EM, listed in Table 2.3. Nevertheless, there are certain differences between canonical EAs and SPVs, and this is a matter for further research.

A close analysis of textual corpora of Vedic and Classical Sanskrit is needed to investigate the expressivity of SPVs. However, it should be noted that, because expressive modes are inherently colloquial and inappropriate in formal contexts, a clear outcome of such an investigation is by no means guaranteed. This is especially true in the case of Vedic, a liturgical, and therefore inherently formal, language. In any event, the close crosslinguistic correlation between constructions involving verbs and particles and expressive semantics suggest that it is more plausible to view SPVs as connotative affixes than it is to conflate expressives and plain morphological processes. In turn, this insight has the potential to open up new vistas not only in the study of expressive morphology, but also of aspectual morphology and Sanskrit philology.

Chapter 4

The descriptive semantics of connotative affixes

4.1 Introduction

In chapters 2 and 3, I investigated the formal properties of expressive affixes, and compared their behaviour with those of the canonical processes of word-formation and inflection, and of category-preserving processes. We saw that expressive morphology cannot be subsumed under the former, and that the putatively anomalous behaviour it exhibits correlates with expressive semantics.

In this chapter, I propose that the descriptive semantics of the connotative affix (CA) is that of a gradable adjective (henceforth, GA). The guiding intuition is that, contra Jurafsky (1996), CAs are not synchronically polysemous, or "radial," categories, but rather that their core descriptive function is to map objects to intervals or *degrees* on a *scale*, in the sense of Kennedy (1997b).

Furthermore, I propose that CAs carry a presupposition that the referents of the bases to which they attach are *bounded*, and that the distribution and

interpretation of CAs are largely predictable from this. I argue that Jackendoff's (1991) reduction of the mass/count distinction and the Vendler classification of eventualities to the interactions of the lexical features [±b] (bounded) and [±i] (internal structure) further makes sense of, and corroborates, the findings of Chapter 3. I conclude by exploring some of the empirical consequences of this approach for expressive verbal particles.

4.2 The semantic variability of CAs

As we saw in Chapter 1, the semantic contribution of a single EA to a noun can vary greatly, depending on the kind of nominal root to which it attaches. Generally speaking, CAs always convey varying degrees of expressivity and can, if they attach to a certain kind of nominal base, also encode a descriptive, adjectival meaning. Table 4.1 illustrates this variability with regard to the Spanish CAs *–ito* DIM and *–ote* AUG.[1] The multiplicity of meanings conveyed by a single morpheme has led many authors to treat EAs as polysemous lexical categories (Dressler and Merlini-Barbaresi 1994; Jurafsky 1996; Mendoza 1998; Mattes 2006). I will now propose an alternative account of the descriptive meaning of Spanish diminutive and augmentative affixes as degree relations that include a measure function, in the sense of Kennedy (1997b).[2]

[1]It could be argued that the AUG meaning 'good/great' and the DIM meaning 'bad/mediocre' are expressive. However, I assume, with Potts (2007a), that propositional meanings (like, for example, $\lambda P \lambda x.P(x)$) are not found in the expressive dimension. If the CA meanings that mean 'good' or 'mediocre' are expressive, it follows that phrases like *great/mediocre painter* are also expressive. See §4.3.1 below for further discussion of this point.

[2]In Chapter 5, I provide an account of the semantics of CAs in terms of the framework of Potts (2005; 2007a), which distinguishes the descriptive and expressive dimensions of meaning. It is important to keep in mind that, unless indicated, all descriptions, glosses, and analyses in this chapter refer *only* to the descriptive dimension, and abstract away from the (always-present) expressive dimensions of meaning of CAs.

Noun	Assertion	Expression
perrito dog.DIM	small, young	appreciation, pity, annoyance
cabezota head.AUG	big	mockery, contempt
pintorcito painter.DIM	small, young, mediocre	appreciation, empathy, pity, contempt
grupito group.DIM	small	appreciation, empathy, pity
conjuntito group.DIM (music group)	small, mediocre	appreciation, deprecation
ramito bunch.DIM	small	appreciation
arrocito rice.DIM	N/A	appreciation (≈ 'tasty')
arenita sand.DIM	N/A	appreciation (≈ 'pleasant'), disgust (≈ 'dirty')
pastito grass.DIM	N/A	appreciation (≈ 'pretty')
agüita water-DIM	N/A	appreciation
airecito air.DIM	N/A	appreciation (≈ 'refreshing'), dislike (≈ 'annoying')
fueguito fire.DIM	N/A	intimacy, appreciation

Table 4.1: The semantic variability of [noun + *–ito*]

4.3 Gradable adjectives and scale structure

Adjectives are typically grouped into two classes: gradable and non-gradable. Both types make reference to properties of nouns but, whereas non-gradable adjectives have a fixed, conventionalised meaning, GAs also make reference to some notion of degree, grading, comparison or measurement. The differences are exemplified in (98) and (99).

(98) *Non-gradable adjectives*

a. John is a *married* man.

b. I'm living in a *condemned* building.

c. The *Libyan* no-fly zone is a cover for regime-change.

d. The patient was treated for *hepatic* failure.

e. This table looks *plastic* but it's actually *wooden*.

(99) *Gradable adjectives*

a. John is *tall*.

b. Housing is very *expensive* these days.

c. No fee is too *big*, no problem too *small*.

d. He thinks he's *clever*.

e. I just read a really *bad* book.

There are several tests which can help distinguish the two kinds of adjectives, but the relevant criterion for present purposes is that GAs come in *polar opposites*: *tall/short*, *expensive/cheap*, *big/small*, *clever/stupid*, *bad/good*, etc. These oppositions can further be grouped into *positive* and *negative* adjectives which are associated with the same dimensions and degrees (e.g., *tall* and *short* both map their arguments onto degrees of HEIGHT) but which impose inverse ordering relations on those degrees. Intuitively, positive adjectives like *expensive* have a 'down-up' perspective, and negative adjectives like *cheap* have an 'up-down' perspective (Gaio 2010). Furthermore, positive adjectives are upward entailing—meaning that they are true of the superset of objects to which they apply (but not necessarily the reverse)—whereas negative adjectives are downward entailing, meaning that they are true of the subset of objects to which they apply (but not necessarily the reverse).

(100) a. It is expensive to live in Accra.
b. ⊨ It is expensive to live the high-life in Accra.
c. It is expensive to live the high-life in Accra.
d. ⊭ It is expensive to live in Accra.

(101) a. It is cheap to live in Harare.
b. ⊭ It is cheap to live the high-life in Harare.
c. It is cheap to live the high-life in Harare.
d. ⊨ It is cheap to live in Harare.

Kennedy and McNally (2005) show that GAs can also be partitioned into two semantic classes: relative and absolute. Relative GAs are context-sensitive, in that their truth-conditions can vary from context to context. For example, the relative GA *small* in (102) is true if one is comparing the size of Mars to most other planets in the solar system, but not in comparison to Mercury and Pluto, or to smaller, non-planetary objects.

(102) Mars is a small planet.
a. ⊨ Mars is small for a planet.
b. ⊭ Mars is small.

This property of *vagueness* points to two further distinguishing semantic characteristics of relative GAs: the existence of 'borderline cases' and sensitivity to the Sorites Paradox (Bierwisch 1989; Kennedy 2007; Gaio 2010). With regard to the former, oppositions like *tall/short* are not sharply delineated, and there is no clear boundary between them. For example, if we intuitively agree that a man who measures 2.10 metres is tall, and one who measures 1.50 metres is short, what about those who are 1.70 or 1.85 metres tall? As there is no determinate answer, these are borderline cases. A different, but related, case would be a man who is 1.75 metres tall. He is not a borderline case, since he is out-

side the extension of both *tall* and *short*, in an intermediate range. It seems that cases like this, which are neither positive nor negative, are the norm since they instantiate the (more-or-less) average case. This means that, instead of there being a continuum from positive to negative antonym, there is an *extension gap* between the two (Klein 1980).

With regard to the Sorites Paradox, consider the following syllogism from Kennedy (2007: 2).

(103) *The Sorites Paradox*

P1. A $5 cup of coffee is expensive (for a cup of coffee).
P2. Any cup of coffee that costs 1 cent less than an expensive cup of coffee is expensive (for a cup of coffee).
C. Therefore, any free cup of coffee is expensive.

Both premises, P1 and P2, appear to be valid, as does the reasoning, yet the conclusion, C, is absurd. Although the exact locus of the paradox is hard to pinpoint—indeed, this problem has been a source of much philosophy for around 2500 years—there is something suspicious about P2 and its inductive claim about *expensive*. It is a general property of relative GAs that they give rise to the Sorites Paradox.[3]

Absolute GAs, on the other hand, require only that objects have a maximal or minimal degree of the property in question, in order to be true. This makes them non-context-dependent, and thus not subject to the vagueness associated with relative GAs.

(104) Mars is a mountainous planet $\models$ Mars is mountainous

If (104) is true, then it is true in all contexts.

[3]See Williamson (1994) for discussion of the philosophical, logical and linguistic issues that arise from the Sorites Paradox.

A further semantic distinction between absolute and relative GAs is that, in the case of absolute polar opposites, the negation of one entails the truth of the other. This is not the case with relative GAs.

(105) Absolute gradable adjectives
   a. Mars is not habitable $\models$ Mars is uninhabitable
   b. Mars is not uninhabitable $\models$ Mars is habitable

(106) Relative gradable adjectives
   a. Mars is not large $\not\models$ Mars is small
   b. Mars is not small $\not\models$ Mars is large

Bierwisch (1989) distinguishes relative GAs that are dimensional from those that are *evaluative*. Dimensional GAs measure some objective spatiotemporal property of an object, like SIZE, AGE, COST, VOLUME, etc. On the other hand, evaluative adjectives like *good*, *clever*, *interesting* and *tasty* measure a property of an object based on the subjective judgement of a speaker.

Kennedy (1997b) shows that GAs can be modelled precisely as measure functions, that is to say, functions that map their arguments onto abstract expressions of measurement, or *degrees* d. These degrees are totally ordered with respect to some gradable dimension to form a *scale*. The appropriate scale for an adjective to map its argument onto is identified by the *dimensional parameter* associated with each GA (Kennedy 1997b: 24). The dimensional parameter is sensitive to scales along measurable dimensions like PHYSICAL SIZE, MONETARY COST, WEIGHT, AGE, BEAUTY, BRIGHTNESS, etc., which it distinguishes as different objects. An adjective like *tall* is associated with a single dimensional parameter which is sensitive to the HEIGHT dimension. Other GAs, like *long* and *small* can have more than one dimensional parameter, which means they are associated

with multiple measure functions. For example, *long* can measure LINEAR EXTENT (*The queue was very long*), TEMPORAL EXTENT (*The film was very long*), and higher-order properties (*The book was very long*, which means 'The book had a lot of pages/words').

The 'degree' type, d, is part of the ontology of semantic types, alongside entities, truth values, possible worlds, and the like, so measure functions are of type $\langle e, d\rangle$. However, since the output of a GA is a degree, it must be converted into a property of an individual in order to allow composition with that individual argument. If GAs are measure functions, this is done by positing a null morpheme **pos** that is a function from degrees to properties of individuals (type $\langle d, et\rangle$). An alternative, which I will assume, is that GAs are functions from degrees to properties of individuals which *include a measure function*, and have the following general denotation, where ϕ represents any gradable adjective and $\mathbf{m}_\phi$ represents a measure function associated with it (Kennedy and McNally 2005).[4]

(107) $[\![\phi]\!] = \lambda d\lambda x.\mathbf{m}_\phi(x) \succeq d$

When a proposition includes a GA, it defines relations between degrees on a scale, relative to a *standard of comparison*, **stnd**, which is the minimum degree that an object is required to exceed in order for the GA to be true of it. I assume that this is achieved by the rule in (108).

(108) $[\lambda d\lambda x.\mathbf{m}(x) \succeq d] \longrightarrow \lambda x.\exists d[\mathbf{stnd}(d) \wedge \mathbf{m}(x) \succeq d]$

To see how this works, consider example (102), *Mars is a small planet*. First, we give *small* the denotation in (109), where **small** represents a measure function.

[4] I assume that CAs encode *degree relations* because of the need to apply the analysis at the pre-syntactic level. The degree morpheme *pos* requires a Deg head, which would be difficult to justify for CAs.

(109) $[\![small]\!] = \lambda d \lambda x.\textbf{small}(x) \succeq d$

The most natural interpretation is one in which the *for*– phrase in (102a) is part of its presuppositional content, so that *small* denotes a relation between an object x (Mars) and degrees of SIZE d (with **stnd**(d) reflecting the fact that we are comparing Mars to the other planets in the solar system) such that the degree to which Mars is small is greater than or equal to d. Thus, (102) would have the following interpretation.

(110) $\lambda d \lambda x.\textbf{small}(\text{Mars}) \succeq d \longrightarrow \lambda x.\exists d[\textbf{stnd}(d) \wedge \textbf{small}(\text{Mars}) \succeq d]$

4.3.1 CAs as GAs

It should be noted that the standard tests for gradable adjectives that involve their interaction with other elements (like, for example, degree modification and association with measure phrases) would not be expected to work at the morphemic level, given the Lexical Integrity Principle.[5] The fact that they do not work, as Ştefănescu (1992) shows, is indirect evidence for Lexical Integrity and against Constructionalism. What is important for current purposes is that CAs meet key *semantic* criteria for GA-hood.

Applying the above semantic tests for GAs to Spanish diminutive and augmentative affixes, we see that they match the criteria for relative, dimensional, gradable adjectives, with the augmentative as the positive adjective and the diminutive as the negative adjective.

[5]Moreover, Potts (2005: 169) shows that expressive adjectives cannot be modified by degree terms, e.g., **very damn*. His explanation for this is that gradable modifiers like *very* are functions from descriptive meanings to descriptive meanings, so they cannot apply to expressive meanings like *damn*. Furthermore, expressive meanings cannot be input to (descriptive) functional application (see Chapter 5 for discussion). These factors further explain the failure of distributional tests for gradable adjectives on CAs.

Polar opposites As their antonymic names suggest, the descriptive semantics of the augmentative and diminutive relate to SIZE in the same way that the *large/small* opposition do. Abstracting away from expressive meaning, this is seen clearly in the following examples.

(111) a. *Vi a María leyendo un libr- ote*
saw.1SG OBJ Mary reading a book-AUG
'I saw Mary reading a large book.'

b. *Vi a María leyendo un libr- ito*
saw.1SG OBJ Mary reading a book-DIM
'I saw Mary reading a small book.'

Extension gap If the referent of a noun is of average size and age, then the use of a CAs can only be expressive, which means that the descriptive meaning, relating to SIZE is false.

(112) a. *El hombre-cito mide 1.80 metros.*
the man- DIM measures 1.80 metres
$\neq$ 'The little man is 1.80 metres tall'
$\approx$ 'The sweet man is 1.80 metres tall.'

b. *Esta novel- ota tiene 500 páginas.*
this novel-AUG has 500 pages
'This huge book is 500 pages long.'

This shows that, as with canonical relative GAs, there are objects which are not in the (descriptive) domain of either *–ote* or *–ito*.

Entailment patterns The standard definitions of monotonicity are those in (113).[6]

[6]See, for example, Ladusaw (1979); Hoeksema (1983); Zwarts (1986); van der Wouden (1994); Dowty (1994).

(113) a. A function f is *monotone increasing* iff $x < y \rightarrow f(x) < f(y)$
b. A function f is *monotone decreasing* iff $x < y \rightarrow f(y) < f(x)$

With respect to the dimension of SIZE, if y is larger than x, then $x <_{\text{SIZE}} y$. Applying this to *large* and *small*, the expected patterns emerge.

(114) a. $\text{LARGE}(x) < \text{LARGE}(y)$
b. $\text{SMALL}(y) < \text{SMALL}(x)$

This shows that *large* is monotone increasing and, thus, positive, and *small* is monotone decreasing and negative. These are general properties of positive and negative adjectives, so that the following holds (where ϕ represents any GA and δ any gradable dimension):

(115) $x <_\delta y$
a. $\textbf{positive}_\phi(x) <_\delta \textbf{positive}_\phi(y)$
b. $\textbf{negative}_\phi(y) <_\delta \textbf{negative}_\phi(x)$

With regard to their GA meaning, *–ote*/*–ito* also display these entailment patterns, since it is always the case that, where $x <_{\text{SIZE}} y$, if *–ito* is true of *y* then it is true of *x* (but not necessarily the other way round), and the reverse applies to *–ote*. This shows that *–ote* is an upward entailing (positive) adjective and *–ito* is a downward entailing (negative) one.

Relative or absolute Spanish CAs are context-sensitive and vague in the same way that GAs are, which makes them relative. Consider (116).

(116) *En la manada había dos elefant- it- os.*
in the herd were.PST two elephant-DIM-PL
'There were two small/baby elephants in the herd.'

elefantito is descriptively true only if the comparison class is elephants (or, in other contexts, larger objects). This behaviour parallels that of GAs in examples like *Mars is a small planet.*

Furthermore, CAs also display the same patterns of entailment under negation as GAs that we saw in (106).

(117) a. *Es demasiado grande para llamarlo un hombre-cito.*
is.3SG too big/old to call.3SG.OBJ a man- DIM
≈'He's too big/old for you to say he's a small man.'

b. *Es demasiado pequeño para llamarlo un hombre-zote*
is.3SG too small/young to call.3SG.OBJ a man- AUG
≈'He's too small/young for you to say he's a large man.'

The negation of *hombrecito* in (117a) does not entail that the man in question is large, or an *hombrezote* man.AUG, just that he is not in the positive extension of *–ito.* Similarly, the negation of *hombrezote* in (117b) does not entail that the man is small, or an *hombrecito.*

CAs also have the type of borderline cases that are associated with relative GAs. Consider again the man in example (112a). With a height of 1.80 metres, he is neither an *hombrecito* nor an *hombrezote*; rather he is in the extension gap of these polar opposites. However, although it is reasonable to say that a man who is 1.50 metres tall definitely qualifies as an *hombrecito*, it is not clear if men who are 1.70 metres tall do, or if they are in the extension gap of *–it–*. Similarly, a man who is 2.10 metres tall definitely qualifies as an *hombrezote*, but what about one who is 1.90 metres tall? Since there are no clear answers to these questions, and no sharp boundaries to be drawn, these are borderline cases.

Finally, CAs give rise to the Sorites Paradox, just as *large* and *small* do, since a valid syllogism of the kind in (103) can be constructed in Spanish, with the CA providing the necessary vagueness:

(118) *La Paradoja Sorites*[7]

P1. Una casota es más grande que una casa.
P2. Cualquier casa que tiene un centímetro cuadrado menos que un casota sigue siendo una casota.

C. Por lo tanto, qualquier casa con un área de 0cm^2 es una casota.

These diagnostics clearly show that the descriptive semantics of CAs are precisely those of relative gradable adjectives. I now turn to the question of precisely what kind of relative gradable adjectives CAs are.

Dimensional or evaluative Having established that the descriptive meanings of CAs are like those of relative GAs, we can ask if those meanings are dimensional or evaluative. As we saw in §4.2, the Spanish diminutive *–ito* can mean either 'small,' 'young,' or 'bad/mediocre/insignificant,' as illustrated in context in (119).

(119) a. *El artista era un pintor- cito.*
the artist was a painter-DIM
'The artist was very small/young.'

b. *Tu novio es un pintor- cito.*
your boyfriend is a painter-DIM
'Your boyfriend is a bad/insignificant painter.'

The meanings of DIM in (119a) are clearly related to those of relative, dimensional GAs. They are dimensional because they measure some physical or tem-

[7]Translation:

(118′) *The Sorites Paradox*

P1. A big house (lit. house.AUG) is bigger than a house.
P2. Any house with one square centimeter less than a big house is still a big house.

C. Therefore, any house with an area of 0cm^2 is a big house.

poral property of an object, like VOLUME, LINEAR EXTENT, AGE and BRIGHTNESS, for example. As we saw above, they are relative because, in both cases, there is a contextual standard of comparison. The painter might be small in comparison to other painters or an elephant, but not compared to a child or a flea, for example. If we assume he is 21 years old, he might be young and precocious in comparison to other (successful) painters, but already an adult, so not-young compared to a child. However, (119b) appears, at first glance, to be different, as it does not seem to make reference to a quantitative scale, but to a qualitative one. If this is the case, this would make the diminutive have both dimensional and evaluative qualities, which would make it an unusual kind of GA.

However, a brief consideration of the semantics of the relevant GA shows that this is an unnecessary typological complication.[8] The adjective *small*, and its Spanish cognate *pequeño*, exhibit the same kind of indeterminacy as *–ito*, as the minimal contrasts in (120) show.

(120) a. *Juan tiene un coche pequeño.*
Juan has a car small
'Juan's got a *small car*.'

b. *Juan tiene una voz pequeña.*
Juan has a voice small
'Juan's got a *small voice*.'

c. *Juan tiene un pequeño problema.*[9]
Juan has a small problem
'Juan's got a *small problem*.'

d. *Juan tiene una mente pequeña.*
Juan has a mind small
'Juan's got a *small mind*.'

[8]There is something more to *pintorcito* than just 'bad painter,' an expression of disdain or contempt which is indeed attitudinal. However, as I show in Chapter 6, this is best understood as a dimension of meaning, common to all CAs, that is *independent* of their descriptive, GA meaning.

(120a) illustrates the core, SIZE-related meaning of *small*. In contrast, in (120b), *small* means 'weak' or 'not loud (enough),' and in (120c) it means 'trivial' or 'insignificant.' Furthermore, examples like *John's a small man* can mean that John is cowardly. These facts certainly raise questions about whether some of the secondary meanings are truly descriptive, since they convey subjective judgements about entities. However, the difference between *small* in a sentence like *John's a small man* (on the relevant reading) and a purely expressive use of the diminutive is that only the former can be adequately paraphrased and, furthermore, given truth conditions. Consider the following examples.

(121) *Ya* *se* *bebió* *su* *leche-cita.*
already CL(3RD.REFL) drank POSS milk-DIM
'He's already drunk his milk' + affection towards the child

In order to give truth conditions for (121), it has to be split up into its descriptive and expressive components and, even then, only the descriptive part can be true or false. The expressive part of the utterance cannot be false (barring insincerity), since it expresses an emotion.

(122) *John's a small man* is true iff John is a coward.

In contrast, the truth conditions in (122) are exhaustive, just as they are for the descriptive semantics of CAs.

(123) a. *Vi* *un* *perr-ito.*
saw.1SG a dog-DIM
'I saw a small dog.'

b. *Vi un perrito* is true iff the speaker saw a small dog.

[9]Spanish distinguishes adjectival restrictiveness syntactically. Typically, adjectives receive restrictive interpretations postnominally, and non-restrictive interpretations prenominally. However, see Demonte (2005) for a more fine-grained account.

Returning to the examples in (120), we see that *small* is associated with more than one measure function, and examples like (119b) suggest that the diminutive is indeterminate for the same reason. As noted above, adjectives like *tall* do not exhibit this kind of indeterminacy. Given the denotation for *small* in (109), the various interpretations in (120) arise when it is associated with different dimensional parameters, as shown in (124), where $s(\phi)$ indicates a contextually determined standard of ϕ (Kennedy 1997a: 2), and the positive ('down-up') vs. negative ('up-down') distinction is indicated by the diacritics $\uparrow$ and $\downarrow$, respectively.

(124) a. $\lambda d\lambda x.\textbf{small}_{s(\text{SIZE}_{\downarrow})}(x) \succeq d$
b. $\lambda d\lambda x.\textbf{small}_{s(\text{VOLUME}_{\downarrow})}(x) \succeq d$
c. $\lambda d\lambda x.\textbf{small}_{s(\text{SIGNIFICANCE}_{\downarrow})}(x) \succeq d$
d. $\lambda d\lambda x.\textbf{small}_{s(\text{COURAGE}_{\downarrow})}(x) \succeq d$

Assuming this model of relative GAs (adapted from Kennedy 1997b), the different descriptive meanings of *–ito* can be accounted for along these lines. Firstly, the core meaning related to SIZE has the following denotation, where $\textbf{DIM}_{s(\phi_{\downarrow})}$ is a contextually-relevant, negative measure function associated with *–ito*.

(125) $[\![\textbf{DIM}]\!] = \lambda d\lambda x.\textbf{DIM}_{s(\phi_{\downarrow})}(x) \succeq d$

The three adjectival uses of *pintorcito* correspond to the following meanings:

(126) a. *pintorcito* 'small painter' $\rightsquigarrow \lambda d\lambda x.\textbf{ito}_{s(\text{SIZE}_{\downarrow})}(\textbf{painter}) \succeq d$
b. *pintorcito* 'young painter' $\rightsquigarrow \lambda d\lambda x.\textbf{ito}_{s(\text{AGE}_{\downarrow})}(\textbf{painter}) \succeq d$
c. *pintorcito* 'mediocre painter' $\rightsquigarrow \lambda d\lambda x.\textbf{ito}_{s(\text{QUALITY}_{\downarrow})}(\textbf{painter}) \succeq d$

Similarly, Spanish augmentative suffixes can be given the following general meaning.

(127) $[\![\textbf{AUG}]\!] = \lambda d\lambda x.\textbf{AUG}_{s(\phi^{\uparrow})}(x) \succeq d$

Although there is no *single* Spanish augmentative suffix associated with all three scales, the various augmentative suffixes do exhaust those meanings. For example, *–ón* can relate to both SIZE and AGE, and *–azo* to SIZE and QUALITY.[10]

(128) a. *casona* 'large house' $\rightsquigarrow \lambda d\lambda x.\textbf{ona}_{s(\text{SIZE}^{\uparrow})}(\textbf{casa}) \succeq d$
b. *casona* 'old house' $\rightsquigarrow \lambda d\lambda x.\textbf{ona}_{s(\text{AGE}^{\uparrow})}(\textbf{casa}) \succeq d$
c. *cochazo* 'large car' $\rightsquigarrow \lambda d\lambda x.\textbf{azo}_{s(\text{SIZE}^{\uparrow})}(\textbf{coche}) \succeq d$
d. *cochazo* 'great car' $\rightsquigarrow \lambda d\lambda x.\textbf{azo}_{s(\text{QUALITY}^{\uparrow})}(\textbf{coche}) \succeq d$

Having shown that the various descriptive meanings of CAs match those of relative, dimensional, gradable adjectives, there still remains the question of how those meanings arise. The answer to that question is that the meaning is determined by the semantic class of the nominal in the domain of the CA.

4.4 Semantic classes of nominals

Jackendoff (1991) proposes an account of the mass/count distinction in terms of two semantic features, [±BOUNDED] and [±INTERNAL STRUCTURE]. On its own, the property of boundedness ([±b]) distinguishes uncountable nouns like *water*, *chocolate*, *rice* and *grass*, which are [−b], from countable nouns like *dog*, *bottle*, *committee* and *bunch*, which are [+b]. Internal structure ([±i]) distinguishes, on the one hand, count nouns like *dog*, which are [−i], from collective nouns like *committee*, which are [+i], and certain mass nouns like *water*, which are [−i], from others like *rice*, which are [+i].

Count nouns correspond to individuated, indivisible units, or *individuals*, and so are [+b,−i]. In contrast, bare mass nouns do not refer to units but rather

[10] *–ona* is the feminine form of *–ón*, which agrees in gender with *casa*.

to homogeneous, amorphous, non-individuated entities, or *substances*, which are [−b,−i]. Collective nouns correspond to *groups*, or entities which are composed of a finite number of individual members, and thus are [+b,+i]. Finally, *aggregates* refer to uncountable, indefinite, entities that are made up of homogeneous members, and thus are [−b,+i].[11] This taxonomy of the semantic classes of nominals is represented in Figure 4.1 and summarised in Table 4.2, for ease of reference.

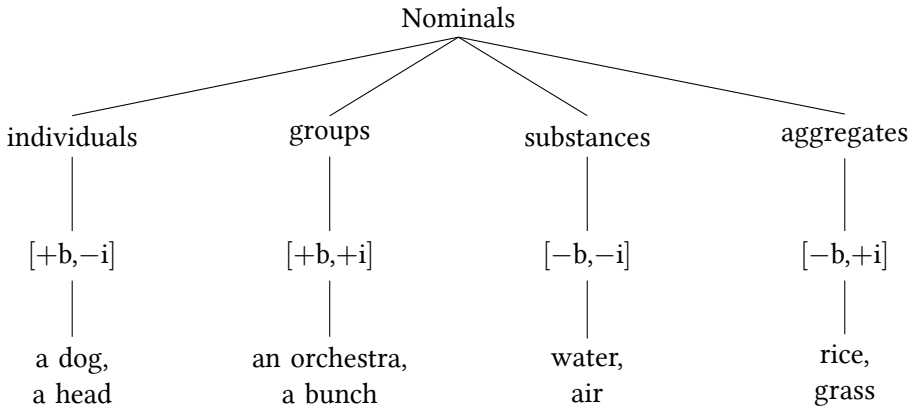


Figure 4.1: The semantic classes of nominals

	[+b]	[−b]
[+i]	**Group**	**Aggregate**
[−i]	**Individual**	**Substance**

Table 4.2: The semantics of nominals as [±b,±i]

My claim is that the sensitivity of CAs to the boundedness and internal structure of nominal referents, noted since at least Rainer (1993), is due to a *presuppositional requirement* of CAs; to be precise, in order for the descriptive, adjectival meaning of that CA to be available, the referent of a root to which a

[11] See Jackendoff: 1991, esp. 19–20 for discussion.

CA attaches must be bounded. If the base is [+b], the CA can introduce a scale associated with a dimension identified by its dimensional parameter: SIZE, AGE or, if appropriate, QUALITY. If the base is [−b], only an expressive meaning is available.[12]

(129) a. **Count nouns** *(individuals)*[+b,−i]:
platan- ito
banana-DIM
'small banana'

b. **Collective nouns** *(groups)* [+b,+i]:
ram- ote
bunch-AUG
'big bunch (of flowers)'

c. **Mass nouns** *(substances)* [−b,−i]:
agü- ita
water-DIM
'water' + appreciation

d. **Mass nouns** *(aggregates)* [−b,+i]:
arroc-ito
rice- DIM
'rice' + appreciation

Furthermore, CAs are also sensitive to whether a root denotes an entity with internal structure or not, expressed by a feature ([±i]) on the base. There is one *prima facie* exception to the generalisation that the descriptive meaning of EAs is only available if the root is marked [+b]: [−b,+i] roots like *arena* 'sand' can be diminutivised with a descriptive meaning. However, in these cases,

[12]This could be implemented in a number of ways. A different approach, for which there is crosslinguistic evidence, is to make *definiteness* the presuppositional requirement. Haspelmath (1997: 186–192) shows that many languages exhibit expressive uses of indefinite pronouns, and Bylinina (2008) gives a Pottsian, multidimensional analysis of depreciative indefinites in Russian. However, since boundedness and definiteness are such closely-related concepts, the distinction between the two implementations may be, at base, a notational one. Filip (1997) and Ramchand (2008a) show that telicity/perfectivity, which Jackendoff (1991) analyses as event boundedness, can be viewed as a kind of aspectual definiteness. The fact that indefiniteness is often associated with expressivity provides further, indirect support for my claim that, crosslinguistically, aspectual morphology has expressive functions.

a distributive interpretation is imposed on the root, which means that it no longer denotes an aggregate but a group, marked [+b,+i]: *aren-illa* sand-DIM 'fine sand' (or 'sand made up of small grains'). If the root is marked [−b,+i], CAs can convey descriptive meaning by individuating the constituent members of the aggregate.[13]

Table 4.3 summarises this system, which correctly predicts the various descriptive senses of the diminutive (where **aff**(x) indicates some attitude or emotion that the speaker expresses towards x).

Features	**Semantics**	**Example**
DIM[+b,+i]	Descriptive (small(x)) or Expressive	*grup-ito* group-DIM 'small group' or **aff**(group), e.g., affection
DIM[+b,−i]	Descriptive (small(x)/young(x)/ bad(x)) or Expressive	*pintor-cito* (see above)
DIM[−b,+i]	Expressive only	*aren-ita* **aff**(sand), e.g. the speaker has fond memories of a certain beach
	or → [+b]	*aren-illa* sand-DIM 'fine (grains of) sand'[14]
DIM[−b,−i]	Expressive only	*aire-cito* air-DIM 'a cooling breeze' or 'an annoying breeze', *tierr-ita* land-DIM **aff**(land), e.g., '(this) dear land'

Table 4.3: The semantics of EAs

[13] I have glossed over the distinction between *atomic* aggregates like *bananas* and *cars*, and *mass* aggregates like *rice* and *sand*, which I am focusing on. Plural nouns denote atomic aggregates, and do not appear to pose any problems for my analysis, at least for Spanish, since CAs treat them as multiple bounded units, each one marked [+b,−i]: *platan-ito-s* banana-DIM-PL 'small bananas.'

These data show that boundedness is a necessary (though not sufficient) condition for CAs to convey descriptive semantics. In other words, the descriptive dimension of CAs *presupposes* the boundedness of their arguments. Consequently, if they attach to a [−b] root, the descriptive meaning is not available due to *presupposition failure*. This domain restriction is captured by the following generalisation:

(130) A connotative affix includes a degree relation that includes a measure function from bounded entities to degrees.

I propose that (130) is the general denotation for the descriptive semantics of CAs, which I formalise as (131).[15]

(131) $[\![\phi]\!] := \lambda d \lambda x \delta[\text{bounded}(x)].\mathbf{m}_{\phi}(x) \succeq d$

This definition ensures that a CA will encode GA semantics when it attaches to a countable noun. Crucially, it also guarantees that the output of composition of a CA with any root denoting a non-bounded entity like, for example, a mass noun, verb, adjective, adverb, or preposition will be undefined, leaving only the expressive dimension, as illustrated in (132).

(132) *agü- ita*
water-DIM
(# 'small water') + appreciation

[14] *arenilla* does have two other, conventionalised, meanings: 'saltpeter' and 'kidney stones.' Since the processes by which non-compositional, lexicalised meanings arise are presumably diachronic, I will not presently attempt to account for these.

[15] I adopt the notational convention for presuppositions from Beaver (2001), where δ is the *presuppositional operator*, so $\delta\psi$ indicates that ψ is the presuppositional requirement.

Thus, the descriptive meaning of CAs includes a *partial function* from entities to degrees.[16]

4.5 On the individuating function of CAs

An interesting, crosslinguistically common, and possibly universal, feature of CAs is that they turn mass nouns into count nouns, as the examples in Table 4.4 illustrate.[17] This is not to say that mass nouns *have to* become count nouns if a

	Unmarked Form		Diminutive	
Yiddish	*der zamd*	'sand'	*dos zemdl*	'grain of sand'
Dutch	*tarwe*	'wheat'	*een tarwetje*	'wheat loaf'
Dutch	*bier*	'beer'	*een biertje*	'glass of beer'
Ojibwa	*goon*	'snow'	*goonens*	'snowflake'
Ewe	*sukli*	'sugar'	*sukli-ví*	'piece of sugar'
Baule (Niger-Congo)	*ajwe*	'rice'	*ajweba*	'rice kernel'
Cantonese	ㄐㄐ*tong*	'sugar'	ㄔㄱ*tong*	'piece of candy'
Zulu	*amazwi*	'words'	*amazwana*	'a few words'
Shona (Bantu)	*mvura*	'water'	*tumvura*	'a small glass of water'
Berber	*azMur*	'olive trees'	*tazMurt*	'an olive tree'
Nahuatl	*(a)-t^{l}*	'water'	*(a-tzin)-t^{l}i*	'water in well/tank'

Table 4.4: Individuating use of the diminutive (Source: Jurafsky 1996: 555)

CA attaches to them; rather it is that, as argued above, the descriptive meaning of a CA is only available for a unitised substance or aggregate. Consider the contrasts in (133).

[16] In Chapter 5 we will see exactly how the descriptive and expressive dimensions are interpreted compositionally.

[17] For extensive discussion and data, see Jurafsky (1996); Rainer (1993); Borer (2005a); Wiltschko (2005); Ott (2009).

(133) a. *Sirven dos cervezas en el avión.*
serve.3PL two beers on the plane
'They serve two (brands of) beer(s) on the plane.'

b. *Sirven dos cervec-itas en el avión.*
serve.3PL two beer- DIM.PL on the plane
Descriptive: 'They serve two small beers on the plane.' or
Expressive: ≈'The serve two nice, cold beers on the plane.'

(133a) can mean either "They serve two brands of beer on the plane" (e.g., *Heineken* and *Becks*) or "They serve two bottles of beer, per passenger, on the plane". In contrast, (133b) can either mean "They serve two small glasses/bottles of beer, per passenger, on the plane," or the diminutive is purely expressive, conveying a positive attitude towards the beer, usually meaning something like "nice, cold beers" though, as usual, any descriptive paraphrase will fail to fully capture the pleasure and anticipation conveyed by the speaker. If no individuating interpretation is available in the context, the diminutive is purely expressive. For example, consider a context where two people walk past several billboards advertising various mass-produced beers (e.g., *Heineken*, *Becks*, *Stella Artois*, and *Budweiser*). If one of them says (134), the only possible reading of *cervecitas* is pejorative:

(134) *Estas cervec-itas son bien malas.*
these beer- DIM.PL are well bad
≈"These brands of beer are really bad." + disgust/contempt

Jurafsky (1996: 538) argues that "[w]ithout metaphorical, inferential, or abstractive extensions, 'small' cannot model the individuating…sense." However, in the current approach, this meaning is a direct consequence of the domain restriction on CAs articulated in (131).

Crucially, the GAs *large/small* exhibit exactly this behaviour. The only way these GAs can modify a canonically [−b] root is if the aggregate or substance

denoted by that root is individuated or unitised, and thus [+b].

(135) a. * *small salt* [−b,+i] → *a small salt* [+b,+i]
≠ 'a little salt' 'a small salt container/shaker.'

b. * *large water* [−b,−i] → *a large water* [+b,−i]
≠ 'a lot of water' 'a large glass/bottle of water.'

It should be noted that individuation is not a necessary property of markers of smallness, crosslinguistically. Recall the Fula noun classes examined in §2.3.3. Class 4 marks the 'small quantity' class, whose behaviour is significantly different from the diminutive classes 3 & 5, as the examples in (136) illustrate.

(136) a. *lam-dam*
salt-9
'salt'

b. * *lam-ɗe*[18]
salt-8
'salts' (lit. salt-PL)

c. * *lam-ŋgel*
salt-3
'small salt' (lit. salt-DIM)

d. * *lam-ŋgum*
salt-5
'small disgusting salt' (lit. salt-DIM.PEJ)

e. *lam-kal*
salt-4
'small amount of salt'

The Fula [−b,+i] root *lam–* 'salt' does not permit pluralisation or diminutivisation, either by the class 3 diminutive marker *–ŋgel* or the class 5 pejorative diminutive *–ŋgum*, which is expected. However, it can take the Class 4 suffix *–kal* to become noun denoting a small amount of salt.

[18] I arbitrarily use plural class 8 for illustrative purposes, but any of the plural classes 2, 6, 8, and 24 are ungrammatical with [−b] roots.

This behaviour parallels that of English *little*. In contrast with *small*, which cannot modify [−b] roots, it can also denote 'small quantities.'

(137) a. She poured a *little salt* on the wound.
b. *The food needs (a) small salt.

The difference between the semantics of 'small quantity' markers and CAs seems to be that, whereas the latter are descriptively adjectival, the former are quantificational. These data show that a necessary (but not sufficient) condition on adjectives associated with the SIZE dimension is that they must modify [+b] bases.

At this point, it is worth recalling the quote from Bybee (1994: 1).

> Perfective aspect can be characterized as viewing the situation (expressed by the predicate) as a bounded unit. The imperfective does not take the situation to be bounded, but rather views it has having some sort of internal structure.

As noted in the introduction to this chapter, Jackendoff (1991) gives a unitary account of the mass/count distinction and *Aktionsart*. These parallels significantly strengthen my argument (from Chapter 3) that the Sanskrit preverb, and IE aspectual prefixes/particles in general, have expressive functions. Although, for reasons of space, I will not presently attempt to extend my account of EAs to aspectual morphology, the following section introduces the uniform analysis of nominals and eventualities, and briefly discusses its empirical ramifications for the study of EM.

4.6 Boundedness, internal structure, and eventualities

The crosslinguistic pervasiveness of telicity marking by means of resultative, terminative or locative particles, is well known and has been studied extensively.[19] The starting point for most modern analyses of lexical aspect (*Aktionsart*) is Vendler's (1957) four-way classification of eventualities into states, activities, accomplishments and achievements. States are ongoing, static situations, exemplified by verbs like *know* and *love*. Activities are also ongoing, but involve a change of state, as for example with *run* and *breathe*. Accomplishments involve a change of state over time, but they also have a definite endpoint, as with the verb *stand* and the expression *run a mile*. Finally, achievements, like *realise* and *win a race*, involve an instantaneous change of state, which entails an endpoint but no duration.

Table 4.5 represents the temporal properties of the different classes. The

Class	Dynamic	Telic	Durative
State	−	−	+
Activity	+	−	+
Accomplishment	+	+	+
Achievement	+	+	−

Table 4.5: The Vendler classes

oppositions implied by this classification are *dynamic* vs. *stative*, *telic* vs. *atelic*, and *durative* vs. *punctual*. For the present purposes, the relevant distinctions are the first two, between dynamic and stative, and telic and atelic, verbs.

The key semantic difference between dynamic and stative verbs is that the former involve a change of state, whereas the latter do not. However, there is

[19] See, for example, discussion and references in Borer (2010: 334n), Kiss (2006: ch. 2), Ramchand (2008b), and Svenonius (1994).

a further distinction to be made within dynamic verbs, namely, that between events and processes. Events are viewed holistically, as a single situation, but processes have *internal structure*. The distinction between situations with and without internal structure is central to the analysis presented below. More important still is the difference between telic and atelic verbs. The former have a definite endpoint and are thus temporally definite or *bounded*, whereas the latter are ongoing and thus indefinite or *unbounded*.[20]

These distinctions can be neatly captured by the interactions of the two features that were used to provide an account of the nominal semantic classification, [±b,±i] (Jackendoff 1991).[21] Verbs do not refer to entities, but the aspectual system introduces the notion of the temporal boundedness and internal structure of an action. Achievements are bounded, as they have an endpoint, but they have no duration, so they are [+b,−i], the verbal analogues of individuals. Accomplishments also have an endpoint, but they do have a duration, and so are [+b,+i]. Since activities involve a change of state without an explicit endpoint, they are [−b,+i]. Finally, states have no endpoint or change of state, and so are [−b,−i]. This taxonomy of eventualities is represented in Figure 4.2 and summarised in Table 4.6.

Extending the account of EAs developed in this chapter, one could say that perfective morphology carries with it the presupposition that an event denoted by a verb is bounded. If there is presupposition failure when a particle attaches to a verb, only an expressive meaning is available. Though I must leave for

[20]Depraetere (1995) stresses the need to distinguish telic situations, which have a *natural* or *intended* endpoint, from bounded ones, which have a temporal boundary. As this distinction does not affect the argument presented here, I adopt the standard definition of telicity as "temporal boundedness" (Krifka 1998).

[21]The parallels between the mass/count and atelic/telic distinctions have long been known, and have been given various algebraic accounts by (among others) Hinrichs (1985), Bach (1986), Dowty (1979), Verkuyl and Zwarts (1992) and Krifka (1998).

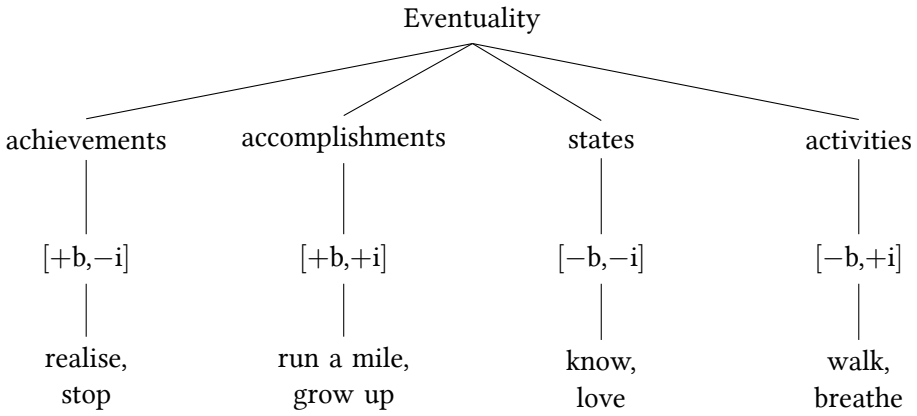


Figure 4.2: The Vendler classification of eventualities

	[+b]	[−b]
[+i]	**Accomplishment**	**Process**
[−i]	**Achievement**	**State**

Table 4.6: The semantics of eventualities as [±b,±i]

future research a detailed analysis of the semantics of verbal particles along these lines, the fact that these correlations exist between their domain (verbs) and that of expressive affixes (nominals) is striking. As a starting point, I adduce the Korean pseudo-plural marker *–tul* which, Kiaer (2010) shows, meets Potts's (2007a: 166–167) criteria for expressives. Interestingly, *–tul* can also attach to non-nominals, including verbs, where it reinforces the progressive aspect and expresses the speaker's commitment to a speech act (Kiaer 2010: 267).

(138) *sewul-kkaci bus-eyse sese- tul kassta*
Seoul-to bus-at stand-TUL went
'(They) were standing on the bus all the way to Seoul.'

This further reinforces the intuition that the descriptive and expressive semantics of verbal particles are intimately tied to the bounded/unbounded distinction, however conceived, and strongly suggests that a uniform analysis of

aspectual morphemes and canonical expressive affixes is possible.

4.7 Conclusion

I have shown that the apparent descriptive polysemy of CAs can be completely eliminated if one takes their descriptive meaning to be that of a gradable adjective that includes a measure function whose domain is the set of bounded entities. Applying this simple assumption to the Spanish diminutive, I demonstrated that it is possible to derive its descriptive semantic properties.

I further argued that the adjectival meaning of a CA is only available if the referent of the root to which it attaches is bounded, and I formulated this as a presuppositional requirement. As discussed in §1.1.1.2, Borer (2005a) argues that, crosslinguistically, languages that have number marking do not have classifiers, or markers which turn mass nouns into count nouns.[22] Her assumption is that number morphology and classifiers must be in strict complementary distribution because both realise a DIV head. However, as she notes (2005b: 92, fn. 6), diminutives are powerful counterexamples to this assumption, since they are compatible with overt number marking, yet they also turn mass nouns into count nouns, which would make them classifiers. The account given here, which is conspicuously non-syntactic, avoids this problem altogether by giving a principled, morphosemantic explanation for these facts.

The meanings covered in this chapter make up a small proportion of the possible meanings of CAs. Since only nouns can refer to bounded referents, this analysis does not have anything interesting to say about the crosslinguistically prolific interaction of CAs with adjectives and adverbs. In the absence

[22] See also Wiltschko (2005) and Ott (2009).

of a lexical feature encoding boundedness, CAs can only contribute expressive meanings, which are the subject of the next chapter.

Chapter 5

The expressive semantics of CAs

5.1 Introduction

In this chapter, I integrate the findings and analyses of the previous chapter into the multidimensional semantics of Potts (2005; 2007a). I show that multidimensionality and expressive indices permit a complete account of the range of meanings of productive Spanish connotative affixes (CAs): adjectival, appreciative, pejorative, intensifying, and attenuating.[1] I argue that, while CAs pose serious *prima facie* counterexamples to two of Potts's (2005) key assumptions, these tensions are resolvable with certain modifications to Potts's framework, which I argue are independently needed.

[1] I will not consider cases, like *manzan-illa* apple-DIM 'camomile,' which are non-compositional and for which there is no conceivable synchronic explanation. Further, although a synchronic analysis along the lines of this chapter might be possible, most of the 'imitative' diminutives discussed by Jurafsky (1996: 553–554) have fossilised meanings, and are very much non-productive. For these cases, I assume that the Jurafskian, diachronic analysis is the correct one.

5.2 Data

Reviewing the range of meanings of Spanish CAs that we saw in Chapter 1, it immediately becomes clear that the account given in Chapter 4 only covers a small proportion of those. Apart from the descriptive functions related to SIZE, AGE, and QUALITY, the diminutive alone can productively convey the following meanings: deprecation, appreciation, intensification, exactness, attenuation, approximation and illocutionary mitigation.[2]

(139) *The expressive uses of Spanish diminutive suffixes*

a. **Deprecation**
mujer- zuela
woman-DIM
≈'disreputable woman' + disdain/mockery

b. **Appreciation**
niñ- ito
boy-DIM
'boy' + endearment/affection

c. **Hypocorism**
Carol-ita
Carol-DIM
'Carol' + endearment

d. **Intensification**
ahor-ita (Latin American Spanish)
now-DIM
'immediately, right now'

e. **Exactness**
igual- ito
the.same-DIM
'exactly the same'

[2]In (139), by *Latin American Spanish* (henceforth, LAS), I mean Spanish from continental, hispanophone Latin America, excluding the Southern Cone and Costa Rica. By *Caribbean Spanish* (henceforth, CIS), I mean Spanish from the hispanophone islands of the Caribbean, plus Costa Rica. Note that this excludes Venezuela.

f. **Attenuation**
ahor-ita (Caribbean Spanish)
now-DIM
'soon, in a little while'

g. **Approximation**
floj- illo
lazy-DIM
≈'kind of lazy, lazy-ish'

Similarly, Spanish augmentative suffixes can convey a range of heterogeneous expressive meanings.

(140) *The expressive uses of Spanish augmentative suffixes*

a. **Deprecation**
mujer- ona
woman-AUG
≈'large, ungainly woman'

b. **Appreciation**
arbol-azo
tree- AUG
≈'huge tree' + admiration

c. **Hypocorism**
Miguel-ón
Miguel-AUG
'Miguel' + endearment

d. **Intensification**
gord-ote
fat- AUG
≈'extremely fat'

e. **Attenuation**
trist-ón
sad- AUG
≈'a bit sad'

f. **Approximation**
parecid-ón
alike- AUG
≈'sort of alike'

This chapter will focus on these seemingly heterogeneous, even contradictory, meanings, and show that they can be given a unitary account using the tools of Potts (2005; 2007a).

5.3 The multidimensional semantics of expressivity

Potts (2005) introduces a multidimensional description logic, $\mathcal{L}_{\text{CI}}$, which he uses to provide a unified account of the semantics of supplemental expressions (appositives, parentheticals) and expressives, subsuming both under the banner of conventional implicature. The usefulness of this multidimensional, type-driven semantics is that it allows one to maintain compositionality while still recognising that CIs are logically and compositionally independent from the descriptive meaning of a proposition.

The logic $\mathcal{L}_{\text{CI}}$ assumes Klein and Sag's (1985) type-driven interpretation, with certain additions and modifications. Firstly, it defines a new semantic type, ε, which is the basic (and only) expressive type.[3]

[3]Potts (2005) refers to descriptive meaning as "at-issue meaning" and expressive meaning as "CI meaning." In line with accepted current usage, including that of Potts's subsequent work, I adopt the terms "descriptive" and "expressive." Furthermore, in Potts (2005) the expressive type is notated t^c, and $\mathcal{L}_{\text{CI}}$ includes two further CI types, e^c and s^c, which are not used after their definition on page 55. Throughout this chapter, except where indicated, I follow the terminology and type notation of Potts (2007a).

(141) *The semantic types of* $\mathcal{L}_{\text{CI}}$

a. e and t are descriptive types.

b. ε is an expressive type.

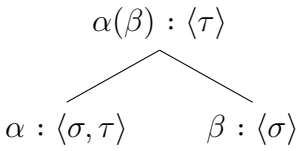
c. If σ and τ are descriptive types, then $\langle \sigma, \tau \rangle$ is a descriptive type.

d. If σ is a descriptive type, then $\langle \sigma, \varepsilon \rangle$ is an expressive type.

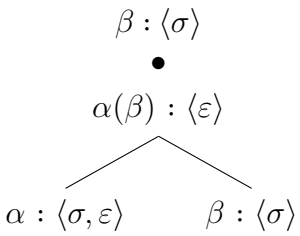
e. The full set of types for $\mathcal{L}_{\text{CI}}$ is the union of the descriptive and expressive types for $\mathcal{L}_{\text{CI}}$.

Secondly, $\mathcal{L}_{\text{CI}}$ introduces a new kind of composition rule called *Expressive Application* which, together with standard functional application, regulates how expressive content combines with descriptive (and other expressive) content.

(142) *Descriptive application*



(143) *Expressive application*



(142) is the familiar rule for functional application of sisters (Heim and Kratzer 1998: 44). (143) involves a function from descriptive types to expressive types and an identity function which passes the descriptive type unmodified, while also ensuring that the two outputs remain independent and isolated from each other. The metalogical device, •, has no interpretation but serves to separate independent lambda expressions on the same node.

Thirdly, Potts assumes that the outputs of these composition rules are ordered and interpreted *in toto* (i.e., at the root node) by a *parsetree interpretation* rule.

(144) *Parsetree interpretation*

Let $\mathcal{T}$ be a semantic parsetree with the descriptive term $\alpha : \sigma$ on its root node, and distinct terms $\beta_1 : \varepsilon, \ldots, \beta_n : \varepsilon$ on nodes in it. Then the interpretation of $\mathcal{T}$ is the tuple

$$\langle [\![\alpha : \sigma]\!], [\![\beta_1 : \varepsilon]\!], \ldots, [\![\beta_n : \varepsilon]\!] \rangle$$

This proof-theoretic rule ensures that expressive content is isolated and (effectively) stored while the descriptive derivation continues to the root node. It then constructs an ordered n-ary tuple consisting of the unique propositional denotation of the parsetree, and $n - 1$ expressive terms.

As Potts (2005: 58) notes, (141c) and (d) allow descriptive meanings to apply to descriptive meanings in order to produce other descriptive meanings, and expressive meanings to apply to descriptive meanings in order to produce other expressive meanings. However, they also restrict the combinatorics. The types and composition rules of $\mathcal{L}_{\text{CI}}$ ensure that expressive meanings can only arise in parsetrees. Specifically, terms (lexical items) of the general form

$$\begin{array}{c} \alpha : \sigma^a \\ \bullet \\ \beta : \tau^\varepsilon \end{array}$$

are excluded. Secondly, since $\langle \varepsilon, \sigma \rangle$ is not defined, expressive types cannot be input to functional application of any kind; that is, they are strictly output types.

		Argument	
		σ	ε
Functor	σ	t	N/A
	ε	$t \bullet \varepsilon$	N/A

Table 5.1: The combinatorics of $\mathcal{L}_{\text{CI}}$

The modes of combination allowed by the type system and rules of $\mathcal{L}_{\text{CI}}$ are summarised in Table 5.1, adapted from Potts (2005: 69).

5.3.1 The problem of connotative affixes

As we have seen repeatedly throughout this dissertation, there are contexts in which CAs simultaneously express SIZE and ATTITUDE. Indeed, I chose the name "connotative affix" precisely in order to reflect the fact that they connote, as well as denote. The following Spanish example illustrates this phenomenon, one that exists in every language discussed so far.[4]

(145) *Te* *golpeaste* *la* *cabec-ita*
you hit.PAST.CL(2SG.REFL) the head- DIM
≈'You banged your sweet little head' + affection

A further complication is that there can be more than one expressive meaning, in addition to more than one aspect of descriptive meaning. The example in (146) illustrates several descriptive and expressive meanings that a single use of the Spanish diminutive can convey.

(146) *María* *se* *compró* *su* *primer* *cochec-ito*
Maria CL(3RD.REFL) bought her first car- DIM

i. Maria bought her first car (*descriptive*)
ii. The car is small (*descriptive*)
iii. The car is cute (*expressive*)
iv. The car is so-so (*expressive*)

[4]See Dressler and Merlini-Barbaresi (1994) for a discussion of this characteristic of CAs in many more languages than I have covered here. Steriopolo (2008) shows that Russian expressive affixes (EAs) also have this property, and defines 'size affixes' (my connotative affixes) in the following terms:

> Russian size suffixes express the speaker's attitude (positive or negative) toward the referent, and they also indicate the size (small or big) of the referent. Thus *size suffixes contribute both expressive and descriptive content.* [emphasis mine]

(146) means (i) plus any or all of (ii)-(iv) (i.e., the car doesn't have to be small, it can just be so-so or cute, or both).[5]

One possible solution would be to say that the affixes discussed in this work are not expressive in the relevant sense, but rather that the evaluative/affective meaning simply arises from the descriptive meaning via pragmatic inference. As Chris Potts (p.c.) suggests, "[c]alling something small can have rich pragmatic implications that we might be tempted to call expressive, especially if the content is conveyed indirectly." If Potts is correct, a multidimensional account is not necessary. However, as we saw in Chapter 1, CAs conform precisely to the criteria for expressives listed in Potts (2007a: 166–167). Crucially, whereas pragmatic inferences are generally cancellable, expressive meaning is not. Consider, then, the following examples.

(147) a. *Clover es mi perr-ita, pero tan perr-ita no es, ¡ya está*
Clover is my dog-DIM, but so dog-DIM not is, already is
enorme!
huge
'Clover is my cute little puppy—well, she's not such a little puppy any more, she's huge!"

b. # *Clover es mi perr-ita, pero tan perr-ita no es, ¡es fea y*
Clover is my dog-DIM, but so dog-DIM not is, is ugly and
antipática!
unpleasant
'Clover is my cute little puppy—well, she's not so cute, she's ugly and unpleasant!'

These examples show that only the SMALL meaning of the diminutive is cancellable. An attempt to cancel the expressive content of the diminutive results

[5]Note that (i) should not be rendered as 'Maria bought her first small car' because this would implicate that Maria will subsequently buy other small cars, whereas the only implication is that she might buy other cars of any size/quality/status (in fact, it is reasonable to assume that her second car will be an "upgrade"). This shows that (ii) is a logically independent dimension of descriptive meaning from (i).

in an infelicitous utterance. This makes sense if said content is part of a separate CI/expressive dimension because, as Potts (2005: 49) notes, that dimension is always true since a speaker cannot be wrong about her own emotions.

The connotative affixes discussed in this dissertation—in particular, the diminutive and augmentative, but also the aspectual verbal prefixes of Chapter 3—pose clear *prima facie* counterexamples to the claim of Potts (2005: 48) that "[n]o lexical item contributes both an at-issue and a CI meaning." Connotative descriptive/expressive lexical items appear to be quite common crosslinguistically, posing serious problems for this aspect of Potts's theory. For example, the T/V second-person pronominal distinction of many languages—*tu/vous* in French, *tú/usted* in Spanish, *du/Sie* in German, and so on—simultaneously encodes reference to an addressee and expresses varying degrees of politeness, social distance, solidarity, or familiarity toward that addressee (Brown and Gilman 1960). Consider (145), repeated here.

(145) *Te* *golpeaste* *la* *cabec-ita*
you hit.PAST.CL.(2SG.REFL) the head- DIM
≈'You banged your sweet little head' + affection

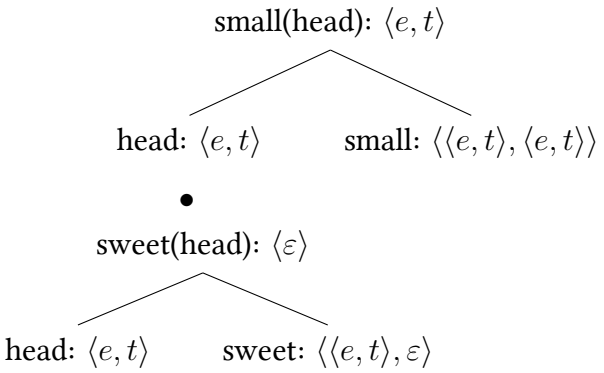
In Potts's theory, this use of the diminutive would have the illicit semantic structure shown in the subtree in (148).

It is possible to add the following to the set of types in $\mathcal{L}_{\text{CI}}$ in order to permit such structures.

(149) If σ and τ are descriptive types and ε is an expressive type, then $\langle \sigma, \tau \rangle \bullet \langle \sigma, \varepsilon \rangle$ is a connotative type.

This connotative type takes a descriptive type as input and yields a descriptive type and an independent expressive type, which is the desired result. While this correctly describes the semantics of CAs, it involves a modification of $\mathcal{L}_{\text{CI}}$ which

(148)



Potts deliberately excludes for empirical reasons (2005: 82–84). Furthermore, it is not sufficient to account for a second property of CAs, which is also problematic for Potts (2005): *intensifying iteration*. Potts (2005: 69) argues that lexical items of the type $\langle \varepsilon, \sigma \rangle$, where σ represents any simplex or complex, descriptive or expressive, type, are unattested in the world's languages. In essence, this means that expressive types cannot be arguments. While it does appear to be true that a descriptive type cannot apply to an expressive type (Potts 2005: §3.5.1), the iteration of CAs we saw in §1.4 appears to involve an expressive meaning as input to itself.[6] Consider an example like (150).

(150) *¡David es un idiot-ot- ot- ot–... ot- ot- ote!*
David is.3SG an idiot-AUG-AUG-AUG-...AUG-AUG-AUG
≈'David is a complete idiot!' + mockery

Composition of this iteration via functional application involves a derivation like (151),

[6]The unattested $\langle \varepsilon, \sigma \rangle$ type corresponds to the combinatorial gap in the top left hand cell of Table 5.1, and CAs are *prima facie* attestations of the bottom right hand cell. Connotative types, as formulated above, overgenerate because they do not exclude $\langle \varepsilon, \sigma \rangle$.

(151) (AUG(AUG(AUG...(AUG(AUG(AUG(idiot)))))))(David)

where, with each iteration, the expressive morphemes are input to further derivation. The output of each iteration is expressive, and intensifies the meaning of the root.

Gutzmann (2011) presents two phenomena in English which, like the problematic Spanish CAs just discussed, falsify the following design features of $\mathcal{L}_{\text{CI}}$:

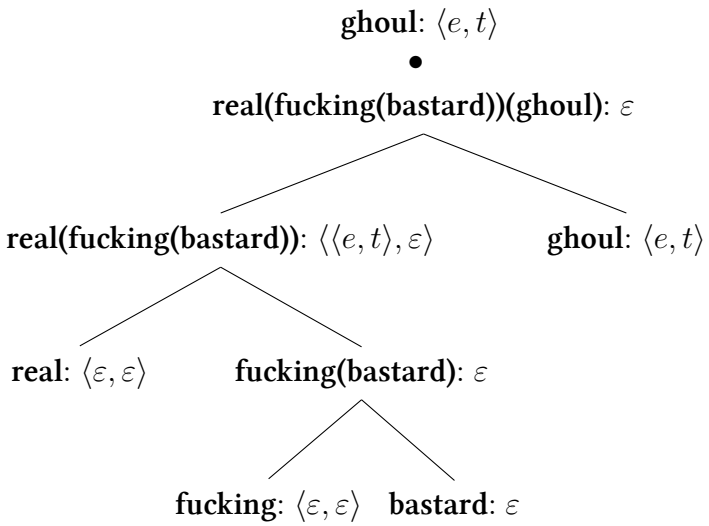
(152) a. Expressive type are strictly output types.
b. No lexical item can contribute both an at-issue and a CI-meaning.

Firstly, *expressive modifiers*, like *real* and *fucking* in the following example, take expressive content as their arguments, to produce more expressive content.

(153) That kid, he's a monster, a [real fucking bastard ghoul].[7]

The phrase in square brackets has the following semantic structure:

(154)



[7] http://www.somethingawful.com/d/feature-articles/nfl-draft-2009.php.

In this example, *bastard* is input to *fucking*, and *real* takes *fucking bastard* as its argument, which requires the use of a $\langle \varepsilon, \varepsilon \rangle$ type. This is not possible in $\mathcal{L}_{\text{CI}}$.

Secondly, Gutzmann argues that racial slurs, among other lexical types, are *mixed expressives* that combine both descriptive and expressive meaning. The general meaning for any racial slur is that it refers to people of a certain ethnicity or nationality and expresses a negative attitude towards people of that ethnicity or nationality.[8]

(155) a. *Boche* $\rightsquigarrow$ 'German person' + speaker has a negative attitude towards German people.

b. *honky* $\rightsquigarrow$ 'white person' + speaker has a negative attitude towards white people.

c. *eh-hole* $\rightsquigarrow$ 'Canadian person' + speaker has a negative attitude towards Canadian people.

d. *kike* $\rightsquigarrow$ 'Jew' + speaker has a negative attitude towards Jews.

A possible solution to the problem of mixed expressives, not considered by Gutzmann, would be to say that (152a) is valid, but that it only applies to functors. That is to say, if a lexical item takes no arguments, then it can contribute both descriptive and expressive meaning. This would correctly allow racial slurs, T/V pronouns, and the like, to be mixed, but exclude expressive adjectives like *damn* and *fucking*, and also the paradigmatically Gricean CI lexical items which Bach (1999) shows are purely descriptive: connectives like *but*, *therefore*, *even*, subordinating conjunctions like *although* and *despite*, implicative verbs like *bother*, *deign*, and adverbs like *already* and *either*. However, this solution does not work for CAs, which modify the roots to which they attach.[9]

[8] This applies to all of the insults listed at `http://en.wikipedia.org/wiki/List_of_ethnic_slurs`.

[9] It would, of course, be possible to stipulate that (152a) only applies post-lexically. While it is certainly not unusual for syntactic principles not to apply to the morphology, it would be an unprincipled, *ad hoc*, solution in this case. This is especially true because CAs behave, in all other semantic respects, like Gutzmann's mixed expressives.

To accommodate these data, Gutzmann proposes two additions to the inventory of types which results in a new description logic, $\mathcal{L}_{\text{CI+EM+ME}}$.[10]

(156) **Types for $\mathcal{L}_{\text{CI+EM+ME}}$**

a. e and t are descriptive types.

b. ε is an expressive type.

c. If σ and τ are descriptive types, then $\langle \sigma, \tau \rangle$ is a descriptive type.

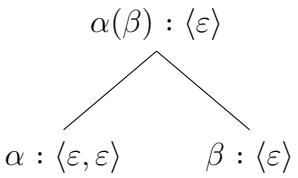
d. If σ is a descriptive type and τ is a (hybrid or pure) expressive type, then $\langle \sigma, \tau \rangle$ is a hybrid expressive type.

e. If σ and τ are (hybrid or pure) expressive types, then $\langle \sigma, \tau \rangle$ is a pure expressive type.

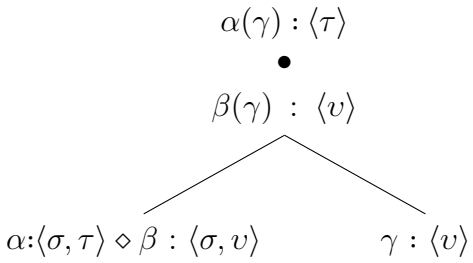
f. If σ and τ are descriptive type, and υ is a pure expressive type, then $\langle \sigma, \tau \rangle \diamond \langle \sigma, \upsilon \rangle$ is a mixed type.

The tree-admissibility rules that regulate the combination of pure and mixed expressives with other elements are the following:

(157) *Pure expressive application*



(158) *Mixed application*



Mixed types (which Gutzmann adapts from McCready 2009) correspond, more-or-less, to my *connotative type* above, the difference being that, by distinguishing hybrid types from pure types, Gutzmann prevents mixed types whose domain is expressive and whose range is descriptive, which is where my connotative type overgenerates. Given these new types, it is possible to give the following

[10] Where σ is a descriptive type and ε an expressive type, *hybrid* expressive types $\langle \sigma, \varepsilon \rangle$ are the ones permitted by $\mathcal{L}_{\text{CI}}$ and *pure* expressive types are of type $\langle \varepsilon, \varepsilon \rangle$.

kinds of meanings for mixed expressives, where c_S indicates the speaker, and c_A indicates the addressee, relative to context (Gutzmann 2011: 137).

(159) a. *Boche* $\rightsquigarrow$ **German**: $\langle e,t\rangle \diamond$ **neg-att**$(c_S) : \langle e,\varepsilon\rangle$
b. *tu* $\rightsquigarrow c_A : \langle e,t\rangle \diamond$ **familiarity**$(c_S) : \langle e,\varepsilon\rangle$

Similarly, the Spanish diminutive *–ito* could be translated as in (160), where **aff** indicates some attitude or emotion.

(160) a. *–ito* $\rightsquigarrow$ **small** $: \langle\langle e,t\rangle,\langle e,t\rangle\rangle \diamond$ **aff**$(c_S) : \langle\langle e,t\rangle,\varepsilon\rangle$
b. *–ito* $\rightsquigarrow$ **young** $: \langle\langle e,t\rangle,\langle e,t\rangle\rangle \diamond$ **aff**$(c_S) : \langle\langle e,t\rangle,\varepsilon\rangle$
c. *–ito* $\rightsquigarrow$ **mediocre** $: \langle\langle e,t\rangle,\langle e,t\rangle\rangle \diamond$ **aff**$(c_S) : \langle\langle e,t\rangle,\varepsilon\rangle$

However, it is difficult to see how the emotive and non-emotive expressive meanings of CAs are related in this picture. Barring stipulation of a rather random, indeed paradoxical, kind of polysemy, the fact that speakers use diminutives and augmentatives not only to convey a wide range of human emotions and attitudes, but also to intensify and attenuate the meaning of roots and speech acts, remains mysterious. Since none of the above modifications and additions to $\mathcal{L}_{\text{CI}}$ allow a complete and coherent account of the semantics of CAs, I will propose a third alternative, which involves the slightly different mechanisms introduced by Potts (2007a).

5.3.2 Expressive indices

The key innovation of Potts (2007a) is the notion of *expressive indices*. Recall that the outputs of Expressive Application are propositional meanings, such as **small(head)** and **sweet(head)** in (148). In contrast, expressive indices are non-propositional objects which encode the degree (intensity) and type (positive

or negative emotion/attitude) of expressivity, as well as the orientation of the emotion or attitude expressed.

(161) An *expressive index* is a triple $\langle a\ \mathbf{I}\ b\rangle$, where $a, b \in \mathrm{D}_e$ and $\mathbf{I} \sqsubseteq [-1, 1]$.

An expressive index establishes an emotive/attitudinal relationship between an individual a and an individual b.[11] The nature of that relationship is captured by the *midpoint* of the interval, which is the mean of $\underline{\mathbf{I}}$ and $\overline{\mathbf{I}}$, or $\frac{1}{2}(\underline{\mathbf{I}} + \overline{\mathbf{I}})$, such that a higher midpoint indicates a more positive relationship, and conversely. The intensity of the relationship is captured by the *width* of the interval, which is the *absolute difference* of $\underline{\mathbf{I}}$ and $\overline{\mathbf{I}}$, or $|\underline{\mathbf{I}} - \overline{\mathbf{I}}|$. Potts (2007a) defines the width ("length," in his terms) of an interval $[i, j]$ as $j - i$ (or $\overline{\mathbf{I}} - \underline{\mathbf{I}}$, in the current notation). However, this definition violates the *non-negativity* and *commutativity* properties of metrics (Weisstein 2000). The absolute difference is always non-negative, that is, no matter what the interval $\mathbf{I}$ is, $|\underline{\mathbf{I}} - \overline{\mathbf{I}}| \geq 0$. In contrast, $\overline{\mathbf{I}} - \underline{\mathbf{I}}$ can be negative.[12] For example, if $\mathbf{I} = [.4, -.1]$, then $\overline{\mathbf{I}} - \underline{\mathbf{I}} = -.1 - .4 = -.5$. Similarly, the absolute difference is commutative: $|-.1-.4| = |.4-(-.1)| = .5$. However, $\overline{\mathbf{I}} - \underline{\mathbf{I}}$ is not the same as $\underline{\mathbf{I}} - \overline{\mathbf{I}}$: $(.4-(-.1) = .5) \neq (-.1-.4 = -.5)$. Adopting the correct definition of interval width, the narrower the interval, the more intense the feelings of a, and conversely. $\mathbf{I}$ is manipulated directly by expressive morphemes, resulting in a subinterval $\mathbf{I}'$ which conveys greater intensity.

Expressive indices form part of the context c, so that any manipulation of an interval results in a new context c'. The contextual parameter is defined as follows.

[11] I adopt the convention of denoting the left and right endpoints of an interval $\mathbf{I}$ as $\underline{\mathbf{I}}$ and $\overline{\mathbf{I}}$, respectively (Moore et al. 2009: 7).

[12] Potts (2007a: 183) avoids this problem with the stipulation that, for any interval $\mathbf{I} = [i, j], i \leq j$.

(162) A context is a tuple $c = \langle c_{\text{A}}, c_{\text{T}}, c_{\text{W}}, c_{\text{J}}, c_{\varepsilon} \rangle$ where c_{A} is the the agent (speaker) of c, c_{T} is the time of c, c_{W} is the world of c, c_{J} is the judge of c, and c_{ε} is a set of expressive indices.[13]

Expressives can only alter the expressive setting, c_{ε}. Intuitively, to utter an expressive is to alter the current context of interpretation c, either by inserting a new expressive index into c or by replacing one of the expressive intervals $\mathbf{I} \in c$ with an interval $\mathbf{I}'$ that is just like $\mathbf{I}$ except that its width is *narrower than that of* $\mathbf{I}$. The context thus shifts between two sets of indices that are related in the following manner (Potts 2007a).

(163) $c_{\varepsilon} \approx^{\mathbf{I}'}_{a,b} c'_{\varepsilon}$ iff c and c' differ at most in that

a. $\langle a\ \mathbf{I}\ b \rangle \in c'_{\varepsilon}$; and

b. if c_{ε} contains an expressive index $\langle a\ \mathbf{I}\ b \rangle$, where $\mathbf{I} \neq \mathbf{I}'$, then $\langle a\ \mathbf{I}\ b \rangle \notin c'_{\varepsilon}$ and $\mathbf{I}' \sqsubseteq \mathbf{I}$.

An important difference between Potts (2005) and Potts (2007a; b) is that, in the latter, the operator $\bullet$ is more than just a metalogical device. It fulfills the identity function role of Expressive Application, by passing the descriptive argument unmodified, but with an altered context.[14]

(164) Where α is of type $\langle \alpha, \varepsilon \rangle$ and β is of type σ,

$$[\![\alpha]\!]^{c'} \bullet [\![\beta]\!]^{c} = [\![\beta]\!]^{[\![\alpha]\!]^{c'}([\![\beta]\!]^{c})(c)}$$

To illustrate how these definitions and rules work, consider this example from Potts (2007a: 170):

[13] Potts (2005) assumes a contextual judge, which is due to Lasersohn (2005), in order to account for marked cases where an expressive can index an emotion of someone other than the speaker. See 1.3.3 for discussion of the *perspective dependence* of expressives.

[14] The definition in (164) is from Potts (2007b), which addresses an issue raised by Lasersohn (2007). In the formulation of Potts (2007a), the context parameters of the items being combined are not notationally distinguished, and this incorrectly enforces an identity condition on them. The prime on the context parameter for the expressive item α resolves this.

(165) Herman believes that Hella's damn dog is dead.

This asserts that Hella's dog is dead but also conveys that the speaker feels disdain or contempt for Hella's dog.[15] Potts proposes the following denotation for *damn*.

(166) a. $damn : \langle e, \varepsilon \rangle$

b. $[\![damn]\!]^c$ = the function f such that $f([\![a]\!])^c(c) = c'$, where

i. $c \approx^{\mathbf{I}}_{c_J, [\![\alpha]\!]^c} (c)$

ii. the width of $\mathbf{I}$ is not more than .5; and

iii. $\mathbf{I} \sqsubseteq [-1, 0]$

The minimal effect of *damn* on c_ε is to make $\overline{\mathbf{I}} < 0$ and to narrow $\mathbf{I}$ to a width of .5. Since *damn* is a "mild expressive" (Potts 2007a: 187), this leaves room for greater intensity and negative bias. The derivation of *damn dog* is as in (167).

(167)

$$[\![damn]\!]^{\left\langle c_A, c_T, c_W, c_J, \left\{ \langle c_J\ \mathbf{I}\ [\![the\ dog]\!] \rangle \right\} \right\rangle} \bullet [\![the\ dog]\!]^{\left\langle c_A, c_T, c_W, c_J, \left\{ \langle c_J\ \mathbf{I}\ [\![the\ dog]\!] \rangle \right\} \right\rangle}$$

$$= [\![the\ dog]\!]^{\left\langle c_A, c_T, c_W, c_J, \left\{ \langle c_J\ \mathbf{I}'\ [\![the\ dog]\!] \rangle \right\} \right\rangle}$$

where $\mathbf{I}' \sqsubseteq \mathbf{I}$

The alternative I will pursue involves a simple modification of the theory. I assume that expressivity involves the free manipulation of expressive intervals, and that all lexical items are base generated with an expressive interval, canonically set to "neutral." It seems that this latter modification is needed independently, to account for cases where the context ensures that the use of a

[15] There is a third reading, which is not captured by Potts (2007a) but which his (2005) *Isolated CIs* can account for, where *damn* upgrades the illocutionary force of the speech act and serves to convey the speaker's sadness at the death of Hella's dog. See §5.3.6 for discussion.

descriptive lexical item will be expressive, even though no canonical expressive was used. For example, the lexical item *man* is non-expressive so we assume it does not have an inherent expressive interval. However, consider a scenario where a woman (Judy) is informed that her most recent job application has been rejected and a man who yesterday was her peer, is now her manager. Judy has previously been passed over for promotion several times in favour of a male colleague, due to what she perceives as sexism rather than the merit of those colleagues. A friend asks Judy if she got the job, and she replies, *No, a man got promoted, again.* There are no overt expressives in this example but, in this context, Judy's utterance of *man* no doubt conveys anger and sadness.[16] To account for this, one would have to say that an expressive index springs into being and attaches to *man*, which allows its interval to be changed to a negative and rather intense setting. This is not only more cumbersome than the alternative I propose, but it is also a *prima facie* violation of the *Inclusiveness Condition* of Chomsky (1995: 228), which limits the kinds of changes a morpheme can undergo in the course of a derivation. Specifically, the addition of semantically interpretable material, like expressive indices, is prohibited.[17] The assumption that all lexical items carry an expressive interval avoids this kind of *ex nihilo* generation.

Furthermore, since expressive attenuators, which widen the interval, are attested in many languages, the default, neutral setting cannot be $[-1, 1]$, as Potts (2007a) assumes, since attenuation would result in intervals $\mathbf{I}' \sqsupset \mathbf{I}$. I therefore

[16]To emphasise these emotions, it may be uttered with a tightening of the vocal tract and a low and flat intonation contour (Tatham and Morton 2006: 232).

[17]While this condition is a fundamental assumption of the Minimalist Program, some form of it is assumed by most lexicon-driven theories, since the only resource for the computation from the lexical array to the semantics is the set of elements originally selected in the lexical array. See, for example, its resource-sensitive reduction by Asudeh (2004; in press).

propose that the inherent, default setting for the middle coordinate, **I**, of non-expressive lexical items is $[-.5, .5]$.[18]

However, this move has significant empirical and theoretical consequences. If every lexical item has an expressive interval, then the standard rule for semantic composition of sisters in (142) will no longer work, because the extra elements will be uninterpretable. Therefore, a new rule of functional application is needed, with the following properties:

(168) a. If a descriptive functor takes a descriptive argument, then the output is a descriptive type and a duplicate of the expressive index by an identity function;

b. If a simple expressive functor takes a descriptive argument, then the output is a duplicate of the descriptive argument by an identity function and a manipulation of the expressive interval **I**;

c. If a connotative functor takes a descriptive type, then the output is both a modified descriptive type and a manipulation of the interval **I**.

Moreover, there are two kinds of intervallic effects that the formalism must capture.[19] Firstly, we need an operation that will manipulate the width of the interval. In other words, each application of this operation on an interval must change the width of the interval to x times its original width.[20] The following operation achieves this:[21]

[18]Attenuation further necessitates a rejection of Potts's (2007a: 185–186) stipulation that expressive intervals can only narrow or stay the same, $\mathbf{I}' \sqsubseteq \mathbf{I}$. I fully justify this position below.

[19]Many thanks to Pablo Koch Medina, who very quickly understood my intuitions about interval manipulation and helped me make them mathematically precise.

[20]Although interval widening is prohibited in Potts (2007a), and every $\mathbf{I}' \sqsubseteq \mathbf{I}$, I will show below that interval widening is necessary in order to account for various types of attested expressive attenuation. Fortunately, an operation that only narrows an interval is more complicated than one that freely manipulates (i.e., both narrows and widens) it.

[21]In interval arithmetic, any operation on an interval is simply the same operation on both endpoints, to yield a new interval (Moore et al. 2009: 10–14). In other words, $x \cdot \mathbf{I}$ is equivalent to $[x \cdot \underline{\mathbf{I}}, x \cdot \overline{\mathbf{I}}]$.

(169) $\mathbf{I}_x = x \cdot \mathbf{I}$

The effects of $\mathbf{I}_x$ on an interval are summarised in (170).

(170) a. If $x < 1$ then the interval narrows by x times;
b. If $x = 1$ then the width stays the same;
c. If $x > 1$ then the interval widens by x times.

It is important to note that, if the interval is symmetric, that is, its midpoint is zero, $\mathbf{I}_x$ does not move the midpoint, i.e., the interval stays symmetric.

Secondly, we need an operation that will move the midpoint of the new interval, **I**, to y, to reflect any positive or negative emotive bias.

(171) $\mathbf{I}^y = \mathbf{I} + y$

The effects of $\mathbf{I}^y$ are summarised in (172).

(172) a. If $y < 0$ the result is negative bias;
b. If $y = 0$ the midpoint stays the same;
c. If $y > 0$ the result is positive bias.

Note that $\mathbf{I}^y$ does not alter the width of the interval in any way.

If the interval is symmetric, the value of y is just the target midpoint. If the interval is asymmetric, there is no way of knowing, in advance of applying $\mathbf{I}_x$, what the value of y will be. Recall, however, that x has no effect on the midpoint of symmetric intervals. We can exploit these facts by making any asymmetric interval symmetric before multiplying it by x. To do this, we subtract the midpoint m from **I**, to yield the following complex operation.

(173) $\mathbf{I}_x = x \cdot (\mathbf{I} - m)$

These operations must be performed in this sequence: 1) make the interval symmetric by subtracting the midpoint m from it; 2) multiply the resulting interval by x; 3) move the midpoint to its target by adding y. The combined effect, **AFF**, is:

(174) $\textbf{AFF} = (\mathbf{I}_x)^y = x \cdot (\mathbf{I} - m) + y$

A couple of examples will suffice to illustrate how these operations work. Say we have an interval of $[.3, .7]$, which signifies a relatively positive and intense emotion, and we want to make it twice as intense and 50% more positive. The following procedure (where m stands for 'midpoint' and w for 'width') captures this.

(175) a. Let $\mathbf{I} = [.3, .7]$ $(w = .4, m = .5)$
b. Let $x = .5$ and $y = .75$
c. By (173), $[.3, .7] - m = [-.2, .2]$
d. By (169), $x \cdot [-.2, .2] = [-.1, .1]$ $(w = .2, m = 0)$
e. By (171), $[-.1, .1] + y = [.65, .85]$ $(w = .2, m = .75)$

In three steps, we have manipulated the interval from $\mathbf{I} = [.3, .7]$ to $\mathbf{I}' = [.65, .85]$, with an increase in positive bias of 50% ($m = .5$ to $m = .75$) and a doubling of intensity ($w = .4$ to $w = .2$). Next, say we want to make the emotion a lot more negative (by moving the midpoint down to $-.05$), but 17% less intense (by making the interval 17%, or 1.17 times, wider).

(176) a. Let $\mathbf{I} = [.65, .85]$ $(w = .2, m = .75)$
b. Let $x = 1.17$ and $y = -.05$
c. By (173), $[.65, .85] - m = [-.1, .1]$
d. By (169), $x \cdot [-.1, .1] = [-.117, .117]$ $(w = .234, m = 0)$
e. By (171), $[-.117, .117] + y = [-.167, .067]$ $(w = .234, m = -.05)$

In order to capture the fact that CAs can iterate, AFF needs to allow recursive application. Currently, simply reapplying AFF will not yield the desired result, because the centring operation ensures that the midpoint will always return to the value of the original y. Furthermore, a notable fact about iterative semantic intensification with CAs is that each iteration narrows the width and midpoint less than the previous one. For example, the semantic difference between *chiquito* and *chiquitito* is far greater than that between *chiquitititititititito* ($7 \times$ *−ito*) and *chiquitititititititititititito* ($10 \times$ *−ito*). This shows that CAs give "diminishing returns" when repeated. This is a general property of expressives, as Jay and Janschewitz (2007: 220) note with regard to taboo words: "repetitive use can also result in physiological desensitization or habituation (not to mention *semantic satiation*), that is, one gets diminishing emotional effects with repetition" [emphasis mine]. For these reasons, the values of both x and y must be relative to the number of applications of AFF. The following modification achieves this, where n is the number of recursions of AFF.

(177) $\textsc{aff} = x^n \cdot (\mathbf{I} - m) + \sqrt{n} \cdot y$

This allows us neatly to capture the intervallic effects of all EAs, where $n > 0$. If there is no EA (i.e., $n = m = 0$), AFF is an identity function which returns a root with its expressive interval unmodified, because $n = 0$ iff $x^0 \cdot (\mathbf{I} - 0) + \sqrt{0} \cdot y$. Since $x^0 \cdot (\mathbf{I} - 0) + \sqrt{0} \cdot y = \mathbf{I}$, the interval is returned as it was. This is precisely what we want, if we assume that *all* lexical items come with an expressive index, set to neutral. For iterative EAs, a slightly intensifying and negatively biased EA would look something like this:[22]

[22]The marked examples in (38), which show multiple diminutive and augmentative affixes on a root, can be easily accounted for under my approach. Rather than being contradictory, the polar oppositions are simply specified for different values of x and y.

(178) a. Let $\mathbf{I} = [-.5, .5]$ $(w = 1, m = 0)$

b. Let $x = .4$ and $y = -.1$

c. $n = 1 : \textsc{aff}(\mathbf{I}) = [-.3, .1]$ $(w = .4, m = -.1)$

d. $n = 2 : \textsc{aff}(\mathbf{I}) = [-.2214, -.0614]$ $(w = .16, m = -.1414)$

e. $n = 3 : \textsc{aff}(\mathbf{I}) = [-.2052, -.1412]$ $(w = .064, m = -.1732)$

f. $n = 4 : \textsc{aff}(\mathbf{I}) = [-.2128, -.1872]$ $(w = .0256, m = -.2)$

g. $n = 5 : \textsc{aff}(\mathbf{I}) = [-.2287, -.2185]$ $(w = .0102, m = -.2236)$

Figure 5.1 plots the diminishing effects of recursive AFF on the intervals and variables in (178), calculated up to $n = 20$ recursions, where each marker represents an application of AFF. As can be seen, the semantic effect of the first two applications is significant, but its effect on the width quickly diminishes and becomes infinitesimal by around the seventh iteration, as the endpoints converge towards a degenerate interval such that $\underline{\mathbf{I}} = \overline{\mathbf{I}}$.

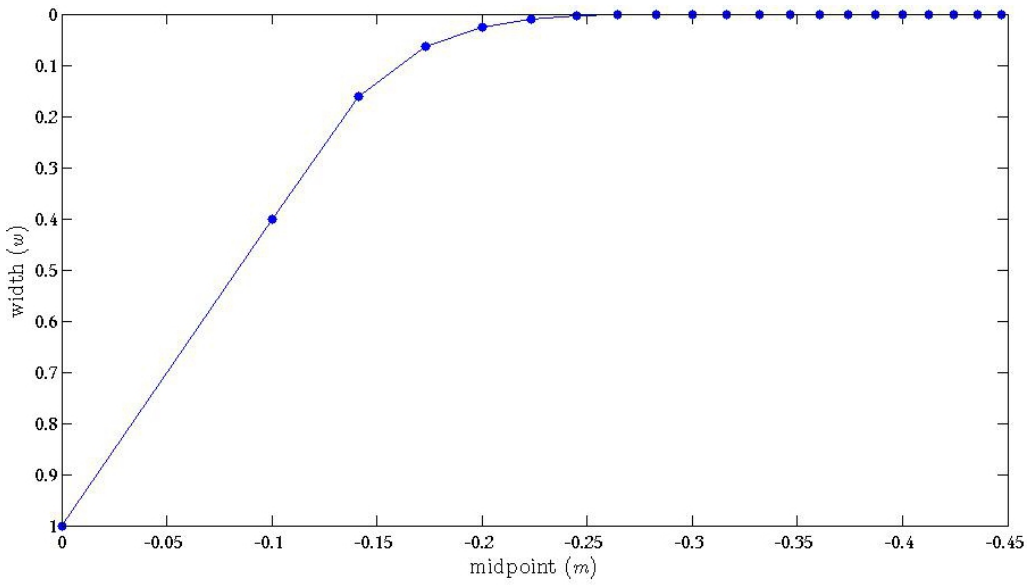


Figure 5.1: The diminishing effects of recursive AFF

Interestingly, the number of web hits for iterative *–ito* (shown in Figure 1.8 on page 36) drops dramatically after the seventh iteration, from 1270 hits to 2,

and the mean number of hits for iterations from 7 to 20 is 4.[23] If the expressive value of *–ito* becomes negligible after seven iterations, then standard assumptions about avoiding redundancy guarantee this prediction.[24] This is a strikingly precise confirmation of a central feature of my formalism.

We are now in a position to unify the tree-admissibility conditions (142) and (143) under a single rule, (179).

(179) *Functional Application (version 2)*

$$\alpha(\beta) \ : \ \langle \tau \rangle \bullet \langle c_J \ \textbf{AFF}(\mathbf{I}) \ b \rangle$$

$$\alpha : \langle \sigma, \tau \rangle \bullet \langle c_J \ \textbf{AFF} \ b \rangle \qquad \beta \ : \ \langle \sigma \rangle \bullet \langle a \ \mathbf{I} \ b \rangle$$

Finally, EAs can be given the general denotation in (180), in terms of conditions of use (Kaplan 1999), where *EA* is any EA, and $\mathbf{EA}_{s(\phi)}$ is the measure function associated with that EA.

(180) *EA* $\rightsquigarrow$

$$\lambda P \lambda x . \delta[\text{bounded}(x)] . P(x) \wedge \exists d[\textbf{stnd}(d) \wedge \mathbf{EA}_{s(\phi)}(x) \succeq d]$$
$$\bullet$$
$$\langle c_J \ \textbf{AFF} \ b \rangle$$

$$\text{where } [\![\textbf{AFF}]\!] = \lambda y \in \mathbb{R}_{\geq 0} . \lambda z \in [-1, 1] . \lambda \mathbf{I} . [y^n \cdot (\mathbf{I} - m) + \sqrt{n} \cdot z]$$

The following subsections show how these tools can be used to give uniform, synchronic, analyses of the recalcitrant data presented in §5.2.

[23] For $n > 20$, the number of hits is zero. All hit counts compiled from Googlefight `http://www.googlefight.com`.

[24] To give one example, Horn's (1984) reinterpretation and reduction of Grice's second Maxim of Quantity ("Say no more than is required") and the "speaker's and auditor's economies" of Zipf (1949) as his Principles Q and R, ensures this. (*Principle Q*: Say as much as you can [given R]; *Principle R*: Say no more than you must [given Q].)

5.3.3 Deprecation

Consider the following sentence.

(181) *No trato de parecer una mujer- zuela*
Not try.1SG to seem a woman-DIM
'I'm not *trying* to come across as a slut.'[25]

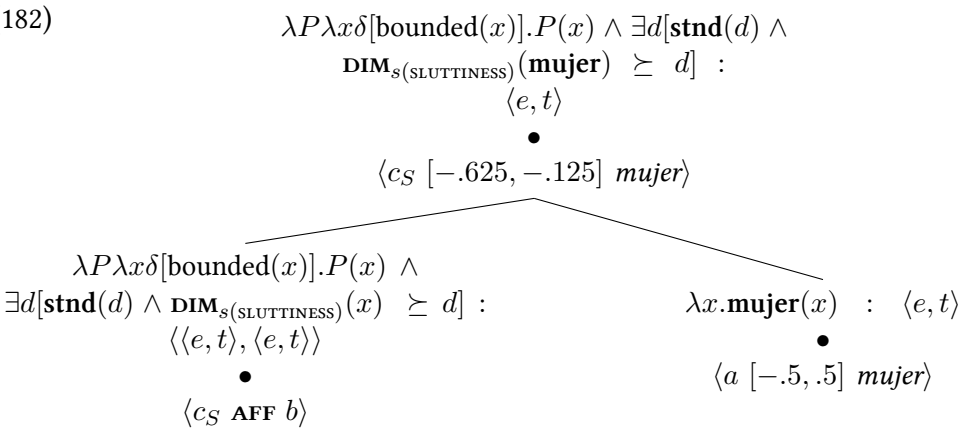
The young lady in question, the popstar Miley Cyrus (via the Spanish-language news agency's translator), is countering media criticism that her provocative costume choices and music videos indicate that she is a lady of loose morals.[26] She protests that her skimpy outfits are an *artistic choice*, implying that she would never be something as contemptible as a *mujerzuela*.

Since *mujer* denotes an individual, the GA semantics of *–uela* have to apply to it. In this case, the closest English correlate is the GA *loose*, which (in the relevant interpretation) is associated with a dimensional parameter which identifies a scale of SLUTTINESS (for want of a better word). Secondly, *–uela* negatively biases the interval **I**, and narrows its width. The values for x and y are $.5$ and $-.375$, respectively.

[25]"Miley Cyrus: No trato de parecer una mujerzuela," at http://www.eluniversal.com/2010/06/15/til_ava_miley-cyrus:-no-trat_15A4026571.shtml

[26]For example, "acting like a tramp mean[s] you are a tramp" from "Sideshow: Miley Cyrus 'not trying to be slutty'," at http://articles.philly.com/2010-06-16/news/24965122_1_elin-nordegren-prince-harry-prince-william

(182)



The values of AFF in this case are mainly for expository purposes, but they serve to illustrate that it is a direct operation on the inherent expressive intervals of lexical items. The computation of the expressivity of *mujerzuela* proceeds as in (183).

(183) a. Let $\mathbf{I} = [-.5, .5]$ (*mujer*: $w = 1, m = 0$)

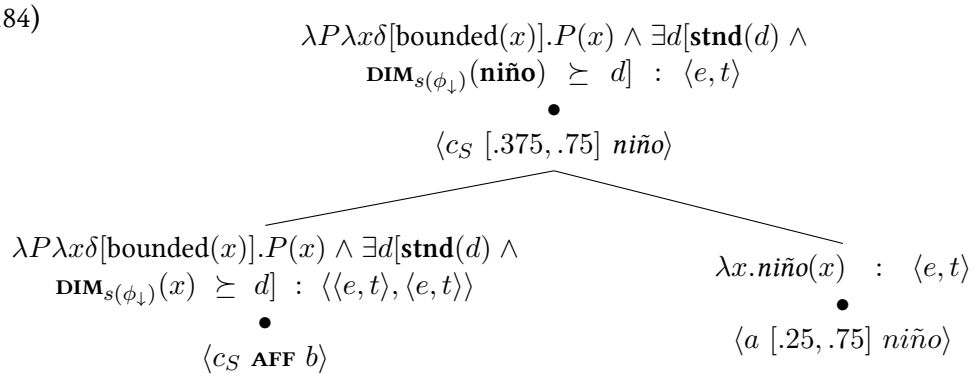
b. Let $x = .5$, $y = -.375$, and $n = 1$

c. $\text{AFF}(\mathbf{I}) = (.5 \cdot \mathbf{I}) + (-.375) = [-.625, -.125]$
(*mujerzuela*: $w = .5, m = -.375$)

5.3.4 Appreciation

An utterance of *niñito* boy-DIM expresses both diminution (along either the SIZE or AGE dimension) of *niño* and, typically, affection (though it can also be patronising if the referent is not a young boy). The following semantic tree captures these properties.

(184)



Since boys are bounded entities, the GA meanings 'small' and 'young' are available. With values for AFF of $x = .25$, $y = .75$, *niñito* has an expressive interval of $[.375, .75]$ ($w = .375, m = .5625$).

5.3.5 Hypocorism

Nicknames and and hypocoristic terms of endearment are (typically) purely expressive. That is, they indicate an emotive relationship between the speaker and addressee but do not modify the descriptive addressee argument in any way. This may seem like a counterexample to my claim that, if the referent is bounded (which referents of proper names certainly are), then the GA meaning must be possible. However, there is a reason why it usually is not. Recall that a gradable adjective has to have a standard of comparison, which an entity, of which it is true, exceeds to some degree. For example, *expensive* denotes the property of having a degree of cost that is at least as great as some standard of comparison of cost. For proper names, however, there is no standard of comparison. If I say *Carolita* to mean, literally, 'small Carol,' it is only felicitous if there is another contextually-relevant *Carol* who is larger or older, with whom *Carolita* can be compared. In fact, this is precisely the situation with hypocoristic diminutives in Spanish. If, as is commonplace in Hispanophone countries,

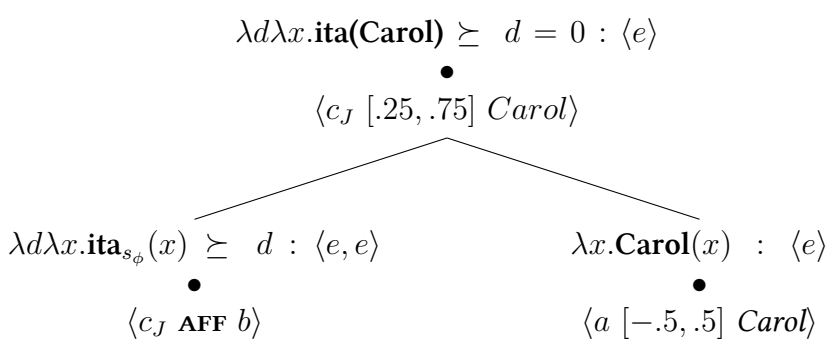
a first-born son takes the name of the father, then he will be referred to by the diminutive of that name. In this case, the GA meaning of the diminutive is not only available, but it is often the primary meaning.

When the descriptive meaning of CAs is not available for proper names, it is because there is no standard of comparison, **stnd**, so the following step of the derivation fails.

(185) $\lambda d\lambda x.\textbf{ita}(\textbf{Carol}) \succeq d \longrightarrow \lambda x.\exists d[\textbf{stnd}(d) \wedge \textbf{ita}(\textbf{Carol}) \succeq d]$

From this, the semantics of hypocorism are straightforwardly derivable, with one caveat: since proper names are of type e, in this case the CA's descriptive type has to be of type $\langle e, e\rangle$, rather than $\langle e, t\rangle$. Whether this is a kind of type polymorphism or lexical ambiguity is a matter for future research. For now, I simply change the functor type in the notation, as necessary. In (186), AFF has the values $x = y = .5$.

(186)



Even though the GA meaning of *–ito* takes *Carol* as its argument, the value of the degree variable cannot be computed in the null context, and the descriptive output is false. If, on the other hand, there is another contextually-relevant *Carol* who can be used to compare *Carolita* along either the dimension of SIZE or AGE, then the meanings 'little Carol' and 'young Carol' are available.

5.3.6 Intensification and attenuation

Potts (2007a: 172), following a suggestion from Bill Ladusaw, characterises the use of expressives in the following manner: "[a]lmost invariably, a speaker's expressives indicate that she is in a heightened emotional state." The definition of expressive indices entails that any manipulation of the indices has to result in a subinterval of **I**, that is to say, "the relation $x \sqsubseteq y$ holds iff x is a subinterval of the interval **I**, i.e., if every number in x is also in y." Under this view, then, an expressive can only *increase the intensity* of the emotional state conveyed. This characterisation automatically excludes attested CA meanings that *only* intensify or attenuate the meaning of the root to which they attach, without adding emotive or attitudinal content. It is important to note, however, that such meanings, which are encoded by symmetric intervals, are predicted by Potts's system. In fact, there are infinitely many such intervals, for example $[-.999, .999] \ldots [-.8, .8] \ldots [-.001, .001]$ and so forth.

Zimmermann (2007) argues, and Potts (2007b: note 1) concurs, that meanings denoted by symmetric subintervals, like $[-.1, .1]$, are unattested and possibly even incoherent ('extremely intense ambivalence'). Since such intervals are not excluded by the formalism of expressive indices, he suggests a stipulation that any subinterval of **I** has to be either positively or negatively biased, i.e., its midpoint cannot be zero.

(187) if c_ε contains an expressive index $\langle a\ \mathbf{I}\ b\rangle$, where $\mathbf{I} \neq \mathbf{I}'$, then $\langle a\ \mathbf{I}\ b\rangle \in c'_\varepsilon$ and $\mathbf{I}' \sqsubseteq \mathbf{I}$, and for $\mathbf{I}' = [j', i']$, if $i'/j' < 0$ then $i' - j' \geq .1$

Furthermore, since the default (expressively 'neutral') interval **I** is $[-1, 1]$[27] and every $\mathbf{I}' \neq \mathbf{I}$ *must* be a subinterval, expressive attenuation is also excluded. This

[27] As Potts (2007a: 175) describes this setting, "a has no feelings towards b."

predicts that there are no attenuating lexical items, crosslinguistically. However, this is clearly incorrect.

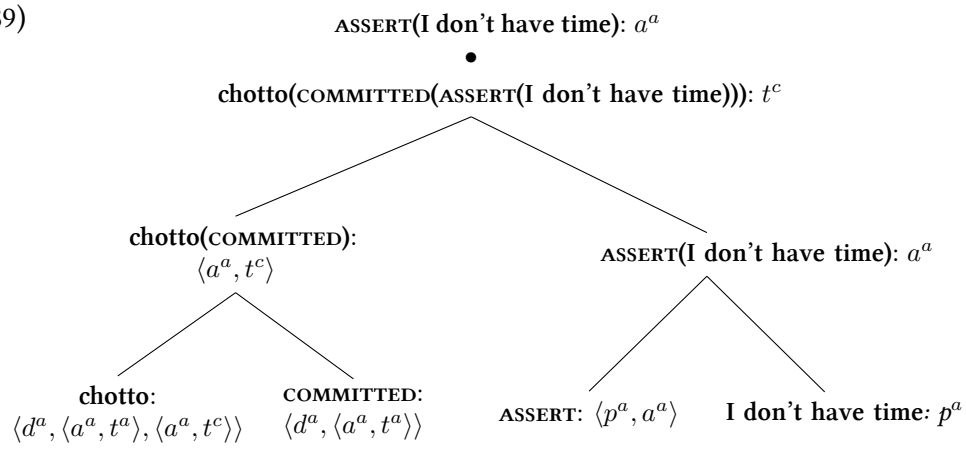
Sawada (2010) shows that the Japanese minimiser *chotto* 'a bit' can convey either a descriptive AMOUNT meaning or an expressive meaning which downgrades the illocutionary force of an assertion.

(188) a. Descriptive *chotto*
Kono roopu– wa chotto nagai.
This rope- TOP a.bit long
'This rope is a bit long.'

b. Expressive *chotto*
Chotto jikan-ga nai- desu. *(Polite refusal)*
a.bit time- NOM NEG.EXIST-PRED.POLITE
≈'I don't have time.'
(I am refusing your request in a polite way.)

In order to account for the semantic variation and the distributions of *chotto*, Sawada proposes that a lexical item can take as its argument not only individuals, but also *speech acts*. Following work by Stenius (1967) and Krifka (2001), he assumes that illocutionary operators of various types can combine with propositions of type p to form speech acts of type a. For example, an ASSERT operator can adjoin to a root node to turn a truth value into an assertion. He further argues that *chotto* can combine with the speech act operator COMMITMENT, to measure the degree of commitment of a speech act. Given this, Sawada (2010: 8) gives the following derivation for (188b), where superscripts a and c stand for "at-issue" and "CI" types, respectively.

(189)



Here, *chotto* takes as its argument, COMMITTED and the assertive speech act, and returns an attenuated expressive meaning via *Expressive Application*. The original definition of expressive indices is therefore too restrictive in two respects: firstly, because whereas the b element of $\langle a\ \mathbf{I}\ b \rangle$ in *chotto* is a speech act, for Potts (2007a) it must be an individual; secondly, the $\mathbf{I}' \sqsubseteq \mathbf{I}$ condition rules out attested attenuating expressivity.

Similarly, Giannakidou and Yoon (2008) show that the Korean and Greek metalinguistic comparative complementisers *kipota* and *para* reflect "the speaker's heightened emotional perspective" (which is negative) and have the effect of making an entire utterance emphatic. To account for this, they generalise expressive indices so that they can encode a relationship $\langle a\ \mathbf{I}\ q \rangle$ between an "individual anchor" a and q, the proposition they embed.

(190) a. *para/kipota*: $\langle t, \varepsilon \rangle$: *para/kipota* combine descriptive content t (the type of propositions) and expressive content ε.

b. $[\![\text{para/kipota}]\!]^c : \lambda p.p$ (identity function); c is the context.

c. Expressive content of *para/kipota* in c:
para/kipota contain an expressive index $\langle a\ \mathbf{I}\ q \rangle$, where a is the individual anchor, q the proposition they embed; and $\mathbf{I}$ ranges between $[-1, 0]$.

As far as I can tell, the system of expressive indices as presented in Potts (2007a) does not permit such meanings. However, the *Isolated CIs* of Potts (2005: 65–66) do. These are cases where expressives "do not interact with the [descriptive] material around them in a way that is representable in terms of function application." In examples like *That's fantastic fucking news!*, the expressive *fucking* takes no syntactic argument (i.e., it does not modify *news*), but simply upgrades the illocutionary force of the entire speech act.[28]

Although expressive attenuators like *chotto* do not appear to be common in English, the neologism *meh* is one example.

(191) **Definition of *meh*[29]**
Indifference; to be used when one simply does not care.

Homer:	Kids, how would you like to go...to Blockoland!
Bart & Lisa:	Meh.
Homer:	But the TV...gave the impression that—
Bart:	We said *meh*.
Lisa:	M-E-H. *Meh*.

Meh is clearly expressive, since it conveys an attitude, yet it also clearly indicates that this attitude is less intense than the default.

Finally, recall the Slavic prefix *po–*, discussed in Chapter 3, which "lowers the degree of intensity of the following prefix" (Istratkova 2005: 314). This entails a *widening* of the interval into a superinterval of **I** such that $\mathbf{I}' \sqsupseteq \mathbf{I}$.

[28]Another example is discussed by Potts and Kawahara (2004), for whom the Japanese antihonorific morpheme *chimau* "signals that the speaker has contempt for the proposition expressed by the clause in which it appears." (2004: 2)

[29]From *The Urban Dictionary* at http://www.urbandictionary.com/define.php?term=meh. The dialogue is from "Hungry, Hungry Homer," *The Simpsons*, Episode 263, Fox Broadcasting Company. Interestingly, in the original script (located at http://www.snpp.com/episodes/CABF09), this dialogue is followed by a direction for the artists that the characters should convey "intense indifference." This emotion, which is encoded by symmetric intervals whose width approaches zero, is what Zimmermann (2007) and Potts (2007b) question the possibility of.

I propose that the intensifying meaning of CAs is the reflex of symmetric subintervals, under the assumption that all lexical items come with an expressive interval: the narrower the subinterval, the greater the (non-emotive) intensification of the meaning of the root. In order to account for attenuation, I propose that the default interval is $[-.5, .5]$ and that $\mathbf{I}' \neq \mathbf{I}$ does not entail $\mathbf{I}' \sqsubseteq \mathbf{I}$.[30] Instead, I assume that expressives can manipulate the interval without *a priori* restriction. Attenuation arises, then, when $\mathbf{I}' \sqsupseteq \mathbf{I}$. The existence of intensifying and attenuating affixes attests to the sub- and superintervals whose midpoint is zero, predicted by Potts (2007a).[31]

(192) An *expressive index* is a triple $\langle a\ \mathbf{I}\ b\rangle$, where a is the contextual judge c_J, $\mathbf{I} \in [-.1, 1]$, and b is a contextually-relevant category that bears **I**.

In expressive semantic composition, the functor bears **AFF** and saturates a and the argument bears **I** and saturates b. Once we reject the stipulation in (187) and make these modifications (which, in fact, do away with certain stipulations in the original definition of expressive indices), the seemingly contradictory senses of CAs are straightforwardly predicted. The only difference between the connotative and purely expressive semantics of CAs is that, with the latter, the descriptive dimension is undefined due to presupposition failure. The composition operator, $\bullet$, ensures that the descriptive argument is passed even if the output of composition is undefined due to presupposition failure. This performs the identity function role of Expressive Application.

[30] Since $[i, j]$ instantiate the real numbers between -1 and 1, there is no intensifying expressivity lost by making the neutral setting $[-.5, 5]$.

[31] A potential complication is that this predicts intervals where $j < i$. Since the interpretation of such intervals presumably involves the dubious step of reversing the effects of widening and narrowing of the intervals for no obvious explanatory gain, one could simply retain Potts's (2007a: 183) stipulation that $i \leq j$. I leave this matter open for future investigation.

The different meanings of the diminutive, noted by Jurafsky (1996), in Spanish from the Caribbean Islands plus Costa Rica (henceforth, CIS) and Continental Latin America (except Costa Rica and the Southern Cone) (LAS), can easily be modelled in this system.[32] In CIS, the diminutive in *ahorita* widens the interval, so we simply make $x = 1.5$. In LAS, *ahorita* narrows the interval, and we capture this with $x = .5$. Interestingly, in CIS, *ahoritita* means 'now,' which suggests that attenuating *–ito* does not iterate. Given the discussion of iterative semantic intensification, one might expect that attenuation works the same way. However, the definition of AFF predicts that the meaning of *ahoritita* in CIS will be 'now' rather than 'later than *ahorita*.' If $x = 1.5$, then the second application of AFF will cause $\mathbf{I} \sqsupset [-1.1]$:

(193) * *ahoritita* 'later than *ahorita*'

a. Let $\mathbf{I} = [-.5, .5]$

b. Let $x = 1.5$, $y = 0$, and $n = 2$

c. $\textsc{aff}(\mathbf{I}) = (x^2 \cdot \mathbf{I}) + \sqrt{2} = [-1.125, 1.125]$

This is because the value of x^n increases exponentially with each recursion. However, *–ito* is ambiguous between the attenuating and intensifying readings in all Latin American varieties of Spanish, as the following minimal pair shows.

(194) a. *Estoy lej- itos*[33]
am.1SG far-DIM
≈'I'm quite far away.' (*attenuating*)

b. *Estoy aqui-cito*
am.1SG here-DIM
≈'I'm right here.' (*intensifying*)

[32] The Hispanophone Caribbean Islands are Cuba, the Dominican Republic, and Puerto Rico. In Costa Rica, a Central American country, the meaning of *ahorita* patterns with the Caribbean countries. LAS-speaking countries include the continental (hispanophone) Latin America, with the exception of the Southern Cone (Chile, Argentina, and Uruguay) and Costa Rica.

Thus, because two applications of attenuating *–ito* would result in an interval that exceeds the bounds of $[-1, 1]$, the only possible interpretation of *ahoritita* in CIS is that of *ahora* 'now.'[34] However, it is not the case that AFF is recursive only if $x < 0$. There is another diminutive affix that is commonly used as the second, and terminal, EA in iterative constructions in CIS: *–ico*. *Ahoritica* is an attenuated form of *ahorita*, meaning something like 'slightly later than *ahorita*.' This can be straightforwardly modelled by assuming that the intervallic effect of *–ico* is less than that of *–ito*.[35]

(195) *ahoritica* 'later than *ahorita*'

a. Let $\mathbf{I} = [-.5, .5]$

b. Let $x = 1.5$, $y = 0$, and $n = 1$ (value of *–ito*×1)

c. $\textsc{aff}(\mathbf{I}) = (1.5^1 \cdot \mathbf{I}) + \sqrt{1} = [-.75, .75]$

d. Let $x = 1.25$, $y = 0$, and $n = 1$ (value of *–ico*×1)

e. $\textsc{aff}(\mathbf{I}) = (1.25^1 \cdot \mathbf{I}) + \sqrt{1} = [-.9375, .9375]$

We saw in §1.5 that the diminutive can be used to downgrade the illocutionary force of an utterance. For example, a speaker who requests something of someone can attempt to "avoid…perlocutionary sequels, such as offending the addressee or getting him/her angry with the speaker" (Bazzanella et al. 1991) by diminutivising the object of the request.

[33] A peculiarity of certain Spanish roots ending in *–r* and non-plural roots in *–s* is that the CA is infixed between the root and the *–s* ending. For example, *azucar* sugar > **azucar-ita* sugar-DIM > *azuqu-it-ar* sug-DIM-ar and *Carlos* > **Carlos-ito* > *Carl-it-os*. Compare with the unexceptional *mar-cito* sea-DIM and *amor-cito* love-DIM (RAE 2010: 5). Jaeggli (1980) proposes a diachronic explanation whereby the putative infixes indicate that a root's final syllable has been reanalysed as a suffix, for example a class or gender marker, so that the morpheme order of e.g., *Carl-it-os* is ROOT-DERIVATION-INFLECTION.

[34] Googlefight gives 6620 hits for *abracitote* hug-DIM-AUG, but only one for *abracitito* hug-DIM-DIM. Again, assuming that *–ito* is an attenuator here, this is expected under my analysis.

[35] Spanish from the Dominican Republic has one more diminutive form of *ahora*, *ahorininga* 'right now, immediately.' It is not clear to me exactly what the morphemic structure of *–ininga* is—whether it is a single suffix or, for example, *–i-ning-a* DIM-DIM-TV—but its semantic effect is of intensification, like *ahorita* in LIS.

(196) *¿Me harías un sangüich- ito, porfa?*
OBJ.1SG make.2SG.COND a sandwich-DIM please (colloq).
'Could you rustle me up a quick sandwich, please?'

This is similar to the function of the Japanese expressive minimiser *chotto*, which takes a speech act and attenuates its illocutionary force. If we assume that speech act operators have expressive indices, then expressive minimisers are lexical items that widen their interval. The converse phenomenon is illustrated by the following English example, from Potts (2007a: 182).

(197) *Damn*, I left the *damn* keys in the *damn* car.

Here, *damn* does not really modify *keys* or *car* in any way, but rather serves to emphasise the speaker's frustration at having left the keys in the car. Adapting the definition of *damn* from Potts (2007a: 186), we get the following derivation.[36]

(198) a. I left the keys in the car : $a^a \bullet \langle c_S\ [-.5, .5]\ a^a \rangle$ $(w = 1, m = 0)$
b. Let $x = .5$, $y = -.5$, and $n = 3$
c. $\textsc{aff}(\mathbf{I}) = (x^3 \cdot \mathbf{I}) + \sqrt{3} \cdot (-.5) = [-.9285, -.8035]$
d. Damn, I left the damn keys in the damn car :
$a^a \bullet \langle c_S\ [-.9285, -.8035]\ a^a \rangle$ $(w = .125, m = -.866)$

The definition of AFF thus allows us to model precisely the heterogeneous semantic effects of attested intensifying and attenuating lexical items and affixes.[37]

5.4 Conclusion

In this chapter, I have given a complete account of the semantics of CAs, as multidimensional morphemes whose descriptive dimension is a gradable adjec-

[36] See definition of *damn* in (166) on page 153.

[37] The fact that certain expressives, like *bastard*, have both positive and negative uses has been considered problematic (Potts 2007a; Geurts 2007: 211). However, the proper analysis of these putatively "contradictory" meanings becomes obvious once Potts's theory is modified in the way I have suggested.

tive, and whose expressive dimension is a function from expressive indices to expressive indices. By keeping the adjectival meaning separate from the emotive meaning, I have been able to show, contra Jurafsky (1996: 559), that there is a "single synchronic, 'abstract category' that accounts for the different senses" of CAs. The accurate predictions regarding the semantics of the diminutive in CIS, which have long been mysterious, provides very strong evidence in favour of my analysis, over previous accounts.

One consequence of the proposed revision to Potts's theory is that descriptive functional composition will always pass an expressive interval, even when there is no expressivity at play. Because the interval needs to be passed unmodified, this parallels the function of Expressive Application when combining a pure expressive and an argument. Generalising this to ordinary semantic composition resolves an asymmetry in the composition operator $\bullet$.[38] Just as their identity functions pass the descriptive argument unmodified for purely expressive composition, AFF ensures that they pass the expressive interval unmodified in the course of purely descriptive composition. The only circumstances in which functional application does not involve an identity function, because both descriptive and expressive arguments are modified, is when the functor is connotative.

A further apparent consequence of my proposal is that the rule for Expressive Application in (143) can be eliminated. However, it would, almost certainly, be premature to do so. Recall that $\mathcal{L}_{\text{CI}}$ was designed to deal not only with expressives, but also with supplemental expressions, like appositives and parentheticals.[39] Since some of the criticism of $\mathcal{L}_{\text{CI}}$ has been that "it seems to be

[38]Expressive Application is also asymmetrical in this sense.

[39]In fact, it seems that supplements are the primary *explanandum* of $\mathcal{L}_{\text{CI}}$, with expressives providing "additional support for conventional implicatures" (Potts 2005: 153).

implausible for expressives,"[40] expressive indices are a necessary addition to the ontology. The simplified system presented here is based on a new way of handling expressive indices which, technically, are neither part of $\mathcal{L}_{\text{CI}}$ nor involved in the interpretation of supplements.

The theoretical revisions proposed in this chapter are substantial and, for reasons of space, I have not been able to explore their consequences or test them in depth. It is important to keep in mind that an account along the lines sketched in §5.3.1 is always possible, following Potts/Gutzmann. Nevertheless, the function AFF is undoubtedly needed for interval manipulation. It is striking that the many meanings of CAs, which have previously been viewed as paradoxical, are not only no longer problematic, but are *expected*, if one assumes the modifications to the definition of expressive indices that I have proposed.

[40] Gutzmann (2011: 128); see also Geurts (2007).

Chapter 6

Conclusion

This dissertation has focused on two related aspects of expressive affixes: their morphological/typological properties and their semantics. With regard to the former, we have seen that the expressive morphology of many different languages (including Bantu, West Atlantic, Walman, Sanskrit, Germanic, Romance, Slavic, and others), has the following properties: 1) it is systematically anomalous when compared to plain morphology, or the ordinary processes of word-formation and inflection. From this, it follows that the many familiar morphological arguments that adduce the data of EM ought to be reconsidered; and 2) it is far more pervasive than has been traditionally thought; for example, we saw that the Sanskrit preverb and the Indo-European aspectual prefix/particle generally have expressive functions.

With respect to the semantics of EAs, I have focused mainly on the Spanish diminutive, augmentative, and related affixes, and developed a multidimensional account of connotative affixes (i.e., those affixes that can simultaneously encode descriptive and expressive meaning) whose descriptive dimension is that of a gradable adjective, viewed as a degree relation which includes a measure

function. The expressive meaning of connotative affixes arises as they manipulate the middle coordinate **I** of expressive indices which, I propose, are inherently specified with all lexical items and canonically set to $[-.5, .5]$ or "neutral." I introduce a novel algebraic operation for manipulating **I**, AFF, which accounts for the putatively "contradictory" range of meanings that EAs can express. Whereas prior work assumes that expressive affixes are inherently polysemous, this approach allows me to derive their many attested meanings (e.g., 'small,' 'young,' 'bad,' deprecation, appreciation, hypocorism, intensification/exactness, and attenuation/approximation) compositionally, from the interactions of their multidimensionality with the meanings of the roots to which they attach.

To conclude, I would like to propose avenues for further research, and draw out some consequences for morphological theory of the semantic analyses of the last two chapters.

In Chapter 5, the derivations of various Spanish connotative affixes assumed certain target widths and midpoints (determined by the values of x and y of AFF, respectively), for illustrative purposes. However, the precise effects of these CAs on the expressive interval are not yet known, so an investigation into the actual values of x and y for each CA is therefore needed. Since expressives can convey a range of different emotions, depending on context and speaker intention, these values will necessarily be an interval $\mathbf{I}' \sqsubseteq [-1, 1]$, rather than a determinate number. Given that AFF allows one to make very precise predictions about whether or not an expressive meaning is possible, this research would benefit greatly from analyses of corpora.

Recalcitrant problems of the kind discussed in this dissertation are widespread in little-studied languages. Examples include the Walman data presented

in Chapter 2, and diminutives in Bikol (a language of the Central Philippines) which have "one form, many meanings" (Mattes 2006). The tools I presented and refined in Chapters 4 and 5 are perfectly suited to the investigation of such phenomena. Furthermore, my claim that aspectual morphology has inherent expressive qualities requires careful, crosslinguistic and comparative investigation. Work by Hampe (2002), Elenbaas (2007) and Kiaer (2010) on the expressivity of particles begins to confirm my predictions, but a lot more work is needed. Unfortunately, some aspects of this—for example, the suggested analysis of Sanskrit corpora—are beyond my competencies. Nevertheless, if the Sanskrit preverb can be shown to be expressive, as I claim it is, this has wide-ranging implications for Sanskrit studies and aspectual morphology generally.

A paradigmatically expressive phenomenon that has been systematically ignored is the *ideophone*.[1] These are sound-symbolic, marked words like, for example, Siwu *kpotoro-kpotoro* 'moving jerkily like a tortoise,' which vividly depict events, by evoking sensory imagery (Dingemanse 2008; 2009). It is sadly indicative of the neglect of ideophones, which are characteristic of many African languages, that an excellent, recent volume on the Tense and Aspect systems of Bantu (Nurse 2008) makes no mention at all of them. Most of the serious work on this topic is from an anthropological perspective (e.g., Nuckolls 1996), so formal analyses are conspicuously rare. However, interest is increasing (Voeltz and Kilian-Hatz 2001), and an analysis of ideophones as multidimensional words would help to fill this gap.

An inherent obstacle to the formal study of expressivity is that any account must assume some theory of human emotions, something which is be-

[1] As Childs (2003: 118) notes (perhaps only half jokingly), ideophones have "been neglected in the past, probably because they were just too much fun." Pioneering work by the World Ideophone Survey at the Max Planck Institute in the Netherlands is helping to change that. (The neglect, not the fun.)

yond the competencies of most linguists, and poorly understood even by experts. The expressive index, with its formal simplicity, infinite gradability and non-propositional character is a big first step in the naturalistic investigation of the interface between grammar and affect. However, Potts (2007a: 179) himself "expect[s] the domain of expressives eventually to reveal itself to be more complex than these indices allow." One potential theoretical development, which I tentatively sketch below, seems to me to hold particular promise.

There are striking parallels between the scales introduced by gradable adjectives and the middle coordinate, **I**, of expressive indices, in that both employ real numbers to encode degrees. An adjectival measure function encodes the degree to which an entity possesses some property (for example, TALLNESS), and an expressive interval encodes the degree to which an individual feels some emotion/attitude (for example, ANGER). Both thus utilise intervals in a way which Kennedy (1997b: 143) explicitly relates to the "fuzzy logic" of Zadeh (1971). However, there is an important difference between the two. Whereas expressive intervals capture the *kind* of emotion through positive or negative bias, the kind of scale an adjective is associated with is determined by the dimensional parameter. An inherent limitation of the expressive interval is that it conflates many different kinds of emotion. In terms of expressive intervals, emotions with a negatively biased interval include anger, annoyance, contempt, and sadness, and there is no further way of distinguishing these, qualitatively very different, emotions. In fact, it is not the case that these are merely different midpoints on the expressive scale. Rather, each emotion is associated with its own scale, just as the positive adjectives *tall*, *big*, and *expensive* are. With expressive indices as defined in Potts (2007a; b), the derivation of different emotions from a single scale is inevitably accompanied by a fair amount of handwaving.

Fortunately, the difference between adjectival scales and expressive intervals appears to be more an artefact of the formalism of Potts (2007a) than a fact about the semantics of expressives. If, instead of capturing the kind of affect with the midpoint of the interval, we associate expressives with dimensional parameters, our model can begin to "deal directly with emotions" (Potts 2007a: 179) just as gradable adjectives "deal directly" with the dimensions they measure. To be precise, AFF can be redefined as a degree relation that includes a measure function, following Kennedy (1997b).[2]

(199) $[\![\textsc{aff}_\phi]\!] = \lambda d \lambda x.\mathbf{m}_\phi(c_{\text{J}}) \succeq d$

From this perspective, the kind of attitude/emotion is identified by one of the dimensional parameters associated with the expressive, and its intensity is a degree on a scale, relative to an appropriate standard of comparison. An investigation is needed into whether such a unification of gradable adjectives and expressives is possible.

I would like to end by bringing the discussion back to the morphological arguments with which I began this dissertation. Stump (2001: 1–3) argues that the distinction between morpheme– and lexeme-based approaches to morphology actually involves two, orthogonal, classificatory dimensions, which allow four different kinds of theories. Firstly, theories can be either *lexical* or *inferential*. In lexical theories, each morpheme (defined as any stem or affix) has its own lexical entry. For instance, the lexical entry for the English suffix *–s* includes the

[2]It could be objected that the use of unexplained, intuitive concepts like ANGER is question-begging. Such poorly-understood notions, so the argument might go, have no place in linguistic theory, at least until we have a better understanding of the interface between emotion and grammar. However, this is an unreasonable demand which, if applied generally, would invalidate standard analyses of gradable adjectives, which simply take for granted the general cognitive mechanisms that allow humans to make sense of oppositions like GOOD/BAD and LARGE/SMALL, and relate them to the world.

morphosyntactic properties '3SG subject agreement,' 'present tense,' 'indicative mood,' and its phonological specification, /s/. In contrast, in inferential theories the relation between a lexical root and its fully-inflected forms is determined by rules or formulæ that are sensitive to a word's morphosyntactic features. Thus, the third-person singular present indicative form of a verb is *inferred* from the properties of the verb and a rule which associates the above features with the appearance of the suffix *–s*.

Secondly, one can distinguish theories that are *incremental* from those that are *realisational*. In incremental theories, the addition of any morpheme (in lexical theories) or the application of any rule (in inferential theories) must add information. From this perspective, the above cluster of features can only be added to a verb's meaning by the addition of *–s*, either by lexical insertion (in lexical theories) or morphosyntactic rule (in inferential theories). In realisational theories, morphological exponence is licensed by the presence of morphosyntactic features. Thus, the presence of the above features on a verb licenses the attachment of *–s* (either by lexical insertion of morphosyntactic rule), which is the *realisation* of those features. Stump (2001: 2–3) shows that all possible combinations of these types are instantiated by existing morphological theories.

Lexical-incremental theories include most of the morpheme-based theories discussed in §1.1.1. For Lieber (1980; 1992), for example, affixes have lexical entries, and the composition of an affix and a stem is determined by the affix's subcategorisation frame and percolation. From this perspective, inflection and derivation are simply a matter of concatenating lexical items. Lexical-realisational theories include Distributed Morphology. For Halle and Marantz (1993), syntactic rules regulate the combination of morphosyntactic feature into

sets, and those sets are realised by compatible formatives, which are selected from the lexicon.

An example of an inferential-incremental theory is Articulated Morphology (Steele 1995), which assumes that affixes are introduced via rule. However, the rules not only change the phonology associated with the expressions to which they apply, but also the morphosyntactic features. Thus, they affect both form and content. Finally, inferential-realisational theories, which the majority of morphologists *qua* morphologists subscribe to, in one form or another, include Matthews (1972; 1991); Anderson (1992); Aronoff (1994); Beard (1995) and Stump (2001). These authors assume that a word's association with a particular set of morphosyntactic properties licenses the application of rules that determines its final phonological form.

In §1.1.1, I noted that "the facts of morphology support a lexeme-based view." To be precise, as Stump (2001: 3) argues, "[a] careful evaluation of morphological evidence suggests that the most adequate theory of inflectional morphology must be inferential rather than lexical, and must be realizational rather than incremental." However, my semantic analyses of expressive affixes show them to be the carriers of multidimensional meaning. In this respect, my theory is both lexical and incremental and, I would argue, any morphological theory that aims to do justice to both PM and EM will be a hybrid, incorporating aspects of both kinds of theory for different, incommensurable purposes.[3]

[3]A natural objection is that this approach, which assumes both inferential-realisational and lexical-incremental morphological processes, must inevitably make for a bloated theory whose expressive power is increased by an unknown factor. However, Karttunen (2003) shows that inferential-realisational models are reducible to finite-state operations, and Roark and Sproat (2007) have shown the same for lexical-incremental theories. Thus, Roark and Sproat (2007: 65) argue that "at the computational level, there is no difference between the two approaches," and that Stump's four-way distinction between theories ultimately comes down to "matters of taste" (Roark and Sproat 2007: 86). The fact that there is no difference in expressive power between a theory that assumes just one kind of process, and one that assumes both, means that

The fact that a precise and predictive account of the behaviour, distribution, and semantics of EAs can be given in these terms is strong evidence that natural language instantiates more than one combination of Stump's classificatory parameters. It also suggests one explanation for why a uniform morphological theory of plain and expressive morphology has been so elusive: whereas Plain Morphology dictates an inferential-realisational approach, Expressive Morphology requires a lexical-incremental one.

my approach is not subject to this Occam's Razor-type criticism.

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