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### Author

Emanatian, Michele

### Publication Date

1991

Grammatical Polysemy:  
The Systematicity of Multiple Meanings in Grammar

By

Michele Emanatian

B.S. (State University of New York at Albany) 1978  
M.A. (University of California at Berkeley) 1985

DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

LINGUISTICS

in the

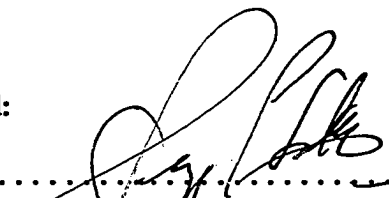
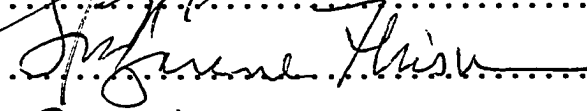
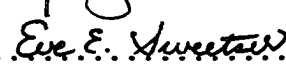
GRADUATE DIVISION

of the

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Approved:

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 25 June 1991  
 28<sup>Date</sup> July 1991  
 25 July 1991

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Grammatical Polysemy  
The Systematicity of Multiple Meanings in Grammar

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## Grammatical Polysemy

### The Systematicity of Multiple Meanings in Grammar

by

Michele Emanatian

#### Abstract

This study explores grammatical polysemy, the phenomenon whereby multiple, related functions are expressed by a single grammatical morpheme or construction. I investigate the ways in which the functions of polysemous grammatical markers are related to each other, and whether these relationships parallel the kinds of relationships among the senses of polysemous lexemes.

Chapter 1 situates the dissertation within cognitive semantics. Grammatical morphemes and constructions, like lexical items, are taken to be symbolic units, pairings of form and meaning. Grammatical meanings are prototypically schematic, abstract, and relational. Polysemy, as an implicit categorization of two or more meanings under one form, is a primary focus in the study of meaning.

Chapter 2 presents a typology of relationships among the meanings and functions of polysemous elements, both lexical and grammatical, based on a variety of languages. Important kinds of relations include metaphor, metonymy, the mapping and transformation of schematic images, and the strengthening of an inference.

The next three chapters are case studies, each of which

examines in-depth an instance of grammatical polysemy in Chagga, a Bantu language of Tanzania. Chapter 3 documents the development of aspectual uses of the motion verbs 'come' and 'go', highlighting the role of metaphor in the grammaticalization of tense-aspect and the special properties of deictic elements. It shows in detail the non-discrete character of the formal and semantic changes that constitute grammaticalization.

Chapter 4 investigates the high degree of formal similarity in the Chagga Conditional and Consecutive constructions, and argues that together they are a polysemous category. The importance of image-schematic meaning in grammar is illustrated. In addition, the Consecutive alone exemplifies a common type of grammatical polysemy, in which a construction functions simultaneously in different domains.

In Chapter 5 a semantic account of the Chagga Applicative is proposed. Attributing a meaning to a construction that has previously been analyzed as a syntactic valence-increaser enables us to motivate its properties and characterize the possible semantic roles of the Applied Object, accounting for much of its morphosyntactic behavior.

The final chapter discusses the outcomes of the study. One of the major findings is that the differences between lexical and grammatical polysemy detailed in the preceding chapters may be traced to differences in the nature of lexical and grammatical meaning.



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### Abbreviations

APPL	Applicative
ASSOC	Associative
CAUS	Causative
CONSEC	Consecutive
CONT	Continuous
COP	Copula
EMPH	Emphatic
EXPR	Expressive
FOC	Focus
FUT	Future
IMPER	Imperative
INCHO	Inchoative
IND	Indicative
INF	Infinitive
INTR	Intransitive
IRR	Irrealis
LOC	Locative
NEG	Negative
OM	Object Marker
PASS	Passive
PERF	Perfect
PERF2	Perfect of Resultant State
P.IMP	Past Imperfective
P.PFV	Past Perfective
PL.IMPER	Plural Imperative
PROG	Progressive
RECIP	Recipient
RED	Reduplicative
SM	Subject Marker
STAT	Stative
SUB	non-asserted
SUB.NEG	Subordinate Negative
TRANS	Transitive

Numbers following SM or OM in examples refer to Noun Class.



### Acknowledgements

A lot goes into a dissertation, and I have been lucky to have support of many kinds. For financial assistance during the research phases, I gratefully acknowledge the Sloan Foundation, through UC Berkeley's Institute of Cognitive Studies; the Graduate Division at Berkeley, for a Graduate Humanities Research Grant; the US Dept. of Education, for a Foreign Language & Area Studies Fellowship to study Chagga; and the Linguistic Society of America, for a scholarship to its 1987 Summer Institute at Stanford. I am especially grateful for a Rocca Fellowship, through the Institute of International Studies at Berkeley, for financial support during this last year of writing.

I've had many generous readers, audiences, and friends over the last few years, and they have contributed in various ways to the ideas in and/or the very existence of this work. I am appreciative of the help of Joan Bybee, Marion Emanatian, Chuck Fillmore, Adele Goldberg, Janice Gould, Larry Hyman, Rob Kaufman, Monica Macaulay, Jonas Ngallo, Kiki Nikiforidou, Jo Rubba, Len Talmy, and Elizabeth Traugott. Best wishes to Mary Niepokuj and Eric Pederson, as cohorts in the same boat.

Thanks also to Suzanne Fleischman, for her helpful comments as Committee member. Eve Sweetser has been a source of stimulating feedback, continual encouragement, and

overall good cheer, and I'm glad to have worked with her. Claudia Brugman, going back to the days when we shared an office, has always been a critical reader, great brainstormer, and generous friend who understands how it feels.

George Lakoff has been a force in my studies - in my life - from the beginning years at Berkeley. While we haven't always seen eye-to-eye, my work has certainly benefited from our disagreements. George believes in his students. His enthusiasm, sense of humor, and sheer magnanimity have helped pull me through some tough times. I also have to say thanks for his insistence that Madison is not Siberia.

Makundi was the source of inspiration for my Chagga studies. As consultant, he is patient, cooperative, and often enough, one step ahead of me. As friend, he has given support in many ways, made me laugh despite myself, and changed my views of what is possible. He deserves special thanks for helping me to file this dissertation from a distance. Aika mmbe.

Finally, *nothing* is possible without David Delaney, Watervliet's answer to the perennial question.

## **Part I     Setting**

### **CHAPTER 1**

#### **Grammatical Polysemy**

##### **1.0 Introduction**

This work is a broad investigation into the nature of "grammatical polysemy", the use of one grammatical form to perform two or more, related, functions. I explore grammatical polysemy through examples from the Bantu language Chagga, and I rely as well on others' analyses of grammatical phenomena from various languages. It is hoped that the observations made here will contribute to an overall theory of grammatical polysemy.

##### **1.0.0 Grammatical Polysemy**

Rarely do grammatical markers have one and only one function. Future markers are often used to express desire (Bybee, Pagliuca & Perkins 1988ms); dative and allative case markers frequently occur in purposive clauses (Genetti 1986, cited in Sweetser 1988); and passive agent markers often mark instrument and means as well (Keenan 1985). That multiple functions are in fact the norm for grammatical morphemes can be seen through a quick perusal of most any reference or teaching grammar. Yet the preponderance of unstructured lists in such volumes shows that (for the most

part) linguists' analyses fail to come to terms with this multifunctionality. There is even less recognition that the phenomenon of what I will be calling **grammatical polysemy** should be an important topic for linguistic theory.

Why should it be the case that a grammatical form put to a certain use is put to certain other, related, uses as well? Why should the same kinds of polysemous grammatical morphemes be found in language after language? There is no a priori reason why linguistic resources should have to be shared in the expression of futurity and desire, for example; in many languages, expressions for the two are *not* related. The fact of recurrent polysemy of grammatical morphemes demands an explanation. Explaining specific cases of grammatical polysemy may well reveal something about the nature of meaning in general and grammatical meaning in particular.

Nearly every linguist has to face grammatical polysemy at a practical level, for instance when selecting glosses for the grammatical morphemes of example sentences. The issue must be faced more squarely by grammarians and theorists of grammar. It is common even for contemporary reference grammars to simply present unstructured lists of the functions of each grammatical morpheme. It is just as typical for such works to offer undefined cover terms (like "Momentaneous", "Usitative", "Diminutive") meant to encompass all the functions of a multifunctional marker (cf. Janda 1986). Such unstructured lists and undefined cover

terms beg the question.

Consider, by way of example, the Swahili verbal prefix ki-. Several grammars list the functions of ki-, while at the same time assigning it an overall label, such as "Progressive" or "Participial". No attention is given to *how* the listed functions are each characterized by the given label, that is, to *how* the listed functions constitute a coherent set (see for instance Zawawi 1971, Hinnebusch 1979, Hinnebusch & Mirza 1979). Ashton, for example, simply asserts that both "present participle" uses and "conditional" uses of ki- "are consistent with the basic meaning", rendered as "imperfect, continuous or incomplete action" (1944:138). In Loogman's 1965 grammar, ki- is called "The Participial Form". Its uses are said to include: occurrence in temporal clauses with a 'when' meaning; occurrence in conditional clauses with an 'if' meaning; expressing action in progress or about to be realized; and expressing action contemporaneous with that of the main verb. How the expression of conditionality is related to action in progress, for instance, or to any other meaning of ki-, or to its overall label "participial", is left to the reader to figure out. (The relative disinterest in relatedness in such cases is striking when compared with the amount of energy linguists have put into the representation of the relationship between so-called synonymous sentences.) Haddon asserts, "Perhaps the best advice is to regard -ki- as being primarily Participial, and *by extension of meaning*

is also used [sic] as a Conditional" (1955:92; emphasis mine). *How* conditional meaning is an extension of "Participial" meaning is not addressed. Nurse notes that "'participial'...tends to mean 'corresponds to a form in English ending in -ing'" (1979:230). Yet as Hinnebusch admits, overlap between English -ing and Swahili ki- is not complete (cf. Ashton 1944; Loogman 1965). Welmers 1973 is exceptional in explicitly discussing the *relationship* of the simultaneous function of ki- to its conditional function, proposing "simultaneous" as a label for the "construction marker" as a whole. Grammarians of Bantu languages, faced with the functional diversity of certain grammatical morphemes, may not even venture a general characterization, but may refer only to "ka- forms", "verbs in -ie", "the -KI- Conjugation", or "verbs with ndi-".

What accounts for the fact that the verbal prefix ki- has this particular grouping of functions? If we assume from the outset that language consists by and large of *motivated* systems and sub-systems (see for instance Bybee 1985; DuBois 1985; Haiman 1985a,b; Lakoff 1987; Wierzbicka 1988), we are forced to ask, what relates each function of ki- to the others on Loogman's list? And furthermore, how may all these functions be subsumed under the single label "participial"?

Often a grammar presents *both* a list and a unifying label. This may be taken as implicit recognition - in practice if not in theory - that the multiple functions of the grammatical morpheme do cohere. But the specific ways in

which the functions are related to each other, and each to the meaning which is said to encompass them all, are rarely addressed. McGregor, for instance, in his recent grammar of Gooniyandi, lists four senses for the Present tense: present time; future time; characteristic or general sense; and hypothetical. He notes that the Gooniyandi "present tense has a number of apparently dissimilar and *unrelated* uses, reminiscent of the English present tense" (1990:517; emphasis mine). It is my contention that such observations should raise questions about cross-linguistic patterns of multifunctionality. Grammatical polysemy is ubiquitous, and linguistic theory needs to develop ways to talk about it.

How is it that grammatical markers tend to have more than one function? Is this phenomenon similar to lexical polysemy, itself a pervasive feature of language organization? What specific sets of functions do cross-linguistically common grammatical markers tend to perform? Do certain of the kinds of functions that grammatical markers perform have a 'natural propensity' for being extended to new functions? Can we discover common processes of extension and types of linkages among the functions of grammatical morphemes? If so, are such processes and links common to both grammatical markers and polysemous lexical items? Research in this area needs to go beyond particularities, to generalize about the phenomenon of grammatical polysemy. This study moves toward answering the questions outlined above. My ultimate aim is to learn

something about how meanings are categorized by linguistic forms, and why certain groupings of grammatical meanings are recurrently encoded by one form.

### **1.0.1 A Broader Semantics**

As an exploration of the interrelatedness of grammatical functions, this study has affinities with the research goal of understanding the "Semantics of Grammar" (Wierzbicka 1988). "Meaning" is taken in its broadest sense. Linguistic meaning cannot be distinguished in principle from cultural (or 'real world', or extra-linguistic) meaning, anymore than semantics can be set off from pragmatics (more on the latter, below). Meaning comes through language users' essentially open-ended experience and knowledge of the world, both of which are encyclopedic (see Haiman 1980a; Langacker 1987a). Semantics must recognize all of the ways in which this knowledge is brought to bear in language. Fillmore 1985 lays the foundations for a like-minded project, the "Semantics of Understanding". This project seeks to give adequate descriptions of "the semantic contribution of individual lexical items and grammatical constructions and ... [explain] the process of constructing the interpretation of a text out of the interpretation of its pieces" (p.233). The present work is intended as a contribution to both a Semantics of Grammar and a Semantics of Understanding.

In this view of language, grammar itself is meaningful.



It has been amply demonstrated that the interdependence of syntax and semantics/pragmatics renders attempts to study one without attention to the other less than satisfying, if not pointless. Morphology and syntax are symbolic, that is to say, meaningful: "grammar is simply the structuring and symbolization of semantic content" (Langacker 1987a:12).

The "Semantics of Grammar" refers not only to the meanings of grammatical *morphemes* but also to the meanings of grammatical patterns or *constructions*. That these larger morpho-syntactic configurations are in themselves meaningful and deserve a place in linguistic theory is a central concern of recent research (see, for example, Fillmore 1986ms; Lakoff 1987, esp. Case Study 3; Brugman 1988; Fillmore, Kay & O'Connor 1988; Lambrecht 1984, 1987, 1988; Wierzbicka 1988, 1989; Nikiforidou 1989; and Goldberg, to appear). Even "unfilled constructions", those with no overt grammatical morpheme serving as construction marker, can convey meaning. To take a simple example (Fillmore, pc), consider reversing the usual [N Adj] phrasal order of Romance languages. One of the things signalled by an [Adj N] pattern is a marked meaning of the adjective (e.g., Sp pobre chico (lit., 'poor boy') means 'pitiabale boy', as opposed to the unmarked order chico pobre 'impoverished boy'). The marked meanings are conveyed by the marked order, the syntactic pattern, the **grammatical construction**. Recent research has produced an assortment of descriptions of the meanings (and other aspects) of a number of language-

specific constructions (see Nikiforidou 1984ms on English nominalizations; Langacker 1982a and Rice 1987 on the English passive; Casad & Langacker 1985 on the Cora locational system; Kay 1990 on even; Langacker 1987ms on the Yuman auxiliary construction; Brugman 1988 on English have constructions; Tuggy 1988 on Nahuatl applicatives and causatives; Nikiforidou 1989 on Greek conditionals and concessives; Lewis 1989, 1990a, 1990b on various aspects of Gengbe serial verb constructions; Goldberg 1989, to appear, on English ditransitives and resultatives; and Emanatian 1990 on the Chagga consecutive). Prototype models and functionalist accounts of various grammatical categories with cross-linguistic validity have appeared (see for example Mithun 1984 on noun incorporation; Anderson 1982, 1986, on the perfect and on evidentials; Dressler 1986 on agentive nouns and comparatives; Bybee 1985 on a variety of verbal inflectional categories; Haiman 1978, 1985b on disjunction, coordination, and topicalization; Kemmer 1988 on the middle voice; Pederson 1991 on the reflexive). Even the most basic syntactic categories and 'operators' have been characterized semantically (see, for instance, Hopper & Thompson 1980 on the notion of transitivity (cf. Rice 1987); Van Oosten 1984 on subjects; Horn 1985 on negation; Langacker 1987a, 1987c, and forthcoming, on the semantic basis of nouns and verbs; Hopper & Thompson 1984 on the discourse basis of nouns and verbs; Thompson 1989 on adjectives; Croft 1984 on nouns, verbs, and adjectives;

Wierzbicka 1988 on nouns; Bybee 1985 on the semantic character of inflection vs. derivation, syntactic expression, and lexicalization; Wierzbicka 1985 on mass vs. count nouns).

Likewise, the present study concerns itself with the meanings and functions of *grammatical morphemes and constructions*. I take a constructional approach to the grammatical phenomena investigated. The formal and semantic changes that are affecting the Chagga verbs 'come' and 'go' are occurring in a particular constructional context, as we shall see. In comparing the Chagga Conditional prefix ka- with the Consecutive prefix ka-, it is more illuminating to look at whole constructions than at verbal prefixes alone: some of the functions ka- performs are more readily revealed in the larger constructional context. Approaching the Chagga Applicative as a construction rather than as a suffix or verbal "extension" allows us to incorporate insights about how other variable parameters such as verb semantics, definiteness, and animacy interact with its meaning.

### **1.0.2 The Nature of Grammatical Meaning**

What is the nature of grammatical meaning? How does it differ from lexical meaning? Given that "grammatical morphemes contribute semantically to the constructions they appear in, and ... their occurrence has a semantic rationale even when conventionally determined" (Langacker 1987a:19;

cf. 1982a), what, exactly, do they contribute?

We must state from the outset that the distinction between lexical and grammatical is non-discrete. There is a continuum of ways for semantic elements to be "combined into expression units" (Bybee 1985). *Prototypical* lexical items have concrete meanings (are contentful), are not restricted to occurring in particular grammatical environments, and are open class (that is, new items may be added freely). *Prototypical* grammatical elements, on the other hand, have abstract meanings, relate more contentful words to each other, are obligatory in certain grammatical environments (and prohibited in others), and synchronically are members of a closed class. (Of course, no linguistic category is entirely closed when viewed over the time span considered for grammatical change.) Bybee 1985 characterizes grammatical morphemes as having high **generality** compared to lexemes. This goes hand in hand with their obligatoriness: they must be applicable to a wide semantic range of items, that is, they must have a general distribution. In contrast, non-grammatical words often have strong selectional restrictions (what lexemes co-occur with whimper, or ribbed?). A concomitant of high distributional generality is semantic **schematicity** (Talmy 1983). Meanings are schematic in that they systematically select certain aspects of a scene to represent the whole scene, and disregard the remaining aspects. Across, for example, disregards whether its referent object has side boundaries (across the

basketball court) or lacks them (across the river); it abstracts over a whole class of referent objects (ibid.). A construction generalizes over the lexical items that may instantiate it. In this sense, it may be said to *schematize* a syntagmatic combination (Langacker 1982a, 1987a). A preposition, for example, takes a noun phrase as object; a whole range of lexical items is suitable for instantiating the noun.

The distinctions between lexical and grammatical break down with distance from the prototypes (Haiman 1980a; Croft 1984; Hopper & Thompson 1984; Bybee 1985; Langacker 1987a). The distinctions are especially untenable if we consider less than fully filled constructions as well as individual morphemes when we characterize "grammar". There is a wide variety of grammatical constructions in any language. These range from highly general "unfilled" constructions, through somewhat less general partially-filled constructions, to fully-filled constructions. Unfilled constructions lack lexemic requirements (e.g., the basic active simplex sentence). Partially-filled constructions have both lexical and non-lexical specifications (for example, if X, Y, and Z are taken as variables to be filled-in with lexical material: What about X?; X is nowhere near as Y (as Z)). Fully-filled constructions are idioms or collocations (e.g., What the hell!?; in the nick of time) (Fillmore 1986ms; Fillmore, Kay & O'Connor 1988; Lakoff 1987; see also Bolinger 1976). For grammatical constructions as a set, it

is inaccurate to speak of a closed class, or of abstract, relational meaning (contra Talmy 1988). This may, however, be accurate for the unfilled and partially-filled types. Furthermore, as Langacker points out, speakers can often choose among grammatical constructions "that structure the conceived situation through alternate images (e.g. try to complain vs. try complaining; surprised at vs. surprised by)" (1987a:19; cf. Wierzbicka 1988). Their occurrence is *underdetermined* by the linguistic environment.

What *kinds* of meanings do grammatical elements have? We have already suggested that they function to structure lexical meaning. Grammatical morphemes "moor the concrete concepts to each other and construct a definite, fundamental form of proposition" (Sapir 1921:93). They "provide a conceptual framework or, imagistically, a skeletal structure or scaffolding, for the conceptual material that is lexically specified" (Talmy 1988:165). Grammatical morphemes and constructions express relational meanings and impose particular framings of a scene. In Langacker's words,

Grammar (like lexicon) embodies conventional **imagery**. By this I mean that it structures a scene in a particular way for purposes of linguistic expression, emphasizing certain facets of it at the expense of others, viewing it from a certain perspective, or construing it in terms of a certain metaphor. Two roughly synonymous sentences with the same content words but different grammatical structures - including, in particular, sentences generally analyzed as being transformationally related - are claimed instead to be semantically distinct by virtue of their different grammatical organization per se. (1987a:39)

A major impetus for the study of grammatical meaning is

its important relationship to the organization of thought. There is, of course, a tradition of viewing grammar this way, going back to Sapir and Whorf, and continuing today in the work of cognitive anthropologists and linguists. As Wierzbicka puts it, "grammatical forms are semantically motivated, because, while they are not necessarily correlated with any 'real world attributes', they are correlated with different conceptualizations" (1985:327).

Much of what we know about grammatical meaning we owe to the work of Talmy. He has attempted to characterize the kinds of concepts which are expressed by grammatical forms (for instance, number), as against those concepts which are not expressed grammatically (for instance, color). Grammatical morphemes commonly encode, for example, the state of boundedness of objects, as well as of states and events; this is manifested in grammar as the distinction between mass and count, for nouns, and imperfective vs. perfective, for verbs. Most of the grammatical notional categories Talmy has teased out can be grouped into four principle conceptual "imaging systems" that language draws on in order to structure and provide us with a view of what is to be expressed: structural schematization, deployment of perspective, distribution of attention, and force dynamics (Talmy 1978, 1985b, 1988).

All linguistic forms, grammatical or otherwise, serve functions other than the referential or ideational, that is, other than that of referring to some entity or occurrence,

or encoding a certain content. To take a fairly simple example, consider the functions of the participial form hummin' in the sentence She stood at the window, hummin'. Hummin' refers to a particular activity; it indirectly indicates a prototypically animate subject through its selectional restrictions; in its role as adverbial clause, it indicates subject-subject coreference with the matrix clause: the hummer and the standing person are the same; it expresses simultaneity of the activity of humming with the main clause event; it construes that activity as having some duration, and as having non-distinguished component states (for example, no onset or offset); it embodies a particular speech style and not another; and so on.

Linguists have grouped morphosyntactic functions (like clause-linkage, anaphora, backgrounding, deictic anchoring, ...) and functions which carry what we might more narrowly call 'meaning' (referring, scene-construal, indicating social status, conveying affect, ...) into three interdependent components: the referential, the textual, and the expressive (Traugott 1982, Fleischman 1989, based on Halliday & Hasan 1976). The "Referential" component is taken to encompass propositional, content-type meaning, plus (some?) grammatical meanings. The "Textual" component covers those linguistic resources which are put to use for the furthering of discourse coherence and the grounding of information within a text. The "Expressive" component includes all social, affective and conative meaning. These



functions overlap in at least two ways: hard lines cannot be drawn between them, and a single linguistic form can simultaneously perform functions in more than one component. Many grammatical markers do just that. I take up the topic of simultaneous functioning with respect to the Chagga Consecutive in Chp.4. Here I only wish to draw attention to the multiple levels of linguistic functioning.

Although there is certainly no rigid split between meaning proper and function, with respect to grammatical morphemes it is probably more useful to speak of functions and multifunctionality than to use the narrower term (as it is conventionally used), 'meaning'. Even within the "referential" component, the functions of grammatical morphemes are less commonly of the content-expressing sort (= 'meaning') than of the *content-structuring* sort. (Also, I would venture a guess that grammatical morphemes predominate over lexical items in the textual component.) I therefore try to maintain this usage throughout the dissertation, though at times I resort to the term "grammatical polysemy", instead of the bulkier "grammatical multifunctionality". It should be kept in mind, however, that the use of the terms "meaning" and "polysemy" for lexical items, and "function" and "multifunctionality" for grammatical morphemes, is not meant to imply that there is a significant difference in the two phenomena. Indeed, it is a purpose of this work to explore the commonalities in and continuities between lexical polysemy and grammatical multifunctionality.

### 1.0.3 Polysemy As Categorization

Polysemy is a pervasive feature of every language. It is important because it reveals semantic structure at the word or morpheme level, while much of the systematic study of meaning has been at the propositional or even the speech act level (the most obvious exceptions being lexicography and etymology). A polysemous form - one which has two or more, related, meanings - is an **implicit categorization**. Therein lies its interest. A form which already has a meaning is used to express another meaning, which could instead have been expressed with its own, distinct form. For instance, there is no reason why a "length of torn or unraveled stiches in a knitted fabric" (such as a stocking) (American Heritage Dictionary 1969) *need* be called a run, along with the activity of moving rapidly on foot; the tear in the fabric could just as well be given a nonce form for a name.

The basic model of a polysemous word as a **category of senses** is a powerful one. Many polysemes may be viewed as consisting of a prototype (or prototypes) from which a chain of interrelated senses extends. This model comes from the application of Rosch's prototype results (1977; Rosch & Mervis 1975) to linguistic semantics (Brugman 1981/88), together with the idea of family resemblances from Wittgenstein (1953). The radial model of category structure (Lakoff 1982, 1987; cf. Apresjan 1974; Anderson 1982), where extended senses all radiate from a central sense, is a later

statement of this model of lexical-semantic behavior. Each sense of a polyseme need not be directly related either to every other sense, or to the central sense, allowing for extensions of extensions. As a prototype model, the radial category model captures an essential aspect of lexical categories: some members (senses) are more central (better members) than others. Other polysemous elements may be more accurately modelled as chains of senses of equal status, with no prototype.

This latter property necessitates the Cognitive Linguistic conception of "motivation" (Lakoff 1987). A motivated property is one which may fall short of full predictability, but nevertheless is not random; its existence correlates with, and perhaps to some extent falls out of, other linguistic properties or cognitive abilities or cultural features. It fits a well-defined pattern. The fact that in is the English preposition used (in America) to encode the locative relation between a child playing and the street which is the location of her play is *motivated*: the street is conceived as container for the activity, much as a field or a yard can be. English allows the possibility of conceptualizing some locations as containers for what goes on at (in) them. The occurrence of in in She's playing in the street. may not be predictable (or generatable). Similar locations pattern with on (on the sidewalk/porch/beach); other expressions with street call for on as well (We used to live on Spruce St.). But neither is it an idiosyncratic

fact. In helps us to construe street as a container-like, demarcated space (rather than a surface area) which may serve as a conduit for vehicles and a space for play. This construal is also favored by expressions like The crowd poured into the street. and Get out of the street/road/way!.

For Haiman, "motivation" is defined as "perceived similarity between the structure of a diagram [a systematic arrangement of signs] and the structure of the concepts that it represents (1985b:71). Defining motivation as an iconic principle allows him to account for cross-linguistically recurrent grammatical polysemies in which certain syntactic patterns acquire sets of uses not obviously related in terms of any of the better-studied processes of extension, such as metaphor. (See 2.1.4 for discussion of examples.)

The use of a single form to encode more than one meaning is an economical use of linguistic resources (Haiman 1985; Geeraerts 1985; Lakoff 1987). We might speculate that the economic motivation for polysemy is even greater for the closed-class, systematic grammatical resources of a language (cf. Wierzbicka 1988).

#### **1.0.4 Polysemy in Social Context**

Because language and thought are so tightly linked, and because communication is such an essential component of social life, polysemy is not merely a semantic phenomenon with no importance outside linguistics. Polysemy is a window

on conceptual structure: regularities in the ways that one form expresses more than one meaning can tell us about the concepts that people use and relate to one another.

("Semasiology", the study of what groups of meanings can attach to a word, and of the psychological repercussions of this, was an early precursor to our contemporary enterprise. See Stern 1931.) Polyfunctional constructions, too, reveal semantic structure. Haiman, for instance, states that finding the semantic link between apparently disparate syntactic constructional categories "may also provide a method of discovering the identity of the 'atomic predicates' which underlie these categories" (1978:32). Compare Traugott's less dated methodological note that grammatical markers with multiple functions should alert us to the possibility of a higher level relationship between seemingly unrelated phenomena (1985:292-293).

The fact of polysemy has social significance. Categories of meaning, symbolized in polysemous words, are part of how we create and perpetuate understandings of the social world. Polysemous terms in law, political theory, economics, religion, and the non-specialized language of everyday life evince the ways in which we use the relatively known to make sense of the relatively unknown (Schon 1963).

A few examples will bring this home. In legal discourse, the conception of *property* is somewhat different from what it is in plain English (where it is also polysemous). In ordinary English, the material sense of property means

something like 'that which is owned'. In legal discourse its prototype is "real property" (real estate: land, whatever has been built on the land, and natural resources). The term has extended in the past to human beings (to slaves, for example). At present it extends to the realm of ideas (to poems and computer software, for instance) - "intellectual property". Exactly what is taken to be property, belonging to whom, with what responsibilities, and with what possibilities for alienation, etc. is of course all culturally embedded. There are practical consequences where the legal and the 'folk' meanings of property diverge (see Delaney 1989). A slave who is legally categorized as "property" is categorized as a *thing*, an object and not a subject, with consequent denial of the attributes of subjects, such as basic rights.

Metaphorical ways of speaking about historical and current political events are another case of the social significance of polysemy. In metaphor (a type of relation among meanings of polysemous items - see 2.1.2) concepts from one domain are used to understand and talk about another. This transfer of concepts is not inconsequential (Schon 1963; Lakoff & Johnson 1980). The recent Gulf War provides us with a plethora of examples. Consider these:

- "The stakes in this conflict are pretty high."
- "Bush: American soldiers will not fight 'with one hand tied behind their backs' "
- "Referring to U.S. pilots firing on retreating Iraqi

soldiers, one participant called it a 'turkey shoot'."

The application of sports, game, and gambling terminology (to take but one type of example) to State-sponsored systematic killing (i.e., war) frames this conflict in a more palatable way for the American populace. The framing of war in sports or gambling terms carries with it in addition a series of metaphorical entailments (Lakoff & Johnson 1980), such as the objective and quantitative character of outcomes, and the unchangability of the players and of the game. These foster certain kinds of reasoning and elicit certain responses as opposed to others (Lakoff 1990ms). We need metaphor to make sense of something as abstract and complex as international relations. But the metaphors which inform our understanding should not go unnoticed and unexamined. Lakoff argues for the study of metaphorical thought being made an integral part of the technical training of political theorists and other social scientists and policy experts, as well as an ingredient in open public discourse.

Recent research into the metaphorical comprehension of emotions and other psycho-social experience has revealed correlations with symbolic ritual and with broader beliefs and social practices. Beneke's explorations into how American men talk about rape (1982), for instance, reveal a metaphorical structuring of the feelings these men have about women as they talk about rape. Male-female

relationships are conceptualized in terms of concepts from the domains of competition, dominance, force, and insanity (cf. Lakoff 1983ms, 1987). In bringing to consciousness the metaphors underlying our thinking on such a subject, we may be able to examine some of the cultural (conventional) roots of a major social 'ill'. Other recent works connecting social beliefs or practices with the metaphorical structuring of concepts include Basso 1972, 1981, 1990, on moral commentary of the W. Apaches; Laughlin 1986ms, on human growth among the Tzotzil; Quinn 1987, on marriage in America; Keesing 1988ms, on "trajectories of distinctive selfhood" in Kwaio culture (cf. Keesing 1989); and Emanatian 1990ms, on lust in Chagga.

Polysemy then, and perhaps especially metaphorical extension, is a tool, a linguistic resource, for relating one concept - or kind of experience - to another. Conceptual relationships normally do not exist in language alone, but connect with other facets of human life, such as beliefs and action. Studying polysemy can elucidate these connections. Its widespread existence shows that an ahistorical, asocial view of language is inadequate.

#### **1.0.5 Recurrent Polysemy in Grammar**

The phenomenon of **recurrent polysemy** is of special interest to those investigating the interdependence of language, cognition, and culture. When the ways in which the



meanings of a polysemous word are related to each other constitute a pattern which appears elsewhere, relating the meanings of other polysemous words, we have recurrent polysemy. When such a pattern is identified in several unrelated languages, this requires an explanation. To take a trivial example, the use of body part terms in English to refer to parts of features of the landscape (as in foot of the mountain, tonque of a glacier, arm of the sea, eye of the storm, etc.) is common in other languages as well (Svorou 1989). Chp.2 is concerned with explicating recurrent patterns of relatedness among meanings and functions of polysemous items.

The fact of polysemy provides evidence that language users relate some meanings more readily (or closely) than others. The viability and robustness that some semantic groupings show cross-linguistically suggests that certain groupings, or types of extension from basic meanings, are more natural than others (for discussion, see Sweetser 1984, 1990; Nikiforidou 1986ms). Attempts to discover and describe the *motivation* for these recurrent polysemies are a part of recent research on the subject (see Chp.2).

But what does polysemy have to do with grammar? With grammar as traditionally conceived, the answer is, very little. In practice, as I have argued above, the multiple meanings and functions of grammatical markers have had to be dealt with one way or another. But the pervasive view in linguistic theory (even if rarely stated explicitly) takes

grammatical markers to be meaningless obligatory elements, from which it follows that they cannot be polysemous. To take but one example, Langacker (1982b) notes that in a then-recent collection of overviews of a dozen contemporary theories of grammar, not a single author attributes a semantic value to be, by, or the participial inflection in their discussions of the English passive construction. This view is entrenched enough to pervade most practitioners' underlying assumptions about grammar and meaning (cf. Langacker 1982a, 1987a).

The prevailing set-theoretic model of meaning does not allow for analyses which recognize family resemblances, graded category membership, flexible category boundaries, etc. Janda 1986 shows how this implicit theory of categorization has limited traditional and structuralist accounts of Russian verbal prefix semantics to either the positing of an invariant (unitary) meaning for each prefix or the listing of discrete, independent (unrelated) submeanings; in either case, important generalizations were missed. The tenacity of the Exclusionary Fallacy (Langacker 1987a) makes it impossible for theoreticians to admit to their analyses unifying characterizations (generalizations, such as rules or overarching meanings) *and*, at the same time, lists of less motivated cases (particular statements, such as extended senses which must be learned).

The present work aims to escape the limitations of this sort of dichotomous thinking. Once again, we start from a

position of the meaningfulness of grammar, and we recognize multiplicity of meaning in grammatical expression as well as in lexical. Recent research has given us accounts of grammatical phenomena which are revealing precisely through their recognition of the polysemy of grammatical morphemes (see for instance Haiman 1978, 1985b; Brugman 1981/1988, 1988; Lindner 1981, 1982; Langacker 1982a; Janda 1986; Nikiforidou 1986ms; Sweetser 1984, 1986, 1990; Wierzbicka 1988; Fleischman 1989; Maldonado 1987, 1988, 1990). The Case Studies in Part II of this dissertation are intended to contribute to this growing body of work.

#### **1.0.6 Grammaticalization and Meaning**

Grammar comes from somewhere. It is historical; that is, it can be characterized in terms of change and continuity. The fact that language is always changing is evident when the origins of grammatical markers are transparent. We know for instance that the perfective marker in many languages is derived from a verb meaning 'finish' (Heine & Reh 1984; Anderson 1982:239); we can see this clearly in languages where the verbal form is still being used, that is, in languages where 'finish' is polysemous (or "heterosemous" - see below) as a verb and an aspect marker. The fact that 'finish' evolves into a perfective morpheme in unrelated languages cannot be accidental. What is the basis for this frequent development? How, specifically, are the lexical

notion 'finish' and the grammatical notion of perfectivity related? What does it mean to say that such an evolution strikes us as natural? How does an independent word get to be a dependent grammatical form? Does the change take place across the board, or is it restricted at first to certain constructions or contexts?

The evolution of grammatical morphemes (and the grammatical systems they function in) from other grammatical morphemes (and systems) and ultimately from lexical items is called grammaticalization. Grammaticalization research seeks to answer all of the questions outlined above. It asks what is 'natural' about 'finish' verbs evolving into perfectives that would be unnatural about, say, 'continue' verbs becoming perfectives. In cases where a grammatical marker is synchronically multifunctional, we may be able to trace back to the lexical source, and posit a path of semantic extension. That is, we can learn about **semantic change** from synchronic states of grammatical polysemy. On the other hand, each instance of grammaticalization (or any kind of semantic change) presupposes a stage of polysemy, a state of multiple meanings as the change is taking place (Traugott 1982; Gragg 1984; Sweetser 1990). Thus we can learn about polysemy and categorization by studying documented cases of semantic change. Chp.3 of this study examines the development of aspect markers from motion verbs in Chagga. It is intended to contribute to grammaticalization research directed to how meanings, particularly lexical meanings, may

be extended to new grammatical meanings.

### 1.1 Some Further Assumptions About Meaning

To analyze a form that has more than one meaning as polysemous is to claim that those meanings are related. For many lexemes, this seems intuitively clear. The forms of the word leg in the phrases the dog's leg, the leg of the table, and the last leg of the trip are identical, and the relationship among the meanings is fairly transparent. Notice that undertaking the explication of semantic relatedness of identical forms rests on the assumption that there *should be* semantic relatedness. We search "for some evidence of semantic transparency" (Traugott 1985). Haiman makes this explicit in the "**isomorphism principle**": recurrent homonymy indicates recurrent meaning (1985b). We are more aware of invoking this principle where the forms in question fall short of strict identity, or where the meanings are not so obviously related. (This is presumably why Haiman uses the term "recurrent homonymy" rather than "recurrent homophony".)

Forms which are not quite identical where meanings are obviously related can be assumed to be remnants of different stages of a change. This is common in cases of grammaticalization. In the Rama situation discussed by Craig (in press), for instance, a range of similar forms (e.g., ba-, ba, bang, -bang, baakar, bating-) function in a variety

of constructional contexts (as relational preverbs, postpositions, subordinators, aspectual suffixes and prefixes) with a set of meanings which are related, sometimes obviously, sometimes less so ('go', goal/target, purpose, different types of prospective aspect, progressive aspect, 1st pl imperative). This "grammaticalization chain" is so much the norm in grammaticalization (see Brugman 1982ms; "split" in Heine & Reh 1984; Lichtenberk 1989ms; Schaefer 1990; Rubba, to appear; Emanatian, to appear & Chp.3; Hopper's concept of "Divergence", in press) that we would miss interesting cases of polysemy if we insisted on a rigid requirement of strict formal identity.

In fact, extrapolating from the isomorphism principle (that is, assuming iconicity), if we find an item with multiple meanings, where those meanings are non-identical but similar, we should expect a potential for the same non-identity (but similarity) of the forms. Moreover, even if a particular example of a polysemous grammatical morpheme presents us with (complete) phonological identity, we would expect to find, in the constructions it occurs in, *non-identical* distributions and *non-identical* patterns of constraints. (This will be clearer in Chp.4, with the discussion of Chagga ka-, and in Chp.3, in the development of aspectual functions of 'come' and 'go'.) Furthermore, it is sometimes the case that in one language, forms which are only similar express a set of meanings that, in another language, are expressed with identical forms (that is, with

a single form) (see Haiman 1978, 1985b). Much of the present work, therefore, deals with cases of "heterosemy": "where two or more meanings that are historically related (in the sense of deriving from the same ultimate source) are borne by reflexes of the common source that belong in different morphosyntactic categories ... [and] where the reflexes of the common source are not phonologically identical"

(Lichtenberk 1989ms:4); the Rama forms mentioned above provide a good example of this. I will simply include such cases in the broad category of "polysemy", along with polysemy proper (preferring in this case a 'lumping', rather than a 'splitting' strategy - cf. Haiman 1985b; Brugman 1988; Norvig 1988; Brugman & Lakoff 1988). As Brugman argues, narrowing the corpus of data to fit the definition of polysemy which requires the form of interest to belong to a single lexical category (and have a single shape) "would deprive [us] of some interesting semantic shifts across lexical categories" (1981/88:2).

The categorization of several meanings under one form in polysemy evinces an ability on the part of speakers to find some relation of similarity among the meanings. (On the complex notion of similarity, see 2.2 and Chp.7.) The similarity underlying the senses is captured in the single unifying meaning posited by linguists and lexicographers. However, as was mentioned above, it has been shown that it is not necessarily the case that a relation of similarity obtains between *each* sense and every other. That is, it may

well be that meaning A is related to meaning B, and B to C, but A to C only indirectly (see Brugman 1981/88; Janda 1986; Lakoff 1987; Lichtenberk 1989ms). What this means is that sometimes positing a unifying meaning is justified, and other times, not (cf. Sweetser 1986). That is, for some cases we can simply choose which is the better analysis, an "Abstractionist account" (Lakoff & Johnson 1980) (cf. "Monosemy", Ruhl 1989), or a "Polysemy account". (Note that in this usage, which is narrower than the one adopted in the present work, "polysemy" refers to cases of multiple meanings where there *is no* single unifying meaning.)

I believe the debate over which of the two approaches, "polysemy" or "abstractionist", is better *in general* is misdirected, counterproductive, and the result of dichotomous thinking. The issue centers on whether a single form with multiple meanings should be described as having several senses which are related to one another (as, for instance, extended senses are related to a prototype), or as having as single abstract meaning which, together with general pragmatic principles, can subsume the meanings the form has in actual contexts of use. (The question is partly whether to locate the phenomenon of polysemy in semantics or pragmatics - see below. Note that there are "Abstractionist" accounts which locate the ambiguity of the form in semantics and others which locate it in pragmatics - see Horn 1985. "Polysemy" accounts seem squarely 'in semantics'.)

The issue is first and foremost empirical and



methodological. We can begin an analysis of a form that has multiple meanings, where those meanings are potentially related, by searching for a unifying meaning; or, we can begin by trying to isolate and relate its various meanings. The question of what works better can only be answered on a case-by-case basis, that is, empirically (cf. Anderson 1982). In many instances it will not be possible to find a single meaning, general or abstract enough to cover all the submeanings (especially since success often depends on the abilities of the analyst). But even where an overarching meaning can be found, the work does not stop there: there is still the question of *how* the various submeanings are interrelated, and the question of *how* each relates to the general meaning of the category. (This kind of bilateral approach will be illustrated for Chagga ka- in Chp.4.) In practice each approach may lead to reasonable analyses with potentially useful results for linguistic theory. A "polysemy" account may produce general insights into the category structure of morphemes and illustrate the ways in which meanings may be related to one another. An "abstractionist" account emphasizes the basis for the grouping of meanings under a single form and may put some teeth into the notion of similarity. As a general methodological strategy, both should be employed.

Why not in theory as well? The *necessity* of choosing one approach over the other - even for individual examples - is, in my opinion, a product of the "exclusionary fallacy"

(Langacker 1987a). There is no reason (for many cases at least) why several meanings cannot be instances of one abstract meaning *and* related to each other in complex ways at the same time. Many examples show aspects of both; otherwise this issue would not arise. Janda 1986 is a beautiful account of Russian verbal aspectual prefixes that incorporates both approaches (see 2.1.1). Likewise Brugman 1988 posits both a prototype cluster of meanings for have as well as a 'least common denominator' of meaning which holds for all its uses (save the Perfect); cf. Langacker, forthcoming, for a semantic characterization of subjects. I take the position here that a) particular contextual instantiations of a single abstract meaning, and b) networks of senses at varying distances from a prototype (or prototypes), are both kinds of semantic relatedness (neither is homonymy), and I use the term "polysemy" for both. (Most of the arguments against "Abstractionist accounts" in general (see Lakoff & Johnson 1980) appear really to be arguments against many of the background assumptions present in most abstractionist analyses, for example, against classical categories and other aspects of what Lakoff 1987 calls "Objectivist Semantics". But it is possible to propose a single, abstract meaning for a polyseme without carrying along the Objectivist baggage, as the works cited above show.)

A related issue is how many senses a morpheme has. I devote little energy to addressing this question with

respect to particular examples of polysemy. Its answer in any case depends on the purposes at hand; for discussion of the difficulties encountered, see Wittgenstein 1953; Janda 1986. Drawing lines between senses and setting criteria for distinctness are important for the practical tasks of lexicographers. But semantic theory must recognize that distinct senses themselves are an idealization - they fade off into one another. As Brugman shows for English over (1981/88), polysemous lexemes which constitute categories based on prototypes show continuous rather than discrete divergences from those prototypes. (See also the discussion in Chp.3 concerning speaker judgments on physical vs. metaphorical meanings of Chagga -nde- and -che-.) I take linguist's labels for senses of polysemous items, even where the distinctions made are well-supported by morphosyntactic behavior as well as semantic evidence, to be labels for islands of relative conventionalization in a sea of variability. In a more felicitous analogy, Brugman likens the "senses" of over to the focal colors of a color category:

We can distinguish an 'above' over from an 'on the other side' over, just as we can tell orange from green. And given a sentence containing over, we can to a certain extent identify that occurrence of over as an instance of some category of sense, just as we can identify crimson as a kind of red. But if we are given some in-between case, an instance of over corresponding to fuchsia or chartreuse for color, we can identify it as an instance of over which falls somewhere between two 'focal' senses. It then becomes sensible to talk about 'shades' of meaning as we talk about shades of color. When two shades are close enough together (as, for instance, two schemata may differ in only the tiniest detail), it may be possible to distinguish them but the distinction becomes not a distinction that draws category boundaries but one which explicates variation within a category (one, in other words, in which it is not relevant or important to consider category boundaries). (1981/88:106)

Let me illustrate further with for. Suppose, for the sake of discussion, we have reason to distinguish a benefactive sense of for from what we can call a "correspondence" sense. The former is of course familiar in examples like I bought a piece of pie for Daniel. and Translate this for me, will you?. The latter may be illustrated with examples like For fish today, we have sea bass and snapper. and He repeated it, word for word. In these cases, for predicates a correspondence between its object and some other NP in the sentence. Alongside the difference in meaning, a variety of distributional and behavioral properties distinguish these. To mention just a few, examples of benefactive for which have to do with transfer can be roughly paraphrased by the double object construction (I bought Daniel a piece of pie.), while this is not the case for "correspondence" examples. Benefactive for prototypically associates a verbal predicate with a nominal object, while "correspondence" for,

again, associates two noun phrases. The NP object of benefactive for is normally (prototypically) animate, while no such property obtains of the object of "correspondence" for. But the fact that the benefactive and "correspondence" meanings of for can be distinguished does not justify *reifying for* into an *enumerable set of distinct senses*. For one thing, there are attested uses of for which seem to instantiate both of these meanings at once (cf. Herskovits 1982, on other English prepositions; Norvig 1988). In cases where the verbal event which benefits someone is a substitution of some kind, a correspondence is set up between the subject NP and the object of for, as in He sat in for me at the meeting. (Since such examples have the formal properties of benefactive uses, perhaps it would be more accurate to say merely that they show some overlap with the "correspondence" use.) Similarly, the occurrence of certain types of nouns with "correspondence" for produces a benefactive flavor, as in welfare allowance of \$265 per month for a family of 4 (that is, *per* a family of 4 and *for their benefit*). I am not claiming that different meanings of for do not exist, but only that their distinctness is an idealization (cf. Ruhl's description of the meanings of bear). Again, in Brugman's words, "separate senses are really best example members of their sense category, with various other shades falling between the foci" (1981/88:108).

My point is not to deny that meanings can be

distinguished based on some set of criteria, for some specified purpose. I only wish to argue that to speak of senses as if they existed, in the abstract, and might be counted, is an idealization, one which is unnecessary for the purposes of this dissertation.

This study, then, concerns the relationships among multiple meanings of a form or set of related forms. Such relationships are considered of interest regardless of whether they are "semantic" or "pragmatic". I believe the distinction to be untenable in principle as well as in practice, and I do not think anything important for my work hinges on it.

Once a form with more than one meaning has been identified, and those meanings have been hypothesized as related, it is conventional in linguistics to rule out "polysemy" if the multiplicity of meanings can be regarded as "pragmatic". Consider the following statement "concerning the notion of *polysemy*": "A common working principle in lexical semantics is that, to whatever extent possible, the varying *uses* of a word should not be seen as exemplifying its varying *meanings*: rather, the difference should be explained, wherever possible, by some auxiliary accounts of usage, or pragmatics, or facts about the real world, or the reasoning process, or the like." (Fillmore 1986:106). (Cf. Lakoff & Johnson 1980; Herskovits 1982; Horn 1985; Sweetser 1986, 1990; Ruhl 1989) Vast amounts of paper, ink, and energy have been expended arguing whether such-and-such case

is, or is not, "polysemy". I wish to re-direct that effort toward understanding the relationships involved, regardless of where they fall.

To begin with, there do not seem to be any principles which can separate "semantic" phenomena from "pragmatic" phenomena for us (cf. Nunberg 1979). Again, any of the vast knowledge of the world that a speaker has can come into play in the meanings of a linguistic expression. The study of semantics, to even approach the actuality of linguistic meaning, must be encyclopedic in scope. Where, then, does "semantics" leave off and "pragmatics" begin? In Lakoff's words (p.c.), "pragmatics is just the semantics of speaking" (cf. Lakoff 1972, 1974). Pragmatics is concerned with the dimensions of meaning that arise from the speech situation: speech acts, implicature, presupposition, discourse genre, deixis, politeness, style and register, etc. Upon recognition that a) any of these can become more 'fixed' or conventional, and less context-dependent, and b) the parameters of conventionality, or context-dependency, are continuous rather than discrete (cf. Hopper 1987), we have no basis for a firm distinction between "semantic" and "pragmatic" facts (cf. Wierzbicka 1987, 1988). What we do have is variation in the *degree to which context-dependency is salient in interpretation* (see Langacker 1987a on the notion of centrality: 154-161). Highly correlated with the degree of salience of context-dependency (but, I think, orthogonal to it), is variation in the degree to which

properties are idiosyncratically associated with a particular lexical item. In cases of high context-dependency and low idiosyncrasy (in this sense), we are comfortable with the term "pragmatic".

If a principled distinction between "semantics" and "pragmatics" *could* be maintained, it seems to me that such a distinction would be irrelevant for an enterprise like the present one. A study of the principles and relations behind multiplicity of meaning should perhaps take into account how general, conventional, and context-dependent such principles or relations are, but would undermine its own goals if it used positions on these continua as criteria to rule out data which would otherwise be interesting. Focussing on (semantic) "polysemy" exclusively would artificially restrict the empirical base. This would be unwise, given that there are cases of "pragmatic" extension which involve the same types of relatedness or principles of extension as cases of extension which are "semantic" (cf. Sweetser 1990). As Langacker argues, the basis for "[meaning] extension is not limited to core specifications that would be appropriate in a dictionary entry, but may lie at any distance from this core within our encyclopedic knowledge" (1987:157). In Chp.2 I discuss speakers' availing themselves of general metonymic principles which sanction novel (conversational) metonymies. These latter are as much of interest as the more entrenched, lexical, metonymies (such as the names of places for the institutions located in those places: Washington, Moscow,



Hollywood). In 2.1.3.2 I review recent research in "pragmatic strengthening", research which looks at the process of increasing conventionalization of conversational inferences as a new meaning becomes more "semantic". It is clear from that work that there can be no fixed border between the "semantic" and the "pragmatic", and that we stand to profit by looking at the ways in which fleeting or 'fluid' meanings solidify, so to speak (though of course we cannot assume that any novel use *will* 'solidify').

Other research shows that what is called "polysemy", i.e., "semantic" multiplicity of meaning, may have more to do with overall theoretical orientation than with properties of the phenomena at hand. Schiffrin 1987 presents analyses that show that even highly discourse-based meanings have some degree of conventionality. English now, for instance, has discourse functions which arise from the application of its deictic ("semantic") meaning to the various contexts of "multiply-structured discourse". For example, now can emphasize the sequential or cumulative nature of a discourse, mark changes in speaker stance toward what is being said, focus attention on a speaker's shifting from narrative mode to evaluative mode, or mark pivotal moves in an argument. Even speech-based ("pragmatic") meanings such as these exhibit specifiable, conventional patterns of use. (Cf. Sweetser 1989ms for another example of 'the semantics of pragmatics'.) For Schiffrin, metalinguistic uses of now, like the metalinguistic uses of negation (Horn 1985), occur

through "*pragmatic extension*". Fleischman's (1989) analysis of linguistic devices for expressing social and conceptual distance deals with similar application of basic ("semantic") meanings (in this case, of tense forms) to the different layers of structure in (or components of) discourse. Yet for her this phenomenon is metaphor, a kind of "*functional-semantic extension*" [emphasis mine].

The point is that distinctions such as semantic vs. pragmatic are not important if your point of departure is *meaning*. My interest is in how meanings are related, and how meanings are extended, and it is irrelevant for my purposes whether those meanings are categorized as "pragmatic" or "semantic". In my opinion it is no longer fruitful to perpetuate this disagreement: arguments have reached an impasse and the very issue gets in the way. The breakdown of linguistics into the sub-disciplines of semantics and pragmatics is, to my mind, a historical artefact which has outlived its usefulness. (Witness the broad definition of pragmatics given in the International Pragmatics Association's recent ad for their journal: "the social and cognitive science of language and communication".)

In this study, I will arbitrarily use the term "semantic" for all phenomena which saliently involve meaning. However, while I maintain that there is no principled way to fix a boundary between semantics and pragmatics in general (though there *may* be for specific purposes), there are times when we may wish to focus on one or the other end of the continuum

between conventionality and context-dependency. At those times I will loosely use the terms "pragmatic" and "semantic", but it should be kept in mind that this usage does not carry along the usual theoretical baggage.

In sum, what I want to investigate in this study is the existence of forms with multiple meanings, regardless of whether those meanings are conventionalized to the point of being more or less regularly associated with those forms; whether the extended meanings are synchronically predictable or not; and whether a single meaning relating the multiple submeanings can be abstracted by speakers (including linguists), or not. I consider all of these to be of central interest in this work.

## **1.2 Aims & Approach of this Study**

This work is an in-depth study of the nature of grammatical polysemy. It has several aims. Foremost is to gather knowledge about the phenomenon, and assess the state of our understanding of how it works, and of what is behind it. To this end I review linguistic research in this general area, and add three Case Studies of my own. These latter are analyses of three illuminating cases of grammatical polysemy from the Bantu language, Chagga. The second aim (furthered by attainment of the first) is to help put grammatical polysemy on the theoretical map. Its study provides a fairly direct route to the conceptual framework of particular

languages, and ultimately of language in general. The third aim is to offer detailed descriptions of grammatical phenomena in a little-studied language. In this spirit of being useful beyond the theoretical interests of the day, I include an Appendix, consisting of a brief analyzed narrative text from Chagga.

This work does not pretend to be a comprehensive theory of grammatical polysemy. Such a theory would be premature, since fundamental phenomenological research is only now in its incipient stages. This work should be considered more of a contribution to this latter effort.

The central question I address is, what is the character of the semantic relationships among meanings or functions of polysemous grammatical morphemes? Are there general statements we can make about this? Any generalization about grammatical polysemy should shed light on the nature of grammatical meaning in general. Attention is directed to whether semantic relationships in multifunctional grammatical markers are different in kind from the relationships among senses of polysemous lexemes, about which somewhat more is known. This investigation affords us the opportunity to evaluate the descriptive and explanatory adequacy of available theoretical notions (such as "image-schema transformation", or "pragmatic strengthening") for grammatical polysemy. Any project in the "Semantics of Understanding" should concern itself with the issue of motivation. With this in mind, I ask (where possible) to

what extent recurrent polysemies arise from properties of cognition, through our universal experience as humans, and/or out of the character of discourse itself? Do we even have the necessary explanatory concepts?

My approach to the central questions comes from both ends, so to speak. Beginning with what is known about grammatical multifunctionality, I ask if there are parallels in lexical polysemy. Working from the other direction, I review what we know about lexical polysemy, and seek parallels in grammatical polysemy. I hope that this route will lead us to a clearer picture of whether or not the phenomena are different in kind.

The present study has necessary limits. Due to the embryonic state of our overall project, the typology of polysemy relations proposed in Chp.2 must be tentative. In many cases it is impossible to know how common a particular type of grammatical polysemy is cross-linguistically. Describing the semantics of grammatical phenomena for its own sake is a relatively new endeavor. Moreover, there is little consensus beyond what the basic phenomena of study are and their importance to cognitive issues. Finally, with respect to the Chagga Case Studies, the uses to which they might be put should be conditioned by several facts: I am not a native speaker, and my consultants are highly educated, multi-lingual residents of the U.S. These caveats notwithstanding, the analyses I offer of the Chagga cases should bring previously neglected issues to the fore, and to

that extent, advance our understanding of polysemy and grammatical meaning.

### **1.3 Organization of this Work**

This work is structured in three parts. The first, in two chapters (the present one and Chp.2), constitutes the theoretical setting and an overview of the kinds of polysemy discussed in the literature. Chapter 2 of Part I presents a rough typology of polysemy relations, which covers both lexical and grammatical examples. The typology is the result of an examination of numerous published descriptive and theoretical accounts, some of which were not explicitly concerned with grammatical polysemy per se. These accounts are supplemented by my own observations. In many cases it is possible to assimilate instances of grammatical multifunctionality to better-understood lexical polysemy types, providing we move to a higher level of abstraction. The typologizing effort brings out several theoretical issues, which are also briefly considered in this chapter. I review the usefulness of the concepts of relevance, co-existence within a frame, and metaphor at a categorical level.

Part II consists of the Chagga Case Studies. These are the outcome of several years' fieldwork with two native speakers of the KiVunjo dialect, of Central Kilimanjaro, Tanzania. The data includes several informal narrative and

conversational texts and a large body of elicited examples and judgments about them.

Chapter 3 concerns aspectual uses of the Chagga motion verbs 'come' and 'go'. I explore the extent to which the behavior of these two partially grammaticalized aspectuals is attributable to the specific meanings of their lexical sources. This chapter highlights the role of metaphor in leading grammaticalization. Particularly important are alternative conceptualizations of temporal relations; spatial deixis; and perspectival shift. The chapter also illustrates the phenomenon of grammaticalization chains, noted above: a range of phonologically related forms shows degrees of metaphorical extension from the physical motion meaning, as well as degrees of membership in the categories verb and aspectual prefix. The Chagga situation described in this chapter calls for a re-evaluation of the static view of grammatical constructions and for theoretical means of dealing with simultaneous realization of meanings.

Chapter 4 is an attempt to demonstrate the semantic relatedness - that is, the polysemy - of the homophonous Chagga Consecutive and Conditional markers. It describes the two constructions (which share many other properties in addition to construction marker) in detail, and addresses the following problem: the Consecutive marks a clause with the verbal prefix ka- and thereby expresses the contingency of that clause on some previous clause; the contingency is typically manifested as consecutivity in time. The

Conditional construction also carries a ka- prefix, in this case in a clause interpreted as condition for some other clause. Thus the same form, in the same morphological slot, functions both to mark a clause as *condition for* another event, that is, another event is contingent on *it* (in the Conditional use); and to mark a clause which is *contingent on* some other event (in the Consecutive use). The contingency relation holds in different directions in the two constructions. I argue that the two uses of ka- are related, through the image-schematic link known as "Figure-Ground Reversal" (Lindner 1981; Langacker 1982a). This account is plausible, given the semantics of contingency, the bi-directional dependency of conditionals, and the recurrent polysemy of other abstract relationships such as cause and reason. The analysis leads to a reassessment in Chp.6 of the concept of similarity as a general property of the meanings related in cases of polysemy. In addition, the Chagga constructions described in this chapter raise difficulties for current conceptions of polysemy. The Consecutive alone performs a variety of interrelated, coherent, but separable functions which, in the typical case, are simultaneously realized. While such a case is of obvious interest for investigators of semantic relatedness, should it be considered an example of polysemy? Furthermore, while the Consecutive and the Conditional share many formal properties, they do exhibit some differences. The construction *markers* are identical, but at the level of the



whole construction, there is only similarity of form. This falling short of full identity at the constructional level symbolizes the semantic differences detailed in the chapter.

Chapter 5 is an analysis of the Chagga Applicative. The Applicative is a valence-increasing suffix (or construction), usually considered "purely syntactic". In broaching this immensely complicated topic, my goals are quite circumscribed. I focus on the 'argument-adding' function of the Applicative construction, and seek to motivate the set of possible semantic roles of the Applied Object (AO), i.e., the NP argument 'added' to the clause. That is, I analyze the AO as a polysemous category which is radially structured, and I propose an abstract yet substantive *semantic* characterization for the 'valence-increasing' function of the Applicative construction. To say that a suffix makes an NP an argument of the verb, with one of a small set of possible semantic roles, is not to say it is a syntacticized element which has no meaning. Using the Cognitive Grammar analysis of the basic transitive clause (Rice 1987; Tuggy 1988; Langacker, forthcoming) and other such cognitive linguistic notions as construal, participanthood, profiling shift, integration, and metaphor, I establish a semantic characterization for the Applicative suffix and for the AO. A 'good' AO is 'downstream' in the 'energy flow' from the subject, and has the properties of participants in transitive events. The better an AO a noun phrase is by the proposed *semantic* criteria, the more it

will exhibit the morphosyntactic properties of objects. Approaching the Applicative as a construction - integrating verbal meaning with the semantics of the Applicative suffix, the meaning of the NP serving as AO, and other semantic dimensions of the sentence - helps to *motivate* the semantic role hierarchy proposed for the Applicative in other accounts (Alsina & Mchombo, 1988, to appear a, to appear b; Bresnan & Moshi 1988ms, 1990). In addition, I show that any semantic role hierarchy for the AO must be relativized to verb class. This Case Study differs from the others in dealing with a very old grammatical morpheme (Trithart 1983) which has become, in a sense, more grammatical. The Applicative suffix at one time expressed more specific content (though still schematic compared to a lexical item) than it does now (allowing a variety of roles for the argument it 'adds'): here we examine its legacy in one language.

Chapter 6 (Part III) is a summary of the previous chapters and an assessment of their relevance for grammatical polysemy in general. I discuss the notion of similarity as a basis for semantic extension; the simultaneous performance of functions in different domains; and the multiple realization of meanings within the ideational, or propositional, domain. Finally, to the question 'does grammatical polysemy differ qualitatively from lexical polysemy?', I propose a negative answer.

## **CHAPTER 2**

### **Polysemy: The Current State of the Art**

#### **2.0 Introduction and Aims**

Lexical polysemy is not a new discovery. Nor are grammatical morphemes with multiple functions. This is not to say that either has been accorded its proper place in linguistic theory. The present chapter is an attempt to assemble what is known about the kinds of relationships found among meanings of polysemous words or functions of grammatical morphemes and patterns. Its aim is to give a sense of how the different meanings of a single form can be related to one another, living together under one roof, so to speak.

The chapter is neither a literature review nor a new theory of polysemy. As a presentation of polysemy types, it is rather a report on the state of the art, as I see it, arrived at through a culling of examples and our current understandings of them. The chapter is comprised of an illustrated array of types of polysemy relations, with a discussion of salient issues. I provide lexical and grammatical examples of each category, wherever possible. I try to show how cases of grammatical multifunctionality might be assimilable to familiar types of lexical polysemy. The typology proposed is not meant to be etched in stone: it

is one way of viewing complicated material.

The proposed polysemy typology may suffer from the misapprehension of reported examples. Take for instance the Nootka (Wakashan; British Columbia) stem χah(<sup>w</sup>-). According to Sapir & Swadesh 1939, χah(<sup>w</sup>-) means 'at present; soon; recently'. It is easy to propose that these three meanings are related to each other metonymically. A relation of temporal contiguity obtains between the 'recently' part of the time-line construct (whatever that looks like in Nootka) and the 'at present' part of it. But the underlying assumption that the Nootka morpheme has distinct readings and is not simply vague (as English now is) over what are three separate notions in English may, in fact, be a shaky one: that is, χah(<sup>w</sup>-) could simply mean 'now'. It may be dangerous to base an analysis on a mere dictionary entry or on scanty data. Similarly, we might take the following Maasai (E. Nilotic; Kenya, Tanzania) examples to be evidence of metaphorical extension, as do Claudi & Heine (1986):

e-sídái 'ostrich'; and also 'ostrich headdress'  
ol-owwarú 'beast of prey'; and also 'lion headdress'

(Claudi & Heine 1986)

Claudi & Heine present this as an example of the conceptual metaphor, An Animal Is An Object (presumably because concepts in the target domain of objects - headdresses - are mapped to concepts in the source domain of animals -

ostriches, for example; their phrasing would be better reversed: An Object Is An Animal). However, we really have no way of knowing whether these examples might not be better analyzed as image metaphor (the mapping of one conventional image onto another, Lakoff & Turner 1989) or as a case of metonymy. Too much weight should therefore not be placed on any individual example.

This chapter should enable us to assess the utility of the theoretical concepts at our disposal. I take up such issues as the applicability of Traugott's notion of pragmatic strengthening (1988) to lexical as well as grammatical meaning, and the appropriateness of Bréal's (1900) notion of broadening (where a form acquires reference to a more inclusive group of entities) to grammatical as well as lexical items. More generally, do all types of relatedness of meanings exist in both lexical and grammatical polysemes? Are lexical polysemy and grammatical polysemy *qualitatively* different? Do polysemous morphemes of each category exhibit the same types of relationships among senses? For each type of relatedness, what sub-types are there? Are the types in any way constrained? These questions, along with more specific hypotheses, need to be addressed. Dirven 1985 makes the bold and unsubstantiated claim that the type of extension is determined to a large extent by the "features" of the lexeme. Obviously, a tremendous amount of work would need to be done to lend credence to this hypothesis. It is hoped nevertheless that

this investigation at the very least assembles in one place many of the relevant concepts and illustrations.

In the presentation of polysemy relations which follows, then, familiar types (such as metonymy) characterize whole ranges of relationships among meanings, from fairly concrete to quite abstract. If no language is mentioned, a type should be taken as cross-linguistically viable.

Generalizations over classes of lexemes or semantic domains are made where possible, and ideas about motivation for polysemy are included.

## **2.1 Polysemy Relations**

### **2.1.0 Types of Polysemy**

The instances of lexical polysemy and grammatical multifunctionality that I have found fit into one - or more - of a few broad and mostly familiar types. These are image-schema transformation; metaphor; and metonymy, including pragmatic strengthening. Image-schema transformation, or IST, might be considered a sort of semantic variation on a theme. Metaphor and metonymy, though very different, are both kinds of "transfer" (Dirven 1985), the referring to and/or understanding of one thing in terms of another.

Often a polysemous morpheme shows more than one kind of relatedness among its several senses or functions. It is also often the case that even a single pair of senses or

functions is characterizable as related in different ways. This is due to several factors. The polysemy types themselves overlap in some places or may cross-cut each other, particularly at the abstract level at which the meanings or functions of grammatical morphemes are related to one another. In addition, some of the types of polysemy are poorly defined, and have been understood in different ways by different linguists. To complicate matters further, each term may be employed to refer to semantic relationships at different levels of analysis.

I have teased apart three dimensions of relatedness, or levels of analysis. These are listed below. Each type of polysemy mentioned above can refer to any of these dimensions. "Metonymy", for instance, can refer to the way a meaning is linked to another (A); to a process of semantic change, as in pragmatic strengthening (C); or to the motivation for a semantic relationship (B).

- (A) links of one meaning of a form to another meaning of that form (an example is the metonymy linking hand, meaning 'laborer', to hand, the body part)
- (B) basis or motivation for the links (that is, for A) (an example is the inference from temporal priority to causal priority, motivating the extension from temporal since to causal since (Traugott 1988, 1989))
- (C) processes of semantic extension (an example is the strengthening of a conversational inference arising

from the use of a morpheme in context, such that it becomes regularly associated with that morpheme, as occurred in the development of the causal meaning of since)

The problems of characterizing relatedness among meanings or functions of morphemes or constructions are best appreciated through a real example. Recent work on the various meanings of the adverb still leaves us several possible ways of applying the available theoretical concepts to the relations among those meanings. Michaelis (1990ms) extracts a single image schema from both the temporal sense (My brothers still live in Watervliet.) and the adversative sense (Even though we explained it to her a hundred times, Sally still failed the test.). An image schema is a visual (or non-propositional) image which is neutral over the details of particular rich images; see 2.1.1. In this case, the basic schematic image underlying both senses of still is a "sequentially scanned [Langacker 1987] series of effectively identical components". Since it is common to both senses but applies in a different domain for each, we might take the adversative to be a metaphorical extension from temporal still. Michaelis remains agnostic on whether the temporal sense is basic: she argues only that the basis for the two meanings is a shared "superschema" which is neutral over the domain of time and the domain of (outcomes of) states of affairs. Kemmer (1990a) traces the inferences-



in-context which foster extensions from the earlier temporal sense of still. For example, the Middle English use of still with stative verbs like 'abide' and 'dwell' allowed the inference from motionlessness to lack of change or continuance. Once the 'continuance' inference was conventionalized (through pragmatic strengthening - see 2.1.3.2), still could be used with non-statives, such as 'speak', to express constant or continual action.

Thus we would probably want to say that both image-schematic links and "inferential links" are types of relations relevant in the polysemy of still. Without better-defined theoretical concepts, we are groping to some extent.

As mentioned in Chp.1, it needn't be the case that each meaning of a polysemous item be directly related to every other meaning of that item. The network or chain-of-senses-model of polysemes, designed for such cases, is needed for lexical items like over (Brugman 1981/99) and semantic modifiers like Cantonese changed tone (Jurafsky 1988), as well as for grammatical categories with a cross-linguistic basis, such as the perfect (Anderson 1982) and the reflexive (Pederson 1991). In some languages, for example, the reflexive construction is functionally extended to express an inchoative/de-agentive/anti-causative (lit. 'The door opened itself.'). This extended use is hypothesized as related to the prototypical ("semantic") reflexive ('He hit himself.')

only *through the intermediary* auto-causative use ('self-raise', or 'self-run', for example). Such a model,

which relates the auto-causative use of the reflexive to the prototype more directly than it does the inchoative use, has predictive value. It sets up an implicational hierarchy, which predicts that languages which have an inchoative reflexive will also have (or will have had) an auto-causative reflexive (ibid.). The "geometric ... arrangement of related senses itself conveys something of the semantics of a polysemous lexical item" (Brugman 1981/88:ii), or, as in some of these cases, of a multifunctional grammatical category.

### **2.1.1 Image-Schema Transformations**

One pervasive and rather well-exemplified type of polysemy relation is what Lakoff (1982, 1987) calls "image-schema transformations" (or ISTs). This is a label for the link between meanings the difference between which consists of a minor variation on the schematic image underlying them (cf. "minimal shifts", Deane 1988). That is, a "transformational link" connects variants of a schematic image. As I proceed through examples, "images" will be meant more and more abstractly. This is a departure from Lakoff's usage (but cf. Talmy 1978, 1988, 1983, 1985b; Langacker 1987a). In other words, I will extend the concept to cases where the image is schematic enough to characterize a grammatical morpheme or a syntactic pattern. I will exclude in this section cases of ISTs which are believed to result

from the operation of metonymy, and will cover those cases in the section on metonymy.

A lexical example which is nevertheless somewhat grammatical (semantically relational, member of a closed class, and corresponds to grammatical markers in other languages) is the preposition over. One of its many meanings calls up the 1-dimensional schematic image of an object moving on a linear path which "passes through" points above the landmark (as in The bird flew over the yard.). Another of its meanings evokes a 2-dimensional schematic image of a stationary object which covers the same space as the path of the moving object in the sense just mentioned (as in The huge oak threw its shadow over the yard.). These senses are analyzed as image-schema transformations of each other, related by the transform connecting a 1-dimensional, moving entity to a 2-dimensional, stationary entity (Talmy 1978; Brugman 1981/88; Lakoff 1987; Brugman & Lakoff 1988).

This same transformation relates extended uses of the Japanese classifier hon to its prototypical use, for long thin objects. Lakoff 1987 discusses the fact that hon may be applied to hits in baseball, for instance. This extension is apparently multiply motivated by a) the shape of the bat itself, and b) the IST relating long thin objects to trajectories. Langacker notes that this transformation has "innumerable manifestations across languages (cf. The man ran into the woods vs. The road ran into the woods)", and may be presumed universal (1988:387). (Interestingly, in

Japanese the sense which is apparently basic is not the same one as is basic in English: in Japanese the 2-dimensional, stationary entity sense appears to be more basic, with an extension to 1-dimensional, moving entities, while in English it is just the other way around.)

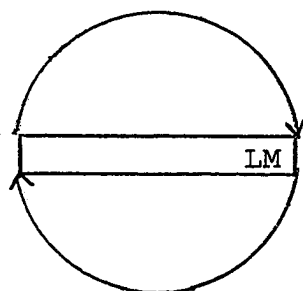
Many of the transformations that have been identified apply across whole sets of morphemes, and often in more than one language. Another transformation relates a path schema to a schema with focus on the endpoint of a path ("endpoint focus" or "terminative path"). This IST relates two of the meanings of over (Sam walked over the hill. (path); Sam lives over the hill. (end of path)), two of the meanings of up (She ambled up the street. (path); She parks her truck up the street. (end of path)), down (We ran down the road. (path); We keep horses down the road. (end of path)), around (They scurried around the corner. (path); They sell lemonade around the corner. (end of path)), across (Harriet sauntered across the street. (path); Harriet stays across the street. (end of path)), etc. (Hawkins 1984; Lakoff 1987; Lakoff & Brugman 1986; Langacker 1988). Cf. also Haugen 1957 for the relevance of endpoint focus ("ultimate orientation") in the use of Icelandic direction terms.

Similarly, we can apply an Image-Schema Transformational analysis to relate a multiplex reading to a mass reading in two other senses of over (They scattered the marbles all over the floor. vs. They spread the butter all over the dough.) (Talmy 1978; Brugman 1981/88; Lindner 1981; Brugman

& Lakoff 1988). The same IST links the meanings of many other morphemes, some fully lexical (compare forest and woods). However, as Langacker (1988) points out, it is not entirely clear what the criteria are for deciding whether these senses are related by transformational links or by "similarity links", that is, by a shared sub-schema (Lakoff 1987; Brugman & Lakoff 1988). In the present example, we could envision a schema which is neutral between, for example, mud and specks of dirt; the mass and multiplex concepts could be seen as related by this shared schema. While this is a valid criticism of much of the work in this area, I do not see why we might not have *both* types of links underlying our ability to use and understand morphemes which are polysemous over multiplex and mass interpretations. The flip back and forth captured by the transformation analysis reflects our apprehension of these images as related enough to easily adjust between them. Extraction of a schema at a coarser level of resolution which dissolves the differences between these images is testimony to their high degree of sharedness.

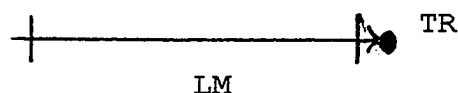
A more grammatical example of an image-schema transformational relationship is provided by Janda (1986) in her discussion of the meanings of several Russian verbal prefixes. Pere-, for example, has two senses which are related by the transformation linking a reflexive interpretation of the landmark and trajector with a non-reflexive interpretation. (A landmark, or LM, is a salient

substructure within a configuration. The trajector, or TR, moves or stands in relation to it. The TR is the Figure within a relational configuration, and the LM is its immediate Ground, although the LM may function as Figure itself in some other relation. In The bike is near the gate., bike is the TR, and gate, the LM. See Langacker 1982a; Lindner 1981.) In perevertyvajas' (pere-'turn'-REFLEX) 'flipping over', the TR is identified with (a part of) the LM, as in Fig.1, while in more basic uses, the LM and TR are distinct, e.g., peredat' sol' (pere-'give') 'pass the salt', as in Fig.2.



Turn Over  
TR = LM  
e.g., perevertyvajas'

Figure 1



Transfer  
TR ≠ LM  
e.g., peredat'

Figure 2

(Janda 1986)

The IST which relates the reflexive to non-reflexive meanings of pere- likewise relates two of the meanings of the Russian prefix ot-, as well as two of the meanings of English over and two of the meanings of out (Brugman & Lakoff 1988; Lindner 1981, 1982).

In an attempt to specify more precisely the ways in which configurations (schemas) may be transformed, Janda

distinguishes two broad types of links between image schemas: "quantity" links and "identity" links. Quantity links "operate on the quantity of dimensions or configurational elements in the configuration" (1986:220). Dimensionality transformations, such as that mentioned above for over, are examples of quantity links. Identity links connect one element of the configuration with another element (or part of another) which it may be identified with. The reflexive transformation, which links the two meanings of pere-, is an example of an identity link. Janda tentatively suggests that the links found for the four verbal prefixes she studies "form a small, circumscribed group [which] appear in various combinations in the semantic description[s]". Together with the prototype, these links work to structure the categories. Future work on ISTs should clarify the extent to which her types are cross-linguistically efficacious. (Clearly however, the types are not intended to include cases of profiling differences or of Abstraction; see below.)

Langacker (1987a) suggests that some examples of ISTs are analyzable as differences in the prominence of substructures within the semantic structure of a morpheme. Linguistic distinctions founded on differences in prominence are due to our general cognitive ability to change the distribution of our attention (cf. Talmy 1978, 1988). The "endpoint focus" transformation for instance is seen as a shift in focus of attention from whole path to endpoint of path. However,

Langacker's category is meant to be even more inclusive. It encompasses cases which involve what we might call profiling differences.

Profiling differences are cases where the meanings of a morpheme can be characterized relative to the same base but where each meaning profiles a different substructure within that base. ("Base" is, approximately, the background of knowledge against which we understand a concept. To profile an entity is to designate it by semantic structure: the linguistic expression gives the profiled entity special prominence as the focal point within a scene. See Langacker 1987a.) A lexical example of this is window (Lakoff 1987; cf. Deane 1988). Window can refer to an opening or to the object that fills that opening (cf. lid < ME lid < OE hlid 'covering, gate, opening'). When window refers to the object, it can pick out the frame or the glass, as the following examples show:

This room is too dark; we're going to have to cut a new window in that wall.

They've just delivered our new windows.

This window has rotted; we're going to have to replace it.

The kids were playing ball and broke a window.

(Lakoff 1987)

Our concept of window is, in Lakoff's terms, an Idealized



Cognitive Model which includes physical correspondences among elements, in this case, opening, frame, and glass. Thus it is natural for a single word to express any of these elements. In Langacker's terms, all of these substructures are parts of the single base of knowledge we have about windows. Each use exemplified above puts a different substructure into profile. Yet another way to analyze this example is as a part-part metonymy (see 2.1.3.3).

The auxiliary construction of the Yuman languages, as described by Langacker (1987ms), provides us with a grammatical example of a profiling difference. (See also the perfect-perfective polysemy, section 2.1.4.) The Yuman auxiliary construction creates a verbal complex consisting of an activity verb and a postural or "behavioral" verb. This construction has three readings which are distinguished according to which verb of the complex is profiled. In one reading the activity verb is profiled ('drink lying down'). In another, the postural configuration of the postural verb is what is profiled ('lie drinking'). Or, both verbs may be in profile, giving a "coordinate" interpretation ('lie and drink'). Certain classes of verbs bias the profiling in one direction or other; for example, locational verbs in second position are very likely to assume auxiliary function, with the activity verb being the one profiled. Although the differences in interpretation of the construction do not really hinge on a minor variation in image, if "image" is understood generally enough, we can include cases like this

in the category of ISTs. That is, profiling different components of a V-V composite can be analyzed as producing different versions of a single syntactic (that is to say, highly schematic) "image".

The relationship between non-agentive and agentive readings of motion verbs offers us a cross-lexical, and in fact, cross-linguistic, example of meanings related via differences in profiling. English verbs such as move, blow, pull, roll, slide, push, ... have intransitive and transitive uses, the latter characterized by the explicit mention of an agent of the overall motion event (Talmy 1985a). This "agentive" use (I pushed him into the snowbank.) profiles the agent (causer), an entity distinct from the entity moved (him). The "non-agentive" use (I pushed through the snowbank to get to the street.) on Talmy's analysis leaves the agent-causer backgrounded as part of the base. In non-agentive uses, the motion may be self-initiated and -perpetuated or not, but the initiator/perpetuator is not explicitly (separately) coded. (I prefer to think of the so-called "non-agentive" use backgrounding the *moved entity* (I pushed (myself) through the snowbank...), while still profiling the agent-causer as subject.) Whether we want to look at this difference in profiling as a property which resides in the lexical items themselves, or rather in their potential for integration with different constructional semantics (see Goldberg 1990ms), we nevertheless see the two resultant readings as

related and recurrent.

The same pair of meanings - that is, in the terms of this discussion, the same pair of schematic images differing only in which parts of the base are profiled - occurs for whole sets of motion verbs in many languages. For example, in Atsugewi (Hokan; California), there are a variety of verbal forms that we could see as exhibiting this same difference in profiling:

-staq̣- 'for a runny, icky material to move/be-located;  
to move runny, icky material'

-lup- 'for a small shiny spherical object to move/be-located;  
to move a small shiny spherical object'

(Talmy 1985a)

Likewise, in Chagga (Bantu; Tanzania):

izo 'to move up; grow up'

izosâ 'to move something up; raise'

iukâ 'to move from; move away from'

iutâ 'to move s.t. from; remove from'

iizâ 'to move through, along, past'

iitsâ 'to move s.t. through, along, past'

(Emanatian 1987ms)

The same difference in profiling that accounts for the verbal polysemy in English and Atsugewi motion verbs links verb forms which are (or were) derivationally related in Chagga.

Another grammatical example, which also holds across classes of morphemes and has some cross-linguistic validity,

is the relationship between relational nouns and prepositions derived from them. Northeastern Neo-Aramaic (Semitic; Iraq) is a case in point (Rubba, to appear). Present-day NE Neo-Aramaic prepositions have their roots in the locative relational nouns of earlier Aramaic. qaaw- 'in', for instance, derives from \*qaaw- 'inside, inner part'. The change which effected the category shift for several modern prepositions is described by Rubba as a profile shift. The locative noun of earlier Aramaic profiled a designated region in space; the interconnections between that region and an entity located in it were not in profile (but figured prominently in the base). The present-day preposition, in contrast, profiles the relationship between the region and the entity located within it; that is, the interconnections themselves are profiled. This is the result of a switch in figure-ground asymmetry. Rubba's paper raises interesting questions about the nature of category shifts in general. How applicable is the profile-shift analysis? (Cf. also Brugman 1982ms.) Further, what specifically motivates the shift in profiling in such cases?

These examples, then, are cases for which the relationship between the meanings or functions of a morpheme boils down to a shared schematic image which for each meaning differs in exactly what is profiled. I will discuss elsewhere further cases of profiling differences which result from metonymic extension.

One sub-class of profiling differences I would identify

as important consists of items which express a relation which may hold in either direction. An example from Langacker 1987ms will illustrate. English sister-in-law expresses a relation which holds between Ego and Ego's Brother's Wife. Sister-in-law is a polysemous term. When Ego is female, sister-in-law can refer either to Ego's Brother's Wife or to Ego's Husband's Sister. When Ego is male, it can refer to Ego's Brother's Wife or to Ego's Wife's Sister. The term applies symmetrically providing Ego is female: in our vocabulary, sister-in-law can profile either end of a single semantic relation. That is, the two people are sister-in-laws of each other. This symmetric use is schematized below (profiled entities shaded):



2 senses of sister-in-law (if Ego = female)

Figure 3

(Note again that the non-profiled participant in the sister-in-law relation can be of either sex, but if Ego is male, the relation is non-symmetric.) In Langacker's terms, such a difference in relational direction may be stated in terms of "Figure-Ground Reversal" (Lindner 1981; Langacker 1982a, 1987a).

Another lexical example of this kind of profiling difference is the verb front. One of its several meanings imposes a front-back orientation on the Figure, which then stands in a spatial relation to the Ground. In an example like The house fronts the street., the house is Figure, and its front is oriented toward the Ground. In a closely related use, to front means 'to be in front of'. In They have a nice lawn fronting the house., the lawn is the Figure. Again front-back orientation is imposed on the house, here the Ground. The lawn stands in a relation to the house's front. This may be considered a profiling of different 'ends' of the same relation, a kind of transformation on the same basic schematic image. Other English examples of this, from non-spatial domains, include rent; lease; and smell.

Figure-Ground Reversal is a useful concept for stating reciprocal lexical relations (outside polysemy), such as that between uncle and nephew. Langacker has suggested that it may capture the difference between active and passive voice (1982a, 1987a). It may prove useful in addition for describing the polysemy relations holding in some rather puzzling cases of grammatical multi-functionality. Traugott (1985) describes stages in the historical development of logical connectives, in which closely related forms are used to mark, for instance, the cause and its result, or the condition and its consequent. Old English forbaem and forbaembe exemplify a close formal relationship between the

expression of cause and the expression of result. Forbaem 'for that' expressed 'therefore', occurring in the result clause; forbaembe 'for that that' came to be used cataphorically, in the cause clause, where it meant 'because'.<sup>1</sup> The Latin sī Conditional is an example of a polysemous connective expressing both condition and consequent. Sī originally meant 'thus', marking the consequent clause. It later came to mark the conditional clause (compare Spanish asi 'thus' and sī 'if') (cf. Bybee 1985). What is striking is that, for some period during which the transition is taking place, sī has *both* meanings 'thus' and 'if', which of course are opposites (inverses) of each other; furthermore, sī occurs for a time in both clauses. (This double marking occurred with forbaem(be) also.) We can perhaps assimilate such cases to Figure-Ground Reversal : a single form (or very similar forms) expresses the same relation (of condition-consequent, for example), regardless of the direction of that relation. We will have occasion to return to this type of profiling difference (IST) in Chp.4 when we try to account for the fact of the Consecutive and Conditional functions of the Chagga verbal prefix ka-.

Another kind of difference in focus of attention (related to profiling differences) which we might think of as falling into the general category of transformations on a schematic

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<sup>1</sup> Thanks to Elizabeth Traugott for discussion.

image is what Langacker (1987) calls "Abstraction". Abstraction names a process which relates meanings connected to each other at different scales or levels of specificity. An auto-hyponym (a hyponym of itself), such as dish, is a lexical example. Dish can refer to particular members of a category (as it apparently did historically: \*disc 'plate, bowl, platter') or to the collection that makes up the category itself (Wash the dishes., Could you put away the dishes?, dishpan, dishcloth, and dishwater may all include glasses, pots and pans, and silverware among the more prototypical plates and bowls). In fact, as Sweetser has pointed out (p.c.), context can pick out different subsets of the members of the category. Moving from the prototype 'outwards' in the category:

'plate or bowl'

I need a dish, not a cup.

'container for serving (incl. glasses)'

The dishes are on the table, but you forgot the silverware.

'all tableware'

He washed the dishes, but he left the pots and pans.

'all table- and kitchen-ware'

He didn't even finish the dishes! He left most of the pots and pans!

Another auto-hyponym, from technical vocabulary, is the term stream. For geomorphologists stream is a cover term for all



types of channelized running water, from the Nile River to the tiniest rivulet. For ordinary speakers stream picks out a medium-sized and prototypical member of the experts' category. We can see these examples as involving the same schematic image at different levels of resolution.

"Abstraction" names a process (dimension of relatedness C) by which we get an auto-hyponymic or taxonomic category structure (Nikiforidou & Sweetser 1989). Auto-hyponyms like dish have senses that are related taxonomically: a salient member of the category comes to stand for the category as a whole. (Presumably the members of the category would be related by "instance links" in the sense of Brugman & Lakoff 1988.) We can think of this as a kind of part-whole metonymy *at the level of the category*. Cases like this, of taxonomic metonymy, result not through metonymic extension as we usually think about it, but through a process of Abstraction. They should be distinguished from more prototypical cases of metonymic extension, such as that involved in the conventionalized sense of dish in examples like That pasta dish was wonderful. Here the (type of) food offered is referred to by the container it is presented in. This is metonymy at the level of the 'real-world' referents of terms. If an adjustment of scale is an image-schematic transformation, then we can further subsume cases of lexical taxonomy resulting from Abstraction under the broad category of ISTs.

It appears that there may be parallels in the domain of

grammar. Bybee & Dahl (1989) discuss the development of a general imperfective from a marker of progressivity. For them, the change is a case of "Generalization": the new meaning, imperfective, has a more general distribution among predicates than does a progressive, as it covers repeated, habitual, continuous, and progressive meanings. Its contexts of use have widened, as its meanings have become less specific to situation-type. For our purposes here, this appears to be a grammatical analog to an auto-hyponym. During the time when the change is in progress, there is polysemy: the form encodes both the general category, imperfectivity, and one of its 'members', progressivity. Little is known about what transpires during such a change, and especially what motivates it, or how to talk about the resulting semantic relationship between the meanings (or functions) (but see 2.1.4). It seems clear, though, that during the process of Generalization (or Abstraction, if what we attend to is category structure) the morpheme somehow suffers a loss of specific properties, as it also acquires specific properties in accordance with its new meaning.

### **2.1.2 Metaphor**

Another familiar and rather well-studied type of polysemy is metaphor. There are different ways of defining it, but most definitions of metaphor involve the concept of a

mapping from one concept (or domain) to another. The term "metaphor", as mentioned in 2.1.0, can refer to the links from one meaning to another (dimension A - it is in this sense that metaphor is a *type of polysemy*); or it can refer to the *basis* for those links (B); or it can refer to the *process of extension* (C) that results in those links.

Metaphor is rather prominent as a linguistic phenomenon. It has been widely explored and theorized about, particularly outside Linguistics. So much has been written about it that I can hardly do it justice here. Linguists themselves have become more interested in metaphor, now that it has been shown to often motivate the semantic changes that are part of the grammaticalization process. (While overstated in the literature, this is undoubtedly true in many cases.) More important, perhaps, is its pervasiveness. Far from being merely a literary device or a feature of creative language use, metaphor underlies much of our everyday talk (including its grammatical structure), and helps to structure our ways of thinking (Schon 1963; Basso 1981; Lakoff & Johnson 1980; Sweetser 1984; Johnson 1987; Quinn 1987). In fact, everyday metaphors provide the basis for literary uses (see for example Lakoff & Turner 1989).

It is not enough simply to recognize that some expression is metaphorical. To completely analyze a metaphor involves specifying the direction of mapping, and the attributes of the source concept and the target concept that are mapped (Basso 1981; Lakoff & Johnson 1980; Geeraerts 1985;

Emanatian 1990a). It involves specifying the level of mapping, that is, specifying how general the metaphor is (Lakoff & Turner 1989). It includes seeking out the motivation for the mapping in the first place. In the present discussion, I will primarily concern myself with illustrating various sorts of metaphorical relationships, especially with respect to grammatical meaning.

A metaphorical analysis does not (to my mind, at least) preclude a shared schema from being extracted for the related senses. Many examples of polysemous words whose senses are metaphorically related are analyzable as having a single overarching meaning. Consider the word leg. Many of the senses of leg are clearly metaphorical extensions from the body part term. These include for example those in You forgot to dust the legs of the coffee table., That old car is on its last legs., We really ought to get some ice for the next leg of the trip., and One leg of the triangle measures 4" and the other measures 3". This is not to say that those senses are not related to that term and to each other - at least in part - through a shared image schema of a leg (its general shape and function, and relation to a whole), at least for some speakers. The shared schema is the basis for the mapping and is invariant. But the shared schema is not the whole meaning of any sense of leg. More importantly perhaps, it is not the case that everything sharing that schema will necessarily be referred to with the word leg.

A far-reaching constraint on the nature of metaphorical mappings has been proposed by Lakoff 1990 (cf. Lakoff & Turner 1989; Turner 1990). The "Invariance Hypothesis" is a statement of the proposal that in the metaphorical transfer from source domain to target domain, image-schematic structure is preserved. Or, in Turner's words (1990), "when we map one image metaphorically onto another, we are constrained not to violate the schematic structure of the target image. For example, a verticality schema in the target cannot have mapped onto it its inverse; a bounded interior in the target cannot have mapped onto it both bits of an interior and bits of an exterior; and so on" (p.251). If this constraint on metaphor is violated (in poetry for example), we take that as significant, and look for what the author might be trying to convey by it. If the Invariance Hypothesis is correct, we should not expect metaphorical extension to result in a *difference* in profiling or in any other image-schema *transformation*. This hypothesis can only be evaluated with further work on the subject (cf. Brugman 1990), and with more general agreement over what counts as a schematic image and what the tolerances are for invariance.

A simple lexical example of metaphor is the predicate burn up, which can apply to buildings or draft cards, as well as to angry people. The latter, metaphorical reading is an instantiation of the general metaphor in American English, Anger Is Heat, or more specifically, Anger Is Fire (Lakoff 1987).

Lexical metaphor proliferates in every language; here are some further examples:

Nootka (Wakashan; British Columbia)

gah-, gahak 'dead; beaten; dead-tired; broken-down (machine); rendered useless (tool)'

(Sapir & Swadesh 1939)

Chagga

kit'áYa 'bridge; bed; lover; person indispensable to you'

Metaphor (the way I am using the term) includes cases of "synesthesia" (but cf. Dirven 1985). If I speak of a warm color, or of how a painter skillfully balances light and dark (Johnson 1987), I have transferred a concept from experience in one sensory domain to another.

Sometimes categorical statements on metaphor are possible. Sweetser (1984, 1990) has analyzed many of the English modals as polysemous over the three domains of "content", epistemology, and the speech act: each modal has meanings in each domain. For instance, may occurs with 'root' meaning in (a), epistemic meaning in (b), and 'speech-act' meaning, presupposing the truth of the first clause, in (c):

(a) You may go now.

(b) They may want to come with us.

(c) There may be a six-pack in the fridge, but we have work to do.

(Sweetser 1984, 1990)

The general idea is that there is schematic similarity between the "force-dynamic" structures (Talmy 1985b) in each domain, of meanings like possibility, obligation, and probability; therefore these meanings are applicable in each of the domains. Thus it is not surprising to find a metaphor relating, say, epistemic obligation and 'real world' ('content'; referential) obligation, and furthermore not surprising to find the metaphor in several different lexical items. Force-dynamic mappings constitute a major type of metaphor cross-linguistically (cf. Bybee 1988; Traugott 1989; cf. also Rhodes 1986 on Ojibwa). Sweetser also establishes that this same set of correlations across the three domains structures the uses of several English conjunctions and the conditional as well. She situates this polysemy (or in some cases, pragmatic ambiguity) in the general Indo-European metaphorical understanding of the mind (thought and language) in terms of the body (the physical).

Lakoff & Johnson (1980) too, have generalized over particular metaphorical relationships. They identify several ontological and orientational metaphors which serve as underpinnings for more specific elaboration. For example, the very general metaphor States Are Containers underlies expressions like They've been in love for as long as anyone can remember., in which the specific state/container is an emotional one (cf. Lakoff 1987; Lakoff & Turner 1989).

Claudi & Heine (1986) take this idea, of very general categorical metaphors underlying specific metaphorical

usages, as a basic organizing principle of Ewe (Kwa; Ghana, Togo, Benin) grammar and the driving force behind grammaticalization. Their evidence for the categorical metaphors is sketchy, their conceptual categories never defined, and their conclusions overblown (see Lewis 1990a; note that Claudi & Heine have themselves retreated from some of the grander claims), but what they attempt to do is interesting. They posit an implicational hierarchy of concepts serving as metaphorical "vehicles" for other concepts. For instance Objects are said to serve as metaphors for Persons; Space serves as metaphor for Qualities. The hierarchy hypothesized for Ewe is assumed to have cross-linguistic and -cultural validity. Since there is good reason to believe there might be a universal basis to metaphorical language and thought, future research might be able to more firmly establish such a hierarchy.

Many grammatical meanings are traceable to lexical morphemes through metaphor. Examples abound (see for instance Traugott 1989; Hopper, in press; Heine & Reh 1984; Claudi & Heine 1986) so I will offer just a few here. One striking case is the grammaticalization of verbs meaning 'return' in Oceanic languages, as discussed by Lichtenberk 1989ms. For instance, in Vangunu, pule 'return' has acquired the meanings "reditive" (codes direction of event back to point of reference, as in putting something back where it belongs, or answering back); repetitive; and reflexive. Reflexive function, illustrated below, is a metaphorical



're-turning' of the verbal action to its agent:

Tinoni vahesi-hesi pule ni-na.

man praise-RED RETURN TRANS-him

'The man praises himself alot.' (Lichtenberk 1989ms)

Lichtenberk shows how these semantic extensions are motivated by different aspects of a situation of returning which allow various metaphorical 'takes' (cf. Sweetser's discussion of English again, 1988). For example, the second part of a return situation (the going or coming back) is directed back to the point of reference; this is the aspect relevant to development of the Reflexive function, together with the general metaphor Activity Is Motion.

In Emai, an Edoid language of Nigeria, we have a case where the formal changes associated with grammaticalization through metaphorical extension have progressed further. In Emai, an already polysemous lexeme, úkpá, has given rise to a polyfunctional derivational prefix, úkp-, with metaphorical meanings derived from each of the senses of úkpá (Schaefer 1990). Úkpá means 'seed' or 'beak'. From úkpá Emai developed úkp-, a prefix with individuating function or isolating function, depending to some extent on the semantic properties of the stem it applies to. For example, when úkp- combines with éto 'hair', it picks out an individual shock ('seed') of hair among the undifferentiated mass. When úkp- is prefixed to éma 'yam', it isolates a prominent projecting

sub-part ('beak') of the object which has differentiated ends. More examples follow.

**individuating:**

úkpéto 'tuft of hair' (éto 'hair'), úkpeken 'grain of sand' (eken 'sand'), úkpata 'iota of truth' (ata 'truth'), úkpewain 'bit of wisdom' (ewain 'wisdom'), ...

**isolating:**

úkpagbedé 'tip of needle' (agbede 'needle'), úkpényen 'nipple' (ényen 'breast'), úkpéma 'yam tail' (éma 'yam'), úkpéhon 'ear lobe' (éhon 'ear'), ...

(Schaefer 1990)

(It should be noted that Schaefer himself vacillates between, on the one hand, analyzing 'seed' and 'beak' as two distinct lexical items in Emai (likewise taking each function of úkp- to be a separate morpheme), and, on the other hand, analyzing them as one polyseme.) While Schaefer goes on to argue convincingly against all transfer being intercategoryal (à la Claudi & Heine 1986; cf. Craig, in press), all I wish to bring out here is the nature of the metaphorical extension. Úkp- looks like a classic case of an image metaphor (Lakoff & Turner 1989): a schematic image associated with a meaning in the source domain (say, 'beak') is mapped onto (superimposed on) a conventional image of an

object (as in agbede 'needle') in the target domain (cf. Invariance Hypothesis, Lakoff 1990; Turner 1990). In this case the metaphorical mapping is from lexeme to derivational affix, crossing morphosyntactic categories in what some researchers have called "heterosemy" rather than polysemy (Lichtenberk 1989ms).

As Nikiforidou & Sweetser (1989) have pointed out, metonymic motivations - which constitute correlations - are characteristic of many metaphorical mappings (a fact which has surely contributed to the appeal of the hypothesis that similarity underlies metaphorical usage (see 2.2)). For instance, such metonymic correlations underlie the extension of motion vocabulary to the fairly abstract progression of events or situations in time. Moving from one place to another entails the passing of time. A moving figure is located at points further along its path at a later time than it is located at points closer to the origin. But the correlation between movement through space and the passing of time is only partial, as Sweetser (1988) has argued. For instance, motion through space can happen at varying speeds, but not so, time. Time passes whether motion takes place or not. She observes that the partial, metonymic, correlation is generalized in metaphor, whose mapping applies in all cases whether correlated in experience or not.

Thus a metaphorical mapping may appear to *result from* a metonymic mapping. Goossens (1989) offers English giggle to illustrate this common situation, which he calls "metaphor

from metonymy". In expressions like 'Oh dear', she giggled, 'I'd quite forgotten.', giggle is licensed by the co-existence of giggling and an associated linguistic activity, and is therefore metonymic. But this expression can be used when the speaker merely utters the sentence *as if* giggling; the use of the word giggle here maps the speaker's manner onto a kind of laughing. In this case giggling is metaphoric: "a domain boundary is crossed". Such expressions "have the hybrid character of being metonyms in some contexts and metaphors derivable from metonyms in others" (Goossens 1989:17). (Note also that giggle may be sound-symbolic, as George Lakoff has observed, p.c.) Dirven's (1985) example of Give me a hand is similar: if a request for manual assistance, it retains some metonymic character, but if addressed to classmates for help in countering a professor's argument, it is clearly metaphorical. That is, in the latter usage, it extends beyond the area of the experiential link. (See also Ewe 'behind', 2.1.3.3.) Likewise, the pervasive Indo-European mind-as-body metaphor is closely based on experiential correlations in this particular domain (Sweetser 1984, 1990).

There are also figurative expressions which consist of both metaphorical and metonymic relationships. Goossens (1989) gives the example of catch someone's ear 'attract someone's sympathetic attention or notice': ear must be conceived as a moving entity given the source domain of catching something, and this is metaphor. Yet in the target

domain, ear refers to the hearer's attention, and is thus metonymic. This sort of phenomenon is Goossens' "metonymy in metaphor".

There are interesting examples of semantic and/or functional extension into new grammatical areas which have not before been viewed as metaphorical, but which might profitably be seen that way. One such possibility involves the extension of a grammatical pattern for expressing motion toward a spatial goal - a thematic template - to contexts of change toward some goal or purpose. One type of serial verb construction in Gɛngbe (= Ewe) (Lewis 1990b) which is used to encode displacements through space can be put to use elsewhere: the thematic template can be superimposed over non-motion activities. In this construction, interpretation is biased toward taking the initial VP as origin and the final VP as teleological goal. For example:

mu    ple-na    avɔ    vá    sa-na    le    Togo  
 1    buy-HAB    cloth    come    sell-HAB    at    T.

'I buy cloth and come sell it in Togo.'

(Lewis 1990b)

The superimposition of the motion verb vá 'come' here gives 'buy cloth' an origin interpretation (or perhaps path); 'sell it in Togo' is taken to be destination or goal. The idea is that none of the individual morphemes is known to be polysemous over motion/change meanings, or

destination/purpose meanings, yet the grammatical pattern itself is extended to this function. As such I think it might be reasonable to think of this as a metaphorical extension of a grammatical construction (cf. also Goldberg 1990ms).

Another case is discussed in Fleischman's work (1989) on the use of temporal distance from a reference point to express other kinds of 'distance' in a variety of target domains. Citing politeness phenomena, contrary-to-fact wishes, hypotheticals, the "hypocoristic past", and other similar displacements, Fleischman has assembled vast evidence that languages use formal devices from the "referential component" metaphorically in the "expressive component" (using Fleischman's terminology, from Halliday & Hasan; cf. also Traugott 1982, 1989). Past tense, for instance, may be employed to express uncertainty, irrealis, or non-actuality. As a striking example, consider the French "hypocoristic past" (from Greek 'affectionate, attenuative'). This is the marked use, in adult discourse with children, of past tense forms to encode present states or actions. An adult may say to a child, literally, 'Didn't he love his mommy!', for something like 'Don't you love your mommy!'. One interpretation of this usage, according to Fleischman, is that the distancing carried out by the past tense expresses speaker attitude toward the discourse itself, the speaker's understanding that the child's discourse world is "real...[but] removed from the adult

present". In her paper Fleischman raises the level of generalization from observations about individual polysemous/polyfunctional morphemes in particular languages, to observations about whole fields of meaning - indeed, domains of linguistic expressiveness, or "components". She sees *the components themselves* being used metaphorically, in the cross-linguistic tendency for the referential to serve as source domain for sundry subjective targets.

Similar are the widespread metaphorical extensions of diminutives. Beyond their basic use in addressing children, diminutive forms are commonly extended to address other people and animals who are in a subordinate and/or intimate relationship with the speaker. Ohala (1982) discusses the sociobiological motivation for this extension. Sapir documents a variety of speech modifications, including the diminutive, which are (were?) used in Nootka to not only address certain categories of people, but also to refer to them in the 3rd person (1915). This constitutes a further extension. Jurafsky (1988) discusses the metalinguistic use of the Cantonese diminutive "changed tone" in hedging assertions. Diminutives, then, work in several "components", or domains, mapping from properties of speech act participants to those of non-speech-act-participants, to properties of the speech itself.

One last type of metaphorical polysemy I would like to mention involves the metaphorical use of a language itself: so-called "metaphorical code-switching" (Gumperz 1982). This

refers to cases of conversational code-switching which are not triggered by shifts of topic, participants, or (other) contextual factors. The switch of code occurs in an unexpected situation, carrying with it certain connotations, which it 'maps' onto that situation. Gumperz offers the example of a Puerto Rican mother in New York calling to her children who are playing in the street:

Ven acá (come here). Ven acá (come here). Come here, you.

(Gumperz 1982)

Unlike more typical cases of code-switching, in which the switch from one language to the other marks a difference in content or a difference in social context, cases like this one exhibit switches which may be seen as metaphorical extensions of the 'we/they code'. In this example, according to native bilingual speakers, the mother switches to English as a warning: she evokes the social distance and authority that the use of English carries in other contexts. The connotations of the normal use of English by Spanish-English bilinguals can be considered a kind of source domain, a whole set of social values accorded to regular (that is, motivated) switches to that code. Metaphorical switches like this one impart the flavor of the source domain to the illocutionary force and quality of the speech act. Obviously this is not metaphor as usually construed, but nevertheless it shares with that concept the transfer of meaning from one domain (the domain of usual referential and social context



of the language switched to) onto another domain (the speech situation in which that switching is unexpected).

We have seen that metaphor can synchronically relate the senses of a polysemous lexical item to one another, typically mapping from a more concrete or experientially basic meaning to one that is less so. Metaphorical extension can create new senses. Metaphor can take us from lexical meaning to grammatical meaning, as part of a complex process of grammaticalization involving distributional generalization (and often category shift) and phonological attrition as well. Grammatical markers themselves may take on new functions in the process of "expansion" (Heine & Reh 1984; Claudi & Heine 1986), and this too may be metaphorically based. Examples abound. The Swahili locative copula -ko is increasingly being used by second language learners to express "temporary or acquired state" (Scotton 1985); there is, of course, a well-documented tendency for languages to extend locative terminology to non-locational states (Traugott 1978). Locative relations like fore and aft have been pressed into service for expressing temporal relations like before and after, for instance. Consider also the genitive in Indo-European. The affixal genitive expanded in Classical Greek and Latin to express the relation between constituent material and thing constituted (Greek amphoréus khrosoû 'cup of gold') through a metaphorical extension of the relation between origin and originating element (Gk país korínthou 'a youth from/of Corinth') (Nikiforidou 1986ms).

The motivating metaphor, Constituent Material Is Origin, is quite productive in several ancient and modern IE languages (Wine is made from/out of grapes.; une pomme de chocolat; etc.). The fact that the expansion of grammatical markers to new grammatical functions parallels the extension of lexical items to new senses is, of course, a reason to treat grammatical and lexical meaning in a unified way.

Before moving on to metonymy, I should note that much recent work on metaphor has explicitly attempted to find motivation for the particular metaphors, that is, to answer the question, why is it that target is mapped to source? Motivations put forth to link the elements of the two domains have included: direct bodily experience; other pan-human experience; coherence with cultural models which have presented members of a society with a ready-made link, including coherent metaphors already in the system; and efficiency of cognitive functioning (Basso 1981, 1990; Brugman & Lakoff 1988; Emanatian 1990ms; Geeraerts 1985; Johnson 1987; Keesing 1988ms; Kövecses 1986; Lakoff 1987; Lakoff & Johnson 1980; Lakoff & Turner 1989; Quinn 1987; Rhodes 1986; Schon 1963; Sweetser 1984, 1990).

### **2.1.3 Metonymy**

#### **2.1.3.0 Introduction**

Metonymic relationships account for a host of polysemous

morphemes and constructions. Indeed, they also constitute a variety of cross-lexical and derivational relations (see Apresjan 1974; Norrick 1981; Deane 1988; and for case studies, Nikiforidou 1984ms; Dressler 1986; Schaefer 1990; Lichtenberk 1989ms). In metonymy a term is used to refer to something it is somehow contiguous with, as a part is materially and spatially contiguous with the whole, for example. Classic types of metonymy break down into two broad categories, each of which will be illustrated below: part-part and part-whole (synecdoche).

Metonymy involves the mapping of one element (concept) to another element within a frame or domain, a conceptual structure containing both concepts (Lakoff 1982, 1987; Fauconnier 1985). The source concept "is either easier to understand, easier to process or to recognize, or more immediately useful for the given purpose in the given context" than is the target concept (Nikiforidou 1984ms). The expression denoting the source is then used metonymically to refer to the target. It is either a part of the target, or the target is a part of it, as in part-whole metonymy, or synecdoche; or, it is otherwise closely associated with it conceptually, as in part-part metonymy. Part-part metonymy is comprised of cases for which there is "contiguity in socio-physical or -cultural experience" (Traugott 1988; Traugott & König, in press). (Note that I have subsumed Traugott's "contiguity in the utterance" subtype (He bought a Picasso, said to be from He bought a

painting by Picasso.; cf. Lipka 1985) under "contiguity in socio-physical or -cultural experience".)

Nikiforidou has suggested that *ideally*, a choice of source concept will uniquely determine the target within the relevant frame (1984ms). Certainly this is at least frequently the case. In the well-known example, The ham sandwich left without paying his bill. (Nunberg 1979), presumably the designation ham sandwich uniquely identifies a particular customer within the diner scene. Nikiforidou notes that some part-part metonymies are symmetric. For instance, the Container for Content metonymy (Go ahead, have a cup. - see 2.1.3.3) is a symmetric relationship: there are also cases where the Content may refer to the Container, as in Hand me that beer. or The speech was only a small paragraph on the last page. If metonymy is defined in terms of contiguity, why shouldn't all metonymies be symmetric? Nikiforidou suggests that symmetry is possible in those cases where the unique determination within a frame works in either direction (in this case Content will identify Container, and vice versa); cf. Deane 1988.

The term metonymy may refer to any of the dimensions of relatedness that I identified in 2.1.0: it may label a link from one meaning of a form to another (A); it may name the motivation for such a link between meanings, as when a metonymic relationship underlies a metaphor (B) (see "metaphor from metonymy", 2.1.2); or it may refer to a process of semantic extension (C).

Very little research has been done on the nature of the links between members of the category of meanings that a morpheme constitutes, but Lakoff's work is suggestive. Lakoff discusses the "metonymic models" behind metonymic usage. A metonymic model is a model of how source and target concepts are related within some domain. Lakoff applies the term to a specific kind of category structure, where a "sub-category ... is used for some purpose to stand for the category as a whole (1987: 84), as is the case with reasoning via social stereotypes. Take the complex concept mother as applied to an adoptive parent. To quote Langacker in his review of Lakoff 1987: "In its prototypical sense, mother combines a number of sub-models in its ICM [Idealized Cognitive Model]: birth, nurturance, legal parent, source of genetic material, etc. When, by a [part-whole] metonymic mapping, the term is used for a person playing only some of these roles, its value deviates from the prototype" (1988: 386). Although he speaks of the "Idealized Cognitive Model" itself as metonymic, Lakoff might be taken as implicitly positing metonymic links between category members. The various meanings of the concept MOTHER in contemporary America together constitute a radial category, each fanning out from the central prototype. It might be, however, that the radial structure is most appropriate for concepts which have a clear stereotype. We have at present no idea whether concepts extended via metonymy are generally modellable with radial structures, nor what the links are (à la Brugman &

Lakoff 1988) among members.

We might also consider certain cases of lexical hyponymy to exhibit a metonymic category structure. If, for instance, as suggested in 2.1.1, the broader meaning of dish arose through metonymic association with the earlier, narrower sense, the link between the subcategory and the category as a whole could be called metonymic. Note again that this is an extension of the term as it is generally understood. Cow is an auto-hyponymic word. The set of female cows (= cows) is a subset of the whole category of cows (cows in general). But the set of female cows is not a metonym for the set of all sorts of cows in the same way that 'hand' is for 'arm' in languages where the term for the former extends to cover the latter. Lexical hyponymy cases like cow are *metonymic in category structure*. A female cow is not a part of some general *physical entity* 'cow', but rather part of a general *cow category*.

Nikiforidou & Sweetser (1989) distinguish two types of part-whole metonymy: they adopt the terms "taxonomy" for the cow type of case and "partonomy" for the hand type of case. Norrick, on the other hand, is a splitter (cf. Lyons 1977). For him, the hand sort of case is a straightforward example of part-whole metonymy, whereby the sign 'hand' can be an index for the content, 'arm', by a general indexical principle. But the cow case is an instance of an *iconic* principle, which states that a member of a class is iconically motivated by the set of members of that class. In

Norrick's words,

claiming that the relation of the core to the apple parallels that of a particular Grime's Golden to the class of apples represents a category mistake. The part-whole relation is founded upon the objective contiguity of parts within their wholes, whereas the member-class relation rests upon the definitions of class and member as well as conventions of classification based upon various taxonomies. Generalizing the notion of apple, one arrives at fruit; generalizing the notion of apple core, one arrives at fruit cores and pits, not at whole apples. (1981:54)

In my opinion, there is nothing to be lost by taking these *both* to be kinds of part-whole metonymy, providing that we note that the contiguity motivating the cow (/taxonomic/indexical) cases is a contiguity *within the category frame*.

I suggested in 2.1.1 that cases of lexical taxonomic polysemy like cow and dish are the result of the process of Abstraction (Langacker 1987a). It appears that it is possible to have a metonymic category structure for morphemes whose meanings are, strictly speaking, not metonymically linked. Future research needs to ask, for all kinds of polysemy: Are there particular category structures that go with dimensions A, B, and C? That is, do particular processes resulting in particular kinds of links between senses typically produce particular kinds of categories? This question will not be answered here.

Metonymy is assumed or argued by many linguists to be a pragmatic phenomenon, while others take it to be semantic. It seems to me that we witness the same continuum of

conventionalization with cases of metonymy that we have come to expect of any aspect of language. Certainly there are instances of well-established, in fact lexicalized, metonymic relationships, such as the one exemplified by Mississippi, where the state name would presumably remain the same if the name of the river changed, and vice versa (Ruhl 1989). Not lexicalized but still conventional is the metonymy of 'name of capital city for government of country it is capital of' (Hanoi, Washington). As Ruhl notes, this is part of a much more general phenomenon, associating a distinctive event or situation with the name of the location where it took place (Hiroshima, Kent State, Wall Street) (cf. Apresjan 1974; Lakoff & Johnson 1980; Norrick 1981). Of course, what constitutes a distinctive event/situation is pragmatically governed. It may even depend on knowledge restricted to the speech act participants, as when my fellow traveller and I refer in an ad hoc way to the whole of last summer's backpacking trip as The Lost Coast (The Lost Coast was a good time.; Let's do something a bit easier than The Lost Coast.; etc.). (My favorite example of this is from a motel-diner in Nevada where I happened to be staying. For the price of the room you also had the option of a 'free' breakfast of bacon, eggs, toast, and coffee in the diner. We ordered our eggs 'over hard', which the waitress then conveyed to the cook by shouting, "Two motels, over hard". The metonymy of motels for 'eggs' (or the application of the over hard modifier to the 'eggs' part of the motel breakfast



deal) is highly particularized to the details of the frame, but it is part of the general and systematic use of a place to uniquely identify another element within a frame.) We would expect to find, as with any kind of extension of meaning, degrees of "entrenchment" (achievement of unit status) (Langacker 1987a). Rather than artificially delimiting my investigation to those extensions with a high degree of automatization, I wish to cover the phenomenon of extension itself, regardless of the staying-power of its results (an issue which I take to be orthogonal).

Although I think that metonymy and metaphor are clearly distinct in theory, I should mention the difficulty sometimes encountered in practice in discerning whether a particular case is best analyzed as one or the other (see 2.1.2). If the contiguity underlying a metonymy is no longer obvious, we may see the resulting semantic relationship (between senses/uses) as metaphorical (recall giggle). Sometimes a kind of abstract contiguity motivates a metaphorical mapping. I will return to this in the discussion of pragmatic strengthening, 2.1.3.2.

Beyond the fundamental part-whole vs. part-part distinction, there are several rather recent extensions of the concept of metonymy in linguistic theory. As with the other kinds of polysemy relations, categorical statements may be made, for classes of lexical items and for types of constructions, within a language or across languages; this will be illustrated with work on pragmatic strengthening.

Special attention will be paid in this section to applications of the concept of metonymy to cases outside the usual ones of physical or cultural ("real world") association. Traugott's work has extended the notion of contiguity to "cognitive and covert contexts" (Traugott 1988; 1989; Traugott & König, in press), that is, to metonymy at a *conceptual* level. Likewise, Lakoff discusses metonymies as "natural categor[ies] of senses" which are possible via correspondences among elements within an Idealized Cognitive Model (1987). (Cf. Nikiforidou 1984ms.)

Perhaps it needs to be stated explicitly that it is contiguity in experience (physical or otherwise) which motivates a metonymic relationship. Part of the challenge of extending the concept of metonymy to such abstract phenomena as those discussed in these sections is the discovery and explication of this motivating contiguity. Norrick's approach (1981) to metonymy (and metaphor, for that matter) goes a long way toward making the cognitive basis of the perceived association explicit. For every type of metonymy that is recurrent in language (that is, for metonymic cases of "regular polysemy"), Norrick grounds the association between target and source in a regular semiotic principle. For example, the common metonymic relation between cause and effect is rooted in an Indexical Principle which states that if x and y are conceptualized as a cause and its effect, then "a sign expression x is indexically motivated by its content y" (p.42), that is, then x can refer to y (and vice

versa, in this case). The principle is indexical because the association of cause and effect is a particular instance of "indices deriv[ing] their motivation from contiguity with their objects" (p.40): cause and effect are naturally (though not always) contiguous. The principle is broadly semiotic, rather than merely linguistic, to capture the fact that its instantiation goes beyond language. "We regularly infer both causes from effects and effects from causes. Dark clouds just as frequently serve as a sign of rain as do wet streets in everyday situations" (p.41) (cf. Sweetser 1984, 1990). In addition to the usual linguistic examples, Norrick adduces non-linguistic evidence for each of his semiotic principles. In the case of cause and effect, he points out, for instance, that in a court of law bruises will be taken as evidence of physical assault, possession of an object as evidence that the object was obtained, smoke as evidence of fire, etc.

### 2.1.3.1 Part-Whole Metonymy

Part-whole metonymy, then, refers to the use of the name for a part of an entity to refer to that entire entity, as in the 'parade examples' of redbreast for 'robin' or threads for 'clothes'. Or it can refer to whole-part relations, where the name of the whole is used to refer to a part, as body does in She's got a great body. The word body here clearly does not designate the entire organism including

toes, soft palate, and brain. This use is an example of the Active Zone phenomenon; it is discussed in 2.1.3.3.

Part-whole relations are apparently more common. Wilkins (1981, as cited in Nikiforidou & Sweetser 1989) suggests that one reason for this may be that a part implies a whole in a way that a whole does not imply parts. Part-whole metonymy may be illustrated with Chagga body-part terms: kuoko can refer to the whole 'arm' or just its part, 'hand'; likewise kuZende means 'leg' or 'foot'. Alongside these rather well-entrenched examples, we might consider English 'table' in utterances like In the summer they have their tables on the sidewalk. Tables in this cafe frame refers, of course, to tables and chairs. The part of the table-chair combination which is most functional within the food&beverage-consumption frame is used to refer to the whole (the table and its complement of chairs). Of course, although we do use chairs without tables in this frame, we rarely use tables without chairs. While this is not a reading of table that springs to mind out of context, neither is it some fly-by-night one-time extension (compare In the summer they have their chairs on the sidewalk., which does not as readily include tables, at least for me; cf. Can I have a table/#chair in the corner, please?).

Beyond lexical polysemy, part-whole metonymy is extremely common at the phrasal level. Norrick points out that, especially in euphemisms, we commonly "designate only a part of an action, thus leaving the construal of the whole to the

relevant indexical principle and the hearer's imagination" (p.53). He offers go to the bathroom and go to bed with someone (and also bring home the bacon and put meat on the table; note though that these are then used metaphorically).

Discourse conventions can also be metonymic, or rather, in a sense, they need to be, since not everything can be mentioned. Rhodes 1977 discusses the Ojibwa (Algonkian; central Canada) convention of evoking an entire trip by reference to only the embarkation point (cf. Lakoff 1987:78-79). Pawley's (1987) comparison of Kalam (E. New Guinea Highlands stock) and English conventions for reporting events and sequences of events highlights English part-whole metonymic strategies. English typically focusses on either the first event of a sequence (I went to the supermarket. can stand for a whole string of events); or on a salient component of a sequence (John took the sour milk back to the market today., again, to refer to the whole sequence of setting out, going, shopping, paying, returning, etc. In contrast, Kalam narrative conventions require specification of (more of) the component parts of episodic activities. Pawley hypothesizes a rough Kalam template for reporting event sequences which involve deliberate action: (1) movement to scene of first action; (2) action; (3) movement from scene of first action to present or final scene; (4) actions at present or final stage (p.346).

It is not entirely clear whether instances of grammatical multifunctionality lend themselves to part-whole metonymic

analysis. I would propose that there are certain cases of Generalization (Bybee 1985) for which part-whole metonymy might be appropriate. These are cases in which a grammatical marker expands its meaning to apply in more contexts, including those in which the earlier meaning was appropriate. An example is the development of resultative markers into general perfects (Bybee & Dahl 1989). Since the functions of a perfect marker *include* those of a resultative (see 2.1.4), we could say the resultative stands in a part-whole relationship to the perfect. (Note that because neither marker has referential semantics, we talk about the relation between the functions each has or the categories it encodes. In 2.1.1 I discuss such cases of Abstraction as being possibly assimilable to the class of image-schema transformations. Specifying the implications of each analysis is a task for the future.) If it turns out that there is a dearth of grammatical examples of part-whole metonymy, this is a positive finding. One explanation for it might be that abstract grammatical kinds of meanings are not easily construable in terms of parts and wholes.

#### **2.1.3.2 Pragmatic Strengthening**

At a certain level of analysis, polysemous morphemes whose extended meanings arise through pragmatic strengthening are cases of part-whole metonymy (Traugott & König, in press). Pragmatic strengthening is the process by

which a meaning only covert in the conventional context(s) of use of a morpheme, only inferrable in that context, comes to be indexed explicitly by the newly developing meaning (Traugott 1988). The new sense is metonymic in that it points to something conventionally associated with the use of the original term, a part of the whole of its use.

In this sense pragmatic strengthening is a process which depends on a part-whole relation. But it is **not** the case that the relation between the new meaning and the old is metonymic. This will become clearer with a concrete example.

English temporal markers like since, consequently, and now will serve to illustrate. Since (OE \*sibban) meaning 'from the time that' came to mean 'because' through strengthening of the inference that there is a causal connection paralleling the temporal one (Traugott 1985, 1988, 1989). In sentences like Since Susan left him, John has been very miserable., the temporal priority assigned by since to the event of Susan's leaving allows, but does not require, a causal reading. The causal inference is strengthened when one clause refers to a state or to a non-past event. A sentence like Since you're so angry, there's no point in talking to you. has only the causal reading for since (Traugott & König, in press). The process of extension (C) consists of first, a conversational inference, and second, pragmatic strengthening of that inference. The new meaning, the now-conventional inference, is related metonymically to the whole context of use of the morpheme;

this part-whole metonymy may be the *basis* for the link between the meanings.

But the meanings of since are not themselves related to each other metonymically. Causal since is not a metonym of temporal since. For one thing, the correspondences between the temporal and causal domains are more numerous than the usual one-to-one metonymic mapping; clearly also, this mapping is across domains. Pragmatic strengthening is something that happens to an *inference*, not a morpheme. It is *how* the meaning of a morpheme changes. What, then, is the link between the meanings (dimension A)? In section 2.1.1 I referred to the relations between senses of still as "inferential links", capturing the fact that it is an inference made in context that connects one meaning to another. This term might also do for the polysemy relations among senses of morphemes that have undergone pragmatic strengthening, but which are not synchronically cases of metaphor (see below).

Of course, it needn't be the case that all cases of extension by pragmatic strengthening are *synchronically* related metonymically. The classic example is bead (see Nikiforidou & Sweetser 1989, citing Stern 1931). Bead is a part-part metonymic extension historically, from 'prayer' in OE, to 'prayer bead' (rosary bead) in ME, to '(any kind of) bead' in Modern English (though some older speakers still use the plural beads to refer to the rosary). Through complete loss of the earlier meanings, today bead for most



speakers shows no metonymic polysemy of this sort. Morphemes once polysemous can become simply monosemous, through continued change of one or more of the meanings.

Nevertheless, it is quite frequently the case that the semantic relationships behind diachronic extension continue to motivate the synchronic network of meanings a morpheme has.

It should be noted that some of the semantic changes that are part of grammaticalization have been attributed to the process of Generalization (Bybee 1985; Bybee & Pagliuca 1985). This observation holds for since. Once since acquired its 'because' meaning, or rather, as it acquired that meaning, it began to occur also with predicates in the present tense. Thus its distribution generalized: it was no longer restricted to predicates in the past. While identifying the nature of distributional changes in grammaticalization, the label "Generalization" contributes virtually nothing to our understanding of the processes of semantic change or of the nature of the links from basic to extended meanings.

A more specific answer to the question of what relates the meanings of morphemes like since is metaphor. That is, pragmatic strengthening of an inference sometimes results in multiple meanings which are themselves amenable to a metaphoric analysis. We might state the synchronic relationship between causal and temporal since as the metaphor, Causal Priority Is Temporal Priority. Sweetser

(1984, 1990) discusses the development of intellection meanings for verbs of perception in Indo-European languages (hear, see) in this vein.

Consider the English modal adverbs, whose development, according to Traugott 1989, involves pragmatic strengthening. Speaker-oriented modal adverbs, such as probably, evidently, apparently, have evolved epistemic (sentential) adverb meanings from earlier manner meanings. Apparently, for example, originally meant 'openly, in appearance', a manner sense it subsequently lost. From there it became a sentential adverb with a weak epistemic meaning, 'to all appearances'. It is certainly possible to view this development as of a piece with other cases of metaphorical extension from the sociophysical world to the domain of belief and reason (cf. Sweetser 1984, 1990; Talmy 1985b).

Either approach to these phenomena, through metaphor or through pragmatic strengthening, has to provide an explicit statement of the motivation (or basis) for the inference or mapping, whichever the case may be. In the case of metaphor, we speak of the experiential correlation between aspects of the two domains; for since this is presumably the understanding we have that causing events typically temporally precede their results. On a pragmatic strengthening account, the same correlation would presumably be stated as an implication (something like: If prior, then causal?) Often the correlation/inference has the status of a 'folk belief' or "stereotypic inference" (Traugott's &

König's term) which is 'alive' in the culture. With temporals like since and now, for instance, Traugott & König argue that the causal inference was available in context before it was strengthened to a conventional part of the meaning (OE nu 'now' was both a temporal adverb and a causal connective), and that the inference is in fact still available conversationally (in examples like Now that he's gone, I can't sleep.).

Yet since also has uses which express a causal relation but do not involve the notion of temporal priority, such as Since electrons are flowing through the filament, the bulb is giving off light.<sup>2</sup> Either approach to the polysemy of words like since should be able to account for cases where the meanings are *not* related inferentially, or correlated experientially. That is, an account of polysemous items like since should encompass their usage at a full level of generalization to situations without the motivating inferential structure. A synchronic statement of the metaphor, of course, expresses the understanding of causal priority in terms of temporal priority, period, whether or not the motivating experience is 'there' in a particular example (recall discussion of partial correlation in 2.1.2, above). An analysis of the causal sense of since as resulting from pragmatic strengthening accounts for how the word can have causal meaning in contexts other than those in

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<sup>2</sup> Thanks to George Lakoff for this observation.

which the inference arose conversationally precisely by positing strengthening: the implicated meaning has become a conventional sense of that morpheme. That is, the non-temporal use of since and other cases like it are presented as the natural outcome of a process of change from pragmatic implicature to semantic meaning. But the pragmatic strengthening analysis, as best I can tell, has nothing to say about the synchronic relationship between the extensions of since beyond the correlated environment and its other meanings.

It has been suggested that we need both approaches to polysemy. Traugott makes a case for the recognition of metonymy and metaphor (itself a kind of inferencing for her) as equally important forces in semantic change; see also Nikiforidou & Sweetser 1989. It is abundantly clear that we need metaphor as an explanatory concept in semantic change. Two examples from Traugott's own work (1982) will illustrate. The English temporal preposition till developed from a spatial adverb and preposition meaning 'toward'. We can easily envision a schematic image, of inclination toward a landmark, being mapped from the domain of objects in space to the domain of events in time. In other words, we can relate these meanings metaphorically. It is hard to imagine what sort of inference would take us from spatial inclination to temporal 'inclination'.

Another example of semantic change which we need metaphor for is the development of the 'completion' or 'bounded'

sense of up (as in She ate up the last piece of kuchen.). As is discussed in Lakoff & Johnson (1980), English makes widespread use of the orientational metaphor More Is Up. Lindner (1981, 1982) presents convincing arguments to the effect that a vertical scale may be mapped to a scale of completion of an activity or other event. Again, it is difficult to see how inferencing can relate the 'completion' sense of up to its other meanings. Of course, we also need metaphor independently, for polysemy cases that do not involve semantic change.

It is also clear that we need pragmatic strengthening in order to understand semantic change. The later development of strong epistemic meanings from earlier manner adverbs resists a metaphorical analysis (like that suggested above for the relationship of weakly epistemic apparently 'to all appearances' to its manner meaning 'openly, in appearance'). By the 19th century, apparently had developed a strongly epistemic meaning, 'I think, but do not vouch for it'. Traugott argues that this extension can only be seen as resulting from further pragmatic strengthening: a listener may infer that appearances would not be commented on unless this was somehow informative, the implication being that things may not be what they seem.

Similarly, the development of words meaning 'rapidly' into words meaning 'immediately' is well-described as the strengthening of an inference in context. In sentences like He wrote quickly., quickly allows an inference something

like 'If an action is rapid, it will have immediate results' (Nikiforidou & Sweetser 1989, working from Stern 1931). In the context of telic predicates (as, for instance, with rode up to in When the king saw him, he quickly rode up to him.), "the pragmatic implicature of immediate results [is made] a very firm concomitant of the semantics of rapidity" (p.16); that is, in such cases quickly takes on an 'immediately' reading. The implicature becomes conventionally associated with the adverb, which now in certain contexts (as in examples like He quickly arrived at her side.) can only be construed as meaning 'immediately'. (I see no motivation for a metaphor that would relate the two meanings, such as Immediate Is Rapid.)

There are several other examples of semantic change which seem amenable to a pragmatic strengthening account and resistant to a metaphorical analysis. The development of 'future' meaning from desiderative verbs is one such case (Bybee, Pagliuca & Perkins 1988ms); the speech act use of recognize, described below, another; and the evolution of preference markers from temporal comparatives (sooner; rather), discussed below, yet another.

A particularly striking case is one of the sources hypothesized for grammaticalized switch-reference systems: markers or constructions of sequentiality and similarity. Haiman (1983b) notes that in some switch-reference languages which do not mark same-subject (SS) constructions, but which do mark different-subject (DS) constructions, the marker

(which functions to indicate a change of reference) is either a conjunction or a nominalizer. In the case of the former, for example, we might ask, what motivates the polysemy of a single form for conjunction and different-subject? Guanano, a Tucanoan (Colombia) language which has not (yet) grammaticalized its switch-reference system, provides a clue (Longacre 1983). In Guanano, the "implicit chain" construction, which consists of an unmarked chain of clauses, has as one of its readings the interpretation that the subjects of each clause are coreferent. In fact this SS reading is the primary interpretation of the construction: according to Longacre, it is becoming its standard interpretation, although there can still be explicit marking for other than SS. Longacre suggests that Guanano speakers assume "that we can normally expect that actions in succession are performed by the same person, while actions that overlap are performed by different people" (p.198). This is essentially a statement of the conversational inference which arises in this constructional context. In Guanano, then, the lack of conjunction iconically marks sequentiality, which gives rise to the inference of co-referentiality. We might extrapolate from this and imagine that in at least some of the languages that have grammaticalized SS or DS markers from sequence or simultaneity markers, this development was from sequence marker to SS marker, and/or from simultaneity marker to DS marker (that this *needn't* be the case is clear from Carlson

1987); and furthermore, that in these languages the development took place via the strengthening of the inference that is still conversationally 'alive' in Guanano today.<sup>3</sup> (It is difficult to imagine a metaphor that would relate coreference/disjoint-reference of subjects to sequentiality/non-sequentiality of events (or clauses).)

Metaphor and pragmatic strengthening (metonymy), then, are both necessary analytical concepts in the elucidation of polysemy and semantic change. In recent work, Traugott & König (in press) hypothesize that different kinds of grammatical functions are grammaticalized through different kinds of inferencing processes. Tense-aspect and case markers, for instance, arise primarily through metaphorical extension, while causal, concessive, and preference connectives are grammaticalized primarily through metonymic transfer (pragmatic strengthening). From the vantage point of this dissertation, their claim is an exciting one, a grammatical analogue to the observation that certain kinds of polysemies recur in certain semantically-defined classes of morphemes. For example, there is a recurrent relationship between truth and intensification meanings in the class of English "truth-operators", including true, real, just, and right (Brugman 1984, 1984ms). Specifically, these operators share the imposition of two related meanings on their operands: (a) they can impose precise reference, often

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<sup>3</sup> Thanks to Suzanne Fleischman for bringing this example to my attention.



identity; and (b) they can function metalinguistically, by imposing strict appropriateness, and thus intensification. (See also the truth-functional vs. metalinguistic interpretations of negations, disjunctions, conditions, and echo questions - Horn 1985; Sweetser 1984, 1990; Talmy 1985b; cf. Lakoff & Brugman 1986, on prepositions.) If future work reveals more cross-lexical observations along the lines proposed by Brugman and Horn, and lends support to Traugott & König's hypothesis, there may yet be hope for Dirven's (1985) strong claim that the semantics of a morpheme determines to a large degree the processes of extension that apply to it.

To summarize, pragmatic strengthening is a process which acts on an inference which is salient in context, to produce a newly conventionalized sense of a morpheme. That sense is inferentially linked to the sense it is extended from. At a level of full generalization, that is, encompassing situations which *do not* have the metonymic inferential structure, the senses may be metaphorically related to each other, as in the perception vs. 'obey' senses of hear. (Recall the discussion of "metaphor from metonymy", 2.1.2.) Or, they may not be metaphorically related, as with the manner and strong epistemic senses of apparently. For these cases we posit only the inferential link between meanings.

Recognize (Traugott & Dasher 1987) is an example of the development of speech act meaning from cognitive meaning. It is hard to see how recognize in its speech act use (The

chair recognizes the Senator from Georgia.) is a metaphorical extension of mental recognition (I don't recognize the woman he's with.). Though Traugott & Dasher do not talk about the specific inference behind this semantic change, they do imply that something like metonymic extension is at work, noting that "[b]eing in a certain state of mind is a prerequisite for a speech act" (p.13). We can go further and suggest that the requisite state of mind for the act of acknowledgement, acceptance, or admittance (of a speaker to the floor, say) is the mental act of putting (that person) in the 'acceptable' category. That is, we seem to have an extension from the 'know again' sense of recognize, from putting (s.o., s.t.) in a 'known' category, to putting (s.o., s.t.) in a socially defined 'acceptable' or 'admissible' category. But being mentally admitted (categorized) as acceptable or valid involves more than 'knowing again'; it depends on the conferral of that status through some social practice. Therefore, while I agree with Traugott & Dasher that (it is plausible that) the development of the speech act meaning of recognize (cf. acknowledge) results from the strengthening of some inference (that being in a certain state of mind is prerequisite for that particular speech act), that is not all there is to the story. There is a missing link between categorizing as known and categorizing as acceptable.

Where do the inferences come from? This, of course, is a major question in pragmatics. Within research on pragmatic

strengthening, attention is paid to the nature and origin of the conversational inferences which become increasingly strengthened in the process. There is an abiding interest in discourse, in actual discourse contexts or situation types or classes of predicates which allow, engender, or enhance particular inferences. Asking what contexts favor an inference often leads to a semantic/pragmatic generalization. For instance, Traugott & König (in press) ask when and how causal inferences arise for temporal connectives (as for since), and follow the development through actual texts. This allows them to arrive at the hypothesis that, of all the sorts of temporal connectives, it is those whose meaning includes partial temporal overlap of two events/situations that can give rise to causal inferences. Similarly, Herring's (1988) semantic analysis of the Tamil verbal auxiliary viṭu identifies its core function in discourse contexts larger than the sentence: narrative perfectivity. Herring shows how that function, in combination with particular verb classes, gives rise to certain (more verb-based) meanings, such as 'verbal focus' and 'completion'. Her analysis is more complete and satisfying than previous sentence-based, core meaning approaches (cf. Fleischman 1983).

Likewise, Traugott & König show, for preference connectives (English rather, sooner, Spanish antes, French plutôt), how an inference from temporal relation to preference is made stronger in certain contexts. How, for

example, did present-day English rather develop from its source? Traugott & König make a case that OE hrabor 'sooner, earlier' invited the inference 'the sooner, the better'. In this case I think we can go further and say that the 'inference' (presumably "stereotypic" for Traugott & König) has the status of a 'folk belief', in contemporary America at least. They show that the temporal comparative hrabor bonne "was augmented to express preference... in modal contexts of wish, expectation, etc." (p.27). That is, in these contexts the preference inference was made (taken to be) stronger (cf. Kemmer 1990b on still). Interestingly, PDE sooner invites the very same inference today. In fact sooner occurs in a special construction for just that purpose; compare temporal and preference sooner: Mike will quit his job sooner than Tony will. vs. Mike would sooner quit his job than have to do that. Note also the modal would in the preference construction.

It might alternatively be possible to account for the temporal-preference polysemy of words like rather and sooner with a metaphorical analysis. We note the correlation between temporal scale and scale of preferred happenings. That is, we try to establish that there is a scalar mapping from things better to times sooner. (Contrary to Traugott & König, we *could* have an image-schema which is invariant across these two domains. Image-schemas can be as abstract as linear scales.) Of course we would need evidence for this Better Is Sooner metaphor. We do seem to express preference

via orderings, whereby favorite equals first: My second favorite dessert is tapioca pudding. But note that 'the sooner, the better' is only said of things that are already seen as good: for many things, sooner is not better at all. (Note also that causally, in the world of human affairs, it is 'the better, the sooner'. However, we do *infer* 'better' from 'sooner'.) Even with abundant evidence, if we wish to understand semantic change, it is useful to investigate in what contexts the mapping and its motivating 'folk theory' (/folk belief/stereotypic inference/ICM) are likely to arise (or apply), and what contexts favor their strengthening and extension - or *inferential leakage* - to usages beyond the original correlation in experience.

Attention to discourse context in the work of Traugott and her colleagues has made more evident the importance of synchronic overlap between categories during semantic change. For instance, Traugott 1989 teases out from textual sources uses where more than one of the volition, obligation, or necessity meanings of will seems to have been present (see also Traugott & König, in press, on while; Emanatian 1990b and Chp.3 below).

Investigating the discourse contexts in which conversational inferences arise and become conventionalized naturally goes hand in hand with an interest in motivation. In all work on pragmatic strengthening there are proposals for what motivates the process, including iconic principles, links in experience, economy, and conversational principles

(Traugott 1985; Kemmer 1990a; Traugott & König, in press).

Traugott & König discuss, for example, the "amplification" of concomitance, simultaneity, and correlation meanings to concessive meaning. This development is said to be guided by the conversational principle of Relevance. In expressions like Not having any money, all the same I went into this expensive restaurant., or It is difficult to find a method that is effective and, at the same time, inexpensive., the hearer infers that cooccurrence is highly relevant. That is, the hearer infers that there is reason to mention (or mark) correlation or concomitance, and that one possible reason is that there is incompatibility between the two situations correlated. While this is no doubt true, it is quite general. What relates the specific semantics of concessivity to the semantics of concomitance or simultaneity? The implication of Traugott's & König's analysis is that nothing does, that the relation is to be found in the discourse-pragmatic realm. (This may not be a damning fact; certain other recurrent polysemies appear to be motivated only very indirectly, via a shared pragmatic function. See New Territory, below.)

It has been suggested that semantic change in general and pragmatic strengthening in particular - indeed, language use in general - is guided (or governed) by the competing functional motivations of informativeness (or expressiveness) and economy (Traugott 1985, 1988; Kemmer 1990a; Traugott & König, in press; cf. also DuBois 1985;

Geeraerts 1985).

Before turning to part-part metonymy, I would like to make a case for broadening the compass of the concept pragmatic strengthening. As it stands, the process involves the 'additive' strengthening of an inference which *follows from* the use of a morpheme. But there are cases in which it appears that an inference which is a *precondition* for the use of a morpheme has been strengthened to a full-fledged meaning.

One example of this is the English verb tell. The basic synchronic meaning of tell, 'to mention in order, narrate, make known' goes back to OE, preceded by Gmc \*taljan 'to reckon, count'. The extended meaning that interests us here is the one occurring in sentences like I can't tell if it's raining or snowing. This sense is apparently the result of a rather late development whereby tell came to mean 'discern so as to be able to say with knowledge or certainty' and hence 'distinguish, recognize, decide', appearing in the records in 1687 (OED). Recognition or 'knowing whether' is of course a *precondition* for actual telling. An act of telling allows the inference that its precondition was successfully met. That inference was apparently strengthened (in negative or question contexts, suggests the OED) such that 'discern' became one of the meanings conventionally associated with tell.

Again, typically, in pragmatic strengthening a conversational implicature from a morpheme in context is

strengthened, in an 'additive' way. With respect to forms which are polysemous over epistemic and speech act meanings, it has further been observed that, in general, the speech act meaning developed later (Sweetser 1984, 1990; Traugott & Dasher 1987; Traugott 1989). Traugott's Tendency II (1989) is a statement of this unidirectionality of change: meanings based in the external or internal (evaluative/perceptual/cognitive) described situation tend to develop into meanings based in the textual and metalinguistic situation (the situation of performing a speech act). With tell we appear to have, instead, a morpheme with speech act meaning ('recount') developing a new, epistemic sense ('discern'). It is as if this sense of tell lost the part of its meaning which constituted linguistic action.<sup>4</sup>

It has been pointed out that we reason from the fulfillment of a precondition to the successful performance of a speech act, as well as from the linguistic action to a presumed fulfillment of its precondition (Sweetser 1984, 1990). I think the concept of pragmatic strengthening could be naturally and usefully extended to cover *all* cases of the incorporation of a pragmatic inference, whether 'additive' or not. If a significant number of cases of strengthened preconditions are found (cf. English say), this broadening may necessitate admitting tendencies opposite to Tendency

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<sup>4</sup> Thanks to Eve Sweetser for useful discussion.



II.

### 2.1.3.3 Part-part Metonymy

Part-part metonymy is quite widespread, both lexically and grammatically. Here one element or aspect of a concept stands for another element or aspect of that concept.

Compare the uses of kitchen in the following, for example: I left the pot in the kitchen. vs. The kitchen could use some help today. The second use, appropriate in a restaurant scene, is metonymic: a word which typically refers to a locale refers instead to participants identified conspicuously within that locale, *within that scene*.

A salient example of part-part metonymy is the relationship between the term for an object - often a body part - and the space adjacent to it. For instance, Mixtec (Otomanguean; Mexico) body part terms, such as yata 'back (human)' and čii 'belly', are extended to refer to the space adjacent to those body parts, in this case 'behind, in back of' and 'under', respectively (Brugman 1982ms). Rubba (to appear) discusses a similar extension in NE Neo-Aramaic: first, metaphorically, from body part term to subpart of any object; and then, metonymically, from subpart to associated space (cf. Svorou 1989 for cross-linguistic parallels). Compare English side in examples like They live on/to the north side of the church. Claudi & Heine (1986) present very similar examples from Ewe:

meqbé 'back; behind, beyond, under'

nve meqbé

my back

'my back'

tsí meqbé

remain back

'stay behind'

(Claudi & Heine 1986)

but these are taken - mistakenly, to my mind - to be instances of the categorical metaphor, A Space Is An Object. The Ewe data offered in their article shows body part nouns "serving as vehicles for spatial orientation", that is, predicating *relations*. The particular relational meanings expressed are motivated by their source lexemes ('behind, beyond, under' < 'back'; 'on, above' < 'head'; 'in front, frontside' < 'face', p.305) in the same way that Mixtec, NE Neo-Aramaic, and English examples are: the extensions of the body part terms are motivated by the relationship of spatial contiguity to them. It seems unwarranted to posit a specific ontological metaphor, Space Is A Body Part, on this basis. (However, without recourse to more information, it is impossible to say definitively.)

Active Zone phenomena are another kind of part-part metonymy. In Active Zones (Langacker 1984), as in other cases of metonymy, there is a discrepancy between the usual referent of a linguistic expression and the intended referent in a particular use. The semantic discrepancy is between a prominent substructure within the profile (again, the entity designated by the linguistic expression) and the

focal area of interaction between participants. In She heard the piano., the prominent substructure within the profile is the physical object referred to by piano. The focal area of interaction between participants is the sound of the piano, that facet of the entity (piano) most directly involved in the relation predicated (hear). The focal area of interaction is the "Active Zone" (cf. "oscillation of meanings", Apresjan 1974). This type of metonymic reference is licensed by the salience of one facet of an entity within a frame. The Active Zone and the profiled substructure are both parts of the frame. (Also note that hear is polysemous over the parts of the frame singled out for special prominence as trajector and landmark: I heard the piano. vs. I heard the sound of the piano.) In She's got a great body. (2.1.3.1), only certain parts of the body are relevant to the predication; these parts collectively constitute the Active Zone. In terms of the Cognitive Grammar concept of "base", this example maps from a prominent substructure (the whole body) within the base to an area of focal interaction (the relevant body parts), and is thus a part-part metonymy. But in terms of the referents (in the world), this is a whole-part metonymic mapping, a use of the term for the whole to refer to a part or parts.

Several linguists have made cross-lexemic generalizations about metonymy. A short sample of some prominent cross-lexical (and often cross-linguistic) part-part metonymies follows, with examples in English.

- activity for product      Picasso's painting is hanging on the wall.
- container for content      That was an excellent dish.
- action for place of action      I'll meet you at the entrance.
- entity for removal of entity      Go weed the garden.
- possession for possessor      OK, the long straw goes first.

(Apresjan 1974; Talmy 1972; Lakoff & Johnson 1980; Norrick 1981; Nikiforidou 1984ms; Dirven 1985; Lakoff 1987; Deane 1988)

A grammatical example of polysemy via part-for-part metonymy, again, at a higher level of abstractness, is the agentive noun derivation, discussed by Dressler (1986). Dressler observes that languages with derived agentive nouns (builder) often allow a variety of meanings for them. He posits an implicational hierarchy for the meanings of these derived agentive Ns: agent > instrument > locative or source (garden-er; staple-er; London-er). The idea seems to be that the hierarchy is founded on the prototypical interpretation of events as involving a human agent. Other participants or elements associated with an event can be referred to with the agentive noun derivation via motivated extensions from the prototype. For instance, an agentive noun construction

might express the location of an event or state, as with English din-er. The association of these elements with the agent is a kind of metonymy. Dressler also notes that there is a cline of preferred bases for these constructions: V > N > ADJ, with verbs most preferable because they prototypically symbolize events. Thus it seems that the polysemy of the agentive noun derivation is attributable to a) the range of possible categories for bases, and b) the conceptual metonymy of agent for other influential participants and elements. The constructional metonymy, whereby the agentive noun formation is used for non-agents, rests on the conceptual metonymic association of those non-agents with the events the agents participate in. Agents and, say, instruments are both parts of the whole event that the verbal base refers to (cf. Norrick 1981). (Of course, another possibility, which Dressler does not address, is to analyze this as a case of metaphor of agentivity.)

There are polysemous words whose meanings are related by virtue of being different framings of a single concept. These might also be taken to be instances of conceptual metonymy. A well-known example is breakfast, which has two uses (Fillmore 1976). Breakfast framed as a kind of sustenance is a meal consisting of a culturally specific sort of food which may be eaten at any time of day (Truckstops serve breakfast 24 hrs a day.). Framed as one in a series of daily consumption rituals, breakfast is a meal partaken of after rising in the morning, and it may consist

of any sort of food (My coworker eats seaweed soup for breakfast on her birthday.). Typically, of course, the two framings coincide as parts of a single complex frame. Thus we could think of the two uses of breakfast as related via a part-part metonymy with respect to the frame. Following Nikiforidou (1984ms), we might call this "frame metonymy". Child is perhaps a similar example. Although in the prototypical case, a child is assumed to be both of an age between birth and puberty and an offspring of parents, the two meanings may be separated: My aunt only had one child, and he's in his 50's. vs. This movie is not fit for children. (Of course, the relational part of the meaning of child is always present (every person is a child of someone), but many uses evoke only the 'young person' part of the meaning.)

Related to this are instances of re-ranking the domains relative to which a morpheme is characterized (Langacker 1987a). Two uses of wine are hypothesized by Langacker to be linked in this way, for instance. Within the open-ended body of knowledge we have about wine, the domain of physical space and objects and the domain of "Quality Space" are salient. Quality Space can be thought of "as a multidimensional domain organized in terms of specific qualitative parameters (solidity, color, taste, discreteness/continuity, texture, and so on)" (p.206). In Pass me the wine, please., the domain of physical space is primary, whereas, in They have several dry wines in stock.,

where wine behaves like a count noun, Quality Space (within which we have different types or brands of wine) is the primary domain. Pairs of uses of other words are related in similar ways; consider English bread, or French un/une bourgogne, for example. One of the meanings signalled by the choice of article in the French example is the mass/count distinction: un bourgogne can refer to 'a wine' or 'a glass of wine', since both head nouns (vin and verre) are masculine. Une bourgogne clearly means 'a bottle of wine', as the article une is keyed to the feminine noun bouteille. The article refers to the gender of a head noun that is not present in the lexical material, but is in the metonymic frame. (Cf. Traugott's "contiguity in the utterance" metonymic sub-type.)<sup>5</sup> If each domain is taken to be a part of the whole range of what we know about a word (concept), then the primacy of one over another could be considered a part-part metonymy with respect to that knowledge base. (On this analysis, all count-mass pairs would be metonymic; at present it is not clear whether this would be a desirable result.)

Just this approach is taken by Nikiforidou (1984ms) in the analysis of English nominalizations. Nikiforidou argues that nominalizations are linked to their source verb by metonymy, through close conceptual association within a frame. Strictly speaking, we are not dealing with polysemy

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<sup>5</sup> Thanks to Eve Sweetser for this example.

in these cases, but as I mentioned in 2.1.3.0, many of the processes of extension for lexemes apply as well in forms which are morphologically derived. Nikiforidou notes further that some nominalizations have developed senses which do not immediately fall out of the typical framing of their source verb, but rather require the (super)imposition of a special frame. The meaning of saying in an expression like There's a saying for everything., for example, evokes the special frame of repetition in a particular cultural context, as with proverbs and the like. This meaning is related to the straightforwardly derived sense of saying (as in His saying that really annoyed me.) via a shift in *which* frame the concept is characterized relative to.

A similar example is a special use of the more-or-less grammatical morpheme in. Consider the following two examples.

(a) They planted corn and beans in that field this spring.

(b) That field is planted in corn and beans.

The use of in in (b) requires explaining. How is it that in, which prototypically relates content to container, can be felicitously used in a construction in which Figure and Ground are reversed? I would argue that (a) is a relatively straightforward use of in, albeit with a non-prototypical landmark, field. In (a) corn and beans are understood to refer to physical objects. Example (b), however, is not simply a Figure-Ground reversal. Corn and beans in (b), in a way parallel to wine in the example above, refers to the



domain of Quality Space. Corn and beans in this case is a way of identifying a particular field within the whole configuration of a farm or a planting scheme. The planted field *falls into the category of* {corn & beans}. This 'reversed' construction actually constitutes a semi-productive use of in, as seen in for instance, The quilt was stitched in a pattern of cresting waves. and I bought some cotton in bright colors.

A somewhat more grammatical example of frame metonymy, or the re-ranking of domains within a base, might be the pair of uses exhibited by the members of the class of English adverbs including frankly, hopefully, and honestly (Eve Sweetser, p.c.). Each adverb may apply to the speech of either the subject of the sentence or its speaker. In Marty spoke of his addiction frankly., for example, frank speech is attributed to the subject of spoke, while in He's got a chemical dependency, frankly., frankness is attributed to the present speaker. In reports of speech acts, there are always two speakers, the present one and the one being reported on (though they may, of course, coincide). These may be seen as two parts of the base against which each adverb is characterized. Their relative re-ranking links the two uses of the adverbs in a kind of conceptual part-for-part metonymy. An attribute of the subject of the verb of speaking is extended via contiguity within the same frame (that is, of reporting a speech act) to an attribute of the speaker of the report. This pattern of polysemy (if you

will) may in fact extend to new adverbs in what may be becoming a more productive pattern.

Of course, in this example frankly occurs in two different constructions, distinguishable by their characteristic prosodic patterns, at least. (We might add that the distributional patterns appear motivated by the different uses.) It is often the case that the various functions of multi-functional grammatical markers have different constructional distributions. The implications of this will be explored in Chp.4 where I discuss the constructional differences in Chagga Consecutive ka- and Conditional ka-.

I would like to note at this juncture that cases of part-for-part metonymy bear a certain kinship to some of the more abstract types of image-schema transformation (discussed in 2.1.1). If, for instance, we shift from one framing to another in different uses of breakfast, we emphasize one or another aspect of the 'whole'. The parallel to different profilings within the same base should be plain (recall window). However, it seems to me that to incorporate all of these cases into profiling shifts (or even into ISTs) would stretch this term too far beyond its intended range. I only draw attention to the overall parallelism in the phenomena.

Before turning to relatively uncharted territory, I would like to point out that many, if not most, polysemous morphemes show multiple kinds of relatedness among their senses. This should be clear from the examples already

presented, but it might be useful to look at one more. The intransitive verb transpire has the older meaning 'to give off or exude through pores or membranes'. It also means 'to become known or apparent; to come to light'. This second sense is fairly transparently derived from the first, via a widespread metaphorical mapping of 'out' and accessibility, perceptibility, usability, in-consciousness, etc. (Lindner 1981, 1982). A more recent extension (still a "disputed usage", according to the American Heritage Dictionary) is 'to occur, happen, come to pass'. This meaning seems to be inferentially related to 'become known': for practical purposes in the everyday world, if we can know something, it must exist. That is, an epistemic state is related to a phenomenological state of the world: the latter is a precondition for the former. More specifically, a change in epistemic state might be taken as evidence for a change in phenomenological state. Thus it could be argued that this newer meaning arose through pragmatic strengthening. We therefore have both metaphorical extension and pragmatic strengthening of an inference relating the various senses of transpire (see also Kemmer 1990b on still). Note also that, as is typical of polysemous words, there is a chain of senses. It is usually not the case that every meaning of a morpheme is directly related to every other meaning. It is not obvious for example how we would directly relate 'occur' to 'exude through pores' without the intervening 'come to light' sense of transpire.

#### 2.1.4 New Territory

In this section I will present some tentative suggestions for analyzing the polysemy relations of a handful of problematic cases of grammatical multifunctionality from the literature. I am referring to instances of "recurrent homonymy" (Haiman 1985b), of cross-linguistically recurring sets of functions of particular grammatical categories for which no link between functions (dimension A) or motivation (dimension B) immediately suggests itself. What is it that makes us feel in such cases that the particular grouping of functions under one form is a motivated one? In other words, what kind of argument can be made for these markers or constructions being polysemous and not homonymous?

In each instance I will suggest that what relates the meanings or functions is quite abstract. Each case involves either the sharing of a function from the set of functions each marker performs (including discourse-pragmatic functions); or the sharing of a mode of expression, a means of expressing what it expresses. It will often be the case that the two functions are not directly related at all, but only through the intermediary of this abstract shared element. The idea is that this sharedness - however abstract - is enough to motivate the two constructions' sharing the one form. This, of course, is as might be expected for grammatical constructions.

On the other hand, it could be that there are direct links (A) between functions in these cases, but that we

simply have not found them yet. The analyses presented in this section, then, are exploratory. They are offered for two reasons: to show that there are kinds of grammatical polysemy relations which we are only beginning to understand; and, thereby, to provoke further interest in this area.

The common polysemy of conditional and interrogative has been discussed by Traugott in a paper on the development of conditional markers (1985). For her, the polysemy is an instance of "automorphism", the phenomenon of concepts related by virtue of partially shared functions. The idea is that a construction (call it N) exemplifies a certain grammatical category and performs several functions. One of those functions is also performed by a different construction (say, P), which exemplifies a *different* grammatical category. Construction N can, through partial functional overlap with construction P, come to perform other of P's functions. In Traugott's examples, interrogatives, for instance, share one of their several functions with the conditional category, as cross-linguistically defined. Through this partial functional overlap, a specific interrogative marker in a language may come to encode still more of the functions which are typically expressed by the conditional category. Most of the sources of the conditional are automorphic with it. The Russian form esli, for example, among its other functions expresses both interrogativity and conditionality. Traugott

suggests that the function shared by both interrogatives and conditionals is the setting up of alternative possible worlds. It is this 'space-building' function (Fauconnier 1985) which they have in common that motivates the use of one form for both meanings. This example of partial functional overlap may be schematized thus:

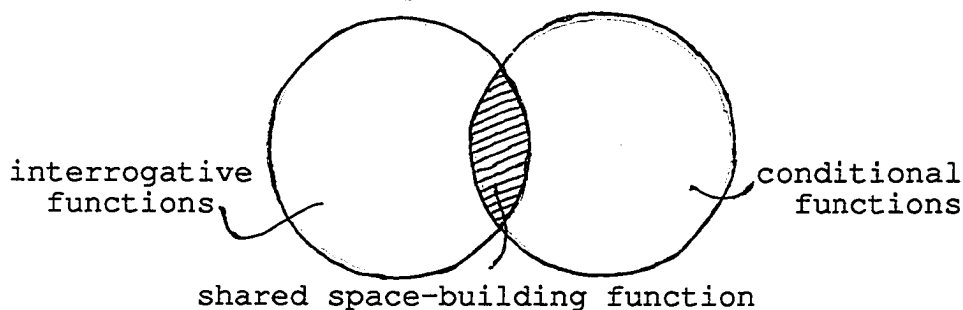


Figure 4

Automorphism, then, is the extension of a form to a new set of functions via a single function performed by both that form and the form encoding the newer set of functions. (Cf. Anderson's discussion (1982) of the shared meaning components of the Mandarin 'current relevance' marker le and the middle voice.) It appears to be a fairly frequent phenomenon in grammatical polysemy, though it has been little documented. In any case, automorphism warrants further study.

Haiman (1985b) also discusses the recurrent formal identity or near-identity of markers of polar questions and markers of the conditional protasis. For Haiman, languages such as Russian, Turkish, German, Hua, and English show formal similarity between conditional structures and questions by virtue of **association** of "incidental

properties". Specifically, there is a "pragmatic identity" between them: topics can be established by means of questions, and conditional protases are topics. Hence interrogative forms are often used to express (the topic part of) conditionals. In English, for example, the standard mark of the conditional clause is if. If also functions as complementizer in indirect polar questions, such as Tom isn't sure if he'll go back to school or not. Likewise, as Haiman points out, subject-verb inversion may be used to mark direct questions, as in Had they responded before the suit was filed? It may also be employed in counterfactual conditionals, such as Had I known, I would have informed them. In the terms of the preceding sections, we could say that interrogatives are associated with the topic clauses of conditionals via a part-for-part metonymy in the pragmatic-functional domain; the relevant whole is presumably the complete set of functions performed by interrogatives and conditionals. (Haiman also offers as a less-favored explanation for this polysemy the fact that both conditionals and polar questions are "implicit disjunctions". Each invites the inference of its negation.)

While I think that Traugott's statement of what relates these meanings is more insightful than Haiman's (she does not assume, as he does, that such associations are "fortuitous or accidental"), they are equivalent in that each sees the element common to these constructions as **(discourse-)pragmatic**. It is not the case, in other words,

that in these languages, condition and question markers somehow *mean* the same thing, or share some aspect of meaning, but rather that "recurrent identity of form between different grammatical categories will always reflect some perceived *similarity in communicative function*" (Haiman 1985b:19; italics mine).

We might use the notion of a shared subset of functions, or automorphism, to understand the basis for some cases of semantic change. In many languages (Hindi, Bulgarian, Tamil, most Germanic and Romance languages, N. Russian dialects), the perfect marker is derived from a resultative marker (Bybee & Dahl 1989). According to Bybee & Dahl, a resultative "views a past event in terms of its prevailing results", while a perfect "de-emphasizes the perspective of the present moment by focusing more on the past event" (p.77). A perfect requires only that a verbal event or situation have relevance to the present, and not that it produce the current state. Thus a perfect is broader than a resultative and 'contains' the latter meaning. This change is an instance of Generalization (cf. Abstraction, section 2.1.1, and part-whole category structure, 2.1.3.1). A lexical parallel might be sweet, as discussed by Dirven 1985. In several of its uses (sweet water, sweet milk, sweet bread, sweet butter), sweet loses the 'characteristic flavor of sugar' dimension of its meaning, to the more general 'pleasant taste' (sweet milk as opposed to sour, sweet water



as opposed to salty, etc.).<sup>6</sup> This too is a kind of abstraction away from specific aspects of meaning.

Bybee & Dahl point out however, in the case of the resultative-to-perfect, that that change cannot be seen as simply broadening: perfects and resultatives have different co-occurrence restrictions with temporal adverbs, for instance. The two grammatical categories differ in emphasis. The 'perfect' focusses on the event itself, and this, they imply, may lead to its extension to non-resultative cases. This shift in focus may be assimilable to profiling differences, re-ranking of domains, and other kinds of shifts of attention discussed in section 2.1.1.

But what leads to the shift in emphasis? We know little about *how* a resultative becomes a perfect, that is, about what motivates the polysemy (while it exists). I would like to suggest that what the two categories of meaning, resultative and perfect, share, is the discourse function of relating the present situation to some past situation (Comrie 1976). That is, I wish to draw attention to the parallelism with the automorphism of interrogative and conditional. The two grammatical morphemes exhibit partial functional overlap, in utterances about the present, at least. That may be enough to motivate the use of the resultative form in more and more contexts not strictly expressing resultative semantics, until the broader category

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<sup>6</sup> Suzanne Fleischman has pointed out (p.c.) that dry wine is an even more telling example.

of perfect meaning is what is encoded.

The flaws in this proposal are not limited to its speculativeness. One obvious problem concerns the nature of the multifunctionality. We have looked at a grammatical marker at the time when its distribution is widening, and we have made proposals for how its new function is related to the earlier one. But is it legitimate to be viewing this as a case of *two different functions*, when one is included in the other? Even with a more sophisticated notion of broadening which includes differences in co-occurrence restrictions, it is still true that perfect meaning 'contains' resultative meaning. It seems we have both a separate function *and* a subcategory of a broader function. While we may not find it appropriate to refer to an instance of a subcategory engulfing the whole category as "polysemy", we see such cases as closely related and certainly of interest.

A similar example, also discussed by Bybee & Dahl, is the change from progressive marker to the more general imperfective (recall section 2.1.1). This change can also be considered the result of the process of Generalization, whereby a morpheme acquires wider distribution (fewer lexical and other co-occurrence restrictions) as it attains greater generality of meaning. The question to be addressed is, what motivates this change? Assuming it is not purely accidental that there is a cross-linguistic grouping of semantic/functional categories under one form, what is the

nature of the discourse and cognitive tendencies which foster the polysemy?

Grammatical polysemy, then, presents us with a number of un-(or under-) charted relations among the meanings grouped under one form. Another case of grammatical multi-functionality, which we know more about, is the 'perfect' source for 'perfective' markers (Bybee & Dahl 1989). In this development, a form which expresses the perfect comes to express the perfective, as in spoken French, other Romance languages, and some Germanic and Slavonic languages (Fleischman 1983). During this process, the form acquires a broader distribution, or generalizes (though, again, this cannot be seen as merely weakening). A perfect marks a situation as relevant at the moment of speech or some other reference point; it covers past events with present results, as well as other situations, such as the "experiential" (Have you ever been to Mexico?). To use a perfective, a situation must be construed as bounded; the 'relevance to the present moment' element of meaning disappears entirely. A specific past event is described for its own sake (Anderson 1982). How does this development occur? How is the meaning 'perfective' related to the meaning 'perfect'?

Fleischman (1983) argues that the perfect is a past-oriented (vs. future-oriented) expression of "present relevance", grammaticalized as aspect. The perfect-to-perfective (and then, often, -to-past) development is a cross-linguistic tendency, one instantiation of a more

general shift from aspect to tense. She also suggests (p.c.) that what might tie perfect and perfective together is the notion of completion. The perfect often carries the supposition of a current (or currently relevant) situation having resulted from a prior event or situation which is completed. (Obviously, not all perfects involve this supposition: for example, He has lived here for 6 years.) This completed prior event - a perfective event - is part of what we understand about this type of perfect, part of its base, in Langacker's terms. The development of perfective meaning on the part of a perfect would then be a shift in focus or emphasis, or, in the terms of this chapter, a shift toward profiling the previously unprofiled bounded prior event. Thus we may have, in this case, a grammatical example of a profiling difference. Note also that, like tell (2.1.3.2), what is semantically foregrounded here is not an implicature but a background condition.

Let me also suggest that the notion of partially shared functions is again apropos. In some languages, if I understand Bybee 1990, a perfect with a change of state verb (such as 'sit down' or 'die') gives rise to a present state reading ('has sat down' results in the state 'is seated'). In those same languages, a perfective with a change of state verb gives a present state reading also ('sat down' similarly yields 'is seated'). Likewise, in some languages, a perfect with stative predicates ('be sweet') can give rise to an inchoative reading ('has been sweet' can have a

reading 'has sweetened'). And it is also the case that a perfective with a stative predicate can have an inchoative reading ('got sweet'). So it appears that, for either of these aspectual categories, an inference (a certain reading) can arise for a certain class of predicates. The facts from these languages provide a clue: certain contexts - in this case certain verb classes - may foster an association between perfect and perfective on the basis of the shared inference that the two allow.

The parallel of these cases to cases of automorphism should be obvious. Neither category is limited to the meanings or functions it shares with the other in these contexts, but the shared meanings may be sufficient grounds for the expression of both perfect and perfective by one form. If this is correct, an automorphic relationship between these grammatical categories results in - and we are still learning about how and why this process takes place - a generalization of distribution for the 'perfect' form, as it subsumes the other functions of a perfective.

Stressing the importance of verb classes as a vehicle for the development of new tense-aspects is reasonable. There are synchronic analyses of how the meanings of verbs color the semantics of the constructions they occur in (Rice 1987; Ruhl 1989; Goldberg 1990). Herring 1988 argues that extensions of the core functions of the Tamil narrative perfective marker occur in accordance with certain categories of verbal meaning. This is an even more general

phenomenon. For instance, Brugman (1984ms) attributes the different interpretations of just to various properties of the lexemes it operates on. Similarly, her analysis of adjectival very suggests that one source of polysemy is the application of a morpheme in the different "parts of the world [whose linguistic expressions] are subject to modification by linguistic objects" (Brugman 1984). (Cf. Brugman 1988; Ruhl 1989; Traugott 1989.) As we have seen in examples of pragmatic strengthening, the idea is that, for a morpheme in a certain context - whether "context" is a particular phrase, a single construction, a class of verbs, or a discourse slot (such as clause-final position, or occurrence in a particular genre) - an inference (or a certain reading) can arise, and this may later be crystallized into part of the meaning of that morpheme. Co-occurrence with other morphemes may enhance certain aspects of meaning, sometimes at the eventual expense of others.

In studying meaning change and polysemy we can adopt a "discourse" view, attending to the nature of the relevant contexts and of the changes that occur. Or we can look, after the fact, at how the crystallized meanings are related. I have tried to bring both perspectives to bear in this chapter.

A final type of grammatical polysemy to be discussed here is that instantiated by the "recurrent homonymy" of coordinate and conditional structures. These are evident to some degree in Vietnamese, English, colloquial French,

Cebuano, and Papuan languages (Haiman 1985b). This sort of case has been insufficiently studied, but appears to constitute a type in its own right. Haiman observes, "there are many languages in which the structures If S1, S2 may be paraphrased by the structure S1 (and) S2, in which the two clauses are either juxtaposed without any overt conjunction, or separated by the coordinating conjunction 'and' ...

[L]ess frequently, we encounter cases where a structure of the form If S1, S2 is used to paraphrase S1 and S2, or exhibits some of the syntactic properties of a structure S1 and S2" (pp.39-40). For Haiman this too is a "fortuitous association": the "incidental property" of linear order in the S1S2 form of coordinate structures makes them interpretable as formal expressions of 'given-new' order, an essential property of prototypical conditionals. What is shared in this case, according to Haiman, is the diagram (see also Haiman 1983). "An iconic **diagram** [vs. an iconic image] is a systematic arrangement of signs, none of which necessarily resembles its referent, but whose relationships to each other mirror the relationships of their referents." (1980:515) In this case, what is shared is the way the form relates to the meaning, a **shared diagramming** of the very abstract notion of 'givenness-newness'. It is a somewhat different case from any we have seen.

The coordinate-conditional polysemy does bear some resemblance to other types of grammatical polysemy, however. As Haiman points out, what is shared is the function of

expressing *asymmetry*. If the expression of asymmetry is one of the purposes to which a grammatical construction may be put, then we have another instance of automorphism. The coordinate-conditional polysemy results from the association of non-prominence ("backgrounding") and simultaneity. Because "asymmetry of prominence *allows the inference* of simultaneity, the marker of subordination [non-prominence] may be interpreted as the marker of simultaneity. Conversely, since simultaneity *allows the inference* that one event is less central than the other with which it is concurrent, the marker of simultaneity may be interpreted as a marker of subordination." [emphasis mine] (1985b:101). (There is also some similarity between this case and the shared assumption of newsworthiness in expressions of concomitance and concessivity, 2.1.3.2.)

Alternatively, if we understand the concept of image-schema abstractly enough, the polysemy of coordinate and conditional could be seen as motivated by the sharing of a schematic image. The schematic image is the diagram itself. Note that, unlike the other cases we have seen of shared image-schemas, this sharing of an image-schema is *not* metaphor. The schematic image is the formal pattern of expression itself, and not an invariant mapping of some meaning across domains.

In sum, this section has been a presentation of the kinds of sharedness which might motivate a number of intriguing cases of grammatical polysemy. We have seen instances of



automorphism, or partial functional overlap (sometimes in the pragmatic realm); of markers of two or more grammatical categories giving rise to the same inference or interpretation (often only in a certain lexical or constructional context); and of two or more grammatical categories sharing a diagrammatic relation between form and meaning. One obvious omission from the kind of search for motivation this chapter constitutes is the significance of formal factors which may be considerable. There are often variations in form over the several functions performed by a polysemous grammatical morpheme; we will address this in Chp.3.

Note that all of the types listed above are cases of the association of grammatical categories on the basis of an indirect sharedness. It should be clear by now that grammatical multifunctionality can be motivated by perceived similarity or sharedness in a variety of domains, including the pragmatic (a point made quite clearly in Haiman 1985b).

Is grammatical polysemy, then, completely unconstrained? Haiman (1986) raises this question. Noting that "the formal identity of topics and questions is ... pragmatically rather than semantically motivated", he continues, "given that cognitive categories may be related by extrasemantic means, are there any limits in principle to the chain of associations whereby any two categories may be related?" [emphasis in original] (pp.215-216). Of course we expect some groupings to be more likely than others. Haiman

suggests that "there may be some general constraints on enchainement, association, or abduction: i.e. on the identification of two categories which share nondefinitional properties. The [coordinate] structure S1S2, I have argued, may be associated only with those meanings of which it is itself a motivated diagram" (p.225). I will return to this question - and answer - in Chp.6.

## 2.2 Summary

In this chapter I have presented a rough classification of polysemy relations. I have fitted both lexical and grammatical examples into three broad types, Image-Schema Transformation, metaphor, and metonymy. Within each type, cases of polysemy range from fairly concrete to quite abstract. Instances of polysemy are also distinguished on the basis of whether a particular relation among the meanings or functions (IST, metaphor, metonymy) holds synchronically, to link the senses or functions of a morpheme (dimension A); *motivates* such synchronic links (dimension B); or holds diachronically, that is, constitutes a process of semantic extension from one meaning or function to another (dimension C). Many polysemous morphemes involve more than one kind of relation among the meanings. It is typically not the case that every meaning or function will be directly related to a prototype, or to every other meaning or function. It is not always clear which relation

is at work. Until more cases have been examined in depth, and we are able to tighten up notions like profiling shift, pragmatic strengthening, and "inferential links", there will be recalcitrant cases.

Minor transformations on the schematic image underlying a meaning or function account for a number of cases of polysemy (see 2.1.1). Image-Schema Transformations relate senses of lexical items, like Japanese hon, and functions of grammatical markers as well, as with the Russian verbal prefix pere-. Differences in profiling may be considered a sub-type of IST, whereby the schematic image that is transformed involves the assignment of differential prominence to substructures within a base (recall window). Profiling differences are important in grammatical polysemy. The schematic or abstract meanings that grammatical morphemes have are quite amenable to variation in prominence or focus of attention. Some shifts in profiling may be seen as a kind of metonymic extension; recall the relationship between the 'sound-producing object' reading and the 'sound it produces' (Active Zone) reading of piano, for instance (2.1.3.3). But not all examples of profiling differences are metonymic, or are the result of metonymy. The extension of body-part terms to adjacent spaces in Neo-Aramaic, for example, was followed by a shift from profiling a region in space, to profiling the spatial relationship between that region and the entities located within it (2.1.1). Such shifts do not appear to be motivated metonymically. In

contrast, it does not appear to ever be the case that ISTs result from *metaphoric* extension. This we expect, since there is reason to believe that metaphors preserve image-schematic structure.

Another important sub-type of IST is Figure-Ground Reversal. Figure-Ground Reversal is a concept which is particularly useful for relating meanings of polysemous grammatical markers. I have suggested that the common marking of cause and result with one form, for instance, is but a reversal in the direction of a single relation (2.1.1).

Metaphorical relationships underlie a large body of polysemous cases. Sometimes whole sets of morphemes map from one domain to another, as with the English modals, and we can make categorical generalizations. Many examples of grammaticalization are the products of metaphorical extension. It is not yet clear whether the functions of entire multifunctional constructions can be related metaphorically. I have suggested several cases which might be understood that way (for instance, the extension of the Gɛngbe grammatical pattern for expressing motion to non-motive, but purposeful activity - 2.1.2); but more research is need in this area.

Many polysemous words have senses that are related via metonymy. Part-whole metonymy is quite productive at the lexical level. Whether it relates functions at the grammatical level is not completely certain. In 2.1.3.1 I

proposed that certain cases of Generalization (e.g., the resultative-perfect polysemy) be considered grammatical examples of part-whole metonymy. Perhaps it is simply difficult for linguists (and 'naive' speakers) to conceive grammatical meanings in terms of whole and parts. It seems clear, however, that at the discourse level, part-whole metonymy is common. Every language has conventions concerning which aspects or parts of complex events should be explicitly coded. It is also clear that metonymic relationships hold at the level of category structure, as we have seen in the discussion of auto-hyponymic (taxonomically structured) lexemes like cow.

Pragmatic strengthening is a process of semantic change which, while not itself metonymic, depends on a part-whole relation being construed in the context of use of a morpheme. The process of strengthening a conversational inference is an important source of grammatical meanings; consider the logical connective function of temporal adverbs like since. The multiple meanings which result from pragmatic strengthening are related to each other through "inferential links". Since inferences are often possible only in particular contexts, the nature of the context is crucial in the understanding of how the strengthening takes place. If understood broadly, pragmatic strengthening can apply to lexical items. I have proposed that polysemies resulting from the strengthening of a precondition, as in the case of the verb tell (2.1.3.2), are amenable to a

pragmatic strengthening analysis. Some polysemous morphemes whose polysemy has resulted from pragmatic strengthening can be seen as instances of broadening (see 2.0); an example is probably, which has acquired an epistemic function in addition to its earlier manner meaning (cf. apparently, which subsequently lost its manner sense). Many polysemous cases may be viewed synchronically as metaphorical, and diachronically as (the product of) pragmatic strengthening.

Part-part metonymy is also prominent in relating meanings and functions of polysemous items. Lexical examples abound. Specific types of parts recur as the source-target combinations of metonymic expressions (for instance, container for content), allowing cross-lexemic, and in some instances, cross-linguistic generalizations. In addition, providing we are willing to conceive of abstractions as 'parts' and 'wholes', part-part metonymy can account for cases of grammatical multifunctionality. For instance, if we think of each of the various domains comprising the base of a morpheme as parts of a whole, then the relation between the subject adverbial use of words like frankly and its speech-act adverbial use (see 2.1.3.3) is part-part metonymy.

Beyond these three types of polysemy relations, there appear to be other bases for relatedness which we are only beginning to understand (2.1.4). Some grammatical polysemies rest on a shared subset of functions. The recurrent "automorphism" of conditionals and interrogatives is a case

in point: the categories share a 'space-building' function. Other automorphic examples are based on a shared discourse-pragmatic meaning or function, such as the property of giving rise to the same inference in a context (as in the perfect-perfective polysemy, for example). Finally, there are recurrent polysemies whose basis is the sharing of a mode of expression, that is, the sharing of a diagram. This appears to be the case with the coordinate-conditional polysemy.

We might pause to ask, what are the possible outcomes of this sort of review of types of relatedness in polysemy? First, we come away with a better sense of what the phenomena are that we need to account for. If this catalog is near correct, we are struck by how few types of relatedness serve as the bases of the vast range of polysemous instances. Mapping from one domain to another, varying an image-schema in minor ways, redistributing our focus of attention, imposing part-whole structure on a scene - all are surely grounded in basic cognitive abilities.

Of course, this survey constitutes an invitation to find disconfirming examples. It also affords us the opportunity to assess some of the theoretical notions we have employed. To take one example, the concept of an implicational hierarchy of categorical metaphors has been invoked to explain the cross-categoriality of morphemes, as well as grammaticalization from lexical items (Claudi & Heine 1986; see 2.1.2). Leaving aside the rather dubious specific

details of this proposal, it is not at all clear that it *explains* anything. To claim that a specific conceptual metaphor (such as After Is Behind) is an instance of a categorical metaphor (Quality Is Space) only postpones the question. What motivates the hierarchy of categorical metaphors?

Likewise, we have seen the Gricean concept of Relevance involved in accounting for the particular notions that are linked in cases of metonymy. For instance, Traugott argues that the strengthening of weakly epistemic apparently (2.1.3.2) takes place through the listener's inference that appearances would not be commented on unless newsworthy, that is, unless informative or *relevant*. Similarly, the close conceptual association of two entities within a single frame is proposed in Nikiforidou 1984ms as a condition on whether the two might be linked metonymically (as in the case of English nominalizations - 2.1.3.3). Before these concepts can be explanatory, they need to be made less vague. *Why* is something relevant? *When* can people group things together in a single frame? Until we can at least say where Relevance is likely to be found, and what entities are likely to be apprehended as parts of the same frame, our approximations to the nature of polysemy only beg the question.



## Part II Case Studies

### CHAPTER 3

#### Chagga 'Come' and 'Go'

but you can learn  
 from the edges that blur      O you who love clear edges  
 more than anything      watch the edges that blur  
 - A. Rich  
Your Native Land, Your Life

#### 3.0 Introduction

The historical origins of grammatical markers are often quite revealing of the nature of interrelationships among meanings. Recent research in grammaticalization has shown that grammatical morphemes tend to retain semantic characteristics of their sources, especially in the early stages of their grammatical careers (see for example Givón 1973; Fleischman 1982a, 1982b; Traugott 1985; Bybee 1988; Sweetser 1988; Bybee, Pagliuca & Perkins 1988ms; Bybee & Dahl 1989; Lichtenberk 1989ms; Svorou 1989; Hopper, in press).

One of the best explored areas of grammaticalization is the development of tense and aspect markers. Tense-aspect markers from lexical sources may reveal their ancestry through the retention of (elements of) the earlier meaning as a semantic overtone or as one of a number of senses of the new tense-aspect meaning. For instance, future markers from verbs meaning 'desire' have been found to exhibit nuances of meaning different from futures which have evolved

from verbs meaning 'come to': those from motion verb sources do not have desiderative or obligation senses (Bybee, Pagliuca & Perkins 1988ms). Verbs meaning 'return' have been found to develop into markers of repetition and/or of reflexivity, while verbs meaning 'go' have not (Lichtenberk 1989ms). The pervasive use of spatial expressions to convey temporal notions (Traugott 1978; Talmy 1978, 1988; and many others), and more particularly, the character of basic motion verbs such as 'come' and 'go' (for example, their directedness), have been identified as responsible for making such verbs good candidates for developing tense-aspect semantics (Traugott 1978; Bybee 1988; Bybee, Pagliuca & Perkins 1988ms).

This chapter is intended as a contribution to the collective understanding of how lexical meanings may develop into new grammatical meanings. It describes budding aspectual uses of the Chagga motion verbs 'come' and 'go' as they occur in what I will call the "infinitival complement construction". I explore the relation between aspectual and motion interpretations of the construction, and argue that metaphor relates these meanings. The metaphorical relationship together with various constructional properties holds potential for a change from lexical verb of motion to grammatical operator of "prospective aspect" (Comrie 1976; Fleischman 1982a).

This snapshot view of change-in-progress allows for deeper semantic observations than are usually offered in

analyses of grammaticalization in African languages. This study reveals that the ability the speaker has, to shift vantage point in using deictic verbs like 'come' and 'go', contributes to the utility of these verbs in the target domain of the relevant metaphors. The perspectival shifting that takes place with Chagga 'come' shows that it is unnecessary to attribute the temporal uses of 'come' and 'go' to two different models of temporal relations, contra Fleischman 1982b.

Finally, in this chapter we document interesting cases of polysemy. In Chagga neither 'come' nor 'go' need show identity of form across spatial and temporal uses. Nor is morphosyntactic categoriality a constant across the uses. Furthermore, there is considerable overlap between the spatial and temporal meanings in actual instances of use. Facing these facts makes pigeon-holing the Chagga morphemes as either verbs or aspectual prefixes impossible, yet neither we nor the Chagga speakers I have consulted have trouble assessing the meanings as distinct but related.

### 3.1 Chagga 'Come' and 'Go'<sup>1</sup>

In Chagga the verbs ienda 'to go to' and icha 'to come

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<sup>1</sup> The following orthographic conventions are adopted for the Chagga examples: sh [ʃ]; ch [tʃ]; y [j]; r, alveolar trill; ʎ [ɽ] retroflex flap; and ʒ [ʒ], slightly fricated alveolar approximant. High tone ' , falling tone ^ , and downstep ' are marked; low tone is left unmarked.



referred to by the complement verb takes place in the future relative to the events referred to by -enda or -cha. In this study I make a case that in this construction -enda and -cha may imply a future interpretation for their complement verb by expressing present "motion" of the actors on a path of action through time, directed toward the future. This, of course, is spatio-temporal metaphor. There are also indications that in this construction 'come' and 'go' are becoming dependent elements morpho-syntactically and phonologically.

Ienda and icha are basic deictic motion verbs which can be used in simplex sentences to express motion through space, to or from physical locations or entities, encoded as nominal objects (or locational adverbs), as exemplified by (3) and (4).

(3) mfirm                    ngiléé'ndá                    sándeí skúl            pfo  
 day.one    FOC.SM.1sg-P.PFV-go.to-IND    Sunday    school    NEG  
 'One day I didn't go to Sunday School.'

(4)... alafú    mka    chó    ó            Óbedí                    'káchá            ...  
 and.then    wife    that    ASSOC    0.    SM.3sg.CONSEC-come-IND  
 'and then Obed's wife came'

Ienda means 'to go to'. The notion 'goal' is incorporated into the meaning of the verb, as shown by the fact that the noun phrase interpreted as goal or destination of the going

is unmarked. In a parallel way, icha means 'to come from'. An unmarked noun phrase following it will be interpreted as origin or source of the motion, except in the special construction that is the focus of the present work.

As we saw in (1) and (2) above, the two verbs also take action and state predicates as complements. In this construction, illustrated further by (5) and (6), an infinitival clause occurs as "goal" of the motion verb. The final vowels of -enda and -cha coalesce with the infinitival i-, and the initial vowel of the stem -enda is lost, to give -nde- and -che-. (After (5) and (6), I will no longer separate off the infinitival i-.) It is this infinitival complement construction which is of primary interest in this study.

(5) ... kándeerá ho kí'máná kya  
ka-enda-i-ir-a

SM.3sg.CONSEC-go.to-INF-lift-IND there child ASSOC

wáka kímú kí'wékefáńá kásí halya Máágoti  
female one SM.7-P.IMP-CONT-do-IND work there M.

'(and) he went to 'pick up' a young girl who used to work at Maagoti.'

(6) ...           ngá' chésómá                           PhD

nga-cha-i-som-a

SM.1sg.CONSEC-come-INF-study-IND

'(and) I came to study for the PhD.'

Examples like (5) and (6) can express motion of the subject referent through space, toward the place where the act referred to by the complement verb (-ira or -soma) occurs. The construction often allows a non-motion interpretation as well. (1), (2), and (6) may be understood as referring to events of motion, or not. (5 may not have a non-motion interpretation, for reasons which are discussed in 3.2.3.) (2), for instance, can mean that the man referred to is or will be travelling to where we are and will then marry again (the ambiguity here residing in the Progressive). On the other hand, it can mean that in time it will come to pass that he (who is already here, located in space where we are) will re-marry. This latter interpretation involves no literal motion, no translocation through space. (There are even cases which are unambiguously non-motion - (11), for example.) In this reading of the construction, I argue below, our motion verbs verge on aspectuals.

Examples (1) and (2) may be instructively contrasted with forms in which there is no -enda or -cha. In (1) and (2),

-enda and -cha follow the Progressive marker -i-.<sup>4</sup> Without -enda and -cha, (1) and (2) would mean, respectively, 'This person is dying on us.' and 'He's marrying another wife.'. With -enda and -cha, the sentences can have a future-like meaning. The events referred to by the verbs following 'go' and 'come' are understood as unrealized. The action or state expressed by the complement verb is expected to happen after the present moment, the moment of speaking. In (1) and (2), the event of dying or marrying is yet to happen, whether or not physical motion leads up to it.

### **3.2 A Shift in Perspective and Some Consequences**

In this section I present an analysis of how it is that Chagga 'go' and 'come' function non-spatially in the infinitival complement construction, draw out some of the consequences of the analysis, and attempt to motivate observed constraints on 'go'.

#### **3.2.1 Shifting Perspective in Metaphorical Coming & Going**

In the case of -nde- 'go to', movement is directed away from the deictic center. Temporally, in the unmarked case the deictic center is the moment of speaking. The subject's "motion" proceeds from the present toward the future on a

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<sup>4</sup> The Progressive -i- is understood as present progressive in the absence of a non-present tense marker before it; it has all the possible temporal interpretations that the English progressive forms can have.



conceived time line from past through present to future.

(1), for instance, is a statement about the subject's present movement toward a future state, death.

-che- 'come to' can also be used in this construction with a non-spatial, metaphorical meaning, as we have seen. Note that the lexical verb icha means 'come from', while *in this construction* -che- means 'come to'. I return to this discrepancy below. In the metaphorical reading of (7) for example,

- (7)            naí'chésómá    úláya  
                   FOC.SM.3sg-PROG-come.to-study-IND            Europe  
                   'She's coming to study in Europe.' / 'She'll study in  
                   Europe.'

the subject of -che- is moving toward some point in time, after the moment of speech, when it will be the case that she studies in Europe if she continues on her present course. 'Come' of course expresses movement toward the deictic center. How is it that 'come to' can be used to implicate a future state of affairs, when the only possible 'coming' toward the temporal deictic center can be from the past toward the present?

For -che- to have this future-like interpretation, it is necessary to conceive the speaker's point of view to be at some point in the future. The specific point toward which the subject referent 'comes' is that point at which the

proposition being articulated will be true. In other words, the claim being made here is that in examples like (7) the vantage point of the speaker is shifted toward the future, and no longer coincides with the default deictic center, the moment and location of the speech event. The speaker takes the point of view of someone situated in the future, watching the subject's progress, 'coming to' that point where she will study in Europe.

Figures 1 and 2 graphically depict the metaphorical temporal uses of -enda and -cha in the infinitival complement construction, i.e. of -nde- and -che-. They schematize -nde- and -che- for cases in which they occur with the (present) Progressive.

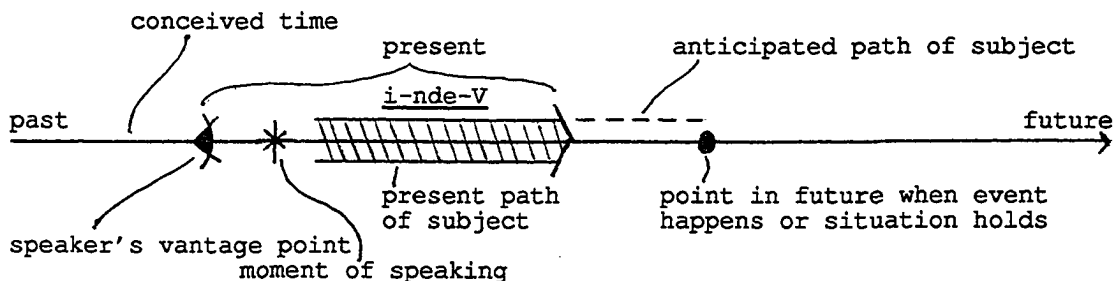


Figure 1: i-nde- 'PROG-go.to'

With the use of -nde- and the Progressive -i- (Fig.1), the speaker's point of view is anchored to the speech event. The speaker, as evidenced by her locution, conceives the subject as moving away from her (present location), headed toward the future. (We cannot, of course, move back toward the

past, nor can the Chagga.) For the felicitous use of -nde-, as in example (1), the subject may be located anywhere along a path between present location (now) and that future time when the proposition will be true, short of already having 'arrived' there. Further motion along the path must be anticipated, and the path must be projected to pass through or terminate at a point where the situation referred to by the complement verb will hold.

With -che- and -i- on the other hand (Fig.2), the speaker's point of view is anchored to that point in the future when the proposition being expressed is realized.

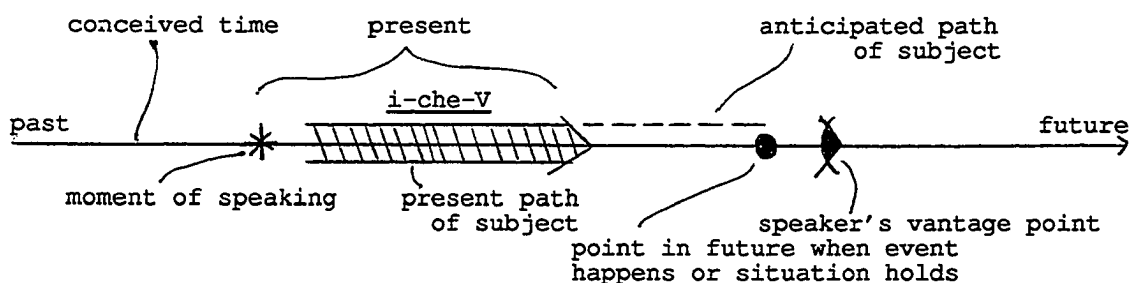


Figure 2: i-che- 'PROG-come.to'

The subject, as in example (2), is conceived as moving toward the speaker, and toward that future realization point: it is the 3rd person sg (human) subject that 'comes'. The metaphorical use of -che-, then, involves a shift in speaker's point of view. In the default case, point of view is anchored to the deictic center (moment of speech), while in this use of -che- it is not.

The existence of such a shift in perspective is plausible, and perhaps to be expected. Speakers of a language necessarily take some perspective ("point of view", "viewpoint", "vantage point") when they speak, and grammatical choices follow (for dramatic examples of this, see Banfield 1982; Reinhart 1983; Fleischman 1989; Rubba 1989). It is well-known that languages allow shifting of perspective in spatial deictic expressions (Fillmore 1975). In uttering She asked Fred to come to her party., for example, the speaker has assumed a perspective of one of the participants (the inviter) of the communicative act referred to (the invitation): hence the use of come (ibid.).<sup>5</sup> Likewise in Chagga, speaker's perspective when using deictic verbs in the spatial domain may shift from the default coupling with the deictic center. (8) was uttered when neither speaker nor hearer was located at the destination of motion, yet -cha 'come' was employed.

- (8)                    ngíí'chá                    na Bostón    mórí    'chó    wúcha  
                           FOC.SM.1sg-PROG-come-IND    to    B.    month    that    next  
                           'I'm coming to Boston next month.'

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<sup>5</sup> Anecdotal evidence of such shifting in Western Apache may also be of interest. In W. Apache narratives speakers may use 'come' forms in recounting the travels of protagonists, even where their destination is not the present location of the narrator. When asked about this dissociation of narrator's and protagonists's points of view, one consultant said that it was just that speakers were "jumping" to later parts of the journey/story (Keith Basso, p.c.).

The context for (8) included speaker's and hearer's knowledge that the latter would be in Boston herself by the next month, and the perspective taken was apparently the one she would have at that time.

It is apparent that such shifting is also possible with *metaphorical* uses of deictic elements. An attested case from English is You'll come to that point where you give up (trying to convince your sister). I would argue that here the speaker takes the vantage point of the addressee at that point in the future when he gives up; thus movement along the metaphorical path can be oriented toward that shifted perspectival point, and 'come' is allowed. Talmy (1986) discusses the Yiddish Historical Present as a case of "decoupling" of the speaker's vantage point from the *temporal* deictic center: it is a "presentation of the event as it would appear to a viewer concurrently on the scene of the event"; that is, the speaker's perspective moves back in time. There are grammatical constructions whose use depends crucially on the 'location' of speaker viewpoint: viewpoint is important in the selection of voice and in so-called inverse-person marking (DeLancey 1981; Van Oosten 1984), and in the contrast between proximate and obviative in languages with deictic 4th-person systems (Foley & Van Valin 1984). (For further evidence of the pervasiveness of perspectival shifting in the use of deictic elements, see Emanatian, to appear b.) It is my contention, then, that Chagga examples like (2) and (7) similarly show the realization of this

potential for de-coupling the speaker's point of view from the deictic center. The Chagga phenomena offer an example of a property of the source domain - the shifting of perspective which is characteristic of deictic verbs of motion - carrying over to the metaphorical target domain of events in time. As mentioned in Chp.2, the observation that grammatical morphemes retain some of the semantic flavor of their sources has been stated more specifically for cases of metaphorical transfer in Lakoff 1990; cf. Turner 1990.

Lakoff hypothesizes that in the metaphorical transfer from source domain to target domain, "image-schematic structure" is preserved. If perspectival shifting is an image-schematic property, the Chagga situation discussed here might be taken as in accordance with the "Invariance Hypothesis". (For a discussion of problems with the Invariance Hypothesis, see Brugman 1990.)

### **3.2.2 Consequences of this Analysis**

-nde- and -che- do not, strictly speaking, mark futurity. An utterance in the Progressive containing one of them, whether motion is understood or not, is not an assertion or prediction about some future event or situation occurring. Rather, such an utterance is used to assert that the subject of the motion verb is *at present* on a certain path which, if followed, potentially leads to a certain state of affairs in the future. In this way -nde- and -che- are commonly and

conventionally used to implicate future. Traugott has shown (1988, 1989) that this sort of situation leaves the door open for the implicated meaning to become part of what is asserted by the morpheme through the process she calls "pragmatic strengthening" (see 2.1.3.2).

To get a better sense of how the speaker's viewpoint shifts with -che- but not with -nde-, it is useful to look at the occurrence of these with tense-aspect markers other than the Progressive. Both occur with the regular inflectional Future -chi-, and in such cases serve to emphasize the passing of time between the moment of speech and the future occurrence. -che- occurs with the whole range of past and past-related tense-aspect markers and allows a non-motion interpretation. -nde-, in contrast, is restricted in its interpretation when it occurs with pasts or with tense-aspects which are typically given a past time interpretation (such as the Consecutive).

Consider the contrast between the combination -le-che- and simply -le-.

- (9) ná' léchémkapâ  
 FOC.SM.3sg-P.PFV-come.to-OM.3sg-hit-IND  
 'She came to hit him.'

- (10) ná' lémkapa  
 FOC.SM.3sg-P.PFV-OM.3sg-hit-IND  
 'She hit him.'

(9) can be a literal expression of a motion event, in particular, one in which the agent changed her location from somewhere else to here, prefatory to the act of hitting. It also allows a metaphorical interpretation, in which there is no motion. In that case it conveys the sense that she found herself hitting him - we could translate 'She wound up hitting him'. This reading of (9) carries the implication of a lack of planning or control. As such it contrasts with (10), which has no -che-. (10) simply means that at some point in the past she hit him. (10) is neutral as to planning or control (but for the usual agency ascribed to an animate subject).

The semantic nuance that the use of -che- often adds can be made sense of in terms of the metaphor of motion on a path from a point in the past toward a reference point shifted to the future (from the point of view of that past point). The origin of this happenstance flavor may reside in the application of our understanding of journeys to these cases of changing events in time: we know that the range of things a traveller might meet along a path is not subject to planning or control. (This is a metaphorical entailment, in the sense of Lakoff & Johnson 1980.) It should be noted that no such nuance of happenstance is attached to the use of -nde-. This observation is consistent with the finding that 'go' futures, as distinct from 'come' futures, tend to have additional flavors of intention, purpose, or volitionality (Fleischman 1982a, 1983; Bybee, Pagliuca & Perkins 1988ms).



(As a first pass at why it might be that 'go' futures tend to have volition, intention, and/or purpose flavors, while 'come' futures do not, let me speculate that these facts might follow from which part of the motion event the deictic center is typically located at. Perhaps with 'go', where the self is located at the departure point, the focus is on setting out. This is the part of a trip presumably most under our control. 'Come', on the other hand, places the self at the point of arrival (which may or may not be the intended destination), a part of the trip which we know relatively little about in comparison.)

Future markers originating in motion verbs tend to have a semantic flavor of 'agent-already-on-path' (Bybee 1988). While the Chagga construction described here might be expected to have that flavor given its particular metaphorical underpinnings, it does not. There is no overtone of imminence evoked by the metaphorical use of -nde- or -che-. It is interesting that the metaphorical image of an agent moving on a path through conceived time lends itself to (at least) two different semantic overtones in languages: imminence (agent already on path) and happenstance (lack of planning or control). This is all the more interesting since these would seem to be at odds with each other. Yet each semantic overtone is motivated by different properties of the source domain: of motion through space and of journeys in particular. Imminence is implied in the idea that the mover is already in motion on a path

toward something, a path that leads somewhere. A happenstance flavor arises, as I have suggested, from the fact that motion on a path does not necessitate arrival, since what happens on a trip is not predestined or completely controllable.

Returning to the use of -che- with pasts, we can see in Fig.3 a diagram of the metaphorical reading of -le-che-. The -le-che- combination is used when the subject has 'moved' since the last past event referred to. The motion takes place along a path toward the speaker's present, terminating in the occurrence of the event referred to by the complement predicate ('hit' in (9)). That event occurs before the present moment.

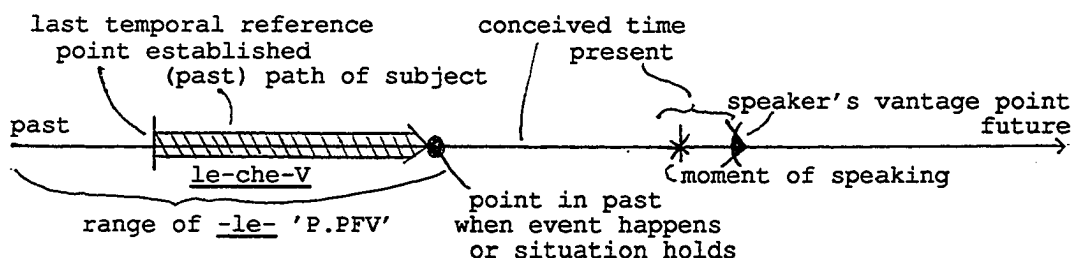


Figure 3: le-che- 'P.PFV-come.to'

The contrast which obtains between -le-che- and -le- alone (recalling (9) and (10)) is suggested as well in (11). (11) is a textual example featuring -che-, along with the Consecutive marker ka-.



### 3.2.3 Constraints on 'Go' with Pasts

In contrast to -che-, as mentioned above, it is not possible to use -nde- 'go to' with a non-motion reading in any of the past or past-related tense-aspects. Cases like (12), for example, can *only* have a motion interpretation.

(12)            ná'léndéngíwíá                            kí'ndó  
                   FOC.SM.3sg-P.PFV-go.to-OM.1sg-tell-IND    thing

                  áleámba

                  SM.3sg-P.PFV-say-IND

'He went to tell me what she said.'

On first glance it appears that an explanation for this might be found in the incompatibility of the deictic directedness of 'go' verbs and the nature of the passing of time. 'Go' expresses motion away from the deictic center, even in its metaphorical, temporal use (as in (1)). With past tense-aspect marking, the going would presumably have taken place in the past. Thus we would expect 'motion' directed *toward* the past. This directedness conflicts with the movement of an actor through time from past to present - and in no other order - that is, motion *toward* the deictic center.

However, we might expect the perspective of the speaker to be able to shift away from the deictic center in such

cases. That is, we might expect a shift of viewpoint from coincidence with the speaker's 'now' to the more distant temporal reference point provided by prior discourse. In that case, there would be no deictic incompatibility: the subject would move through time from the shifted vantage point established at some point in the past, along a path toward a later point, also in the past, when the event or situation being talked about holds. The fact that there are languages with 'go' pasts (Fleischman 1982b) would seem to indicate that perspectival shifting cannot be ruled out for 'go' in general. Yet in Chagga it appears true that the speaker's vantage point cannot be de-coupled from the moment of speech for metaphorical uses of 'go': interpretations corresponding to Figure 4 are not possible.<sup>6</sup>

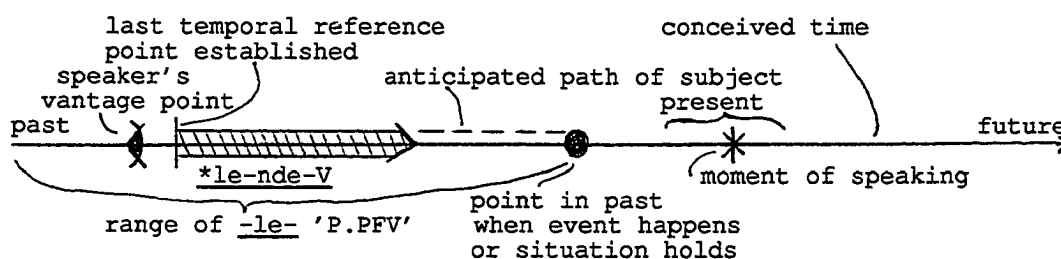


Figure 4: \*le-nde- 'P.PFV-go.to'  
(unacceptable on a metaphorical reading)

<sup>6</sup> It is interesting to compare English in this respect. Although go (to) can have a non-motion meaning for some speakers in the simple past (imperfective or perfective), that reading is disallowed in the Perfect. As far as I have been able to tell, She's gone to put the kettle on. does not allow a non-motion reading. Perhaps in English the 'present relevance' element of meaning of the Perfect works against the transfer of speaker's perspective from the unmarked case of 'now'. (Cf. the inability of the Perfect to collocate with a time adverbial referring to a specific time point or period in the past - Comrie 1985.)

I would nevertheless propose that the reason for the non-occurrence of metaphorical -nde- with pasts has to do with a clash between the way time is conceived and the specific lexical semantics of the verb that -nde- derives from. Our conception of time accounts for why perspective would have to be shifted back in order to use a 'go' verb, as I have just suggested, and the meaning of ienda accounts for why it cannot be.

A simple hypothesis for why perspective cannot be decoupled from the deictic center with -nde- in the past is that neither the lexical semantics of ienda, nor the semantics of the infinitival complement construction, allows the explicit statement of a source location other than the deictic center. Ienda lexicalizes motion toward a goal, as described in 3.1. The understood source location is the deictic center. There is no way to use ienda, even literally, with a different source location specified. For example, you cannot say 'I went from Dar es Salaam to Zanzibar' using ienda:

(13a) \*        naleenda                                zanziba    darisalam  
                  FOC.SM.3sg-P.PFV-go.to-IND    Zanzibar    Dar es Saalam

(13b) \*        naleenda                                darisalam    zanziba

The only way to express both source and goal is to use a multi-clausal construction, employing the verb iuka 'to

leave, move (off) from', for instance, which takes a source complement.<sup>7</sup>

(14) ná' léenda zanzibá áwukíá darisalâm

SM.3sg-move.from-APPL-IND

'He went to Zanzibar from Dar es Salaam.'

Moreover, the infinitival complement construction allows explicit statement of goal (the complement predicate), but not source. Thus we are left with an asymmetry in the metaphorical uses of -che- and -nde-: a perspectival shift with -che- involves a shift of the destination, the location of which can be specified by the construction as other than the deictic center. But a perspectival shift with -nde- would involve a shift of the source, an impossible move because it cannot be specified as other than the deictic center, either by the construction or by -nde- itself. I am proposing, then, that the restriction on -nde- with pasts amounts to the limitations of the constructional semantics as they interact with the lexical semantics of the verb ienda, and the consequent inability to undergo the perspectival shift necessitated by our conception of past preceding present. (In physical motion uses (as in 12), the

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<sup>7</sup> Many languages allow movement away from a non-deictically-anchored reference point to be expressed with 'go'. This fact has led some researchers to suggest that 'go' is not deictic in the same sense as 'come' (Fleischman 1982b). But the Chagga facts suggest that that may not universally be the case (Emanatian 1987ms).

source location for -nde- is some spatial reference point which was relevant in the past (established by the tense/aspect marking and the context); it needn't be explicitly expressed. The question remains, why can't a reference point for the metaphorical uses be established in the same way?)

In this section I have described the extended uses of reduced forms of the Chagga motion verbs ienda and icha in a special construction which expresses metaphorical motion on a path of events or actions through conceived time. The path may be situated in the present, in which case movement toward a future state of affairs is expressed. Or the path may be situated in the future, for the expression of movement toward a state of affairs more remotely in the future. Or, for -che- at least, it may be situated in the past, in which case movement toward a state of affairs holding in the past (though less remotely so) is expressed. In all these cases of the use of -che-, wherever the temporal reference point, 'movement' is toward the future.

The metaphorical constitution of {actors acting through time} as {mobile objects on a path through space} is given flexibility in the case of -che- through the shiftability of perspective characteristic of the basic deictic motion verb it derives from. The shifting ordinarily possible with a 'go' verb is disallowed for -nde- with past events due to



the limits imposed by the lexical semantics of ienda and by the construction it participates in, in conjunction with the way we conceive of time. In each case we are able to observe morphemes that are undergoing semantic change retaining characteristics of their sources.

### 3.3 Prospective Aspect

The non-motion uses of -che- and -nde- I have described bear a strong resemblance semantically to what Fleischman has called "prospective aspect" (1982a; 1983). Prospection is a type of present relevance, a subjective psychological link to the present: "the future action or event ... is viewed by the speaker as growing out of or somehow related to the present world state" (1982a:96). Prospective aspect is a "[way] of viewing an event in which a non-chronological or not primarily chronological connection is established between the event and the reference point, in the case of 'present' relevance, between the event and 'now'" (1983:192). It is distinct from, but related to, the direct expression of futurity (future tense). Fleischman suggests that the notion of prospection distinguishes 'go' futures from ordinary future tenses in Romance, and encompasses all of the semantic nuances attributed to 'go' futures (e.g., imminence, intentionality or premeditation, assumed event, inception) (1982a; 1983).

The semantics of -che- and -nde- examples in the



Metaphorical -che- and -nde- differ from the inflectional Future -chi- in the degree of certainty they express. This is one of the semantic nuances of difference between 'go' futures and regular futures found by Fleischman in her study of Romance and English (see also Welmers 1973). A Chagga assertion containing a Future tense verb seems to native speakers a more definite or sure prediction than an assertion in -i-nde- or -i-che-. These latter, after all, refer only to a current situation. Utterances such as (17), in the inflectional Future, predict a state of affairs at an unspecified future time.

- (17)            né'chísómá                    úláya  
                   FOC.SM.3sg-FUT-study-IND       Europe  
                   'She will study in Europe.'

(17) might be used when the speaker knows for sure that the person being talked about is to study in Europe (perhaps she has definite plans in place or is already enroute). Utterances such as (18), with 'be going to' (see also (7), in -i-che-), strictly speaking predict nothing.

- (18)            naí'ndésómá                    úláya  
                   FOC.SM.3sg-PROG-go.to-study-IND       Europe  
                   'She's going to study in Europe.'

(18) says merely that at the time of speaking she is

'moving' toward some point in time (after the time of speaking) when it will be the case that her studying takes place in Europe. (18) might be used when the speaker has some reasons to expect that the person in question will study in Europe, but has no definite knowledge to bring to bear. Such expressions take note of current movement and implicate later progress along the present path. In this sense, the present situation "grow[s] out of or [is] somehow related to the present world-state".

The fact that we find a slight difference in speech act force between -i-nde- or -i-che- on the one hand, and -chi- 'FUT', on the other, is, of course, motivated by the prospective aspect analysis being proposed. The future location of a subject which at present is only known to be on a path headed in a certain direction is not something which can be confidently vouched for.

One might ask how the proposal that -nde-/-che- express prospective aspect differs from one in which they are analyzed as relative future tenses. I believe the two stories differ only in emphasis. A relative tense analysis focusses on the temporal relationship established between the event and some reference point, whereas the prospective aspect analysis emphasizes the psychological link of relevance to that reference point. The prospection proposal accords better with a usage which is transparently metaphorical: the path of the actor connects the event s/he is destined for with the point of origin. (In any case,

rigid insistence on categorizing these morphemes seems inappropriate to the phenomenon at hand - see 3.6.)

I suggest, then, that the uses of Chagga 'come' and 'go' in the infinitival complement construction constitute cases of incipient prospective aspectual meaning. The coexistence of the motion verbs -enda and -cha and transparently metaphorical -nde- and -che- provides us with a link between the motion verb senses and future tense marking in other languages where the two are found to be related, obviating the need to try to directly relate the motion verbs to future tense, as noted in Fleischman 1983. There is, of course, more to becoming an aspect marker than semantics; functional-distributional and phonological change will be addressed in 3.5.

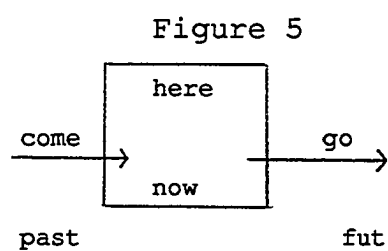
### **3.4 Differences Between 'Come' and 'Go' in Chagga**

Motion verbs are cross-linguistically the most common lexical sources of future morphemes (Bybee, Pagliuca & Perkins 1988ms). Fleischman (1983) has suggested that one route to 'future' meaning is through a stage of prospective aspect; she argues that this route has been taken by the Romance languages, for example. But motion verbs are also known to develop into tense-aspects other than future. 'Come' verbs, for instance, commonly develop into perfect markers and sometimes subsequently into pasts or perfectives. Thus it may seem strange that 'go' and 'come'

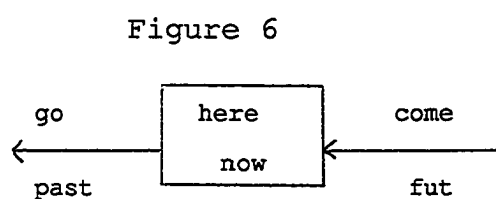
would both exhibit future-like meanings in a single language. And yet reportedly there are languages which have both 'come' and 'go' futures. These include for instance Duala (Bantu; Cameroon), Lotuko (E. Nilotic; Sudan), Western Kru languages (Kwa; Liberia & Ivory Coast), and Margi (E. Chadic; Chad) (Welmers 1973; Heine & Reh 1984; Fleischman 1982b; Bybee, Pagliuca & Perkins 1988ms).

How is it that a 'come' verb develops a future-like meaning in the first place? Of the two verbs, 'go' is the one which expresses motion away from the here and now, motion toward the future. In other words, if 'come' is for motion, spatial or temporal, *toward* the deictic center, how can it develop the meaning 'future', if events proceed from past, to present, to future?

Fleischman 1982b offers an answer. She argues that 'come' futures and 'go' futures each involve a different "model" of temporal relations. 'Go' involves a "moving-ego model", where we actors move into the future, which is a stationary medium; see Fig.5. 'Come' involves an alternative conception, the "moving-time model", where it is the future that moves, toward us, anchored at the present moment; see Fig.6. (Cf. Traugott 1978; Lakoff & Johnson 1980.)



Moving-Ego Model



Moving-Time Model

(based on Fleischman 1982b)

This seems to be a reasonable and elegant solution to the puzzle, particularly since the two models have linguistic manifestations beyond grammatical futures from 'go' or 'come'. For instance, as many people have noted, English has expressions like in the weeks to come, in which the future moves, in addition to expressions like as we approach the turn of the century, which is based in the "moving-ego" model. There are similar examples from Spanish: de aquí en adelante 'from now/here to ahead' (i.e., 'henceforth') vs. en los tiempos venideros 'in time to come'.

It is not clear, however, that this hypothesis actually works for grammatical futurity. The examples of grammatical 'come' Futures adduced in support of Fleischman's moving-time analysis do not in fact support it. In LuGanda and Efik, for example, the subject prefixes on 'come' are Noun Class 1, 2, or 3, human: they refer to the actor, and not to the future itself nor any temporal unit. The actor 'comes' to do X, not the "highway of time".

Of course, verbal elements which are becoming auxiliaries might be expected to relate semantically to the clause as a

whole - to the event or situation - rather than to the participant which remains their formal subject. In Chagga however, the fact that many instances of the use of -nde- and -che- are ambiguous over the prospective aspect reading and a reading of physical motion on the part of the subject (see 3.6) suggests that these grammaticalizing elements still relate to their formal subjects.

In any case, the two-model analysis does not adequately account for the polysemy of 'come' in Chagga. Chagga -che- is not defined relative to a "moving-time model" of temporal relations. It is the (referent of the) *subject* of 'come' that moves ('I' in (6), for example), in all cases coreferent with the subject of the following infinitive; it is not the future that moves.<sup>8</sup>

I have suggested a different analysis in this chapter. I am proposing that the "moving-ego model" alone underlies the metaphorical use of *both* 'come' and 'go' in Chagga. It is the shift in speaker's perspective afforded by the deictic nature of 'come' which allows it to readily express future-like meanings.

It seems possible that the shifting perspective analysis and the moving time analysis describe two different routes for 'come' verbs to become future markers. The former

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<sup>8</sup> Note that in examples like (6) there are two relevant reference points: with respect to the past reference point established (for the felicitous use of the Consecutive in this case), the actor moves toward the future; with respect to a *different* reference point, the speaker's vantage point at the moment of speech, the actor 'comes'.



exploits the deictic potential of the lexical source, while the latter arises in an alternative conception of events occurring in time.

We would expect to find semantic and/or distributional differences between 'come' and 'go' futures in a language that has both (Bybee, Pagliuca & Perkins 1988ms). And as we would expect, in Chagga we find weaker differences between -nde- and -che- than are exhibited by languages in which the two verbs are fully grammaticalized futures.

The budding Chagga aspectuals are not yet semantically very distinct from each other. We have seen above that -nde- is incompatible with pasts, unlike -che-; and that -che- often has a nuance of happenstance which -nde- does not evoke. One additional difference concerns the way in which the semantics of -nde- and -che- elaborate the infinitival complement construction. The reader will have noticed that the lexical semantics of icha 'come from' are compromised in the use of -che-. Recall that icha means 'come from' in a simplex sentence about a motion event: an NP following it is interpreted as source location, or origin. Icha requires a following preposition na 'to' in such a sentence if a goal is to be expressed. The uses of -che- described in this paper express motion, physical or otherwise, toward a goal, regardless of the semantics of icha. It is possible, however, in contexts of actual physical motion, to get a 'come from' reading for -che-, providing the context is strongly biased toward that interpretation. In contrast, as

discussed above, it is not possible to force a 'go from' reading for -nde-. What we seem to have in the use of -che-, then, is the constructional integration of an explicit goal with the meaning of icha, while no like contribution of meaning occurs in the more redundant integration of constructional meaning with the lexical semantic inheritance of -nde-.

### 3.5 The Formal Side of Grammaticalization

We have seen how the metaphorical extensions of the basic meanings of Chagga 'come' and 'go' approach the semantics of aspect, as defined by Fleischman. Certainly their meanings fit the general characterization of verbal inflection offered by Bybee (1985): they are of moderate "Relevance" to verbs and they have high "Generality". -nde- and -che- are "relevant" to verbs because their semantic content directly affects or modifies the verb's meaning. Going to leave is significantly different from leaving - they are different actions. Coming to remarry is not, itself, the act of remarrying. Moreover, metaphorical -nde- and -che- are quite "general", in Bybee's sense. Unlike the motion verbs ienda and icha, they take complements from a wide range of semantic categories: everything from action verbs with volitional agents to cognition verbs with experiencer subjects. Their near-prospection meaning is general enough to apply "to all stems of the appropriate semantic and

syntactic category"; at least I know of no cases where a metaphorical interpretation is disallowed due to the semantics of the complement predicate (with the exception of deictic incompatibility - see below).

But there is more to being a grammatical morpheme than having a meaning ripe for the expression of aspect. An inflectional category "must obligatorily occur in the appropriate syntactic context". A grammatical morpheme must have a meaning that is "communicatively useful enough" to be high frequency (Bybee 1985). It appears that this is not yet the case for -nde- and -che-. In many instances, an infinitival complement construction in -nde- or -che- can be replaced by an expression using the inflectional Future, with no reported harm to content and only a slight difference in connotation. The infinitival complement construction is a periphrastic means of implicating a future event or situation by talking about a present course leading up to it.

Of course it is also true that -nde- and -che- co-occur with the regular inflectional tense-aspect markers. They are not yet sufficient in themselves to carry the weight of assigning a temporal contour and a temporal anchoring to the proposition in question.

On the other hand, there are weak formal indications that -nde- and -che- fall short of fully lexical morphemes (as I have indicated by surrounding them with hyphens). These forms have undergone phonological attrition and

modification. The phonological reduction accompanies prosodic dependency. In many cases it is not possible to pronounce an utterance more slowly to produce the unreduced forms -enda or -cha, with a distinct infinitive marker i-. No such reduction occurs in simplex clauses expressing motion through space: the stem-initial e of -enda is still pronounced, even in fast speech. Furthermore, the forms -nde- and -che- are rather fussy about their contexts of occurrence, attaching only to verb stems, and only in prestem position (or, put another way, -cha and -enda are only reduced in this way when they immediately precede verbs in the infinitive). Nothing may intervene between a -nde- or -che- and the verb it occurs with (but this is true in general for verbs and their infinitival complements). It is not possible to modify only the 'go' or 'come' in a -nde- or -che- construction: adverbs have scope over the entire predication, or over the complement alone. Together these observations suggest that we have incipient grammatical morphemes, affixes-to-be on the stems of their complement verbs. (It seems preferable, given these properties, to categorize -nde- and -che- as budding affixes rather than as fast-speech clitics (Zwicky & Pullum 1983; Macaulay 1987b). It should be noted however that the location of these category boundaries in general is a contested issue.)

These formal properties are not in themselves sufficient to warrant the assignment of grammatical morpheme status to -nde- and -che-, the more so since the reduced prosodically

dependent forms do not occur solely with the metaphorical, near-aspectual meanings. Rather they appear in *all* instances of 'come' and 'go' in the infinitival complement construction. This is evidence that semantic and morpho-syntactic changes occur in parallel (contra Claudi & Heine 1986, for example). Note that if we claim that the lexemes 'go' and 'come' are in the *process* of grammaticalizing to -nde- and -che- in this construction, we are not ruling out the possibility that their present reduced forms and at times metaphorical meanings could have been in co-existence with the motion verbs -enda and -cha for quite some time. That is, what we see today may in fact be a stable situation.

Nevertheless conditions do seem to be right for grammaticalization. The infinitival complement construction with -nde- or -che- resembles other complex constructions consisting of a complement-taking verb and its complement in infinitival form, i.e. nominalized with i-. Iwooka 'to try', imarisa 'to finish', and iZa 'to leave, stop' are verbs that take infinitival complements. In these cases the complement-taking predicate is the head of the complex clause: it receives the tense, aspect, and mood marking, and it is inflected for the noun class of its subject. It is relatively distinct from its complement phonologically. The complement itself is dependent: the "infinitival" i- signals tense-aspect dependency, irreality, and coreference of its verb's subject with the subject of the matrix predicate. In

an infinitival complement construction with -nde- or -che-, the true inflectional tense marker modifies 'go' or 'come' (as -i- does in (7), for example), and not the complement. In this respect 'go' and 'come' are still the heads of the construction. But subject coreference of motion verb and complement leaves the door open for syntactic change: a transparently complex construction could move toward a more tightly bound structure, and eventually to one where there are no longer two separate verbs (Givón 1973; Foley & Van Valin 1984).

We therefore entertain the hypothesis for ienda and icha that a number of factors are conspiring toward their reanalysis as grammatical markers. Occurrence in a construction which requires coreference, and in which formal tense-aspect marking is shared by the verb and its complement; in which there is some degree of morphophonological attachment to the complement stem; and where there is a metaphorical meaning available, all present the potential for reinterpretation of a {head plus complement} pattern as an {operator plus predicate} pattern. It would not be surprising if -nde- and -che- developed into full-fledged inflectional aspectuals, and perhaps ultimately into future markers. It is interesting to note that the regular KiVunjo inflectional Future, -chi-, is itself from Proto-Bantu \*yij 'come'. In the other Chagga dialects it has the form -che- or -she- (Nurse 1979a). Thus we seem to have in -che- a case of renewal. (At present -che- does co-occur

with -chi-, as does -nde-.)

The reduction to -che- and -nde- is particularly suggestive in light of the semantics of these morphemes. Often no physical motion at all is involved in the meaning of a -nde- or -che- expression; consider (15) for example. The subject of the {-nde-/-che- + verb} complex is often immobile and even abstract. The infinitival complement (goal) of -nde- or -che- does not literally refer to a location in space but rather to an event, activity, or state (which of course takes place in a location). Thus even a motion reading requires a loosening of the normal constraint on motion verbs that their goal be a location. The constraint is loosened further in non-motion readings, where complement predicates like 'believe' which are not place-specific are acceptable (compare 'These days she's coming to bake the bread earlier and earlier in the morning.' with 'I can see that she's coming to believe me more and more.'). In these ways Chagga 'come to' and 'go to' have undergone some degree of semantic generalization (Bybee 1985; Bybee & Pagliuca 1985): they occur in contexts of motion *and* of change.

The behavior of -nde- and -che- with complements that are themselves deictic verbs of motion is also suggestive of a weakening of their lexical content. Generally, deictic compatibility is required in complex expressions with two or more deictic motion verbs. Ienda 'to go to' is incompatible on a literal motion reading with any complement verb of





semantic weakening, that is, of *lexical* meaning: as lexical content becomes less prominent, aspectual meaning becomes more so. (Cf. Sweetser 1988; Traugott 1988, 1989.)

### 3.6 Summary and Conclusions

The Chagga verbs 'go' and 'come' may take "infinitival" goal complements. In such cases they express motion toward the goal, motion which may be physical or metaphorical. The metaphorical reading, the only one possible for some complements, introduces a potential future situation or event by referring to the subject's present 'motion' on a path toward that situation or event. A "moving-ego" perspective is involved in the semantic extension of both 'come' and 'go'. Taken metaphorically, these verbs establish a connection between a future happening and the present situation, and thus instantiate prospective aspectual meaning. Their semantics, together with distributional generalization and phonological attrition, make Chagga 'come' and 'go' good candidates for grammaticalization to aspect markers.

Several properties of the lexemes 'come' and 'go', and of the infinitival complement construction they participate in, make them suited to the grammatical expression of aspect, and perhaps even of future tense. In their study of sources for futures, Bybee, Pagliuca & Perkins (1988ms) suggest that the meaning element 'movement' alone is not enough to

support a development into a grammatical future marker. They hypothesize the indispensibility of the meaning 'movement towards', or "allativity", that is, not just Motion, but Motion and a specific Path (Talmy 1985). They also require the source construction to have non-perfective aspect. Certainly allativity is one of the properties of -nde- and -che-: it is inherited from the infinitival complement construction, which specifies that the complement receive a goal interpretation.<sup>8</sup> No specific aspectual marking is characteristic of the infinitival complement construction, presumably leaving the way open for the expression of futurity. It might also be noted that 'come' and 'go' are sufficiently schematic (Bybee & Dahl 1989); they do not lexicalize a specific Manner of motion, information which would perhaps be extraneous to the mapping of spatial motion onto the domain of time (Sweetser 1988).

It is striking that, in the data analyzed by Bybee, Pagliuca & Perkins (1988ms), of all the conceivable motion verbs, by far the most common sources of futures are the verbs 'go' and 'come'. Other motion verbs meeting the criterion of allativity, such as 'move to', 'arrive at',

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<sup>8</sup> Of course, -enda is *lexically* allative as well: it incorporates 'to' as part of its fundamental meaning. -cha, though, is *not* lexically allative in this sense; it expresses motion 'from' an origin. Various criteria may be used in determining whether a lexeme is allative, however. Strictly speaking, both 'come' and 'go' in any language have 'motion toward' aspects of meaning as well as 'motion away from' aspects (cf. Lichtenberk 1989ms). 'Come' involves motion toward the deictic center, and away from a point of origin, while 'go' involves just the opposite.

'enter', and 'approach', apparently rarely become grammatical markers of future. 'Come' and 'go', of course, are *deictic* motion verbs, and are extremely common ways of lexicalizing motion events. Sweetser (1988) proposes that lexicalization of motion away from the deictic center (prototypically the location and moment of speaking) makes 'go' the "perfect choice for movement away from the present in time" (for which the normal possibility is toward the future).

It is this facet of 'come' and 'go' that, I believe, accounts for their being the most common motion verbs to become future markers: the fact of the motion being deictically anchored provides a nexus of locatedness in *both space and time*, and this in turn provides a take-off point for metaphorical usage. Thus it seems that the development of 'come' and 'go' into prospective aspect and future tense utilizes from these verbs both the location of source and goal, and the direction of movement.<sup>9</sup>

I have suggested here that another contributing factor - one which is perhaps more important - is the unique property of deictic elements, of being employable when the speaker's vantage point is positioned somewhere other than the

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<sup>9</sup> Lichtenberk (1989ms) analyzes various grammaticalizations of 'come', 'go', and 'return' in Oceanic languages as each involving only one component of the meaning of the verb in question. He leaves open the possibility of multiple "functions" co-existing. Chagga and English appear to show that multiple facets of meaning of the source lexeme can co-exist in grammaticalization. Cf. Sweetser 1988 and Bybee, Pagliuca & Perkins 1988ms.

unmarked location of deictic center (speaker's here and now). The flexibility this offers appears to be as communicatively useful in the temporal domain as in the spatial domain. Displacement of a speaker's or writer's vantage point is an important linguistic vehicle of *expressiveness* (Fillmore 1975; Fleischman 1989). In fictional narration in particular, shifting which separates self from speaker serves to bring an element of consciousness to the text (Banfield 1982).

It has been evident as well that properties of the construction, apart from the lexical meaning of ienda and icha, promote the development I have described. Important are the goal role of the complement predicate (more basically, that the "infinitival" form is a nominalization, and so can fill the goal role (Givón 1973)), its dependence on 'come' or 'go' for tense-aspect interpretation, and its subject's coreferentiality with the subject of 'come' or 'go'.

The possibility of -nde- and -che- being understood metaphorically allows their complements to be taken as metaphorical goals, as destinations, whether or not the verbal activity or event takes place in a location in which such activity usually occurs. Thus it is metaphor which opens the way for -nde-/-che- to have a more general distribution than -enda/-cha have. Again, this is not to say that metaphor is necessarily responsible for the process of grammaticalization (contra Heine & Reh 1984; Claudi & Heine

1986). There are abundant cases of grammaticalization from lexical items that are not attributable to metaphor (Traugott 1988, 1989; see also Chp.2). Of course grammaticalization also includes cases of "expansion" (Heine & Reh 1984), whereby already grammatical morphemes become increasingly so; these are often not the result of metaphorization (e.g., the change from perfective aspect to past tense - Fleischman 1982, 1983; see also 2.1.3.2).

It should be clear by now that the linguistic phenomena discussed here necessitate a more fluid approach to grammar than is popular at present. The portrait of -nde- and -che- I have offered reveals their aspect-like use as emerging out of the participation of 'come' and 'go' in the infinitival complement construction, a construction which is still used for the expression of motion-to-event. Alongside this construction there exists a simplex spatial motion construction with the same verbs (though in slightly different shape). An approach which takes constructions to be points of maximum conventionalization of what is fluid and variable, in which extensions to sub-types and to families of constructions are expected (Fillmore 1986; Lakoff 1987; Langacker 1987a), comes much closer to modelling these phenomena than would a standard approach. An analysis of this material which, say, made reference to two constructions only, the one for physical motion with -enda

and -cha and their nominal complements, and the other for metaphorical motion with -nde- and -che- and their verbal complements, would misrepresent the facts (cf. Brugman 1982ms; Craig, in press). To reify the endpoints of what instead appears to be a continuum of constructions (or a small number of constructions with variable parameters) would miss several things: a) that the forms -nde- and -che- may also express purely physical motion, that is, the distribution of the reduced forms and the metaphorical meaning is not identical; b) that the semantic attributes of the complements of 'come' and 'go' form a cline, varying from a concrete, mobile subject and an object that is a physical location, all the way to the other extreme, where the subject can be immobile and even abstract and the object is an event, activity, or situation; c) that we do not find the total productivity of occurrence with complement verbs that we would expect if -nde-/-che- were fully grammatical morphemes; d) that there might also be a phonological continuum from -enda i- to -nde-, and from -cha i- to -che-. The point is that a view of grammar as a set of reified, static, finite, and strictly compositional constructions or rules will not accord with the observed linguistic facts (cf. Fleischman 1982a; Hopper 1987).

Note that while I have claimed that Chagga 'come' and 'go' are polysemous, their properties are such that they fall outside "polysemy", as narrowly defined. Chagga 'come' and 'go' are "heterosemous" (Lichtenberk 1989ms). Both the

lexical verbs and their reduced forms have motion readings, but only the latter allows a metaphorical reading. Furthermore, there is an incipient difference in categoriality, with the reduced forms moving toward acquiring the status of grammatical affixes. The situation of grammaticalization chains, where several formally similar items, with degrees of membership in more than one grammatical category, and multiple potentially related meanings, is so common that it must come under the purview of polysemy studies.

A more interesting challenge to the scope of the term "polysemy" is the indistinctness of meanings that many examples exhibit. Often speakers will vacillate between motion and non-motion interpretations of -che- or -nde- (in the absence of biasing context). They will sometimes further comment that it is not just that both readings are possible, but that the meanings are not really distinct, that the utterance "means both" (cf. Norvig's "combined simultaneous interpretation", 1988; Apresjan's simultaneous realization of semantic components, 1974:14). Provided there are examples in Chagga which can *only* mean one thing or the other - and there are (it is hard to force a motion reading of (15), for example, and not possible to get a metaphorical reading of (12)) - we are justified in categorizing -nde- and -che- as polysemous (cf. Bybee 1988; Traugott 1989). It is clear, nevertheless, that to speak of two distinct senses in these cases is to make a linguist's idealization of

semantic-pragmatic reality. Epistemological questions aside, the interesting thing here is that it is this very indistinctness which constitutes the experience of conceptual overlap giving rise to the potential for metaphorical extension in the first place. We might also say that it is the cooccurrence of the two meanings in experience that allows for the sensation of semantic indistinctness. Traugott (1985, 1989) and Traugott & König (in press) have shown that there may be periods during a semantic change in which a morpheme simultaneously expresses more than one meaning in a single instance of use (as was the case with the volition, obligation, and necessity senses of will; cf. also while). It might be hypothesized that such indistinctness of meanings - or perhaps better, dual realization - is a necessary temporary stage in the development of polysemous elements.

By taking a close look at the metaphor behind extended uses of Chagga 'come' and 'go', we have been able to see that a single model of temporal relations is sufficient to account for these uses. In this way it has also become clearer that part of what makes 'come' and 'go' so useful for temporal expression is their deictic character. I have tried to show as well that an approach which "watches the edges that blur" can reveal interesting things about the ways of semantic change, of grammaticalization, and of the conceptualizations that underlie linguistic usage.



## CHAPTER 4

### The Consecutive and the Conditional in Chagga

#### 4.0 Introduction

This chapter examines a case of grammatical polysemy in Chagga, that of the Consecutive and the Conditional. While the two constructions are each marked with the verbal prefix ka- and share other formal properties as well, their semantic relatedness is not immediately obvious. In fact, given the meaning of the Consecutive, the occurrence of ka- in Conditionals is surprising.

The improbability of the set of functions of ka- demands explicit argument for relatedness, unlike the other Case Studies. I present evidence for a polysemous ka-, drawing on the semantics of conditionals, on the notion of dependency, and on the existence of instances of ambi-directional relations in language.

The discussion of the semantic relationship of the Chagga Consecutive and Conditional brings out the importance of a schematic semantics to grammatical multifunctionality. In particular, it suggests that, in some cases, the sharing of a diagram (or image-schema), and in other cases, a transformation on that diagram (such as Figure-Ground Reversal), may be important means of functional extension in grammatical constructions.

The Consecutive construction by itself brings us to a discussion of the phenomenon of simultaneous functioning, or "multiplicity". The Consecutive has multiple, interrelated functions which are typically simultaneously realized. I argue that multiplicity is a common property of grammatical morphemes. Clearly of interest, it nevertheless should be distinguished from cases of 'true' polysemy.

#### 4.1 Chagga *ka-*: an Overview

The verbal prefix ka- [k<sup>h</sup>a] in the KiVunjo dialect of Chagga marks both the Consecutive construction and the basic Conditional construction. In each case, it occurs in the primary position for tense, preceding the secondary tense-aspect marker, object marker (OM), Reflexive, and verb stem. ka- has various allomorphs, the form of which depends on the shape of the subject marker (SM) which it follows. For noun classes 1 and 2, there has been assimilation and coalescence of SM and ka-; the forms of ka- are summarized in Table 1.

	Noun Class	SM + <u>ka-</u>	Actual Form
1	1sg	ngi-ka-	nga-
	2sg	u-ka-	ko-
	3sg	a-ka-	ka-
2	1pl	lu-ka-	lu-ko-
	2pl	mu-ka-	m-ko-
	3pl	wa-ka-	wa-ka-
	all others		SM-ka-

Table 1

In the typical Consecutive, ka- appears on a verb designating an event which occurs after another event. The Consecutive marker ka- takes the place of the tense marker on the verb. It serves to situate the consecutive event relative to the "reference event". The reference event is itself temporally grounded with one of the regular tense markers. (1) exemplifies the Chagga Consecutive.<sup>1</sup>

- |     |                            |          |
|-----|----------------------------|----------|
| (1) | ná' léúká                  | núká     |
|     | FOC.SM.3sg-P.PFV-leave-IND | lowlands |
|     | <u>ká'</u> chá             | na kani  |
|     | SM.3sg.KA-come-IND         | to home  |

'He left the fields and came home.'

In (1), the ka- marked clause kacha na kani has no tense marking; -cha 'come' has no prefix which temporally locates the coming with respect to the moment of speaking. It is ka- which serves to situate the coming relative to the earlier act of leaving the lowlands. -uka 'leave', in the matrix clause, is temporally grounded with the 'Past Perfective' marker le-. The ka- marked verb, or Consecutive, is dependent on the matrix verb for its temporal situatedness. Note that

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<sup>1</sup> Orthographic conventions for Chagga examples are summarized in note 1 of Chp.3. In the examples in this chapter, ka- remains unglossed, appearing interlinearly as KA-.

the consecutive clause typically follows its reference clause. I argue below that the basic function of the construction is to express the semantic and syntactic contingency of its clause. The Consecutive construction is described more fully in 4.2.

In the ka-marked Conditional construction, ka- appears prefixed to the verb of the protasis (condition), again in pre-stem primary tense position. (2) is an example.

- (2)      lukópatá                      'lé                      lóozika  
          SM.1pl-KA-get-IND            EXPR            SM.1pl-FUT-send-IND  
          'If we get (it), we'll send (it).'

The verb -pata 'get' carries the ka- prefix in place of a tense marker. The matrix clause looZika, which expresses the consequent, is in the future tense (here manifested as vowel length on the lo- SM).

Typically in Chagga the condition precedes the consequent, in temporal-causal iconic order. A fuller description of the Conditional construction is provided in 4.3.

Given an analysis of the Consecutive as a construction whose business is the expression of contingency of the ka-marked clause on a reference clause, it is surprising to find the ka- of the Conditional construction occurring on the *condition* clause. This anomaly is the impetus for this Case Study: the "same form" (see below) in the same

morphological slot functions both to mark a clause as condition for another event (in the Conditional use), and to mark a clause whose event's existence depends on the prior occurrence of another event (in the Consecutive use). That is, ka- functions both to mark the event another is contingent on and to mark the event that is contingent on another. We know of numerous examples of languages using the same or similar form to mark coordinate clauses as to mark the *consequent* clause of a conditional (Haiman 1985b), but this is the opposite of what we have here. If ka- is polysemous, its pair of functions are an unexpected set.

There is no solid evidence that Consecutive ka- and Conditional ka- are historically related. Nurse (1979a) notes the widespread distribution within E. Bantu of a ka- with past and with consecutive meanings, but a narrower distribution with conditional meaning. He reconstructs a \*ka- Past for ProtoChagga/Dawida/Kasigau, and a \*ka- Conditional likewise, but concludes that it is unclear whether Chagga Conditional ka- is the same morpheme as the Consecutive or "if it is inherited". Nevertheless, I present arguments in 4.4 that in KiVunjo, Conditional and Consecutive ka- are "the same morpheme".

It is important to realize that while the Consecutive and Conditional prefixes ka- have the same phonological shape (and allomorphs), occur in the same position in the verb, and share other formal properties as well, they do exhibit differences. At the level of the construction, the prefixes

have partly different co-occurrence restrictions and distributions in discourse. The isomorphism principle (Haiman 1985b; see 1.1) states that where we find recurrent form, we should expect recurrent meaning. Extrapolating from this, less than full formal identity of the Consecutive and Conditional constructions is to be expected, given their semantic differences, detailed below.

The anomalous pair of functions that ka- manifests requires us to motivate a claim of polysemy. To answer the questions 'are the meanings or functions of this marker related?' and 'if so, how?' (that is, do we have polysemy?), we have to answer the questions:

1) what formal properties are shared by the markers? is the sharedness attributable to independent factors (e.g., to general pragmatic principles, or to properties of verb classes)?

2) does the observed homonymy recur in other languages? that is, are the same meanings or functions expressed by a single morpheme or construction in other languages?

3) is there a way to plausibly relate the meanings?

(Cf. Haiman's (1978) "structuralist" and "universalist" "methods of evidentiary justification" for hypothesized polysemy; cf. also Sweetser 1986.)

In 4.2 and 4.3 below, I describe the Chagga Consecutive and Conditional, respectively. Section 4.4 addresses the above questions directly, and provides support for the polysemy of Chagga ka-. In 4.5 I discuss the sorts of

relatedness afforded by the schematic semantics of polysemous grammatical morphemes in general.

## 4.2 The Chagga Consecutive Construction

### 4.2.0 Prototypical Use

The typical Chagga Consecutive construction consists of a string of two or more clauses. The first of these is a fully tensed and independent clause; the rest of the clauses are ka- marked. Ka- appears on every verb subsequent to the first, to signal that the events referred to follow that first event in time. This first clause, the "reference clause", provides a temporal reference point for the following ka- marked, Consecutive clause(s).

The conversational excerpt in (3) serves to illustrate the typical use of the Consecutive in Chagga. In (3a) the verb -enda 'go to' is in the Past Perfective. (b) and (c) provide background information, temporally situated by the Imperfective Past, we-. In (d) we begin to see ka- marked verbs; (d) shows that one ka- marked verb can follow another. After evaluative statements (g-j), the main speaker resumes the storyline in (k) with a series of ka- clauses.

Speaker A

(3)a. tená                                      ngí'léénda                                      keeri      kílya  
           in.fact    FOC.SM.1sg-P.PFV-go.to-IND    period    that

kú'wéwoZé                      njá'á                      ŋú  
 SM.17-P.IMP-have/IND      hunger                      EXPR

ndáó                      kâni                      heeee  
 younger.one      home                      EXPR

'In fact, I went in that period when there was hunger,  
 brother.'

b. wándú                      wá'wélunga                      ŋu                      m'stáŋi  
 people      FOC.SM.3pl-P.IMP-join-IND      EXPR                      lines  
 'People were forming lines,'

c. ní                      í'lúngá                      ŋú                      m'stáŋi      ná      daftári  
 COP      INF-join-IND      EXPR      lines      with      notebooks  
 'forming lines with notebooks.'

d.      koendá                      'wákáámbuya                      hó  
 SM.2sg.KA-go.to-IND      SM.3pl-KA-look.at-IND      there

ni      indi                      ú'lépátá                      súkári  
 COP      when      SM.2sg-P.PFV-get-IND                      sugar

'You go and they look there at when you got sugar,'



e. ní índi ulepatá michele  
 COP when SM.2sg-P.PFV-get-IND rice  
 'at when you got rice,'

f. ní índi ulepatá mso  
 COP when SM.2sg-P.PFV-get-IND flour  
 'at when you got flour.'

g. á mso chó 'níwé msó η u ?  
 but flour that COP-P.IMP flour EXPR  
 'But was the flour flour?'

h. ní mso  
 COP flour  
 'It's flour.'

Speaker B

i. Cornfeed. 'Cornfeed.'

Speaker A

j. ní chá ngakuwesa  
 COP neg.eval FOC.SM.1sg.PERF2-OM.2sg-ask-IND

wú'óZé mchanga  
 FOC.SM.3-have/IND sand

'That's bosh. I'm telling you, there's sand in it.'

k. mchanga mchanga koshítsá mso kání le  
 sand sand SM.2sg.KA-deliver-IND flour home EXPR

'Sand, sand. And you take the flour home.'

l. kóshítsá mchángá 'chó ipfó 'kání le  
 SM.2sg.KA-deliver-IND sand that there home EXPR

'And you get this sand home,'

m. kóndéchékéchá e  
 SM.2sg.KA-go.to-IND-INF-sift-IND EXPR

'you go to sift it,'

n. koenda kówiká se  
 SM.2sg.KA-go.to-IND SM.2sg.KA-put-IND again

mYingéni 'kórúwiká e  
 water-LOC SM.2sg.KA-soak-IND EXPR

'You go and put it in water and you soak it.'

o. alafú mchángá chó úkóZamia ihó wánda  
 and.then sand that SM.3-KA-sit-IND there down

'And then the sand settles down.'

p. kopusúo ŋu mYingá cho e  
 SM.2sg.KA-pour/IND EXPR water that EXPR

'And then you pour off the water,'

q.        kooká                    η        mso        chó    íhó    úye  
 SM.2sg.KA-skim-IND EXPR flour that there above  
 'and you skim the flour from the top.'

r.    alafú 'íchó    wó    wánda    ká'písá                    kówiítsa  
 and.then that ASSOC below    really    SM.2sg.KA-throw-IND  
 'Then what's at the very bottom you throw away.'

This long string of ka- verbs is reminiscent of the way perfectives are used in many languages to advance the storyline in narratives. A link between ka- marking and perfectivity is also suggested by the break, (g-j), in which the verbs are *not* ka-marked, and give the kind of background information found for *imperfectives* (Hopper 1982a). Notice that the events referred to by the ka- verbs are interpreted sequentially (consecutively) even when the string of verbs is interrupted by non-ka- verbs. The reference verb for kowiitsa 'you throw away' in (r), is eight clauses back, in (j), wuoZe in the Historical Present.

ka- clauses may depend for their tense interpretation on reference verbs in the Past Perfective, as in (2); the a- Perfect, as in (4); the we- Imperfective Past, as in (6), below; and the Present (unmarked, or marked with the i- Progressive), providing there is a generic or iterative interpretation, as in (3)j-r. ka- clauses are not possible after a reference verb in the Future, as in (5).

(4)            n66'Y6ka  
 SM.2sg-PERF2-stand.up-IND

kongí'ámbúya  
 SM.2sg.KA-OM.1sg-look.at-IND

'You stood up and looked at me.'

(5)    \*    l6'chímláwá                            ká'chá            ná káni  
 SM.1pl-FUT-OM.3sg-call-IND    SM.3sg.KA-come-IND    to home  
 ['We'll call him and he'll come home.' (prediction)]

The temporal interpretation assigned to a Consecutive itself is past or generic present. With a past tense reference verb, the ka- verb is typically interpreted as past. Unlike Swahili (Ashton 1944; Welmers 1973; Wald 1976; Hinnebusch 1979), future interpretation of a ka- verb is not possible with a reference verb in the present.

It is possible for a ka- clause to have a non-past interpretation, as in (3)k-r where the ka- verbs are interpreted generically. Each ka- clause has no specific temporal reference, yet each activity is subsequent to the preceding, which must transpire first. The Chagga ka- verb, then, need not receive past time reference (despite what is implied for Consecutives in general in the Swahili literature).

Ka- clauses are dependent not only for their temporal anchoring, or tense interpretation, but also for their aspectual interpretation. Consider (6).

(6)	ná'wékelúláwa	so	wá'chúkú
	FOC.SM.3sg.P.IMP-CONT-OM.1pl-call-IND	us	grandchildren
	wáké	<u>ká</u> luYámíYá	wanda
	his	SM.3sg.KA-OM.1pl-seat-IND	down
	<u>ká</u> 'lúwíá	adiísí	tsífóóŋui
	SM.3sg.KA-OM.1pl-tell-IND	stories	lots

'He used to call us, his grandchildren, sit us down, and tell us lots of stories.'

In (6) all the activities - calling, sitting us down, telling us stories - are things grandfather *used* to do. The ka- verbs, -YamiYa 'seat' and -wia 'tell', inherit from the we-ke- tense-aspect combination on nawekelulawa the meaning 'past continuous/repetitive'. In other words, we-ke- has scope over the entire complex of clauses, not just over the clause it is part of. Ka- verbs do not carry their own aspect marking, nor do they have a default aspectual interpretation of their own.

The syntax of a series of Consecutive ka- verbs, as in (3), cannot be described as simply "dependent". The usual

notion of syntactic dependency involves a relationship between a non-matrix clause and the matrix clause, within a single complex sentence. But strings of ka- verbs may be indefinitely long, going beyond the boundaries of a sentence. Ka- marked clauses may even be separated from their reference verb by background statements and parenthetical comments (reminiscent of clause-chains in Papuan languages); cf. Carlson 1987. Whatever definition of "sentence" is relevant to natural spoken discourse, it is clear that the unit which contains the ka- verb and the reference verb is larger than a sentence. Coreference of subjects in the ka- and reference clauses is not required. Yet ka- clauses tend to be used throughout the maintenance of a single discourse topic, while a break in a series of ka- verbs corresponds to a topic shift. This in turn correlates with the occurrence of ka- on action predicates and its absence on background (often stative) predicates (cf. Hopper & Thompson 1980 and Wald 1987 for Swahili).

Bennett 1975 and Van Valin 1984 have noted that a Swahili Consecutive clause is not subordinate in the narrow sense of being dependent on a matrix clause and embedded within it. Likewise, Chagga Consecutives are dependent but not embedded. A ka- clause is not an argument of (or any part of) its reference clause. For instance, it is not possible to use a Consecutive in a series of clauses that form the complement of a matrix predicate. Moreover, a negative clause expressing an event in a series takes main rather



In (7), in the absence of a specific context, her running is understood to result from his shouting at her. Disjoint reference of subjects is assumed; even though a coreferent interpretation can be forced, it is dispreferred. The availability of a result reading for a ka- clause seems to depend on the hearer's knowledge of the discourse context and of what causes what. In (6), grandfather seating us is not the result of his calling us; rather, he could not seat us unless he first called us in. The strong, resultative kind of contingency is not a separate sense of ka-, but a pragmatic inference commonly available in context.

Ka- clauses are most commonly found in narrative contexts. Since their temporal grounding is provided by a reference verb, their occurrence is dependent on the existence of a discourse. A verb marked with Consecutive ka- cannot be first in a series of clauses, for example, at the beginning of a story (cf. Ashton 1944), nor can a complete utterance consist of a single ka- clause (but see 4.2.1).

To summarize, the typical Chagga Consecutive has the following properties: its morphological marker, ka-, occurs in the tense position on the verb; the construction as a whole expresses the consecutivity of an event with respect to the event encoded by a preceding clause (i.e., the Consecutive clause is tense-dependent); it expresses the contingency of one event upon another; the Consecutive clause is dependent for its aspect interpretation; it occurs in narrative strings of action predicates; it does not open



a discourse, or stand alone (i.e., it is distributionally dependent); it effects "co-subordinate" clause-linkage; and its absence in contexts where it could otherwise occur correlates with a shift in topic. This multiplicity of properties and functions makes the Consecutive difficult to readily categorize.

#### 4.2.1 Contingency and Functional Coherence

I have argued elsewhere (Emanatian 1990) that the Consecutive in its multiple functions nevertheless may be characterized as expressing the single overarching notion of **contingency**. The Consecutive construction expresses the contingent status of the ka- marked clause with respect to another event. The Consecutive clause is dependent on or conditioned by that event. The notion 'contingency' is rather abstract. Its specific manifestations appear in various functional domains. Formally, ka- is a tense marker: it fills the tense position in the verb when tense distinctions are neutralized (cf. Fula, Comrie 1985). The Consecutive construction indicates tense-aspect dependency, distributional dependency, topic continuity, and semantic contingency of events.

On this analysis, the interpretation of a ka- clause occurring in a narrative as temporally consecutive results from two facts: that event A cannot follow event B if B is contingent on A, and that the order of narrative clauses is

normally taken to be iconic of the order of events (that is, unless morphosyntactically marked otherwise - cf. Haiman 1985b). In this way, the consecutivity of the "Consecutive" is an epiphenomenon of its contingency. This is not to say that it is non-essential: consecutivity is a *conventional* inference arising from the contingency ka- expresses in a narrative context.<sup>2</sup>

The functions and properties of the Consecutive are not a random set. Rather, they are a motivated, or coherent, grouping. A grammatical construction dedicated to indicating causal and/or logical relationships between events and temporal arrangements of those events is, of course, useful in narrative. A mechanism which links clauses which are dependent but not embedded is suited to the encoding of strings of events, each one contingent on the preceding; furthermore, it is not surprising that continuity of topic is indicated by this same linguistic means. The existence of a less 'resonant' set of functions - one in which, say, the

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<sup>2</sup> Another analysis for the Consecutive is to treat ka- as a marker of relative tense, in particular, relative future: the event of a ka- verb is understood as occurring after the reference point of the preceding tensed verb. In this view, ka- would be both formally (categorially) and functionally a tense. A relative tense account takes tense as basic, and the other properties of the Consecutive as derived. However, it is difficult to see how aspectual dependency, or co-subordinate nexus, for example, are extensions of relative tense. Thus, this account sacrifices functional coherence for the unity of form and function in one category (tense). The strength of the contingency analysis, which proposes a single, abstract meaning for the Consecutive, lies in its functional coherence: it unifies the properties of the construction, and leaves open the inclusion of the Conditional function of ka- (see below).

expression of sequentiality and subordinate nexus were correlated - would need explaining. (Subordination is a possible syntactic means of expressing consecutivity, but we would expect to find it in a given language only if no tighter type of clause-linkage is employed in that language to express a weaker semantic relation between clauses (see Interclausal Relations Hierarchy, Foley and Van Valin 1984).)

To say that the multiple functions of the Chagga Consecutive cohere is not to say that they need be performed by every instance of a Consecutive ka- clause. In the prototypical case, tense-aspect dependency goes hand-in-hand with semantic contingency, temporal consecutivity, the narration of events, topic-maintenance, and co-subordinate clause-linkage. Atypically, a Consecutive construction may deviate from this characterization in various ways. Deviant usages are not anomalous however, but may be seen to follow from general principles (see Emanatian 1990). To take but one example here, ka- clauses may occasionally be found in isolation, with no preceding context, and no reference clause; (8) is an example.

(8) riná lyaké            líkámánika            ko wándú woóse  
       name his SM.5-KA-know-INTR-IND to people all  
       'His name got known to all people.'

(8) was uttered without the explicit temporal anchoring that

a reference verb normally provides. However, as the translation provided by the speaker suggests, the situation referred to was being thought of as the result of some previous occurrence. That is, this sentence was offered with a context in mind. The frequent presence of an initial koikyo 'because; therefore', kipfa 'because', alafu 'and then', or basi 'therefore' in decontextualized examples testifies to the imagined discourse that the ka- clause is part of. As long as the condition on the occurrence of ka- clauses in isolation is understood as a *discourse* condition, such uses do not constitute an anomaly.

#### 4.2.2 Simultaneous Functioning

It is interesting to note that, in the typical case, not only do the multiple functions of the Consecutive form a coherent set, but they are realized *simultaneously*. That is, a single use of a Consecutive construction expresses contingency, temporal consecutivity, aspectual dependency, and topic continuity, as it serves to advance the story line in a narrative and link one clause to another in a dependent but non-embedded way. Because these functions are performed in *different* functional domains (Givón 1984), they may be performed at one and the same time. In fact, as I have claimed above, only in atypical uses are any of these functions not realized at one and the same time.

Notice the difference between this situation and that of

'true' polysemy. "Polysemy" refers to cases of multiple, related meanings (or functions) which are in the usual case mutually exclusive. We do not find, for instance, that both the literal 'unmoving' sense of still (She sat very still.) and its 'continuing to hold' sense (I still hate liver.) are expressed by a single use of the word. (However, the typicality of mutually exclusive senses even in canonical polysemy is challenged by a close look at semantic change - see 3.6.) Canonical polysemy is a property of morphemes whose different senses all designate entities or relations within one domain, the "referential". Many cases of grammatical polysemy do perform multiple functions within one domain, where, of course, they are mutually exclusive. Consider two of the uses of the English present tense, the generic (She hates liver.) and the hypothetical (as in the threat You touch him, you're dead.); each is within the functional domain of tense-aspect-mood, and does not co-occur with the other.

However, many - perhaps most - examples of grammatical polysemy exhibit simultaneous realization of their functions. Discourse-pragmatic functions of tense-aspect markers, such as the use of the perfective in narrative (Hopper 1982a), or the use of infinitival forms to both express irrealty and effect clause-linkage (Foley & Van Valin 1984), are examples. Likewise, the use of switch-reference markers to express sequentiality (or vice versa); the politeness connotations carried by certain tense-aspect

forms (cf. Fleischman 1989); and the discourse-connective functions of the temporal adverbs now and then (Schiffrin 1987) are all examples (see Chp.2) of simultaneous functioning. This situation is so common that it should be of considerable interest to polysemists. It has not, to my knowledge, been recognized in its own right, as different from what we usually think of as polysemy. The present study, in its concern with relatedness of meanings and functions, certainly includes such cases in the broad category of polysemy. Nonetheless, it may be useful to distinguish them from polysemy proper. (With all due apologies for contributing to the proliferation of terms) I propose the term "**multiplicity**" to refer to cases of multiple, related meanings or functions which can be realized simultaneously. It is important to note that even in cases of multiplicity, the functions *can* be teased apart; i.e., it is only in the prototypical case that they are simultaneously performed.

Now we turn to a less obvious case of semantic relatedness.

#### **4.3 The Chagga *ka*- Conditional**

The Chagga Conditional construction of interest in this study is more straightforward than the Consecutive. The ka-marked Conditional is the simple conditional construction. There are other means of forming conditionals in Chagga, and









#### 4.4.1 Shared Formal Properties

Conditional ka- and Consecutive ka- are phonologically identical. This includes the effect they have on the tone of adjacent syllables. Morphophonemic variation is identical as well. We should not make too much of this fact, since general phonological rules in Chagga account for the forms of ka-. For instance, in fast speech a may be raised to o after a syllable containing u; e.g., 1st pl SM lu- + the a- Perfect are typically pronounced lo(o)-. (Likewise, the Chagga passive is -o, which appears as -wa in many other Bantu languages.) Also, other tense markers coalesce with the preceding SM in regular ways; e.g., ngi-chi- 'SM.1sg-FUT' may be realized as either ngechi- or nge(e)-.

Consecutive ka- and Conditional ka- also share various morpho-syntactic properties. In both constructions ka- occurs in the position of the primary tense marker and is therefore mutually exclusive with (other) tenses. A ka- marked clause, whether Consecutive or Conditional, is syntactically dependent: it cannot occur alone but needs a deictically grounded (matrix or reference) clause to be anchored to. Neither construction requires coreference between the subjects of the ka- marked clause and the matrix clause or reference clause.

On the other hand, there are striking differences between the two constructions. A typical Consecutive clause is aspectually dependent: Consecutive ka- verbs do not carry their own aspect marking, nor do they have a default

aspectual interpretation of their own. Rather, they pick up their aspectual interpretation through an integration of the inherent aspect (Aktionsart) of the verb stem and the inflectional aspect of their reference clause. Conditional ka- clauses, in contrast, do receive aspect marking of their own, as we have seen in 4.3.

Another difference between the two constructions is that ka-marked conditions typically precede their consequents, while ka-marked consecutive clauses always follow their reference clauses (though sometimes at a considerable distance). As I have noted however, it is possible to elicit a Conditional in the marked order which parallels the Consecutive, with the ka-marked clause following the matrix (consequent) clause.

There are also differences in the possible temporal interpretations of ka-marked clauses in the two constructions. Conditional ka- clauses generally do not allow past interpretations (with the exception of the counterfactual ka-we- combination, mentioned above). They are tenseless and semantically irrealis. (Again, Chagga does of course have other ways of making past conditionals, but not with ka-.) Consecutives, on the other hand, are typically used with past interpretation. In addition, future interpretation of a Consecutive ka-marked verb whose reference verb is past or present is not possible (for example, in the second clause of 'She went home and she'll cook later.'). It is possible, though, for a Chagga

Consecutive to have a non-past interpretation, if it is taken generically, as in procedural discourse: 'first you do this, then this, then this', with the non-initial clauses marked with ka- (as in (3)m & n, for example). Each ka- clause has no specific temporal reference (this it has in common with the Conditional), yet each activity is interpreted as subsequent to that referred to by the preceding clause (typically, to the immediately preceding). Moreover, it cannot transpire without the reference event first having taken place.

Distributionally, too, the two constructions differ. Consecutives are most commonly found in narrative contexts. Their occurrence is dependent on the existence of some discourse: there must be some candidate for reference verb. It is not possible for a verb marked with Consecutive ka- to be first in a series of clauses, for example, at the beginning of a story. This is not the case with the ka- Conditional, which of course is quite at home initiating a narrative or a conversation.

It appears that the differences in constructional properties are as numerous as the similarities. In fact, if we look at the *typical* uses of Consecutive and Conditional, the two are in near-complementary distribution. The Consecutive is typically used for past, realis, perfective events which advance the main story line in narrative, while the ka- Conditional is typically used for future, irrealis events, and is apparently unlimited in genre. The

Consecutive clause follows its reference clause, while the Conditional typically precedes its consequent. The search for shared formal properties has not produced a dramatic list with which to justify a polysemy claim, although there are enough similarities that it is probably not accidental.

#### **4.4.2 Recurrent Polysemy**

One way to establish confidence in a hypothesis of polysemy is to find the same grouping of meanings under one form in other languages. It is fairly common to draw upon this sort of evidence; see for example Haiman 1978; Nikiforidou 1986ms; Horn 1985; Traugott 1985; and Sweetser 1986. In this Case Study we are seeking instances of formal congruence between Conditionals and Consecutives. I mention here two cases of note.

Haiman (1985b) discusses at length the "recurrent homonymy" of coordinate structures and conditional structures. In 2.1.4 this is offered as an example of "shared diagramming". Essentially, the linear form S1S2 of coordinate structures is a natural form for the expression of the 'given-new' order of clauses in prototypical conditionals. Haiman describes, for instance, the Papuan morphological distinction between the personal desinences of the final, independent verb of S2 and the medial, dependent verb of S1 as "strongly connot[ing] asymmetric relations between S1 and S2. As well as expressing simple

coordination, they typically express temporal succession, cause and consequence, and ...causal conditionals as well." He explains, "that is, the semantic content of 'because' and 'after' is expressed by the structure AxBy where x and y are the medial and final desinences" (pp.75-76). Clearly there are languages aside from Chagga which link temporal succession with causal sequence. But these patterns show formal marking of the temporally consecutive clause in one construction and the causally dependent clause (that is, the consequent clause) in the other. We still lack an example of homonymy (or other formal congruence) between consecutive clause and *condition* clause (protasis).

That example may be provided by some of Chagga's relatives within Eastern Bantu. Several Tanzanian Bantu languages have morphemes ka- (or ṅa, kaa-) and/or ki- (or kI-, ke-), each of which occupies the same pre-verbal position, functions in the same broad semantic domain, and is, in KiVunjo Chagga at least, mutually exclusive with the others in the set. To take ki- as an example: in Swahili, ki- marks "participials" (complement of copula with progressive translation; adverbial clause with simultaneous reading; complement of verb of perception; etc,) as well as Conditionals. Nurse 1979a labels Swahili ki- "participial"; it is glossed "progressive" in Hinnebusch 1979; "while" in Hinnebusch & Mirza 1979; "in the event of" in Zawawi 1971; the "Conditional construction marker" as well as the "Simultaneous construction marker" in Welmers 1973; and the

"durative 'identical tense' prefix ... whose function is to indicate backgrounding in general" in Hopper 1979 (cited in Haiman 1985b; cf. Hopper & Thompson 1980). In Pokomo (Nurse 1979a), it marks participials, Conditionals, and Consecutives (this is possibly the same sort of polysemy as Chagga exhibits; unfortunately I have been unable to find more information about Pokomo). In Shambala, a ki- clause receives a 'when (you/he/etc.) V' interpretation (Nurse 1979b). (Kikuyu appears to have a similar semantic grouping: although not marked with the form ki-, most "Situatives" "range in function between Temporal, Manner, and Condition" (Bennett, et al. 1985). Some languages have ke- for some of these functions, while others have ka- or a cognate of ka- for some of them, or for related functions. (One of these is the Distant Past, which in some languages is formally identical with the Consecutive marker.) For example, Haya has ka- for Distant Past, ka- plus the "indefinite marker" (analyzed as 'future' in Saloné 1977) for simple condition clauses, and kya- for "be still V-ing" (Nurse 1979b). The Haya Consecutive has no special form, however. It appears that each language surveyed divides up a whole set of functions performed by ki-, ka-, and related forms differently among those forms. Chagga is therefore not the only language which shows this unusual form-to-meanings correlation.

The problem, of course, is that the languages exhibiting this form-function congruence are all related. The use of

formally similar or identical forms to mark consecutivity, conditionality, and various types of participial meanings may be a historical accident common to these languages, rather than a natural grouping with a widespread representation. The evidence for a polysemous Chagga ka- is still weak.

#### 4.4.3 Semantic Relatedness

Is there any basis for considering {the expression of the consecutivity of one event to another} as related to {the expression of an event as condition for another}? In this section, I suggest that, yes, there are several bases for relatedness. All are rather abstract. These include the shared property of being backgrounded, or, in somewhat different terms, the shared diagramming of asymmetry; the shared semantics of contingency; the inherent ambidirectionality of dependency in conditionals; and perhaps, the existence of a discourse context in which the Consecutive and Conditional contrast is neutralized.

To begin with, the various uses of ka-, ki-, and related forms in the Eastern Bantu languages mentioned above are linked in several ways. In each of these languages, the forms carve up the semantic space containing the Consecutive (and sometimes the Distant Past), participial meanings, and the Conditional. One link among these is temporal. Often a temporally prior event or situation



endures (or has effects which endure) beyond the inception of a subsequent event. That is, the events are to some extent simultaneous. This is a property of the Chagga ka- Conditional: the conditioning event may hold throughout all or some of its consequent. It is also a property of atypical uses of the Chagga Consecutive, in which the reference clause event overlaps with the event of the ka- marked clause. With "pseudo-stative" reference verbs, there is temporal overlap between the ka- verb and its reference verb, as in 14).

- (14)      ná'lékúŷiká                      kalya                      máwiri  
             FOC.SM.3sg-P.PFV-hide-IND    SM.3sg.KA-eat-IND    bananas  
             'He hid and ate bananas.'  
             ('He hid himself and [then] ate bananas'/  
             'He was hiding, eating bananas')

In (14) the result of the actor placing himself in hiding - his being hidden - is still in effect during his banana-eating. The event referred to by the ka- clause (eating) is partly simultaneous with and partly consecutive to the event of the reference clause (hiding). The reference verb, -kuŷika 'hide', may refer to the act of placing oneself in hiding and/or to the state resulting from that act. The latter sense allows an inference of simultaneity to arise: the contingency meaning of the ka- construction combines with a reference situation which endures beyond the



several varieties of ki- clauses are *syntactically dependent*, in this sense.

How is it that syntactic dependency, or backgroundedness, and (partial) simultaneity are related, such that these forms together carve up a functional domain in each language mentioned? Haiman (1985b) argues that a shared diagramming of asymmetry accounts for the widespread association of backgrounding and simultaneity in polysemous morphemes (e.g., English -ing). While the signs that make up a diagram may not themselves resemble their referents, the *relationships* among the signs mirror the relationships among the referents (Haiman 1980b). Haiman ascribes two dimensions to asymmetry: a) temporal succession or simultaneity, and b) prominence or "backgrounding" (non-prominence). If S1, S2, and S3 are conjoined structures of equal rank, arranged sequentially, and S4 is backgrounded relative to them (as in Fig.1), then S4 "may denote events or states that are simultaneous with any of S1, S2, or S3. Since simultaneity and backgrounding are equivalent in removing S4 from the time line, the morphological expression of the two categories may be identical" (1985b:101-102).

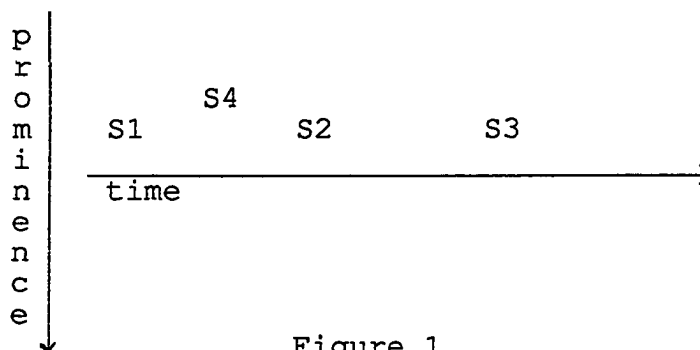


Figure 1

(Also, from the participant's own point of view, a continuing state is background relative to changes in state.) Thus, one way to see the interrelatedness of the several functions of ka-, ki-, and their cognates in Chagga and other languages within E. Bantu is as the shared diagramming of asymmetry.

Another basis for a relationship between the Chagga Consecutive and Conditional is a common semantics of contingency. Both constructions are 'about' one clause relating to another in a manifestly dependent way. A consequent clause is, of course, semantically dependent on its condition. A statement like If it rains, we'll leave. ordinarily implicates that we won't leave if it doesn't rain, that is, that we will leave *only if* it rains. Conditionality can occur in the 'content' domain (one event is conditional on another); the epistemic domain (an event of knowing is conditional on another event); or the speech act domain (an event of conveying an appropriate speech act is conditional on another event - see 2.1.2) (Sweetser 1984, 1990).

Similarly, a Consecutive clause refers to events which are contingent on other events. In Chagga its contingency may be shown in the simple requirement that the reference event (or the event referred to by a preceding ka- clause, as Consecutives may follow Consecutives) be a precondition of the event referred to by the Consecutive clause. Such is the case in (6), above, where calling us is prerequisite to

seating us. Or, as shown in 4.2.0, contingency can be causal; (7) is an example in which the ka-marked clause refers to an event which *results from* the reference event.

It is worth pointing out that Consecutive ka- clauses may also manifest contingency in the speech act domain. As shown in Emanatian 1990, instead of expressing the contingency of an event, a ka- clause may atypically express contingency (and consecutivity) of an *utterance* on a preceding *utterance*. Consider (16).

- (16) a.      ná'léfúnjá                      númba    yááko  
                  FOC.SM.3sg-P.PFV-break-IND    house        my  
                  'He broke into my house'
- b.              kángiiwí'á                      elerí        'tsóóse ...  
                  SM.3sg.KA-OM.1sg-steal-APPL-IND    money        all  
                  'and took all the money...'
- c.              ká'chá                      kíngótó    kéri    kyó  
                  SM.3sg.KA-come-IND        daytime    period    that  
                  'lúlawe                      ipfó,  
                  SM.1pl-SUB.NEG-be        there  
                  'and he came in the daytime when we were not there,'

- d.           alákooye                   pfó      ńndú,  
SM.3sg-SUB.NEG-find-IRR   there   person  
'and he didn't find anybody (home),'
- e.           kaiwá                   eléri      'tsóóse ...  
SM.3sg.KA-steal-IND      money      all  
'and he stole all the money...'
- f.           ká' fúnjá                   moongô  
SM.3sg.KA-break-IND      door  
'and he broke the door down.'

(16c) and (f) are of interest here. The ka- clause in (c) refers to an event earlier than (a-b), and is no way contingent on them. Likewise with clause (f): the speaker resumes after (c) with consecutive events, pauses (as before c), and perhaps as an afterthought adds (f), which refers to an action which necessarily occurred before his not finding anyone home and stealing the money (d-e). The presence of ka- clauses in (16c) and (f) is an atypical application of the semantics of contingency to the domain of the speech act itself. (c) and (f), as utterances, are contingent on the prior existence of the utterances they follow. The speaker of (16) noticed the abnormality of (c) and asserted that what was consecutive was his expressed ideas: "As information from me, it is next to what I told you first". Examples like (16) seem to indicate that contingency and

consecutivity of events referred to are not strictly necessary for ka- to be used. (This is apparently true for Swahili as well - cf. Contini-Morava 1987.)

Thus, both Consecutives and Conditionals are semantically contingent. Of course, the direction of semantic contingency is opposite for the two constructions. The 'natural' state of affairs for a polysemous morpheme one of whose uses is to mark the Consecutive would be to mark the *consequent clause* of a Conditional. Note again, however, that the ka- clauses in each construction (that is, the consecutive clause in the Consecutive construction, and the condition clause in the Conditional construction) are *syntactically dependent*. Not only are they marked as backgrounded, but they are distributionally dependent and exhibit grammatical category dependence as well (Van Valin 1984), as discussed in 4.4.1.

It is perhaps a peculiarity of conditionals in general that the semantically dependent clause is not the same clause as the syntactically dependent one. This statement is to some extent misleading, in that dependency is not a one-way, all or nothing affair. Certainly the consequent event depends semantically on the condition. But the condition is dependent on the consequent as well. Its syntactic dependence, noted above, can be correlated with semantic/pragmatic characteristics. Conditional markers are "space builders" (Fauconnier 1985). Pragmatically, we do not just build a space without saying something with respect to it or the elements in it (that is, we do not normally utter

'if' clauses as sole contributions to a discourse). In Langacker's terms (1987a), a structure D is dependent on another, A, to the extent that A elaborates a salient substructure within D. Therefore it is not only bound morphemes which are dependent; a noun stem which requires case, gender, and number marking to be complete is dependent to some extent on those elements as well. Dependence and autonomy are matters of degree. A condition has as part of its meaning a schematic specification for a consequent. The consequent clause elaborates this schematic substructure. Semantic and syntactic dependence relations in conditionals are to some extent two-way.

There is another way in which conditionals exhibit contingency in the opposite direction than the consequent on the condition. Epistemic conditionality is often opposite to 'real world' conditionality.<sup>3</sup> While in the real world, X leads to Y, we nevertheless often reason from Y to X. The epistemic conditional If the lights are on, he's home. invites us to conclude that he's home from the fact that the lights are on. In the real world of events, of course, conditionality goes the other way around: in the usual case, it is his being home that is responsible for the lights being on (Sweetser 1984, 1990). Likewise, the epistemic conditional in Chagga offered in (17) has a direction of conditionality opposite to the usual direction in a real

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<sup>3</sup> This was pointed out to me by G. Lakoff & C. Brugman.



world situation.

- (17) kowoná pfo mtsú náí pfo  
 SM.2sg.KA-see-IND there smoke FOC.SM.3sg-be/IND there  
 'If you see smoke there, he's there.'

I have suggested a few ways in which conditionals show contingency in the same direction as consecutives, from prior situation or condition, to consecutive or consequent. The fact that contingency runs in two directions in conditionals motivates the functions of ka- in KiVunjo Chagga. We need to look to other languages to see how. In this section, I show that there are other asymmetric markers which may express contingency in either of two directions. There is, furthermore, suggestive evidence from Chagga's relatives that Conditional ka- may be used to mark either condition or consequent.

Although it is more commonly the case that it is the protasis of a conditional construction that is marked, languages that mark the consequent in addition, or even exclusively, are not unheard of (Comrie 1986). Latin, with its sī Conditional, mentioned in Chp.2, provides us with an example of the latter type. At first sī marked only the consequent clause; then it appeared for a time in both clauses; and finally, occurred only in the condition clause (Traugott 1985; cf. Bybee 1985). Traugott raises the question of "how a coordinate marker may come to be

associated with the first rather than the second clause", and goes on to note that "there is some evidence for shifts in strategies from marking end-points [i.e. the consequent in the case of conditionals] to marking beginning-points [i.e. conditions, in that case] in the development of the forms for many conjunctions, including conditional conjunctions" (pp.296, 300-301; see also Traugott 1982). During the transitional period, sī has both 'thus' (or 'then') and 'if' meanings, which are, of course, opposites. In Mixtec simple Conditionals, the protasis is marked with the proclitic nú-. Counterfactual Conditionals have marking in *both* clauses, the proclitic nu- appearing in the protasis and the enclitic -nu appearing in the consequent (Macaulay 1987b:108). Haiman (1986:219-220) cites Hausa dā, the irrealis marker in both condition and consequent clauses. Interestingly, dā also means 'both...and'. Early Modern English provides us with yet another example: an(d) 'if; and'. An(d) occurs in examples like Now kepe him wel, for and ye wil ye can (ibid.; cf. Traugott 1985:296). This is quite similar to the OE means of expressing cause and result, discussed in 2.1.1. The form forbaem 'for that' occurred in the result clause, meaning 'therefore', while the closely related form forbaembe 'for that that' occurred in the cause clause, meaning 'because'. For a time, the marking apparently occurred in *both* clauses (see Traugott 1985). Thus we seem to have a brand of polysemy in which the same form or quite similar forms are used to mark either end

of a relation.

It is at least possible that there was a stage like this in Chagga, during which ka- marked both condition and consequent. I will return to historical developments in Chagga below.

How is it that directionality could be immaterial in the encoding of a semantic relation? Certain abstract relationships may switch their Figure-Ground alignment. As I suggested in 2.1.1, we may attribute this to the Image Schema Transformation known as Figure-Ground Reversal. Recall the example of kinship relations. Kinterms which are used symmetrically (such as brother-in-law) are lexical parallels to the kind of ambi-directionality I am proposing for the Chagga Conditional. Perhaps eventually consequent-marking fell off, to leave us with the commoner pattern of protasis-marking. This more natural conditional pattern resulted in a rather anomalous set of functions for the marker ka-. If I may speculate, then, bi-clausal marking in a conditional (or similarly, in expressions of cause and result) may be one vehicle for diachronic Figure-Ground Reversal.

There is one more potential motivation for the relatedness of the Consecutive and the Conditional meanings of Chagga ka-. This is the existence of a discourse context in which the two meanings are indistinguishable. In the case of conditions which are themselves consecutive, the meanings 'condition' and 'consecutive' are neutralized. We see an

example of this in (3), an excerpt of which is reprinted below.

(3)k. mchanga mchanga koshitsá mso kání le  
 sand sand SM.2sg.KA-deliver-IND flour home EXPR  
 'Sand, sand. And you take the flour home.'

l. kóshítsá mchángá 'chó ipfó 'kání le  
 SM.2sg.KA-deliver-IND sand that there home EXPR  
 'And you get this sand home,' ('If you get this sand home')

m. kóndéchékéchá e  
 SM.2sg.KA-go.to-IND-INF-sift-IND EXPR  
 'you go to sift it,' ('if you go to sift it')

n. koenda kówiká se  
 SM.2sg.KA-go.to-IND SM.2sg.KA-put-IND again

m'íngéni 'kórúwíká e  
 water-LOC SM.2sg.KA-soak-IND EXPR  
 'You go and put it in water and you soak it.'

o. alafú mchángá chó úkóZamia ihó wánda  
 and.then sand that SM.3-KA-sit-IND there down  
 'And then the sand settles down.'

Chagga consultants are unable to decide definitively whether lines (l) and (m) are instances of Consecutive ka- as I have glossed them, or instead, of Conditional ka-. Notice that semantically, either interpretation appears to work *in this context* of consecutive conditions. The fact that both conditional and consecutive interpretations are available for (l) and (m) supports an analysis which unites the Conditional and Consecutive under the basic meaning of contingency (cf. Haiman 1978 on contexts which neutralize conjunction and inclusive disjunction in Hua).

#### 4.4.4 KiVunjo ka-

We are left with a rather complicated picture which, I think, nevertheless justifies a synchronic polysemy analysis for ka- in Chagga. Formally, a number of properties are shared by the Consecutive and Conditional constructions, while other properties differentiate them. Cross-linguistically, the grouping of condition clause (protasis), on the one hand, and consecutive clause, on the other, is anomalous. However, we have seen that a number of languages which are cousins to Chagga use the same or closely related forms to encode these functions and "participial" functions as well. I have brought together several ways in which the Consecutive and Conditional are related, including the shared semantics of contingency; the shared diagramming of asymmetry (in this case, syntactic backgroundedness); the

ambi-directionality of dependency in conditionals; and the existence of the discourse context of consecutive conditions, in which the contrast between the two meanings is irrelevant.

I noted in 4.1 that the distribution of a Conditional ka- within E. Bantu is narrower than for a Consecutive ka- (Nurse 1979a). Dialectal variation within Chagga is of interest here. Of the four Chagga dialects, Western Kilimanjaro and Gweno use ki- for Conditional and for "participial". In Central Kilimanjaro, of which KiVunjo is a sub-dialect, ki- is less commonly used; Nurse's Old Moshi speaker rejected examples that were acceptable 60 years earlier. As we have seen, the younger Mamba and Marangu speakers who I have worked with (whose speech differs some from that of Old Moshi residents) use ka- consistently for the Conditional (though, again, there are other kinds of Conditional constructions), and chi- for participial meanings. Rombo, in the East, has no ki- at all. There appears to be a cline, from west to east, of increasingly less Conditional ki- and more Conditional ka-. It is therefore possible that the eastern dialects have innovated the use of ka- for Conditionals. There would seem to be two plausible developments: (a) Conditional ka- comes from an entirely different source, which has nothing to do with Consecutive ka-; or, (b) Consecutive ka- has undergone a functional spread, perhaps first to mark the consequent clause of conditionals, then through a stage of double-

marking, and finally, the present state of protasis-marking. Unfortunately, the historical evidence on Chagga does not leave us much of a basis for choosing. Interestingly, Nurse (1979a) reports that Makonde (SE Tanzania & Mozambique) has both condition *and* consequent marking with ka- (pp.131-132). (It is not clear, however, whether both clauses can be ka- marked in one and the same example.) This provocative fact lends some credence to the (b) scenario proposed above.

Traugott 1978 (citing Meinhoff 1906) traces the Swahili Consecutive ka- to the verb ka 'go'. Swahili ki- is said to be from ikiwa 'it being so', a 'given' marker (Traugott 1985). Loogman, on the other hand, suggests Consecutive ka- in Swahili (the "historical") "seems to be derived from the verb kukaa 'to remain; to continue'" (1965:197-199); cf. KiVunjo Chagga ikaa 'to stay'. This is interesting, since 'remain' and 'continue' could easily be lexical source meanings for the functions of "participial" ki-. We are left with a complex, sketchy, and provocative picture.

I tentatively conclude that the Consecutive and Conditional functions of ka- are related; that is, ka- is synchronically polysemous in Chagga.

#### **4.5 Grammatical Polysemy and Schematic Semantics**

Whether or not our conclusion is valid for Chagga ka-, this Case Study has brought to the fore several important properties of grammatical markers, in particular, their

capacities for certain types of relatedness. I would like to suggest that the abstract types of relatedness discussed in this chapter are possible *because of the schematic semantics* of grammatical morphemes and constructions.

The first kind of relationship among grammatical functions that I identified as important in this chapter is what I have called "**multiplicity**". This is the property of a grammatical marker whereby it functions simultaneously in different domains. We know that tense markers, for instance, often have default aspectual interpretations, mood connotations, clause-linkage functions, and metaphorical values in the psycho-social domain. It is possible, and it appears to be common, for more than one of these functions to be performed in a single use of a tense marker. It is in this way, I have argued, that Chagga Consecutive ka- is multifunctional. The use of the separate term "multiplicity" is to emphasize the difference between this sort of simultaneous functioning and the mutual exclusivity of the meanings expressed in more canonical cases of polysemy. It seems reasonable that fairly simple, abstract meanings like 'is contingent on', 'precedes temporal deictic center', or 'is given information' would be applicable in a number of functional domains. In the case of Chagga ka-, our notion of "dependency" is broad enough that we can see several of the functions of ka- as manifestations of its dependency in different functional domains.

Likewise, such abstract meanings - meanings which



schematize elements and relationships rather than expressing them in full detail - are amenable to analysis as **diagrams**. The temporal priority expressed by a past tense marker, for example, underspecifies the nature of what is prior to what, and is therefore applicable to a broad category of verbs. Priority itself is a linear ordering, again, a simple abstract relationship which affords several specific instantiations. Where the instantiations are in other "semantico-referential" domains (Fleischman 1989), we have metaphor. Where the instantiations are outside those domains (for example, when they have to do with the sequencing of propositions or of clauses), we have the extension of a diagram, rather than metaphor per se (but see below). The Consecutive, Conditional, and "participial" functions performed by ka-, ki-, and related forms in several E. Bantu languages are an example of the shared diagramming of the abstract relation of asymmetry (syntactic backgroundedness).

Taking this train of thought a bit further, we have seen, both here and in Chp.2, that relational meanings are sometimes extended to their opposites. That is, if A is in relation X to B, it may be the case that X is found expressing the relation of B to A as well. This may be seen in the different reflections of brother-in-law, rent, Latin si, and OE forbaem(þe). I have suggested that one of the ways in which the consecutive clause of the Chagga Consecutive might be related to the condition clause of the Conditional is through this sort of flipping of Figure-

Ground alignment in the Conditional construction itself. We may now speculate that Figure-Ground Reversal is a powerful means of extending the functions of grammatical markers where abstract relationships are found. The question remains, what are the limits on this means of extension?

In 2.1.1, I proposed that we think of Figure-Ground alignment as a kind of schematic image associated with a construction, and of Figure-Ground Reversal as a transformation on that schematic image. Associating an image-schema with a construction is essentially the same idea as Haiman's diagrams. The relations captured in diagrams of the sort he discusses include Figure-Ground alignment, linear order, and hierarchical arrangements. In the same way that image-schemas associated with lexical items (as in the linear expanse of Japanese hon - see 2.1.1) are bases for extension in metaphor, the image-schemas (or diagrams) associated with grammatical morphemes and constructions may be extended to other functional domains.

Whether or not a line is drawn between metaphor and shared diagramming seems to me to be a matter of taste. Lakoff & Johnson 1980 consider the type of syntactic iconicity that interests Haiman and Traugott to be metaphor. In Chp.2 I have separated the two kinds of relationship, for reasons of clarity, so that we may assess the differences between lexical polysemy and grammatical multifunctionality. But clearly there is a continuum between mapping the meaning of a lexical item from one 'content' domain to another, and

using the formal pattern of a grammatical construction to encode a relationship in another functional domain. Each of these is a kind of analogic extension, a powerful means of putting available linguistic 'resources' to work to cover new areas. I will return to metaphor and shared diagramming in Chp.6, where I discuss the notion of similarity.

## CHAPTER 5

### The Chagga Applicative

This dizzying array of uses for the applied ... is presented in most grammars without comment. The morpheme which is labelled 'applied' in certain contexts (for obvious reasons) also appears in other contexts (which do not obviously relate to the reason for its original labelling). In these additional contexts the label 'applied' basically indicates recurrence of the same morpheme. It is a descriptive convenience and *does not indicate any theoretical perspective* which unites the uses

Trithart 1983:74 [emphasis mine]

#### 5.0 Introduction

##### 5.0.0 The Applicative

The Applicative (or Applied) construction is a thorn in the side of linguistic theory. Applicatives occur in a variety of languages. They appear as verb morphology, and serve to increase the valence of the verb by one. That is, they add an argument to the clause, an argument with one of a select set of semantic roles. If that was all there was to the story, things would be simple enough. But, as nearly all researchers on Applicatives in Bantu (the family of interest to us here) have acknowledged, the set of Applicative roles seems to have some internal coherence, though it is very hard to say *how*. Furthermore, sometimes the argument added to the clause by the Applicative (an argument hereafter called the Applicative Object, Applied Object, or AO) can

have *more than one* semantic role interpretation. Worst of all for those who wish to analyze the Applicative as a 'purely syntactic' valence-increasing affix, the semantic role(s) of the AO often appear to be somehow linked to the meaning of the verb. And if that weren't enough, Applicative Objects vary in how like direct objects they are, morphologically and syntactically, and that variation seems to have something to do with their semantic role. In short, the phenomenon of the Applicative is tied up with semantics in a number of ways.

### **5.0.1 Approaches to the Applicative in Bantu**

Most recent published work on the Applicative has simply sought to account for the morphosyntactic behavior of the Applicative Object (Bresnan & Moshi 1988ms, 1990; Alsina & Mchombo 1988ms, to appear a, to appear b; Harford 1989, 1991; Baker 1988; Marantz 1989; Perlmutter 1989). The set of semantic roles possible for an AO is merely stipulated for the language of interest. Little or nothing is said about which semantic roles are possible for which verbs; about when an AO is ambiguous over different role interpretations; or about which role interpretations are preferred when more than one is possible. Hyman & Duranti point out in a somewhat earlier paper (1982) that semantic-pragmatic factors such as the definiteness and animacy of the NP which is AO may affect the extent to which it has object

properties.

Trithart 1983 is an exception. Her interest is in accounting for the development of the various Applicative functions in the Bantu family. With the exception of Trithart, no one has raised, let alone addressed, the question of how the various Applicative semantic roles are related to each other. Why, for instance, does the Applicative in Tswana (Bantu; Botswana) add a benefactive, malefactive, recipient, "motive", goal, or location to a clause, but not an experiencer, agent, source, instrument, patient, or theme? Trithart leans toward a semantic account of the network of functions the Applicative has in present-day Cinyanja (for instance, motivating some *atypical* Applicative functions by associating them with the parameters of high transitivity), but stops short. While establishing its path of development, function by function throughout Bantu, she concludes nevertheless that the Applicative has been "syntacticized" to a valence-increaser.

Interestingly however, most of the works cited above, as well as earlier treatments of Bantu Applicatives in reference grammars and the like, allude to aspects of the *meaning* of the construction. The following is a selection of statements from such works, glimmerings of intuitions about Applicative semantics:

\* the Applicative "merely brings a person *into relationship with the action*" - Welmers 1973

\* the Applicative "marks the *imminence of an Applied Object*"; it "disorients the verb away from its (patient or locative) complement" - Hyman & Duranti 1982

\* the Applicative "directs attention to the *focal point* in the sentence" - Ashton et al. 1954

\* "The applied form of the verb is used to indicate the action when applied *on behalf of, towards, or with regard to, some object*" - Doke 1935, cited in Trithart 1983

\* applicative theta roles are perhaps those "*directly affected or proximately involved*" in the verbal lexical semantics - Bresnan & Moshi 1988ms

Bresnan & Moshi, Alsina & Mchombo, and Harford (cited above) all propose that the Applicative induces a change in the semantic structure of the verb, but they do not go so far as to impute a meaning to the suffix itself.

### **5.0.2 Central Questions & Aims of this Chapter**

Situated in a sub-culture of linguistics in which grammatical description, and especially explanation, do not stop at the assumed border between syntax and semantics, the present study takes the intuitions quoted above several steps further. This chapter is an attempt to provide an

adequate and illuminating account of the Applicative in Chagga, *by specifying its meaning*. I will treat the Applicative as a polysemous construction and will address the following questions within the framework of Cognitive Grammar:

- how can we characterize the meaning of an affix with as many uses as the Applicative seems to have? is the Applicative 'merely syntactic'?

- what motivates the set of semantic roles that an AO can have? how are those roles related to each other? in what sense is the benefactive basic? what is the structure of the AO category?

- what is the contribution of verbal semantics to the interpretation of an Applicative clause?

- what, exactly, does the Applicative have to do with the semantic transitivity of the clause?

- when ambiguity arises over the role of the AO, what interpretations are preferred over others? what does the lexical semantics and morphosyntactic marking of the NP which is taken to be AO have to do with this?

- how does the semantic role of the AO, together with its other properties (e.g., animacy, definiteness, etc.) correspond to the morphosyntactic object properties it exhibits?

The rest of this chapter proceeds as follows. In the next two sections I briefly describe the Chagga Applicative, and outline my basic analysis. In 5.1 I sketch out some of the



theoretical notions necessary to the analysis. 5.2 is my characterization of the meaning of the Chagga Applicative. In 5.3 I discuss some of the subtleties of interpretation for the Chagga Applicative, and relate them to verb meaning and to the semantic properties of transitive clauses. I also offer some ideas about the structure of the Applicative Object category. Section 5.4 is a proposal for future research on correlating the morphosyntactic object properties of AOs with the extent to which they fit the semantic characterization put forth in 5.2. Section 5.5 is a brief review of residual data and remaining problems. I summarize in 5.6, and discuss the implications of this analysis for semantic roles and semantic role hierarchies; for grammatical polysemy; and for the very concept of a 'meaningless' syntactic marker.

### 5.0.3 The Chagga Applicative

In Chagga the Applicative "extension" is a verbal suffix of the form -i- or -ili-, as in (1).<sup>1</sup>

- (1)                      wé'kéku'pfúliá  
                             FOC.SM.3pl-CONT-OM.2sg-search.for-APPL-IND<sup>2</sup>

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<sup>1</sup> See footnote 1 of Chp.3 for orthographic conventions.

<sup>2</sup> "Indicative" is a tentative label - see Chp.3, footnote 3.

ni	kí'kí	wakúndí	úsóme
COP	what	SM.3pl-want/STAT	SM.2sg-study-IRR

'They decide for you what they want you to study.'

Without the suffix -i- on the verb wekekupfulia, the beneficiary of the decision-making (-ku- 'you') would not be expressed in the clause.

Both transitive and intransitive verbs take the Applicative (this is sometimes not the case in other languages), though not all members of either category do so. The interpretations which are productive for the Chagga AO are benefactive, malefactive, goal, recipient and locative. These are possible interpretations; however, a particular verb in a particular context will not necessarily allow all, or even more than one, of these role interpretations for its AO.

It should be noted that the Chagga Applicative apparently exhibits dialect variation, and even considerable speaker-to-speaker variation within a dialect. Although the dialect of Chagga that I describe here is KiVunjo (specifically, from the patrilineal settlements of Mamba and Marangu), it exhibits differences from what is reported in other research on KiVunjo (Bresnan & Moshi 1988ms; Bresnan & Moshi 1990), in what the semantic role interpretations are for an AO. My consultants also differ with reported judgments of the possible kinds of object behavior an AO can have.

One further note. Although in Chp.1 I set out to use the term "function" (rather than "meaning") for what it is grammatical markers do (or have), I diverge from that plan in the present chapter. Here I tend to use "meaning" to distinguish the aims of this approach from those of other analyses which treat the Applicative as a mere valence-increaser. It should be remembered, however, that the two terms should not be taken as two different kinds of signifying. Again, grammatical meanings tend toward the abstract, schematic end of the spectrum of ways to be meaningful; we tend to call this end "function".

#### **5.0.4 Preview: Profiling a Resultant Relation**

I propose in this study that we recognize the meaning of the Applicative. Here I would like to briefly sketch my analysis, which is developed more fully in 5.2, after certain theoretical notions have been reviewed.

The Applicative suffix functions to profile a relation. The relation is one that is 'downstream' in the action chain: it results from, is the outcome of, or hinges on the primary relation designated by the verb. The Applicative suffix extends the primary verbal relation by profiling a resultant relation which is not profiled by the verb, but which is part of its overall base. This secondary, Applicative relation is present either in the frame of the verb or in the general event frame (as are locations, for

example). The Applicative brings this relation, ordinarily backgrounded in the frame, into relief. Within the secondary relation, the Applicative profiles a participant, either the trajector or the landmark. This profiled entity is the Applicative Object (AO). As a participant in an ordinarily backgrounded secondary relation, the Applicative Object plays only those roles which are not part of the verb's argument structure. Again, these ideas are clarified, exemplified, and developed in the sections immediately following.

The Applicative Object, then, is the profiled participant in the Applicative relation. It may have a variety of semantic roles which make up a radial category. The recipient role serves as AO category prototype. The other members of the AO category are different kinds of participants in 'downstream' relations. Together the prototype and the other downstream roles constitute the central category of Applicative Object. From this central category the locative role is extended: locative Applicatives may profile locations which are not downstream. They are, nevertheless, participants in the clause.

The analysis of the Applicative outlined here rules out most of the non-occurring Applicative Object roles in Chagga. However, the fact that there are extended locative Applicatives must be stated, and so must the fact that certain other roles (e.g., instrument) are not viable in Chagga.

We will see below that favored AO interpretations for particular verbs to a large extent fall out of verbal frame semantics (including Aktionsart). The frame semantics of the verb constrains the type of resultant relations which the Applicative construction may foreground.

One promising line of research evident from this work concerns the morphosyntactic behavior of the Applicative Object. It appears that AOs share Direct Object properties to the extent that they are semantically like DOs. The AO noun phrase should have the qualities of a participant in a transitive clause. Its referent should be capable of being affected and of exhibiting that affectedness, and it should be a discrete and mobile entity. The NP should be definite and referential. But even NPs which are only marginally DO-like can be construed as AOs with a certain role interpretation if the clause as a whole is highly transitive (per the parameters set out in Hopper & Thompson 1980). This is because high transitivity of the clause enhances the participant qualities of the NPs.

I now turn to the background necessary for a fuller explication.

### **5.1 Theoretical Preliminaries**

In this section I want to introduce (or review) some theoretical notions which will be of use in the analysis of the Chagga Applicative.

I will depend very much on the notion of **frames**, from the work of Fillmore (1976, 1977, 1985). The frame (or framing) of a word is the whole body of knowledge it is part of. Most words can be understood *relative to different framings* (or different conventional scenes) (recall breakfast, 2.1.3.3). Verb frames, which include participants (whether overtly expressed or not), are important to the meanings of Applicative constructions.

I characterize the meaning (or function) of the construction using a Cognitive Grammar approach. In this framework (see Langacker 1982a, 1987a, forthcoming; Lindner 1981), every linguistic expression is a predication. A predication is characterized relative to some subarea within the totality of knowledge we have about the world. This subarea is the **base** of the predication ("base" is a concept very like "frame"). Within the base, there is a subpart or subparts actually referred to by the linguistic expression: these subparts are the **profile** of the predication. That is, linguistic expressions pick out entities within the base of knowledge involved in the understanding of a concept (i.e., in the frame), and they highlight those entities. The profiled entities have a special degree of prominence, and function as focal points in the expression.

Predications may designate a relation or a thing. Predications designating things are nominals (brick, contract, dilemma). Predications designating relations (beside, creamy, drizzle) profile the interconnections among

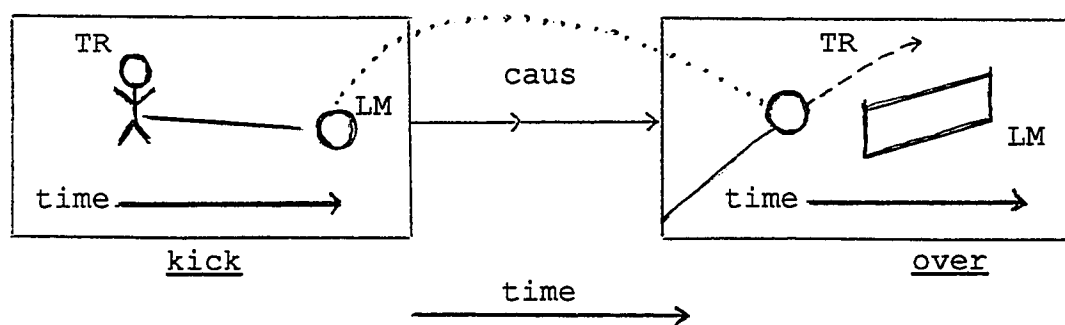
entities. Relational predications can be processual or atemporal. A process (drizzle) has an evolution; an atemporal relation (beside) lacks a temporal profile.

The most salient substructure in a relational predication is the **trajector** (TR); it is the Figure in the relation being predicated. When the TR of a relational predication designated by a verb is a thing, the nominal referring to it is the subject. The Ground substructure against which the TR is located or assessed is the **landmark** (LM). The primary LM in a verbal relational predication, if a thing, is designated by a nominal called a direct object. There may be other salient entities in a relational predication, also called landmarks.

Concepts such as trajector and landmark derive from notions used to explicate expressions about location and motion, but they are extended in Cognitive Grammar to all kinds of relations. Thus, for instance (leaving out some details), in the simple activity expressed in He's chewing gum., we can identify the TR as he. He stands in a relation (specifically, the imperfective process of chewing) with gum, the LM of that relation. The (referents of the) TR and LM are things in this case, but they needn't be. The TR and LM of before, for instance, are both processual relations, since before predicates a temporal relationship between two events (Langacker 1987a:219-229).

In more complex predications, there will generally be two or more layers of Figure-Ground organization and more than

two prominent substructures within the base. I kicked the ball over the fence. is a simplex sentence describing two events which are causally related. It contains two relational predications, one a process involving me and the ball, and the other a process (which ultimately results in a state) relating the ball and the fence. As subject of kick, I is the most prominent participant and hence the TR; ball is the LM of *this* relation. The motion that results from the act of kicking propels the ball on a trajectory over the fence. In the over relation with fence, ball is TR, moving (and eventually located) with respect to the LM fence. The two relations are diagrammed below. (I have left out several semantic details in this diagram.)

Figure 1<sup>3</sup>

To form a coherent expression, component relations must be integrated. The Cognitive Grammar concept of **integration**

<sup>3</sup> Profiling in figures is shown with heavy lines. Diagrams for relational predications typically have two entities and their interconnections profiled. A broken arrow indicates potential movement. A line connecting two entities stands for a relation between them. A heavy time line indicates the temporal profile of a process. Dotted lines represent correspondence between substructures (such as TR or LM).



goes beyond the standard one of additive composition. It provides for redundancy or overlap, on the one hand, and for partial mismatches (which are nevertheless intelligible), on the other. In the event construed in I kicked the ball over the fence., the process involving me and the ball bears a causal relation to the relation between the ball and the fence. The TR (ball) in the over relation corresponds to the LM of the kick relation; lines of correspondence connect them in the diagram above. The two processual relations, taken together, form a complex causal process which itself unfolds over time.

In integrating one predication with another, entities which are more fully specified are put into correspondence with entities which are (more) schematic. The more specific entities are said to **elaborate** the underspecified entities. A predicate like under, for example, specifies as part of its meaning a schematic LM of a certain sort. In the full phrase under the streetlight, the nominal streetlight fills in the details of, or elaborates, this schematic LM. In Cognitive Grammar, grammatical morphemes are semantically dependent, in that they contain unelaborated schematic substructures which must be fleshed out by more detailed predications (and more substance on the phonological pole as well). For example, the meaning of the nominal plural suffix -(e)s includes a schematic specification for a nominal in the count noun category. A noun like spatula may elaborate this schematic specification.

Also important for the explication of the Applicative is the Cognitive Grammar conception of a canonical action. A

**canonical action, or action chain,**

involves the energetic interaction of discrete, mobile **participants** within a stable and inclusive **setting**, any fragment of which can be regarded as a **location**. Participants merely **occupy** locations, but they **interact** with one another through physical contact and the consequent transmission of energy. In a canonical action, participant interactions assume the form of an action chain leading from an agentive **energy source** [or "head"], through a possible intermediary with instrumental function, to an **energy sink** [or "tail"], which undergoes a resultant change of state.

(Langacker 1987b:383; cf Langacker, forthcoming).

In DeLancey's terms, "the event schema represented by the prototypical transitive clause can be analyzed as a sequence of two events", a volitional act on the part of the agent, and a subsequent and consequent change of state on the part of the patient" (1987:61). Langacker uses the metaphor "downstream" in the energy "flow" to cover "subsequent and consequent" (1987b).

Prototypically, the agentive energy source is coded as the subject of the clause, and the energy sink (patient) as the direct object. To handle departures from the prototypes (such as instrumental subjects), more abstract definitions of subject and object are proposed: as head and tail, respectively, of the action chain. In more abstract terms, the subject is simply the clause-level figure. The DO is the second most prominent participant in a clause, lying "downstream" from a participant subject in the flow of energy along an action chain.

The setting-participant distinction, alluded to in the characterization of the canonical action (above), is a non-dichotomous one. Furthermore, whether a particular NP is taken to be a setting or a participant is a matter of construal. Certain constructions impose setting or participant construals on locative noun phrases. Compare (2)a and b, for example.

(2)a Everything is peaceful in the countryside.

(setting)

b Napalm bombs scorched the countryside.

(participant)

(Langacker 1987b)

Whether an expression which names a location is taken to be a setting for an event or one of its participants is, in part, up to the speaker or hearer. Construal involves the perspective the interpreter takes, the relative prominence s/he assigns to various substructures of the linguistic expression, the background assumptions s/he brings to bear, the level of specificity desirable, and so on.

The notion of transitivity is tied to this model of a canonical action. The properties characteristic of a prototypical transitive clause can be identified as facets of this model: such a clause has "two participants; reports a kinetic event; is punctual and perfective; has a definite, referential, individuated, and wholly affected patient and a volitional agent which ranks high on the animacy hierarchy, and is affirmative and realis" (DeLancey 1987:53, based on

Hopper & Thompson 1980; cf. Rice 1987). Sentences which deviate from the prototype - for instance, those with *setting* rather than participant subjects - are low in transitivity, as in (3b). (Passive is taken to be diagnostic of the transitivity of a clause.)

- (3)a John saw Mary on Monday. (setting)  
 b Monday always depresses Garfield. (setting subject)  
 (\* Garfield is always depressed by Monday.)

(Rice 1987)

Unlike subjects, direct objects *must* be participants; they are tied to the notion of transitivity. In fact, in a clause with a DO, the subject, too, must be a participant. Consider (4).

- (4)a Mary exercises in the living room.  
 b That flea-bitten dog has slept in this bed again.  
 a' \* The living room is exercised in by Mary.  
 b' This bed has been slept in again by that flea  
 -bitten dog.

(Rice 1987)

(4)a and b both involve animate entities acting in locations. But only (b) involves acting *on* a location: this bed is construed as a *participant* in this clause due to the effect that the dog has on it. The transitivity of the clause is evident in its acceptable passive variant (in b'); the passive of (a) is unacceptable. (Again, this is a matter of construal. If we imagine that Mary's exercising wreaks havoc on the living room, the passive version improves.)

The structure of our conception of events involves the prototype of an action chain, organized by the viewer into participants interacting within a setting. In addition, any event can be assumed to take place at a time and a location. Events are conceived with particular temporal contours (cyclic or not, durative or not, open-ended or not, etc.). They involve causal relations (bringing something into being, prolonging it, stopping it, enabling it, etc.). Events have a modal character (necessity, possibility, ability, etc.), and so on (cf. Lakoff & Turner 1989). All of these dimensions are part of the generic event frame ("generic-level schema" -ibid.; that is, "base" of a generic event). Any of it can be brought into the foreground (profiled) if designated by a linguistic expression, or be left in the background if not explicitly coded. (Of course, backgrounded and foregrounded are also matters of degree.)

We are now in a position to go on to a semantic portrait of the Chagga Applicative.<sup>4</sup>

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<sup>4</sup> The account of the Chagga Applicative that I propose in 5.2 owes quite a bit to Tuggy 1988, which offers a Cognitive Grammar analysis of the Nahuatl Applicative and Causative constructions. The Chagga construction differs in several respects from the Nahuatl Applicative. For instance, the Applicative in Nahuatl is not a double object construction, as it typically is in Bantu. Also, the Nahuatl Applicative is only one member of a polysemous category which includes a Causative function and several verbalizing functions. That said, the commonalities between the two Applicative constructions are quite numerous, and Tuggy's overall approach invaluable to my analysis.

## 5.2 The Meaning of the Chagga Applicative

### 5.2.0 Introduction

In this section, I offer a characterization of the meaning of the Chagga Applicative suffix. While its meaning is fairly abstract (as with most grammatical morphemes), it is nevertheless substantive: it profiles a secondary relation in the action chain. Attributing semantic substance to the Applicative allows us to do several things which have not previously been accomplished in analyses of Bantu Applicatives. We can *motivate* the set of semantic roles that an Applicative Object may have, and de-motivate the impossible roles. The set of semantic roles is no longer a random - or arbitrarily stipulated - set, but rather consists of a number of roles the relationships among which we recognize as familiar types. We can account for how it is that the benefactive use is considered basic. That is, we will have something to say about the *polysemy of the AO category*.

In addition, the proposed semantic characterization of AOs allows for them to exhibit a range of semantic-pragmatic 'goodness'. Given a particular verb, or class of verbs, some NPs will be better AOs than others, depending on how well they integrate with verbal semantics, and on a number of other factors, discussed below. Preliminary findings suggest that this gradation in the semantic 'goodness' of AOs correlates with their morphosyntactic object behavior.

Specifying Applicative semantics allows us to give

theoretical grounding to the observations about meaning quoted from other research, above. It further supplies us with an account of Applicatives of both transitive and intransitive verbs. Lastly, this analysis of the Applicative, based on Tuggy 1988, is suggestive of how it can be formally similar or even identical to the Causative in a number of languages: it provides an *explanation* for such polysemy.

One preliminary note: I do not take the trouble to define the semantic role labels (e.g., benefactive, instrumental, etc.) used for Chagga examples. In part, this is because I hope (as other researchers in this area have hoped) that there is *some* agreement about the content of the basic roles. More importantly, it is because I assign little importance to the labels. I will be arguing that in the case of the Chagga Applicative, they are simply not descriptively useful as is. The very notion of semantic role needs to be founded in something more primitive conceptually: in the canonical functions of participants in the frames of each semantic class of verb and in general event structure.

### 5.2.1 Applicative Meaning

The meaning of the Chagga Applicative may be stated simply: the Applicative suffix **profiles a resultant relation**. That is to say, the Applicative is a relational predication, as is typical for grammatical morphemes.

Extending a verb with an Applicative extends the action chain: the Applicative brings into profile a relation which is a) included in the verb's frame, or in the general event frame; and b) caused by, a result of, or hinging on the verbal event. This relation is normally in the background as part of the base; the Applicative brings it into relief. The Applicative Object is an entity which participates in the relation. It is prominent as either the TR or the LM of that relation. The specific nominal which acts as AO elaborates (or fills in) this TR or LM.

Specific examples will make this clear. In (5) the AO is understood as beneficiary of the action.

- (5) Mama                      naí'kóŷíá                      waná 'wó      nãmâ  
 Mama    FOC.SM.3sg-PROG-cook-APPL-IND    kids    those    meat  
 'Mama is cooking meat for the kids.'

Syntactically, the transitive verb -koŷa 'cook' acquires another object, 'kids', through the suffixation of the Applicative. Ma's intentions are to cook the meat for the benefit of the kids. If her intentions are brought to fruition, a transfer will take place. Thus the kids stand in a potential possessive relation to the meat. As AO, 'kids' is highlighted in this role as (eventual) meat-possessors (eaters). We can understand the possessive relation as "an



abstract neighborhood around a person, a sort of sphere of influence" (Lindner 1981). The social notion of possession, or metaphor of "sphere of influence", requires more than simple spatial contiguity as its basis. It also involves the force-dynamic (Talmy 1985b) concept of physical control. (For present purposes, I will not pursue the details of this metaphorical mapping.) The possessive relation can be schematized as in Fig.2.

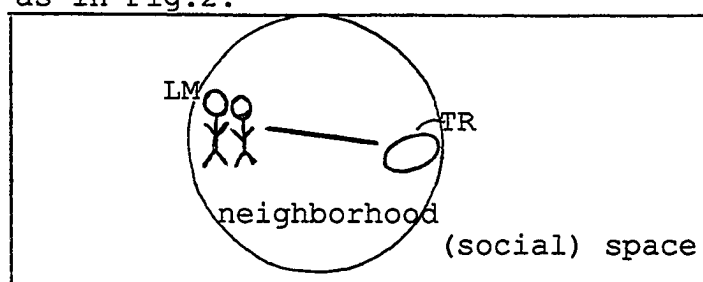


Figure 2

Meat is the TR, located within the neighborhood of kids, the LM of the possessive relation. This possessive relation *depends on* a successful act of cooking, expressed by the verb stem. The possessive relation (and the transfer it results from) is further along on the chain of events that cooking is part of: it is 'downstream'. This relation is part of the background, the base, until brought into profile by the Applicative suffix. The Applicative -i- or -ili-, as marker of the Applicative construction, affects a change in profiling from the unmarked clause: the possessive relation is now part of what is designated by the linguistic expression. The Applicative extends the chain of events, or event path, to incorporate the resultant possessive

relation.

The now-profiled resultant relation must be integrated with the relation expressed by the verb. The construction brings the LM of the cooking process, 'meat', into correspondence with the TR of the possessive relation, as diagrammed in Fig.3.

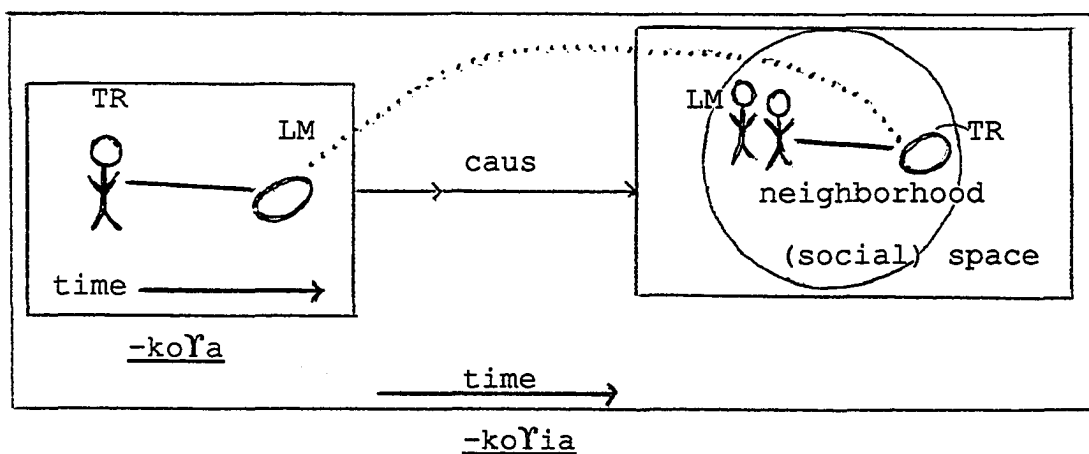


Figure 3

(Note that I am conceiving of the resultant relation as a stative one, a relation of possession, where the Applicative Object is the LM that the TR is in the neighborhood of. More accurately, this stative possessive relation is *itself* the result of a successful act of transfer. We could just as well have first schematized the meat changing location to the neighborhood of the kids.)<sup>5</sup> The AO in (5) is the LM of

<sup>5</sup> Notice that, either way, with kids as location in the possessive relation or as recipient in the transfer event, the other dimensions of beneficiary-hood are not schematized. Cognitive Grammar, with its reliance on spatial imagery, is a localist theory par excellence. The contrasting valuation of benefactives vs. malefactives is, for instance, lost in a CG treatment. But perhaps such details are not of great relevance in the semantic

the profiled relation. It does not, however, function as primary LM in the clause; that function is assumed by meat, the DO.

The LM of the verb is the most prominent downstream participant. As secondary LM, that is, LM of the result predication, the AO nevertheless receives some prominence (relative to the prominence accorded an oblique argument, for instance).

Another way to characterize the Applicative is in terms of energy flow in the action chain expressed by the clause. The Applicative profiles a subsidiary, or secondary, flow of energy to a downstream participant. An AO can be defined in these terms as a prominent downstream participant in a flow of energy which is secondary in the overall action. In an intransitive clause, the AO is the most prominent downstream participant; in a transitive clause it is the second most prominent downstream participant.

The AO must be a *participant*. Prototypically this means it refers to a discrete and mobile entity involved in an energetic interaction with another participant, through physical contact and transmission of energy. (Non-prototypical participants will be discussed below.) The AO is distinct from the subject, which is at the head of the action chain. It is distinct from the DO of a transitive clause, in that the DO is the most prominent downstream

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characterization of a grammatical marker. They do enter into *interpretation* of such constructions quite robustly however.

participant. The DO is downstream in the primary flow of energy, in the event designated by the verb; it is the energy sink. The AO in its secondary relation to the verbal event, is nonetheless downstream from the energy source, and it is accorded prominence as such *by the Applicative*.

The benefactive in (5), 'kids', is thus the second most prominent downstream participant. It is the entity that the entire action is for the benefit of or on behalf of. It is the entity clearly (potentially) affected by the action: it is the energy goal of the whole event of cooking meat. 'Kids' must be contrasted with 'meat', the DO, which is the energy goal of the activity of cooking. As a human beneficiary, 'kids' is a good participant: being animate, it is discrete and mobile, and shows its affectedness.

A benefactive is always a part of the cooking frame, whether given expression or not. Most scenarios involve a beneficiary, whether that is selected for lexicalization by the verb or not. At the very least, any action can be construed as self-beneficial. Transfer events imply a benefactive, and a benefactive is part of the frame of any possessive relationship (Maldonado 1990).

Sentence (6) exemplifies a transfer event.

(6)	mZikíé	ní	tí'kétí	yáke
	OM.3sg-send-APPL-IRR	COP	ticket	his



The possessive relation, ordinarily backgrounded in the unextended clause, is given prominence here by the Applicative.

Recipients, of course, are also benefactives in the usual case. Ordinarily the animate recipient of something benefits by subsequently having it. We might say that recipients in the primary event are typically beneficiaries in a subsidiary event (cf. DeLancey 1991). Another aspect of their participanthood in that subsidiary event is that of being possessors; this is the aspect (or role) profiled in Fig.4. Note that this sort of example is a problem for any simple theory of semantic roles. There are, of course, clearer cases, where we can separate out these roles; e.g., I sent Mark a package for Betsy., where Mark is the recipient and Betsy is the beneficiary. But even here, I would argue, a careful analysis would attribute the possibility of some benefit to Mark, and of ultimate possession (recipienthood) to Betsy. This is but one instance where the Chagga Applicative dramatizes the need for a principled account of what lies behind semantic roles.

In Chagga, intransitive motion verbs can take the Applicative. The Applicative allows for the expression of a goal or destination of the motion. (7) shows such a verb.

- (7)            naíZichilia            ipfó            úchaŷa  
                  FOC.SM.3sg-PROG-run-APPL-IND    there            forest  
                  'He's running to/into the forest.'

The motion event, expressed by the verb -Zicha 'run', results in the theme (in this case, also an agent) being at some location. All motion events have destinations, or at least final resting places, as part of their frames. In this case the forest is being run to intentionally. The intransitive verb -Zicha does not incorporate goal as part of its lexical meaning (although other Chagga motion verbs do so). With a suffixed Applicative, the goal may be overtly specified as the AO. Unpackaging the meaning of the clause, we have a motion event which (potentially) results in a new location for the mover. This resultant locative relation is a stative one, holding between 'he' and 'forest'. 'He' serves as TR of both the motion verb and the resultant locative relation. 'He' is also LM of the Applicative verb -Zichilia. In intransitive Applicative clauses, that is, where APPL is suffixed to an intransitive verb, the AO is the only downstream participant; thus it typically serves as LM of the primary event encoded by the verb.

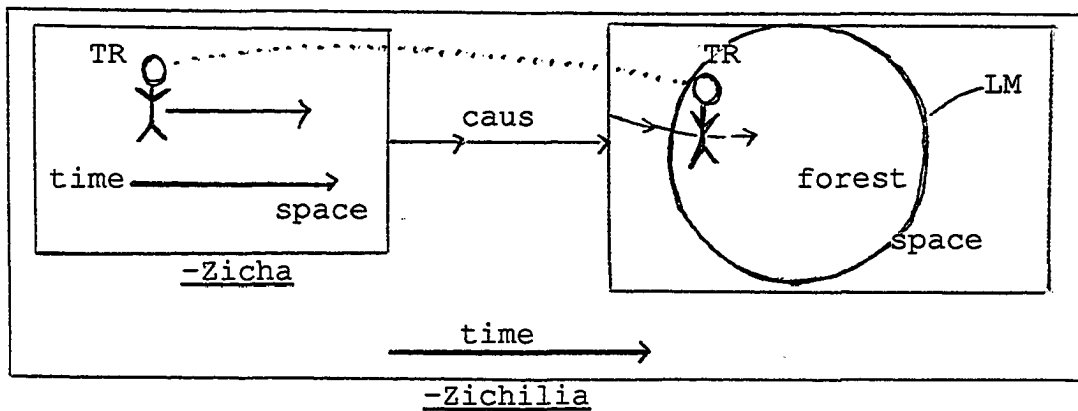


Figure 5

Goal is the one Applicative Object role in Chagga which can, instead, be marked prepositionally. na 'to; and; with; by' performs many functions in Chagga, one of which is to mark goals, both physical and metaphorical. In fact, with the exception of 'go to' and 'take to', Chagga verbs which lexicalize Motion & "Circumstance" (such as 'crawl', 'flick', 'creak') or Motion & Path (such as 'ascend', 'circle', 'cross') require for the expression of goal-directed motion either na or the Applicative (Emanatian 1987ms; for a general discussion of the lexicalization of motion, see Talmy 1985a). Thus, another way to express the situation in (7) is with (8).

- (8)        naí'Zichá                na        ipfó        úchaYa  
              FOC.SM.3sg-PROG-run-IND    to        there        forest  
              'He's running to/into the forest.'

(7) and (8) are nearly synonymous, but have different







to the Applicative construction, to be profiled in a locative relation. The relation profiled in the case of locatives is just the locative relation holding between the location specified and the event as a whole. This is schematized for (10) in Fig.6. (I have left out the plurality of the TR.)

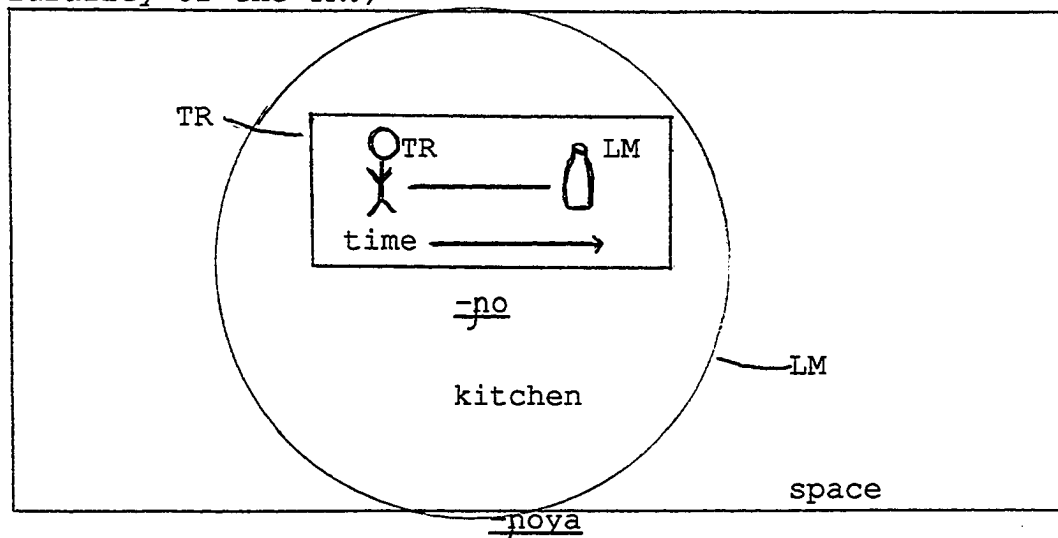


Figure 6

The AO ipfo rikoni 'in the kitchen' is the LM of the locative relation holding between it and the milk-drinking event. The schematic TR of the locative relation is elaborated in this case by wainoya maŋuwa 'they drink milk'.

In what sense does this relation result from the verbal event? That is, how do locative Applicatives fit the general characterization, offered above, of a profiled resultant relation? They don't. The locative relation profiled by the Applicative cannot be said to result from, or be a consequence of, the verbal event. Nor can a locative AO be characterized as a downstream participant (in any non-

vacuous sense of "downstream"). Locative Applicatives constitute an extension from the basic Applicative. What they share with it is the profiling of a participant in a relation which is only in the background in the unmarked clause. We therefore consider the requirement that the AO be a downstream participant to be a statement of the prototype. More generally, the AO is a participant in the *extended action chain*: the extent of the event is increased by the profiling of a(nother) participant. Prototypically, the Applicative participant is downstream from the verbal event, but in the case of locative Applicatives, it may be 'upstream' from it. This more general characterization of the Applicative as effecting an extension of the action chain also encompasses intensifying 'more of action' readings for the construction - see 5.5.<sup>6</sup>

In (10) ipfo rikoni functions as setting for the event. It stands in a locative relation to the verbal event as a whole. Of course, locations are ordinarily taken to be settings for events; this is the unmarked function for a locative oblique phrase. The locative Applicative is only subtly different. The Applicative construction brings a location into profile: it highlights its role as a *participant* in the action, upgrading its status from mere setting. In each case, the unmarked function of setting and the marked function of participant, a locational phrase

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<sup>6</sup> Thanks to George Lakoff for discussion on this point.

refers to the physical space that an event takes place in. But the difference between being merely a part of the base (in the unmarked case) and being in a profiled relation to the event designated by the verb (in the marked, Applicative, case) is significant for interpretation. In (10), for instance, the kitchen is apt to be understood as affected by the milk-drinking event (perhaps it was left in a state of disarray). Or, alternatively, the kitchen might itself be taken to contribute, somehow, to the milk-drinking event (perhaps this is the only kitchen in the village which has any milk left).

Intransitive events may also take locative Applicatives in Chagga. In (11) the intransitive verb -pfa 'die', once extended by -i-, takes a locative AO.

- (11)      *nmbúŷú*      'lyá                      álépfia  
             Mburu      that      SM.3sg-P.PFV-die-APPL-IND
- Washingtón,              nááchô ? <sup>7</sup>  
             W.                      COP-SM.3sg-who

'A Mburu guy died in Washington - who?'

In (11) the event of dying takes place in Washington;

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<sup>7</sup> In Chagga the unmarked interpretation of a verb which does not carry a tense prefix is 'present' (see also (12) of Chp.4); future interpretation is another possibility, though it is a marked one.

Washington serves as the LM of the locative relation brought into profile by the Applicative. Since the primary predication, 'die', does not have its own LM (being intransitive), Washington is inherited as its LM and manifests some of the properties of objects (see 5.4). (11) is diagrammed in Fig.7.

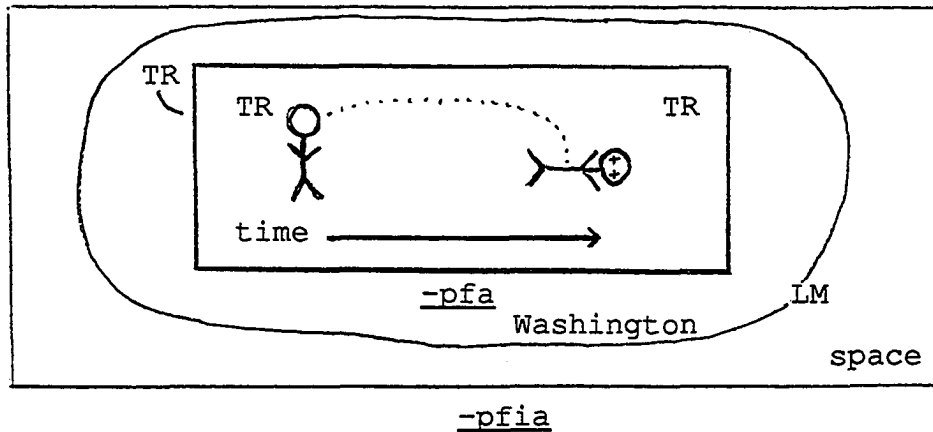


Figure 7

(11) carries the implication that the place, Washington, in some way contributed to his eventual death. (11) contrasts with the non-Applicative sentence in (12), in which the locative NP occurs as an unmarked oblique:

(12) mmbúŷú 'lyá álepfa Washingtón, náácho ?

SM.3sg-P.PFV-die-IND

'A Mburu guy died in Washington - who?'

Speakers assert that the difference between (11) and (12) is that sentence (11) with the Applicative concerns the event of dying, as well as who and where: 'where' is "part of what

the sentence is about". As such, (11) contrasts in a subtle way with (12). (12) does not profile the locative relation between the event and the place, but leaves this as part of the base. The Applicative version (11), in profiling the locative relation, allows various interpretations as to why such an obvious, usually backgrounded, relation is brought to the foreground. With respect to this sentence, speakers suggest that being in Washington (rather than at home, say) had something to do with the person's dying, in for instance, not permitting him to be cared for at home by his family.

Similar examples from Swahili are mentioned in Port 1981. These include the contrastive pair 'He died at sea' and 'He perished at sea', the latter of which contains the Applicative. Port notes "the subtle borderline between a place that provides assistance to precipitation of the occurrence [in the Applicative example] and a place that is simply the location of the event" (p.78). Likewise, Trithart reports an enabling locative Applicative in Haya:

### **Haya**

(13) a.     kat'     á-bon'     ómu-kyaalo  
           Kato    he-see    in-village

'Kato sees the inside of the village.'

b. kat' á-bon-el' ómu-kyaaló  
 he-see-APPL

'Kato sees (if & only if he is) inside the village.'

(Trithart 1977:96)

Here the contrast is between an unmarked locative NP serving as DO, in (13a), and the Applicative, in (13b). In (b) the locative Applicative ómu-kyaaló is to some extent responsible for his being able to see.

Another example of the Chagga verb 'die' with a locative AO may be studied for comparison. The utterance given in (14) commands someone to send a third party home to die there.

(14)	...	Zikép	mndú	chu	káni	e
		send-PL.IMPER	person	that	home	EXPR
			nandépfí'á		kani	
			FOC.SM.3sg-go-INF-die-APPL-IND		home	

'... Send this person home to die home.'

The implication of the deliberateness of the act of travelling is that there is something about home that might forestall that person's death. The difference in the interpretation of the Chagga Applicatives in (14) and (11) hinges on the contrast between the perfective (in 11) and



the "infinitival" form (in 14), and on the fact that the relocation to home is deliberate in (14). The Applicative, in profiling the locative relation, highlights the role of the place in the predication as a whole. The specific details of that role are left up to interpretation, constrained by the rest of the linguistic context and by knowledge of the world. The more readily a speaker can ascribe participant properties to a locative NP, the more acceptable it will be as an Applicative Object.

It is important to realize that it is not (necessarily) the case that a given place *is or is not* a participant in an event. The most natural interpretation for a location is as setting. It takes a special construction to mark a location otherwise. The Applicative *imposes a participant construal* on a locative NP by profiling it in relation to the verbal event. The theoretical consequence of this is significant. Only from a theoretical stance which would deny the semantic contribution of a grammatical morpheme like the Applicative suffix would we be forced to attribute *inherent* participanthood to a particular locative-verb combination. In contrast, the present analysis recognizes the Applicative as a marked construction whose job it is to highlight certain ordinarily backgrounded relations, thereby imposing a participant construal on the entity elaborating the LM (or TR) of those relations.

One further sentence with -pfa- 'die' will serve to exemplify the malefactive use and also begin to illustrate the factors influencing interpretation of Applicatives. The clause of interest is the second one in (15).

(15)                wakáwoná                                mndú                chú  
                       SM.3pl-CONSEC-see-IND            person            this

nái'chélupfía

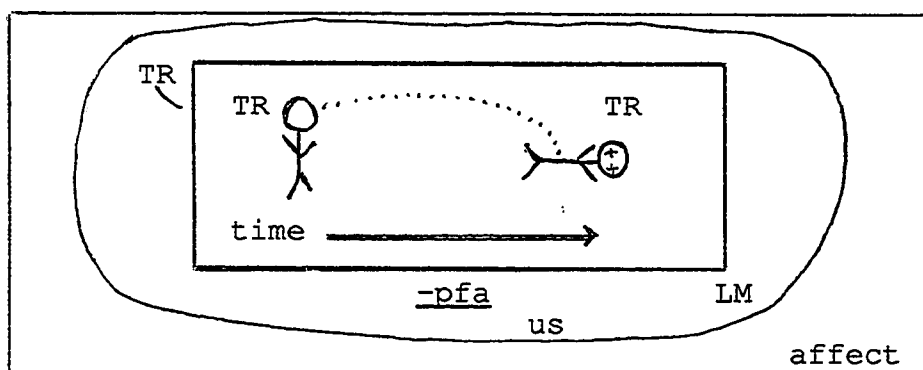
FOC.SM.3sg-PROG-come-INF-OM.1pl-die-APPL-IND

'Then they see that this guy is going to die on us.'

The second clause expresses the negative impact that the man's dying will have on us: we will be an affected party. The Applicative construction highlights this affectedness by bringing us in as a participant in the event.

What *relation* is profiled in such cases? To put it simply (though somewhat vaguely): our relation to the event itself, or its impingement on our psyche. Most events may have negative repercussions, as they may have positive ones; malefactives are available in the frames of most verbs. Malefactives and benefactives may both be seen as recipients in metaphorical transfer events. **Recipient of effect** is a value-neutral term which encompasses both kinds of affected party, benefactive and malefactive, in cases of metaphorical transfer. (Cf. Lakoff 1990ms on the metaphor of causal

transfer in English; it is not clear how much of this analysis is applicable to Chagga.) To the extent that an event "impinges", its effects enter our 'neighborhood'. Let us say, then, that the relevant relation in cases such as (15) is the resultant metaphorical locative relation. This relation holds in the domain of affect, or psychological 'space' (as opposed to the domain of physical space). (See Langacker 1987a for abstract domains.) (15) may be diagrammed as follows.



-pfia

Figure 8

'Us' functions as LM of this profiled affectedness relation, the details of which are unspecified. We could be emotionally upset by his death, or go into debt because of it, or fail to receive the goat he has promised us, etc. (Note also the parallelism of Figures 8 and 7.)

Whatever relation we have to the person referred to, of course, predates that person's death. But this particular *affectedness* relation comes into being with his dying, and in that sense, is a resultant relation.

As mentioned above, Chagga allows metaphorical goals (destinations) to be AOs. This includes purposes. A purpose is a kind of metaphorical goal for a whole event. In (16), the nominalization uwalimu 'teacherhood' (from Swahili) functions as purpose.

- (16)                    ná'wékésómia    uwalimu  
 FOC.SM.3sg-P.IMP-CONT-study-APPL-IND    teacherhood  
 'He was studying for teacherhood.'

Purposes are included in the frames of activity verbs, and would certainly be salient in the case of an activity like studying. However, it is difficult to see how the purpose AO in (16) is a participant in the frame of studying. It does serve as a goal for the ongoing activity of his studying. It is as if the schema of motion toward a destination (becoming a teacher) were superimposed over the activity verb frame. Uwalimu is a participant in that larger schema, and a downstream participant at that: we work *toward* a goal.

The potential and intended result of all the studying is to arrive at the state of being a teacher. That state is conceived as a location. (See Chp.3 for evidence that Chagga has the metaphor States Are Locations.) Fig.9 diagrams the Applicative relation exemplified in (16).

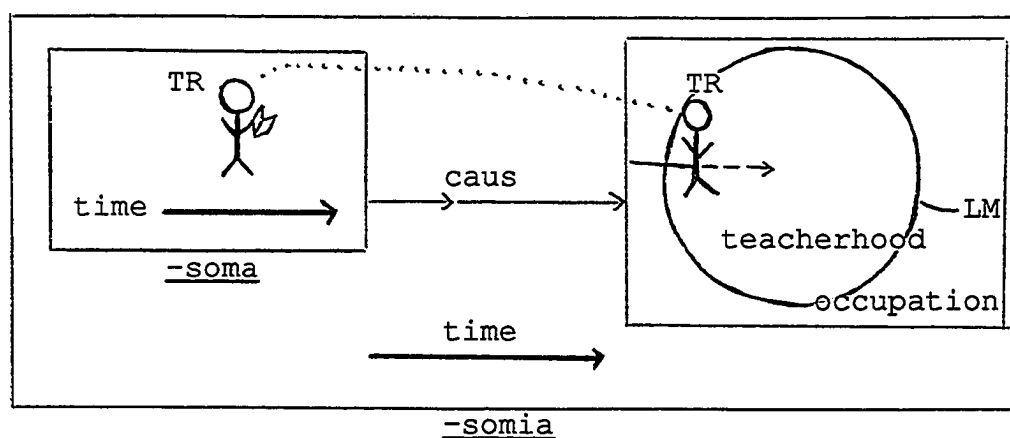


Figure 9

'He' is the TR of both the activity verb 'study' and the metaphorical locative relation it brings about. The AO uwalimu is LM of this resultant locative relation.

One thing which should be evident by now is the relatively open nature of Applicative interpretation. The suffix itself has a very simple meaning. It designates a relation which results from the primary process or relation. The nature of the resultant relation is unspecified. It is left schematic, to be filled in through an interpretive process that takes into account the nature of the entity designated by the Applicative Object NP; the kinds of relations such an entity can enter into; the kinds of relations that are part of the frame (or base) of the verbal predication; and which of these can result from the kind of event designated by the verb with its particular subject (and DO, if there is one); and so on. The NP which functions as AO in an Applicative construction *elaborates* either the

LM or the TR of this schematic, secondary relation. When the AO is LM, the verbal predication itself, or some part of it (e.g., the DO) functions as the TR.

We have seen how the characterization of the Applicative offered here allows for benefactive/malefactive (recipient of effect), recipient, goal (including purpose), and locative AOs. What about the AO roles that are not possible in Chagga?

This same semantic portrait of the Applicative will help us de-motivate (if not rule out) AO role interpretations which do not occur. Agent and patient, of course, are not available as AOs since they are participants in the *primary* predication. Themes are a kind of patient (in some classifications of roles), but in any case are also part of the primary relational predication.

Experiencers may be coded as subjects of primary predications. Or, they may be coded as direct objects of low transitivity verbs like 'anger' or 'bother' (Rice 1987). Experiencer, as it is usually meant, is not a possible AO role. However, if the category 'experiencer' is broadly conceived as including beneficiaries (Langacker, forthcoming), then the Applicative does profile experiencers, providing they function in a resultant (non-primary) relation. For example, the malefactive AO in (15) may be considered to undergo an experience which results

from the verbal event. (Of course, a different linguistic expression could construe the situation in a different way so as to code the experiencer as participant in the *primary* relation: 'We will be upset by his death.')

Source is an AO role not found productively in Chagga (see 5.5), and only very rarely found in other Bantu languages (Trithart 1983). This is not surprising, given the meaning of the Applicative. A source is not downstream from the head of the action chain. This is true in both literal, spatial cases (such as He ran from the woods.) and metaphorical cases (such as She borrowed corn from the neighbor.). Note that there are a few source-oriented verbs in Chagga, e.g., icha 'to come from', but these do not need an Applicative to express source. In fact, the Applicative switches the interpretation of an unmarked NP of place from source ('come from the yard') to goal ('come to the yard').

In addition, there are malefactive interpretations of Applicatives that resemble sources, such as (17).

- (17)                    wá'lémúiwía                    kelyâ  
                           FOC.SM.3pl-P.PFV-OM.3sg-steal-APPL-IND                    food  
                           'They stole food from him' / 'They stole food for him.'

Since AOs referring to physical locations in space cannot have source interpretations in Chagga, I would hesitate to call 'him' a source in this example. This example is probably best analyzed as a malefactive, with 'him' a TR in

affectedness space. This analysis would emphasize the easy transition in Chagga from a malefactive interpretation, where the affect is negative ('They stole food on him'), to a benefactive reading, where the affect is positive ('They stole food for him.').

Path AOs are also not possible in Chagga (nor are they in other Bantu languages, according to Trithart 1983). A path is not a downstream participant, and therefore does not fit the semantics of the Applicative construction. Neither downstream nor upstream, a path is rather the location of the channel itself, the route.

Instrument is a role emphatically not possible for an AO in KiVunjo Chagga, according to my informants, though it is elsewhere reported possible in Chagga and in other Bantu languages (Driever 1976; Port 1981; Trithart 1983; Alsina & Mchombo 1988ms; Bresnan & Moshi 1988ms). The characterization of the Applicative suggested here actually makes sense of this variation. An instrument is intermediary in an action chain from energy source to energy sink. It is both downstream of the subject and upstream of the object. On the one hand, its downstream character makes it a suitable AO. On the other hand, as accessory or vehicle for the verbal event, an instrument does not participate in a relation that *results from* that event. Thus, on this account, languages should be able to go either way, coding an instrument as AO, or not.

Another Applicative role attributed to Chagga (Bresnan &



Moshi 1988ms) and to other Bantu languages (Trithart 1983) which does not occur in the KiVunjo I have studied is the "motive" role. Motive includes both purpose and reason. I have analyzed purpose AOs in Chagga as metaphorical offshoots of the goal function, rather than as instances of the motive role, because the Chagga I am familiar with does not code reasons as AOs. Purposes, of course, are downstream; they are what the verbal activity is directed toward. Reasons are upstream; they pre-exist and motivate the acts of a volitional agent. Thus, there is a basis in the semantics of the Applicative construction for the relatively productive purpose interpretation available for Chagga AOs. For the languages (and perhaps, Chagga dialects) which also allow a reason interpretation, I would suggest that it is an extension from purpose. The potential attainment of purposes and goals can itself be a reason for an action.

I would like to note in this connection that reasons and causes have a close conceptual affinity as well. Reasons may be causes when an actor is volitional. Applicatives are often formally related to causatives cross-linguistically (Larry Hyman, p.c.; Trithart 1983; see Tuggy 1988 for an insightful discussion of how they are related). The Chagga locative Applicative Objects, in being participants, yet not necessarily in a relation which results from the primary event, are open for a possible causal interpretation. We saw this in cases like 'die in Washington', above. Thus there

seems to be the possibility of extension of the AO category, from roles in relations which are strongly resultative, to roles in relations which are merely subsidiary to the primary predication. This latter group includes only locatives in the Chagga dialect I am describing, but in other dialects and languages it may include motives as well.

The characterization of the Applicative I have offered in this section has several positive consequences. Foremost is the obvious one of identifying the semantic substance of a grammatical marker claimed in the literature to be merely "syntactic". In addition, the semantic portrait has been used to motivate the possible semantic roles of Chagga Applicative Objects. Benefactive/malefactive (recipients of effect), recipient and goal form a coherent set: they are (labels for) semantic functions of the LM or TR of a relation that results from the primary verbal event. The locative AOs, while not entirely fitting this characterization, are a motivated extension from it. They share with the other AO roles the property of being a profiled participant in a relation subsidiary to the main one, normally backgrounded, but contextually important enough to be profiled.

We have also used this characterization to de-motivate non-occurring, or less-favored, AO roles. These are either coded instead as participants in the main event, or, simply

not likely to be construed as participants in a resultant relation. It is important to realize that the enterprise I have engaged in here is to be distinguished from that of *ruling out* certain role interpretations for the Chagga AO. Really what I have tried to do is present motivation against certain interpretations for an Applicative Object. Obviously a statement of what the Applicative does that is as abstract as 'profiles a resultant relation' is fairly open-ended and will decisively rule out little. (This, in fact, is how it should be - see 5.3.) Compounding this is the fact that locatives constitute a motivated extension from the bundle of 'core' roles for which my characterization is apt: they do not participate in a resultant relation, and their status as participants is a matter of construal. Nevertheless, this account does provide a sense of how the various possible AO role interpretations cohere.

In the next section, I address a topic which has not received much direct attention in the literature: the relationship between the acceptability and plausibility (the 'goodness') of AO role interpretations and the frame semantics of verbs. We will see what many researchers of Applicatives have alluded to one way or another, that verb classes constrain the interpretations given an Applicative Object: certain verb classes favor certain AO role readings (cf. Silverstein 1976; Fillmore 1977; Foley & Van Valin 1984). Verb semantics along with other factors influencing interpretation can be understood in the context of the

elements contributing to the transitivity of a clause, identified by Hopper & Thompson (1980), and elaborated upon by Rice (1987) and DeLancey (1987). In this light I will discuss the internal structure of the Applicative Object category further and attempt to account for the relative basicness of each allowed role. The discussion as a whole calls into question the very concept of "semantic role".

### **5.3 Motivating the Polysemy of the Chagga Applied Object**

#### **5.3.0 Introduction**

We have seen that an analysis that attributes a quite abstract, yet substantive, meaning to the Chagga Applicative construction motivates the Applied Object role interpretations that do occur, and helps to de-motivate non-occurring interpretations. Specifically, the benefactive/malefactive, recipient, and goal roles are all consistent as the TR or LM of the resultant secondary relation that the Applicative functions to profile. They are all types of downstream participant, none as much an energy sink as a patient. Locative Applicatives are related to this core set. They designate locations which serve as participants rather than settings. Below I propose a radial category model of the Applicative Object, in which the various roles are extended from a central, recipient prototype. Locatives constitute a further extension from the

core set of AO roles.

The semantics of the Applicative construction does not in itself determine the role interpretation of an AO. It only *constrains* the range of possible interpretations. I suggested in the preceding section that certain roles are implicit in the frames of verbs, and that the AO role or roles are drawn from this set (providing also they are downstream). A given Applicative clause may allow more than one role interpretation for its AO, and certain interpretations may be favored over others. In addition, sundry other factors beyond verb semantics enter into the interpretation that an AO receives.

In this section, I explore the contributions of various factors which influence AO interpretation. In particular, I will suggest that we can generalize over semantic classes of verbs with respect to Aktionsart, and more specifically, with respect to frame semantic 'slots' for downstream participants.

Furthermore, other factors which improve the acceptability of AO interpretation are seen to work by virtue of increasing the overall transitivity of the clause. The more transitive the clause as a whole, the more likely it is that the NP acting as AO will have the qualities of a good participant. AO properties should be those of Direct Objects, for best 'energy transfer'. Minimally, 'good' Applicative Objects have participant qualities: they should be discrete and mobile, definite and referential, and

capable of being affected. Good AOs are, in addition, 'downstream' in the energy flow. High transitivity contributes to a downstream participant construal for the AO noun phrase.

### 5.3.1 Interpretations for Applicatives

If we look through the interpretations offered by Chagga speakers for Applicative examples, we can see that not every role is possible - or rather, equally likely - for every verb. Thus in (18) we do not easily get a benefactive reading for the AO; wanda is interpreted as goal. In (19), the AO is not easily understood as a recipient; -sanja 'wash' is not a transfer verb. The AO ihó kaZi '(there) in the yard' is interpreted as a locative.

- (18)            ná' lésókíá                            wanda            ná            'ngási  
 FOC.SM.3sg-P.PFV-descend-APPL-IND    down    by/with    ladder  
 'He climbed down by ladder.'

- (19)            náisanjia                                    sowe            ihó            káZi  
 FOC.SM.3sg-PROG-wash-APPL-IND    yams            there            yard  
 'She's washing yams in the yard.'

Nor is it random *which* roles are possible with particular verbs. There is a pattern. Goal interpretations for the AO go with motion verbs, recipient AOs go with verbs of

transfer, and so on. This, of course, is the observation alluded to by many other researchers, captured in the quotes in 5.0. I would like to offer explicit hypotheses concerning the relation of verbal semantics and the interpretation of AOs in Chagga. Once again, the construction constrains what the possible AO roles can be: they can only be TRs or LMs in relations which result from the primary verbal event, or, if they are locative, they must be construable as participants rather than mere settings. Verbal semantics also constrains AO interpretation. The possible interpretations for an AO which fits the constructional requirements are just those available in the semantic frame of the verb. Verbs of translational motion implicitly involve a final stopping point, which is the destination or goal when the motion is deliberate. Similarly, all transaction and transfer verbs have a semantic 'slot' in their frames for a recipient, whether or not this is explicitly coded. Where these roles are not expressed as part of the unmarked clause, they are available for coding by the Applicative Object.

At a more general level, certain roles are part of the more schematic frames associated with particular categories of inherent verbal aspect, or Aktionsart (Dowty 1979, based on Vendler 1972; Foley & Van Valin 1984). Most relevant to Applicatives are activities and accomplishments. Activities (eating, arguing, running) are typically engaged in for the benefit of someone (often the agent herself), although that person is frequently left unexpressed. Likewise,

accomplishments (sweep the yard, bake a pie, draw a circle) are ultimately undertaken for someone's benefit. Both categories of verb, or rather, of clause (Dowty 1979), are purposeful. The potential benefit may be expressed as a purpose (She's eating carbos to put on some weight.), or may be left an unspecified part of our base of knowledge about that activity (as in He sure eats alot.). Or, the benefit itself can be left in the background, while the beneficiary is specified (I baked a lemon meringue pie for Kathryn once.). Either way, both purpose and benefactive roles are generally available in the frames of these verb categories for coding as AOs. Note that the more specific categories of motion verbs and transfer verbs will for the most part fall into these general activity or accomplishment categories, and will therefore allow benefactives and purposes as well.

It is perhaps atypical, yet ordinary enough, that we do something for the ill effect it will have on someone. Often, such effects are inadvertent. Activity and accomplishment verbs have available as a (less salient) part of their frames, the malefactive role. (There is linguistic evidence for including malefactives with benefactives in one role type, but there is evidence that languages treat these differently as well. This is, of course, the case with *all* semantic roles.)

As achievements (recognize, die, ignite) are (for the most part?) non-volitional, benefactive/malefactive and purpose roles are generally not available for them. However,



on the off chance that an achievement affects someone, a malefactive or benefactive reading is possible (recall (15), with 'die on'). Similarly, most states are non-volitional: their subjects are not agents and they are not purposeful. Therefore, the only Applicative interpretations that should be acceptable and intelligible with states are locative (providing the other criteria for locative AO-hood are met), and perhaps benefactive/malefactive.

I argued in 5.2 that locative Applicatives ought to be available for any sort of verb, since they are part of the general event frame. Activities, accomplishments, achievements and states all take place somewhere. Any clause should therefore have a semantic 'slot' available for a locative. This does not mean, however, that any Chagga clause *will* support a locative interpretation for an AO. Some clauses will simply not be sufficiently transitive to support a participant construal for the locative NP. (More on this below.)

What we find as we look through textual and elicited Chagga data, is that interpretations of AOs fill precisely these semantic 'slots'. First of all, Applicatives in personal narrative and conversational texts are, for the most part, activity verbs, with one achievement verb ('die') and some lexicalized Applicatives (see 5.5). Of these activity verbs, *all* are agentive. Though I cannot pretend to have a thoroughly representative selection of texts, it is striking that Applicatives show a strong distribution in



The foregoing statements must be clarified. The classes of verbs discussed allow the AO readings that I have attributed to them, providing: the other criteria for AO-hood are met; the clause as a whole is sufficiently transitive (see below); and the roles in question are not part of the verb's argument structure.

This latter stipulation is implicit in the characterization of the Applicative I have given: only those relations which are backgrounded in the unmarked clause can be brought into profile by the Applicative. That is, only those relations which are not designated in the verb's argument structure but which are part of the frame - part of a general scenario which is superimposed (such as the goal relation of a translational motion scenario) or part of general event structure - can be foregrounded in the Applicative construction. The verb ikumba 'to sell' will illustrate. ikumba is a transitive verb which takes a theme (or patient) object. Selling, of course, involves the transfer of an object to someone, but this participant is not part of the verb's argument structure in Chagga. Nevertheless, as a 'downstream' role which is part of the frame (part of the scenario, or knowledge structure, that we have about selling), the recipient can be added to the clause through the suffixation of the Applicative: ikumbia 'to sell (s.t.) to (s.o.)'. A similar example involving a lexical pair is iakuo 'to borrow'. Iakuo is ditransitive, with theme (patient) and source objects. Applicative



and 'work'. These verbs take locations as arguments, but can also take locative Applicatives. Unextended 'put' takes a goal complement ('Put the bananas on the shelf.'). Likewise, the Applicative form of 'put' takes a goal AO, with a slight (and fleeting) difference in meaning which I have not been able to pin down. The verb -Yunda 'work' takes as its DO a patient argument which also names a location, such as kiwamba 'farm', as in (23).

- (23)        naiYundá                            halyá        kiwámbeŋ  
              FOC.SM.3sg-PROG-work-IND    there        farm-LOC  
              'He's working the farm.' (i.e., farming)

Applicative -Yundia downgrades the location from patient (primary downstream participant) to locative (merely participant), as in (24).

- (24)        naiYundi'á                            halyá        kiwámbeŋ  
              FOC.SM.3sg-PROG-work-APPL-IND  
              'He's working on the farm.' (but not farming, maybe  
              building something)

In the presence of the Applicative, the location is no longer available for patient status. The Applicative cannot profile as AO a role which is already foregrounded in the verb's argument structure. The meaning contrast between (23) and (24) is consistent with what we know about Applicative

semantics.

Summarizing so far, clearly there is a direct way in which verbal semantics and the AO role interpretation are related. If a role is present in the meaning of the verb (in the scenario from which it selects material to lexicalize) and not profiled as one of its arguments, then, providing the role is downstream in the action chain, the role can be encoded as an AO. Or, if a role is implicit for all verbs of a certain class (as benefactives are part of the general frame for activity verbs), and if it is a downstream role, then it can be encoded as an AO. Finally, at an even more schematic level, if the role is one of those which are always available for events in general (such as locative) then, providing the speaker wishes to designate a participant not already part of the verb's argument structure, such a role can be coded by an Applicative.

It is important to note the consistency of these patterns with those observed by Driever for Swahili (1976). Although Swahili has a different set of Applicative roles (it allows instrumental, for instance), the correlation of allowable roles with semantic verb classes is strikingly similar to Chagga. Driever notes, for example, that transaction verbs, which involve at least agent, theme, and recipient conceptually, do not take instrument AOs (unlike most members of the activity verb class), while benefactive/malefactive AOs are common. It seems clear that instrument is not a role present in the frame of verbs such

as 'borrow', 'lend', 'rent', 'buy', 'receive' and 'snatch away'.

The influence of the frame-semantic skeleton on Applicative interpretation appears to be a promising line of research. Many of the patterns of Applicative distribution observed suggest a correlation of Applicatives with parameters of high transitivity. Driever notes for Swahili that since "the Applicative extension as an expression of the addition of the GOAL case ... is closely connected to the presence of the AGENT case", state verbs and intransitive process verbs (such as 'dry', 'get tired', 'grow up') do not have goal Applicatives (1976:101). This distribution may be understood in terms of the clause being insufficiently transitive for hearers to imagine a subsidiary energy flow to a destination. State and intransitive process verbs like these do not involve a volitional agent, one of the ingredients of a transitive clause. The events they designate are far from kinetic, nor are they punctual. (See Hopper & Thompson 1980; Rice 1987.) In Chagga such verbs are at least unlikely to take any Applicative.

Regular, morphological aspect (that is, non-lexical aspect) should also be investigated for its influence on Applicative interpretation, through its impact on the transitivity of the clause. Although I have not had an opportunity to investigate this directly, it is noteworthy that textual data shows not one clear case of an

imperfective verb, out of approximately 55 examples of Applicatives. An imperfective verb portrays a situation as constant or unchanging in time, typically as a state or a situation in progress, viewed from within (Comrie 1976; Rice 1987; Langacker 1987a). The less punctual and perfective a predicate is, the less transitive the clause as a whole is. High transitivity is important to the construal of a location as a participant.

Few Applicative verbs in the textual corpus have experiencer subjects, perhaps 3 or 4 of some 55 examples. Again, in general, highly transitive clauses have agentive subjects at the head of the action chain. In 5.2, we saw a few ways in which locative NPs can be construed as participants in an event. One way is to impute to the locative some sort of influence over the outcome of the event. This construal is easier for (14), for example, because the event is portrayed as a deliberate one: the location (home) for the event (dying) is actively sought out. Volitionality is a parameter recognized as increasing the transitivity of the clause. With a motion verb (like 'send'), this seems to entail making the goal (in this case, the same location as the place of dying) more integral to the event.

In claiming that Applicatives tend to occur in clauses of high transitivity, I mean two distinct things. First, the Applicative suffix shows a clear tendency to occur on predicates in highly transitive clauses. Punctual,



perfective, kinetic events with animate, volitional agents and individuated, definite, referential and wholly affected patients are favored by the Applicative. As we have seen, however, the Chagga Applicative also occurs with intransitive verbs. Here we cannot talk about actual morphosyntactic transitivity, but rather, the semantic-pragmatic parameters of transitivity. Even with intransitives, the Applicative shows a strong preference for the more kinetic verbs with volitional agents (agentive motion verbs over verbs of perception; punctual changes of state over gradual processes; etc.). It is important to state this as a tendency, since there are examples of Applicative clauses which are only half-heartedly transitive semantically ('die', 'get lost', 'get tired'). But the general trend is fairly obvious. Trithart makes similar use of the semantic transitivity parameters to account for *atypical* uses of the Applicative in Cinyanja (such as lexicalized occurrences, 'more of action', etc. - see 5.5).

The second dimension of the correlation between Applicatives and highly transitive clauses concerns the Applicative Object itself. Since transitivity is a clause-level phenomenon, it encompasses the AO. For best energy transfer to the AO - what we might call semantic "applicativity" - the NP serving as AO should have many of the same properties as DOs have in highly transitive clauses. That is, to be construed as a participant (or profiled in a relation), a noun phrase serving as AO should

have the qualities of a good DO. AOs, like DOs, should be individuated, definite, referential, and affected (locative AOs, as we have seen, do not fit this ideal in several respects). (Obviously, however, the AO cannot be a patient: patients are energy sinks in primary relations, and are typically coded as direct objects.) The further an NP is from this AO ideal, the harder it will be to construe it as a participant in a resultant relation. It is easier to construe locations as participants when the events they are locations for are more highly transitive (see Rice 1987). There is a stonger likelihood of being able to impute affectness or affectability to the location when the event is more punctual and kinetic.

The suggestions Chagga speakers make for improving the acceptability of an Applicative utterance or the quality of a particular interpretation of one are telling. Motion verbs which take goal AOs, such as -sokia in (18) (reprinted here) nevertheless sometimes do not allow the full range of object behavior for their AOs.

- (18)            ná' lésókíá                            wanda    ná    'ngási  
 FOC.SM.3sg-P.PFV-descend-APPL-IND    down    with/by ladder  
 'He climbed down by ladder.'

Wanda, the AO, may not occur as OM on -sokia:

- (25) \*           nalehasokia  
 FOC.SM.3sg-P.PFV-OM.16-descend-APPL-IND  
 'He climbed down there.'

If, however, a degree of resoluteness and purposiveness is attached through the phrase kaŷaŷu 'three times', the OM AO is acceptable.

- (26)           ná'léhásokia   kaŷáŷu  
 FOC.SM.3sg-P.PFV-OM.16-descend-APPL-IND                       three  
 'He climbed down there three times.'

A way for us to interpret this difference is as an improvement on overall transitivity. If the location was sought three times, it is easier to construe it as a selected destination in an event. The purposive quality of the motion enhances the extent to which the locative is participant-like: the action is *directed toward* the location, *contact* is made between the agent and the location, and the location is at least potentially *capable of being affected* by the action.

Thus, the applicativity of a Chagga clause is partly a matter of construal. To characterize the Applicative suffix as profiling a resultant relation is to attribute to it a highly schematic meaning. The specific type of quality of relation is filled in when the speaker/hearer integrates the suffix with other linguistic expressions in the utterance

and assesses how it fits into the context. All that the Applicative stipulates is that there be a relation between the NP functioning as AO and the event, and that that relation be a consequence of the event. This leaves the whole interpretation process fairly open-ended, as, again, it is in Chagga. Speakers will expend effort to come up with interpretations they consider plausible, often offering more than one reading for a sentence. Favored interpretations are those suggested by verbal frame semantics, the meaning of the AO noun phrase, the context, etc.

The benefactive is a ready interpretation for the (human referent of the) AO of the activity verb -imba 'sing', for example.

- (27)            nai'imbíá                            wánâ  
                  FOC.SM.3sg-PROG-sing-APPL-IND      kids  
                  'She's singing for the kids.'

Another available reading for this sentence is 'She's singing to the kids.', perhaps at the behest or for the benefit of someone else. We can consider this a kind of recipient role for the AO. Nouns referring to locations may also be understood as beneficiaries or recipients, context permitting.

- (28)            naí'ímbiá                            m̀sikítì  
                   FOC.SM.3sg-PROG-sing-APPL-IND      church  
                   'She's singing to church.'/'She's singing for church.'

msikiti here can be understood as the physical building (suppose we see a crazy person singing to the church building), or metonymically, to refer to the congregation. The benefactive interpretation is possible in a context such as one in which she is on tour, singing to make money for her church. If the AO NP is specifically marked as a location, either with a locational qualifier, as in (29), or with the locative suffix -ni (or n), as in (30), the preferred interpretation will of course be locative.

- (29)    naí'ímbiá      ihó      kázi  
     there    yard  
                   'She's singing in the yard.'

- (30)    naí'ímbiá                            m̀sikítìp  
     church-LOC  
                   'She's singing in church.'

In fact, for some verb-noun combinations (including the one in 28), the locative reading is *only* possible when the noun is marked as locative, but this is not always the case (cf. Guthrie 1962:216, fn 2). Entering into selecting a reading for any Applicative sentence then, are numerous factors,

linguistic and contextual, which narrow the possibilities left open by the schematic meaning of the suffix.

The verb -kusaŸa 'think' provides us with an interesting example of how APPL interpretations depend on the possibility of secondary relations being understood. Cognition verbs, if understood metaphorically as involving force-dynamic interaction, being goal-directed, having distinct participants, etc., can be transitive (Rice 1987). -kusaŸa, an intransitive activity verb, may take the Applicative suffix with a benefactive interpretation for its AO, as in (31).

- (31)            ngé'chíkúsáŸiá                            Éliáichi  
                   FOC.SM.1sg-FUT-think-APPL-IND            E.  
                   'I will [think kindly toward] Eliaichi.' (i.e., "bless"  
                   her)

We probably should consider -kusaŸia a lexicalized Applicative. It is used to refer to charitable acts resulting from kindly thoughts on the part of deities and ancestors; 'be thoughtful toward' might approximate its meaning. (It is related to the name MsaŸio 'blessed one'.) Notice that the cognitive event expressed by -kusaŸia has effects: a god does something for someone because he is thinking kindly toward them. The fact that there are tangible consequences makes it easier to construe Eliaichi as a participant in some subsidiary relation (whether the

recipient of good thoughts, or of material benefits).

-kusaŋia can also take an AO with a locative interpretation, as in (32), where it does not have its specialized meaning.

- (32)            ngí'kúsáŋia                    ihá            ńja  
                   FOC.SM.1sg-PROG-think-APPL-IND    here            outside  
                   'I'm gonna think outside.'

(32) expresses the idea that the speaker intends to "use the outside to do his thinking", as opposed to using some other place. Again, a fairly low transitivity event can appear in an Applicative sentence because the location which is AO has an effect on (is a participant in a relation with) the event (and possibly on its subject participant).

What I have tried to show with these examples is that ascribing a semantic role interpretation to an Applicative Object is not a simple matter (for instance, of looking up the rank of the role on a role hierarchy). It requires integration of the meanings of all of the various component expressions in the utterance, within the bounds of a given context. Though many of the details are yet to be understood, it is clear that verb frames are a major constraining influence. All of the many factors that can influence the semantic transitivity of a clause may affect APPL interpretation. Much is left to construal. Even whether a location is taken to be a setting (i.e., an oblique NP), a participant in the relation predicated (i.e., an AO), or the

actual energy sink in the action chain (i.e., the DO), is to some extent a matter of construal. (33) - (35) show these three possibilities for the locational NP halya kiwamben.  
kiwamben

(33)        naíʔundá                      ko    úZókó    halyá    kíwámben  
FOC.SM.3sg-PROG-work-IND    by    laziness    there    farm-LOC  
'He's working lazily on the farm,' (farming or not  
farming; location not particularly important)

(34) (=24)        naíʔundí'á                                      halyá    kíwámben  
FOC.SM.3sg-PROG-work-APPL-IND    there    farm-LOC  
'He's working on the farm,' (but not farming; location  
important)

(35) (=23)        naíʔundá                                      halyá    kíwámben  
FOC.SM.3sg-PROG-work-IND    there    farm-LOC  
'He's working the farm,' (i.e., farming)

(33), with the unextended verb -ʔunda 'work' and an unmarked locative oblique phrase, is about what he is doing; where is mentioned, but it is incidental to his activities. (34) is Applicative; the unmarked locative is the AO. In (34), the location is somehow relevant to his activities or otherwise worth mentioning (perhaps it is out-of-the-ordinary). (35) contains the unextended verb; this time the unmarked locative NP is DO, the entity undergoing a change of state due to his activities. (33) and (35), with -ʔunda, talk



about *working* (at) the farm as opposed to doing something else there, while (34), with Applicative -Yundia, talks about working at the *farm* as opposed to working at, say, the marketplace or home. The same phrase, halya kiwamben, referring to the same entity, can be construed in any of these ways.

However, while this is partly a construal phenomenon, it is not the case that anything goes. We have excluded Applicative roles (relations) not fitting the proposed characterization (5.2). I have tried repeatedly to elicit instrument interpretations for Chagga Applicatives (to take one case), and have been unsuccessful. The repertoire of Applicative roles that a language has is conventional and therefore part of what we need to know in order to know that language. We have laid out in this section cases where a particular construal is unlikely or less-favored. The present endeavor is hardly the same as the generative project, of proposing rules which predict exactly what may occur and what may not. I have only tried to provide motivation for the cases Chagga speakers are likely to find acceptable and intelligible, and motivation against cases which they are unlikely to find so.

### 5.3.2 Motivating the Category of AO

We are now in a position to look further at the structure of the category of meanings of a Chagga Applicative Object.

The structure implicit in the analysis I have presented is the following:

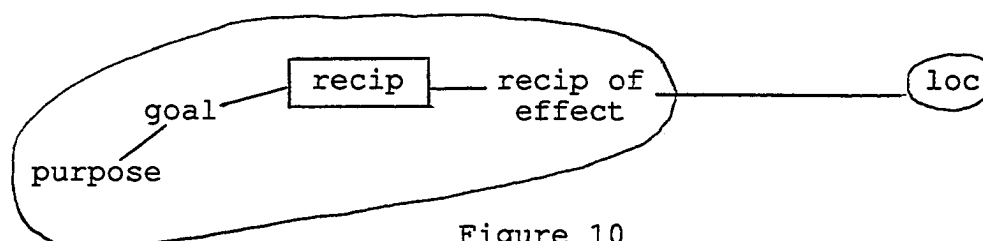


Figure 10

The group of meanings in the larger circle all fit the semantic characterization for the Applicative Object. Each role that appears there labels a participant in a secondary relation, one which is downstream from the event designated by the verb in an Applicative construction.

This core group of Chagga AO roles is based on the recipient prototype. The other roles may be considered extensions from the recipient. Benefactives and malefactives, as recipients of effect, are recipients in metaphorical transfer events. The goal role, prototypically a physical, inanimate destination, is nevertheless the endpoint of a motion event; this it shares with the recipient prototype. Purpose may be considered a kind of abstract goal. Trithart suggests that purpose is related to benefactive, the two differing mainly in animacy (compare 'He cultivated the field for money' and 'He cultivated the field for his brother' - 1983:159).

The locative meaning, as an extension from this 'core' group, appears in a separate circle. Locative Applicatives, as we have seen, may or may not participate in relations

resulting from or depending on the verbal event. They are participants, but they constitute an offshoot of the basic APPL meaning by virtue of the fact that they are sometimes in a causing relation rather than a resulting relation. As suggested by Fig.10, I tentatively extend locatives directly from 'recipient of effect'. Downstream locatives are very like recipients of effect, in enjoying or more often, suffering the consequences of the primary relation. Upstream locatives, which are more distant extensions from the core AO category, simply reverse the directionality of affectedness (these are the cases where the location itself has an impact on the verbal event). That there is a tight conceptual link between cause and result (or effect) is well-known. This link is evinced elsewhere in the network of Applicative meanings which other languages have; we have already noted that the 'motive' role includes both purpose and reason (epistemic cause). In many languages, the causative is formally related to, and sometimes homophonous with (that is to say, *polysemous with*) the Applicative. Thus, the fact that locative AOs may have tinges of causative meaning is not surprising. (Another possibility for AO category structure is to place downstream locative Applicatives within the core group of AO roles, and have only the upstream locatives be an extension from that group. I have chosen to keep the locative together as a (sub-)category primarily because it is often the case that individual examples of locative Applicatives are ambiguous

between the two interpretations for the locative.)

Beyond the circle, there are possibilities for connections to roles which Chagga does not happen to express with the Applicative. 'Motive', again, is a natural extension from purpose, as is instrument ('knife for cutting').

To claim that the recipient is the prototypical meaning for the Chagga AO is not to say it is the most basic in every sense. Certainly the benefactive is basic in that it is most often offered first by speakers as an Applicative example; together with the malefactive, it partakes of most or all morphosyntactic object properties (see 5.4); and it is historically primary. Benefactive AO function is reconstructable back to Proto-Niger-Kordofanian, with the other roles not appearing consistently until Proto-Bantu. But this is not to say that the other roles were extensions from the benefactive directly, or from our value-neutral 'recipient of effect' category. Trithart (1983) suggests that purpose probably did arise from the benefactive use. Goal was probably a secondary extension, from an earlier extension from benefactive to recipient. Locatives are likely to have developed later, from the narrower goal use.

Synchronically, we can model the Chagga AO as a radial category (Lakoff 1987), with the recipient as its prototype. A recipient of effect is nearly always available in the frame of the verb, since our actions generally have repercussions. A benefactive reading for a recipient of

effect is the more likely reading, since most of what we do is *for* someone, even if only ourselves. Animacy, and especially humanness, makes a beneficiary salient, and therefore always worth profiling in a scene.

What we have in the Chagga Applicative Object is a (broadly speaking) polysemous grammatical category with a single highly schematic meaning which covers most uses, and a motivated extension to the locative use. The Applicative suffix affects a change in profiling from the unmarked clause, bringing into relief, as it does, a secondary relation which results from or hinges on the primary event predicated. The AO is a profiled entity (TR or LM) within the newly profiled resultant relation. The locative extension involves detaching from the AO the specification that the relation to be profiled be resultant.

Fig.10 is misleading in that it carries the implication of discreteness, as my conventional use of the role labels throughout this chapter has also done. What is a semantic role? The variety of semantic interpretations for an Applicative Object once again raises this question loud and clear. In Chagga Applicatives overlap between labelled roles, such as between benefactive and recipient, or between malefactive and source (example 17). A number of instances of Applicative Objects have fallen in-between or outside the usual literal interpretations of named roles; these include, for example, the AO of 'pray for' (a metaphorical beneficiary), the AO of 'sing to' (a 'recipient of effect'),

and the AO of 'fight for' (a beneficiary in some sense). We have seen that physical recipients are usually beneficiaries; recipients are animate goals (destinations for themes); and benefactive/malefactive may be understood as a kind of location within a metaphorical "affectedness" space. (See also (51) in 5.4 for an example in which one NP appears to have more than one role simultaneously.) The overwhelming sense one gets from working on this topic is that the role labels are unsatisfactory, and that, in fact, the whole concept of semantic roles needs overhauling.

It is clear to me that semantic roles are labels for conventional ways of being a participant in a relation (cf. Jackendoff 1987). Ultimately they typologize the relations themselves. There is nothing new in saying that semantic roles may be derived from verb semantics (see, for instance, Dowty 1979; Foley & Van Valin 1984). The present work suggests that the right level of analysis is not individual verbs but verb classes, or types of verb frames. For some purposes, languages use a coarser grade of resolution and 'lump' like kinds of participants together. "Subject" is one example; "Applicative Object" another. If we can characterize the participant relations which are salient in the frames of the various verb classes, we will have gone some distance toward more satisfying (though not necessarily more precise) characterizations of what we now label with semantic roles. In recent research Langacker (forthcoming) offers a tentative attempt to derive the primary grammatical

relations from the general properties of event structure (cf. DeLancey 1991). It seems clear from the present study that a non-universal, marked relation like the Applicative requires reference to the more specific semantics of verb classes in addition to general event structure.

#### **5.4 Applicative Object Behavior**

In this section, I would like to outline a direction for further research. I propose that we examine the extent to which the following hypothesis is accurate: the most strongly Applicative clauses, by the semantic criteria set forth in this chapter, will have AOs which exhibit the most object properties.

It is well-known that not all Applicative Objects share the same morphosyntactic object properties. Nor do they necessarily exhibit all of the object properties that Direct Objects do. A number of behavioral/distributional properties ('tests') of Applicative-Objecthood have been established (Hyman & Duranti 1982; Masunaga 1983; Bresnan & Moshi 1988ms, 1990). These include: (1) whether the NP can immediately follow the verb; (2) whether the argument can appear as an object marker (OM) on the verb; (3) whether it can be the subject of a passive; and (4) whether, in double object constructions with both AO and DO, one object can be the subject of a passive while the other appears as OM on the verb (as in 49, below). All DOs are expected to have

these properties, while only some AOs are expected to; in double object constructions, both AO and DO will exhibit object properties.

Recent works in syntax provide accounts of the object properties of Applicative Objects. Some of these derive the AO's morphosyntactic properties from the effect the Applicative has in adding a new role to the thematic structure of the verb (Bresnan & Moshi 1988ms; Alsina & Mchombo 1988ms, to appear a, to appear b; Harford 1989, 1991). Variation in AO object properties is correlated with the semantic role of that new argument. In fact, the semantic role of the AO is the *only* parameter of variation taken seriously in these accounts. The semantic class of the verb is held constant. Definiteness and animacy, shown in Hyman & Duranti 1982 to be relevant to the objecthood of an AO, are mentioned and then ignored, or just ignored. With these controls, the proposed hierarchies and rules (or mapping principles) have moderate success in accounting for object behavior for each semantic role.

But if we veer away from data using one verb or a small number of verbs, what happens to the object behavior of the AO? If we look at other kinds of verbs, how will we have to modify our accounts? Applicative motion verbs, for example, prefer goal readings for their AOs, as we have seen, particularly if the NP in question is clearly marked as a location. (Goal is not included on the hierarchy in Bresnan & Moshi 1988ms.) What about stative verbs? It is difficult



to get any AO at all with verbs like ilaa 'to sleep' or icha 'to be beautiful, good, nice'. Even locative Applicatives are unlikely with such verbs. Moreover, there are verbs which have more than one Applicative Object interpretation, for which a role interpretation other than benefactive is actually preferred. -itukuya 'gape at' (cf. -itukuyo 'gape') is one such verb, exemplified with its preferred AO reading in (9), of 5.2. itukuya takes a metaphorical destination as its AO; 'gape for' is not a readily available reading. A similar example is -sokia 'descend upon (food, woman)' (cf. -soka 'descend'). -imbia 'sing to', in (28), is another, and -somia 'read to', another. These verbs have a metaphorical recipient interpretation for their AO, which in ordinary cases is also a benefactive. But the two readings can be teased apart, in which case the most likely interpretation is recipient. The argument might be made that some of these examples are lexicalized, but there are far too many of them to ignore. Obviously, data from a full range of verbs complicates matters immensely.

And what of the object properties of AOs in cases like these? If an Applicative verb has a preferred recipient interpretation for its AO, do recipient AOs with that verb, then, have more object properties than benefactive AOs (for example) would have? I leave this as an open question. But whatever approach to the Applicative we take, things are very much more complicated than they would seem by published accounts. I believe the direction of research should be

toward coming to terms with this broader range of data.

I have proposed a semantic analysis of the Chagga Applicative in which the Applicative suffix itself has meaning. The category of AO has also been given a semantic characterization; the details of the schematic TR or LM of a (now-profiled) resultant relation are filled-in by speakers, within a range of possibilities offered by the language. The construction as a whole integrates the semantics of the Applicative suffix with verb semantics (including frame and inherent aspect), the meaning of the Applicative Object NP (whether designating a human, a place, etc.; whether definite or indefinite), morphological aspect, and so on. The *clause as a whole* has Applicative character. As I have argued above, the most strongly Applicative clauses are also good examples of transitive clauses, as manifested in both the primary event and its relation to the AO.

As is no doubt clear by now, this semantic account can be used to motivate the interpretive possibilities for AOs of a wide range of Chagga verbs. In future research, I would like to go one step further. What I propose is that we can correlate morphosyntactic Applicative-Objecthood with semantic Applicativity. The specific hypothesis to test is that AOs in clauses which are the most strongly Applicative by the semantic criteria discussed in this chapter will exhibit the most object properties. That is, we establish a cline of *semantic* Applicativity for the clause as a whole, and then try to correlate that cline with the cline of

morphosyntactic object properties. Espenson (1989ms) illustrates something like this idea for the Chichewa Applicative.

Let me give an inkling of what I believe can be done. Although certain motion verbs happily take Applicative Objects with goal interpretations, these AOs do not show the full range of object properties that benefactives show. For instance, while sentence (36), with a goal AO, kulya kaZi, is perfectly acceptable:

- (36)    tsindikíá            Yíngishá   'yá    kúlyá    káZi  
           push-APPL-IND        cart       that    there    yard  
           'Push the cart to the yard.'

the goal AO does not easily become the subject of a passive:

- (37) ?\* kulya kaZi            kuletsindikio            Yíngisha  
           there yard FOC.SM.17-P.PFV-push-APPL-PASS-IND    cart  
           ('The yard was pushed-to the cart.')

Speakers' suggestions for improving (37) were to change the verb to, for instance, 'plant' or 'fill', so that the "yard would be affected":

- (38) kulya ká'Zi            kúléZongo            shíwáYô  
                                   FOC.SM.17-P.PFV-plant-PASS-IND    flowers  
           'The yard was planted with flowers.'

(39) kulya ká'Zí kú'léichúŋo

FOC.SM.17-P.PFV-fill-PASS-IND

'The yard was filled.'

(38) and (39), of course, are not Applicatives, but simple transitive clauses. The point is that the goal in the Applicative clause (in 36 and 37) is not enough of an affected participant to support full object behavior. "Goal" is the label we give to a place which serves as the destination in a motion event. In terms of the analysis put forth in 5.2, it is the LM of a stative 'neighborhood' relation with the TR of the motion verb, a neighborhood relation which is a consequence of the motion itself. A goal location is not individuated (though it may be somewhat discrete), and it is hardly wholly affected (though there may be *some* effect on it). A motion event is not very kinetic with respect to the destination (though of course it is an action, and its actor in many cases is an agent, usually volitional). Thus a goal falls somewhat short of the prototypical participant in an energetic interaction, characteristic of objects of clauses with high transitivity. My argument here is that a clause with goal Applicative Object similarly falls short of full Applicativity. It will *therefore* fail to exhibit the properties exhibited by the best examples of objects.

A locative Applicative provides us with another example.

(40) (=11) mmbúŕú 'lyá á'lépfíá  
 Mburu that SM.3sg-P.PFV-die-APPL-IND

Washingtón, nááchō ?  
 W. COP-SM.3sg-who

'A Mburu guy died in Washington - who?'

In (40) Washington is the AO, serving as a place for the event of dying. But neither the corresponding sentence with the locative in Object Marker (OM) form, nor the passive version with locative as subject, are totally acceptable:

(41) \* mmbuŕu lya alehapfíá , naacho ?  
 SM.3sg-P.PFV-OM.16-die-APPL-IND

'A Mburu guy died there - who?'

(42) ? Wáshingtón há'lépfíó  
 FOC.SM.16-P.PFV-die-APPL-PASS-IND

'Washington was died in.'

Speakers do, however, accept (41) and (42) on a benefactive reading: for (41), 'A Mburu guy died for (the sake of) there - who?', and for (42), 'Washington was died for.' These are sensible if Washington is taken as metonymic for 'certain people in Washington'. In such cases, speakers are more willing to interpret the location metonymically, such that



of the whole clause, and seemingly minor factors, like the kinesis of the verb (as in the contrast between -Yunda 'work' and -pfa 'die'), can affect construal.

These examples introduce another factor which is involved in the interpretations of an Applicative clause, one which has not been mentioned in the literature. Note that (43) and (44) differ not only in voice, but also in the type of demonstrative which modifies kilapu. In (43) kilapu occurs with the pre-nominal kulya 'there', a locational qualifier, which clearly identifies kilapu as a locative (see Emanatian 1987ms); in (44), it occurs with the regular post-nominal determiner kilya. A noun clearly marked as a locative will foster a locative reading when it occurs as an AO. The same noun with the same verb gives rise to different preferred interpretations when it is not marked as a locative. (44) also allows the reading 'The club is being worked *for* now.', in which speakers report that kilapu kilya refers to the institution that the work benefits. Thus NP semantics also affects the Applicativity of a clause. But even on the locative reading of (44), the greater potential affectedness of an institution (composed, as it is, of people) over a mere place, enhances the Applicativity of the clause and gains kilapu more object properties.<sup>8</sup>

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<sup>8</sup> Note also that what I have identified as two different readings of (44), the locative and the benefactive, are really but a single meaning - one event - in Chagga. In the usual case, a person works *for* a club by working *at* the club; a person employed at a club typically works *for* it. We need a way for a single NP to have two







patient; the definiteness of all the arguments of the clause; and so on. This will allow us to correlate semantic Applicativity with morphosyntactic object behavior. The goal is to provide a semantic story behind the complications of morphosyntactic behavior that have concerned other researchers.

### 5.5 Residual Issues

Every analysis has its residue. In this section, I briefly review some aspects of the Applicative which I have chosen to neglect in my analysis, as well as some of the problems I see for that analysis.

It is important to point out that, though I have proposed a single abstract meaning for the basic Applicative, that is not all there is to the story. First of all, that meaning only covers the core uses of Applicatives, those for which the 'downstream participant in a secondary relation' characterization is apt (recip of effect, recip, goal). Exceptions from this set, as I have described them, require other stipulations for their motivation (as for purpose, extended from goal, or locative, which needn't be downstream).

Secondly, in other Bantu languages, there are uses of the Applicative which are rather removed from the central participant-profiling (or argument-adding) function. To take just one example, Trithart (1983) reports an intensifying

function throughout Bantu, whereby the Applicative signals duration, repetition, or excessiveness of the verbal action, or that it takes place with effort, or to completion. This function she assimilates to "action quantity", one side of the broad "increased action" functions of the Applicative which occur in clauses of high transitivity. I suggested above that this 'increased action' function could be seen as a manifestation of the extension of the action chain effected by the Applicative.

I have yet to discover this sort of range of non-valence-increasing functions for the Chagga Applicative. The only specialized functions I am aware of are semi-motivated, semi-idiosyncratic changes in verb meaning, and still more frozen, lexicalized forms. Yet most of these partially motivated forms fit the patterns that Trithart lays out for languages in which they are more productive.

One place where the Chagga Applicative diverges from the canonical participant-profiling function is with certain verbs whose meanings change upon its suffixation. For instance:

iZumbuo 'to cut through; cut off (of)'

iZumbuya 'to cut up' (for/at, etc.)

Intransitive iZumbuo is also a motion verb, 'cut through, across'

It too takes the APPL, in the form -ili-:

iZumbulia 'to chase; hurry to; (for an event to) follow upon another'

ishika 'to arrive'

ishikia 'to cover'; also 'to visit'

icha 'to come from' (source is lexicalized in this verb stem)

ichia 'to come to; come through'

isuma 'to dig'

isumia 'to bury'; also 'dig (for)'

itenga 'to circle'

itengia 'to circumvent; go around'

izicha 'to run'

izichilia 'to chase; hurry to; run after'

inana 'to get big; grow up'

inania 'to fill'; also 'to fit'

ikana 'to share; do together'

ikania 'to help'

ileka 'to leave (something) behind; to let'

ilekia 'to release; let go of'

ienenga 'to give' (for keeping)

ienengia 'to give' (with temporary rights only);  
also 'to give away in marriage'

izeza 'to speak'

izezia 'to vocally reprimand; shout at'

This sort of motivated semantic idiosyncrasy is exactly what we would expect for a derivational suffix which has been around so long (Trithart reconstructs it back to Niger-Kordofanian). Most of the Applicative verbs above have meanings which we can easily see motivation for. The 'come

to' meaning of ichia, for instance, is part of a regular pattern of adding a goal participant to the clause in the case of motion verbs. IzeZia 'to shout at, reprimand' is an 'increase in action' over the non-Applicative form iZeZa 'to speak'. The APPL suffix is not completely productive, but neither are its derivations thoroughly unmotivated.

There is a small number of verbs for which there appears to be no semantic difference between the unextended stem and the stem + APPL. These include the motion verbs iiZa/iiZia 'to pass through, pass by', iZuo/iZooya 'to take to', iuka/iukia 'to leave', and iwika/iwikia 'to put'. Sometimes there is a very subtle difference in using one over the other of these pairs, but at other times, the difference seems to evaporate. Note, too, that the Applicative Object of iukia is a source location (the same as the regular object complement of iuka), a disallowed role for the productive Applicative.

There are, in addition, some verbs which appear to be fossilized versions of a stem plus Applicative. It is not always easy to tell verbs which contain ossified Applicatives and/or have ossified meanings, from verbs which do not (cf. Port 1981). For many of them, no non-APPL variants remain. In Chagga, these include at least the following:

isungusia 'to fix; make; assemble; brew; construct  
(for/at)'

\* isungusa

ishia 'to smear (oil, fat, etc.) on'

\* isha

isakia '(for s.t.) to itch (s.o.)'

\* isaka

These verbs refuse extension with an additional (productive) Applicative. For example, there is no \*isungusilia (say, 'to fix for (someone), at (such & such a place)').

Obviously, the analysis presented in 5.2 does not predict or fully account for these cases. This should not bother us. In every language with the Applicative, there are frozen forms from which the Applicative extension is no longer detachable, that is, forms whose non-extended root is no longer extant, and Applicative verbs whose meaning has been lexicalized (Guthrie 1962; Port 1981; Trithart 1983). Indeed, as a suffix which is to some degree derivational, the APPL would never have had a completely general distribution (Bybee 1985).

I would also like to mention in this connection the existence of a handful of verbs which might be analyzed as containing the Applicative suffix, whose AOs (if that is what they are) have role interpretations which are otherwise not allowed in Chagga. These include iwawia 'to hurt' and isungusia 'fix; make', mentioned above. iwawa 'to hurt' is an intransitive verb in Chagga; it occurs in expressions such as (50).

- (50)      útífo      lóoko      lúwawa  
             foot      my      FOC.SM.11-hurt-IND  
             'My foot hurts.'

The Applicative variant allows for the expression of an experiencer-possessor, as in (51).

- (51)      útífo      lú      lúngiwawia  
             foot      that      FOC.SM.11-OM.1sg-hurt-APPL-IND  
             'My foot hurts.' (lit., that foot hurts me)

-sungusia patterns similarly (except that its valence is higher and its non-APPL form does not exist):

- (52)              ngímsungusia                              njui  
                     FOC.SM.1sg-PROG-OM.3sg-fix-APPL-IND      hair  
                     'I'm fixing her hair.'

Since these are the only two verbs I know of with this interpretation, I consider them to be remnants or outliers. I have not concerned myself with motivating what appears to be a rare (unproductive) role interpretation. (It might, however, be reasonable to include these as special cases of 'recipient of effect'.) Possessor AO role is found in other Bantu languages, though its distribution is rather restricted (Trithart 1983:155-157). Trithart considers it a sub-category of "indirective" (which includes *ben*, *mal* &

recip relations), extended from the benefactive use.

Again, there is considerable variation across languages in what interpretations of an AO are possible; in which verbs take the Applicative; in which Applicative verbs are frozen, lexicalized forms; and perhaps especially, in which object properties are exhibited by AOs of particular semantic roles. I have attempted an account of only what is found in Chagga. Nevertheless, the sort of account I have proposed ought to be extendable to other roles which are possible in other languages. Many languages allow an instrument interpretation for an AO. The instrumental relation is intermediary in the flow of energy from agent to patient (or energy source to sink) (Langacker 1987b). As such it has the potential to be profiled by the Applicative: a language could pick up on its downstream location relative to the energy source, and code it as an AO. Chagga apparently treats instruments as upstream from the energy sink, and does not extend the AO category to them. Trithart 1983 exhaustively traces the origins of every known AO interpretation within Bantu. She presents evidence, for instance, that the instrumental function is extended from the use of the Applicative with manner adverbs (a use I have not discussed here, since Chagga does not seem to have it), itself derived ultimately from the locative use. I have tried to provide only *synchronic* motivation for the selection of meanings that a Chagga AO can have. We do know of cases of polysemy in which the synchronic structure of



the category does not mirror the history of extensions which built that category (see 2.1.3); we do not know how common this is. It remains to be seen whether the Cognitive Grammar-style synchronic account I have proposed can be reconciled with what we know of the historical reality.

There are several questions remaining. I have argued that locative Applicatives constitute a motivated extension from the basic category of resultant-relation-profiling Applicatives. I have suggested that the extension of the Applicative category to locatives represents a weakening of the status of the relation profiled, from resultant to mere subsidiary status. This analysis rests on the hypothesis that the Applicative makes a location which would otherwise be a setting into a participant. But what evidence do we have for this claim? Are there concomitants of participant status other than co-occurrence with the Applicative suffix (or, in the case of ordinary transitive sentences, with the passive suffix)? Possibly not. This is a question for further research. I have argued that locative Applicatives fit the semantic description for participants, albeit not prototypically. A locative serving as participant in an Applicative relation to the verbal event is construed by speakers as being more dynamic and interactional than an unmarked setting locative would be. But it remains to be seen if there are any *grammatical* properties of participants in general that we could use to support this analysis. I would guess that, in some cases at least, there may not be.

The Applicative suffix in itself can *impose* a participant construal on a locative NP which was not a participant beforehand. Grammatical repercussions may consist of only the consequent object behavior exhibited by the locative AO. That leaves us with an analysis which is plausible and reasonable (given the fact that there are grammatical constructions in other languages whose function is to impose a participant construal on a non-participant - see Langacker 1987b), but not provable. This, of course, is true of the great majority of linguistic analyses (a point well-made in Wierzbicka 1988).

A related question arises from the claims that locatives are part of the general event frame, and benefactives at least (if not also malefactive and purposes) are part of the frames of any activity. Does this mean, then, that any activity verb in Chagga can have a benefactive (or malefactive, or purposive) AO? or that any event at all can have a locative AO? Can any motion event (or event of metaphorical motion) take an Applicative goal (or metaphorical goal)? Or, more generally, providing the speaker/hearer can come up with a context in which the Applicative Object NP stands in some relation to the event, and that relation results from the event, would any role at all be possible?

At this point, I cannot answer these questions definitively. My guess is, 'yes', all these things are possible. As long as a speaker or hearer can conceive of a

connection between the AO and the event, such that the connection is a consequence of the event, any verb (except those for which the Applicative is lexically prohibited) will take an Applicative. Providing the context allows for the understanding of some kind of affectedness relation, a benefactive or malefactive interpretation will be acceptable for the AO. On numerous occasions, my consultants have initially rejected particular AO interpretations, until contexts more conducive to those interpretations were produced, upon which the readings became acceptable. This of course is a familiar phenomenon. For example, (53) was at first judged uninterpretable on a benefactive reading (though a locative reading was acceptable).

(53)           nai'téréwia                                   ihó       kázi  
                   FOC.SM.3sg-PROG-pray-APPL-IND       there     yard  
                   'He's praying in the yard.'

Later my consultant accepted 'He's praying for the yard.' as a possible reading in a context where something terrible is expected to happen to the yard. In the case of locatives, there has to be a way to conceive of the place in question as involved somehow in the event. These hypotheses need further verification by Chagga speakers. If they are correct, the question then arises, where are the necessary construals natural and where are they strained? Here we can talk about likelihoods. I have argued that low transitivity

clauses, for instance those with stative verbs or intransitive process verbs, are quite unlikely to support a connection between a non-argument NP (the one to serve as AO) and the event. Further research should be done in this direction.

### **5.6 Consequences and Issues**

To summarize, I have offered a semantic portrait of the Chagga Applicative suffix as a profiler of a secondary relation in the event expressed (or evoked) by the verb. The Applicative Object is a salient participant in this relation, usually its TR, though sometimes its LM. (It would be worth exploring the circumstances under which it is one or the other.) It is a downstream participant in the overall verbal event. Locative Applicatives are an extension from this basic semantic function. They are brought into profile by the Applicative as participants in a locative relation ordinarily backgrounded in the verbal frame, but not resulting from it.

Perhaps the most positive outcome of this account is the extent to which it can predict what the semantic interpretation(s) of an AO in a particular example will be. I have tried to draw out what many other researchers have noticed: the interpretation of an Applicative object is tightly connected to the meaning of the verb. By integrating verbal semantics with the Applicative itself, and with

nominal semantics (including determination and other modification), verbal aspect, etc., we can get a fairly accurate picture of what the likely interpretations of an AO will be, including its semantic role. The schematic semantics I have hypothesized for the Applicative provides us with a measure of open-endedness which rivals the interpretive flexibility shown by speakers. What still needs to be explicated, of course - and this is no small task - are the details of the integration and a specification of the semantics of verbs and verb classes and the relations that are part of their frames.

One of the merits of this account is that it provides a consistent characterization of the Applicative, whether it is suffixed to a transitive verb or to an intransitive verb. With transitive verbs, the Applicative brings into profile a downstream participant, but one which is less prominent than the direct object, the energy sink of the clause. With intransitive verbs, the Applicative profiles the *only* downstream participant. In either case, the construction highlights a participant in a relation resulting from the verbal event (except in the case of locatives), a relation which in the unmarked clause is backgrounded in the frame of the verb or in the general event frame.

In addition, the account laid out in this chapter shows some promise of being able to correlate the morphosyntactic behavior of an Applied Object to its semantics, and to verb semantics and the overall transitivity of the clause, as

described in 5.4.

Analyzing Applicative semantics has brought out more clearly the need (recognized by many) for tracing semantic roles to something more fundamental. We should be aiming for a principled account of the conceptual underpinnings of what are empirically found to be the canonical semantic roles; prototype-based characterizations of the roles; their metaphorical extensions; an understanding of when - and why - NPs may instantiate more than one role at once; and in this context, generalizations about the favored semantic roles for grammatical relations like subject, direct object, etc. If the roles themselves - as discrete, coherent semantic functions - are at present a convenient fiction, what then is the semantic role hierarchy (or hierarchies) (Fillmore 1968; "Actor-Undergoer Hierarchy", Foley & Van Valin 1984; Jackendoff 1987; Bresnan & Moshi 1988ms)? In general, such hierarchies are orderings of what are deemed to be the basic semantic roles, according to their accessibility to particular syntactic categories (like subject) or semantic-syntactic categories (like Undergoer).

I suggest that the semantic role hierarchies proposed for the Applicative, at least, represent but *local orderings* of likely semantic functions for particular verb classes. Brugman likewise points out the need for several partial hierarchies which would rank participant types with respect

to only those other participant types with which they could co-occur in a clause of a particular predicate type (1986ms). (The effect of verb class is hardly visible in Bresnan & Moshi's work because it is controlled for: with a small number of exceptions, their claims are illustrated with only one verb, 'eat', a clear example of a kinetic activity verb.) Since, for example, it is much easier (that is, more natural) to get a goal interpretation for the AO of a motion verb than it is to get a benefactive interpretation, a single role hierarchy is at best incomplete. In other words, what I am claiming is that such hierarchies do not work consistently across each class of verbs that productively takes Applicatives.

What can the Chagga Applicative tell us about grammatical polysemy? I have proposed a single abstract meaning for the basic use of the suffix: the Applicative effects a profiling shift from the unmarked clause. This is a kind of function which we have seen grammatical morphemes perform. For instance, in Chp.2 I mentioned the example of the English passive reversing the Figure-Ground alignment of a clause, from Langacker 1982a. Another example is that of the prepositions of NE Neo-Aramaic having developed from body-part terms, in part, through shifting the profile from entities in a relation to the relation itself (Rubba, to appear).

The locative Applicative function has been taken to be a semantic extension from the basic Applicative. The locative extension constitutes an instance of Generalization from the more detailed specifications of the basic Applicative: the locative 'detaches' the specification that the secondary relation picked out by the Applicative *result from or hinge on* the primary verbal event. The secondary relation need only *extend* that event. This development is similar to what appears to be involved in the development of, for instance, general imperfectives from progressive markers (see 2.1.1 & 2.1.4). There is still much to be learned about what motivates such changes.

I have argued that the category of Applicative object roles is an outcome of how the Applicative integrates with the other linguistic expressions in the clause, particularly with verb class. The benefactive is the basic AO role, both historically, and in terms of its ready availability in most any clause. The Cognitive Grammar approach enables us to see why it is that the benefactive interpretation is so available. The salience accorded to humans, their discreteness and mobility as entities, and their volitionality, all makes them good participants in general. The purposefulness of most human activity entails the presence of a beneficiary relation in the frames of most verbs. Despite this sort of basicness, the benefactive does not function as a prototype for the category of AO.

The core group of AO functions is radially structured



around the recipient, which serves as a prototype: the other AO functions are extensions from it. The locative extension, while motivated, does not fit the characterization of this core group: some locative Applicatives are upstream on the event path.

Within the core group, there is a variety of kinds of relatedness among the AO roles. Metaphor is especially obvious, in connecting the goals of perception events ('gape at') and vocalizations ('sing to') to more tangible kinds of motion and transfer, for example. Let me stress again, however, that the discrete labels mask what is really a continuum of *ways of being a participant in a relation*. The role names label participants in relation types as languages categorize them and as linguists have conventionalized them (to the extent that we have).

Familiar kinds of relatedness connect roles inside the category to roles outside it as well, that is, to AO roles not possible in Chagga but possible in other languages. For instance, 'motive' collapses both purpose and reason, two meanings which are related by means of a Figure-Ground Reversal (see 2.1.1 & Chp.4). Metonymy is probably the means of extension from the core group of roles to some of the non-argument-adding functions of the Applicative, for instance, to Trithart's "more of action" functions. We can see this as the result of part-whole metonymic extension: it abstracts away one parameter of those making up a highly transitive situation, marking a clause which only has this

one parameter as if it had the whole set.

As mentioned in 5.2, the Applicative construction is formally related, or even identical, to the Causative in some languages. Tuggy (1988) argues that in Nahuatl, the two constructions are flip sides of the same coin, related through a simple alternation in profiling. Both constructions profile a causation relation between two relations, the Causative differing from the Applicative in that it profiles the causing relation, rather than the caused (resultant) one. Although the Nahuatl constructions are different in several respects from the Bantu Applicatives and Causatives, it is plausible that the relationship between them has the same basis in the two linguistic areas.

The Applicative, then, provides us with further examples of some of the kinds of relatedness among functions of multifunctional grammatical morphemes discussed in Chp.2. Most importantly, to my mind, the Applicative constitutes yet another case where attributing meaning to a grammatical element enables us to make some progress in understanding properties heretofore found puzzling. The characterization allows us to motivate the semantic functions (roles) of the Chagga AO and de-motivate functions which do not occur in Chagga. The set of AO roles is no longer a random one.

The analysis gives substance and theoretical grounding to

the intuitions earlier researchers have had about the functions of the Applicative. We can now understand how a suffix which profiles a (participant in a) relation would "direct attention to the *focal point* in the sentence" (Ashton et al. 1954). Welmer's assertion (1973) that the Applicative "merely brings a person *into relationship with the action*" encapsulates much of what I have proposed within the Cognitive Grammar framework. The basic intuition that the Applicative brings something into a relationship with something else is essentially our profiling analysis; that it brings a *person* into a relationship with *the action* incorporates the prototypical elements of highly transitive clauses, for the best Applicative examples. Doke, when he says an Applicative verb indicates action "applied *on behalf of, towards, or with respect to* some object" (1935, cited in Trithart 1983), merely specifies some of the ways in which that relationship can get played out; notice the implication that the object is *downstream* in the energy flow. This is echoed in the assertion by Hyman & Duranti (1982) that the Applicative "marks the *imminence* of an Applied Object". An Applicative "disorients the verb away from its (patient or locative) complement" (ibid.), in our terms, by effecting a shift in profiling from the unmarked clause (in which the verb's complement is in profile). In addition, I have gone some way toward specifying what might be meant by Applicative semantic roles being perhaps those "*directly affected or proximately involved*" in the verbal lexical

semantics (Bresnan & Moshi 1988ms).

Finally, this analysis should make it clear that for a grammatical marker to have a *schematic* meaning is not the same as it having *no* meaning at all. Morphemes which have only broad specifications as to combinatorial properties and their effect in combination nevertheless do have specifications. Underspecified or schematic meaning - what we tend to call "function" - is not the same as meaninglessness.

Classical categories, by their nature, force syntactic solutions. After a fine-grained analysis of all the very many functions of the Applicative across the large Bantu family, Trithart concludes that the Applicative is "syntacticized". Because it has spread to contexts where the semantic criteria for its occurrence are not strictly met, because it cannot be given a necessary-&-sufficient-conditions-type characterization that would cover *all* of its uses, it is considered no longer meaningful, merely a syntactic valence-increaser (1983:65). It is hoped that the present analysis is just one more nail in the coffin of the dichotomy of *meaningful or meaningless*.

## Part III Assessment

### CHAPTER 6

#### Conclusions

##### 6.0 Summary

In this dissertation I have concerned myself with exploring the nature of grammatical polysemy. To this end, in Part I I have laid out a rough typology of the kinds of relatedness that multifunctional grammatical morphemes exhibit, with lexical polysemy types as the standard of comparison. This has provided us with a view of the character of grammatical meaning (function).

Familiar types of lexical polysemy relations, such as metaphor and metonymy, are found to relate grammatical meanings as well. Metaphor, for instance, may relate more grammatical uses of morphemes to their more lexical uses, as with the force-dynamic pseudo-auxiliary use of keep (Keep working on it!) and the more basic use (She kept the lock of hair for a very long time.) (see Talmy 1985b); whole classes of words may be related in the same way. Metaphor may relate whole 'components' of meaning, as the metaphor of temporal distance links the "expressive component" to the "referential component" (Fleischman 1989). Indeed, it may even link whole systems of expression (languages, dialects, speech styles) in cases of code-switching.

Metonymy, too, may associate meanings, grammatical

functions, and even implicatures. "Frame metonymy" accounts for cases of polysemy in which different senses are associated via different framings of a single concept (recall breakfast). Similarly, the close formal relationship (identity or near-identity) between the class of English nominalizations and their source verbs is motivated by their close conceptual association within a frame. Metonymy may act 'behind the scenes' in a process of pragmatic strengthening, to associate an implicature with the usual context of use of the morpheme giving rise to it, resulting in a new, conventional sense of that morpheme. Strengthening of an inference is an important vehicle for the creation of new meanings.

Thus, if taken broadly, metaphor and metonymy can be powerful explanatory concepts for somewhat less familiar types of relatedness.

The notion of a minor transformation of a schematic image associated with a morpheme, or Image-Schema Transformation, is ideally suited for the relating of grammatical meanings. The transformation which accounts for the relationship between Trajector-Landmark distinctness and TR-LM identity (see 2.1.1), for example, is applicable to grammatical morphemes (Russian pere-, ot-, etc.) because schematic images are easily extracted from (or superimposed on) the kinds of meanings grammatical markers have. A relatively unrecognized, but, I have argued, important kind of IST is that of profiling shifts. Variation in the portions of a

morpheme's base which are selected for profiling (or special highlighting) account for some rather intransigent cases of grammatical polysemy, such as the development of prepositions from relational nouns, or the relationship between causativity and applicativity. One interesting kind of profiling shift that occurs in both lexical and grammatical polysemy is Figure-Ground Reversal. This apparently common Necker cube-type transformation relates the meanings of symmetric relational lexemes to each other, and accounts as well for the peculiarity of polysemous grammatical markers having functions which are opposites of each other (see 4.4.3 and 4.5).

In Part I we also approached some new territory. Here we found multifunctional grammatical markers or categories whose functions exhibit relationships which are not familiar. Among these is the sharing of a diagram. The coordinate-conditional polysemy, for example, appears to be motivated by the fact that the two categories have in common a formal means of diagramming a relationship of asymmetry. As suggested in 2.1.4 and 4.5, we might assimilate this to the sharing of a schematic image (a phenomenon different from but akin to metaphor).

Another less-easily categorized sort of grammatical polysemy, exemplified by the interrogative-conditional polysemy, is "automorphism". In automorphism, one grammatical category takes over new functions from another grammatical category, based on partial functional overlap

between the categories. The overlap, or sharedness, may be of various types, including pragmatic.

The Case Studies of Part II have helped to flesh out some of the relations identified in Part I. Chp.3, on Chagga 'come' and 'go', follows an instance of grammaticalization in progress, documenting an example of the development of tense-aspect through metaphor. The polysemy of the Chagga Consecutive and Conditional, I have argued in Chp.4, affords us a close look at one of the less well-understood kinds of grammatical multifunctionality, the shared diagram. It also give us a chance to examine a case of Figure-Ground Reversal, as well as simultaneous functioning in different domains.

Chp.5 is essentially an application of cognitive semantic ideas about grammatical meaning and polysemy to the Chagga Applicative construction. I explore an example of profiling shift through morphological derivation: the Applicative suffix brings to the foreground a relation which is backgrounded in the unmarked clause. We also examine the polysemy of the morphosyntactic category of Applicative Object, which is based on a shared schematic image and an assortment of metaphors. The recognition that schematic meaning is, nevertheless, meaning, and that grammatical categories are (at least frequently) radially structured, allows us to give an analysis that is far more descriptively accurate and explanatory than previous analyses.

In addition, the Case Studies raise a number of issues



which merit further discussion.

### 6.1 Overlapping Meanings

Many cases of grammaticalization involve metaphorical extension from a source lexeme. One of the questions that arises for such cases - one which can be answered only through in-depth studies like Chp.3 - is, what role does metaphor play? does it lead the processes of phonological reduction and category shift (as has been claimed - cf. Heine & Reh 1984; Claudi & Heine 1986)? if so, how does it work?

Evidence from Chagga -nde- and -che- suggests that the process of metaphorical extension is roughly co-extensive with the processes of phonological reduction and re-categorialization. It is important to note this, since it has been suggested that (a) metaphor precedes the other changes (ibid.); and (b) morphosyntactic reanalysis occurs before phonological reduction (Traugott 1990ms). Nevertheless, it is true, for this case at least, that the possibility of metaphorical interpretation is crucial for the development of aspectual meaning.

Recall that in Chagga examples with -nde- or -che- it is common for the meanings of motion through space and of metaphorical motion along a path of events in time to be simultaneously realized; that is, an utterance in -nde- or -che- typically designates both a literal motion event

toward a goal complement and a prospective aspectual 'take' on that complement event. I suggested in 3.6 that the experiential linking of motion toward (the place of) an event, on the one hand, and the passing through events in conceived time, on the other, allows for the simultaneous realization of the two meanings in a single utterance. It is this same conceptual linking in experience that permits the metaphorical extension to take place. Where we perceive - or conceive - a common structural relationship, we are free to speak about and understand one concept (usually the less concrete one) in terms of the other.

This overlapping or dual realization of meanings may in fact be a necessary stage in semantic change. The transition from meaning A to meaning B does not, of course, happen overnight. In order for meaning B to gain ascendancy there must be, it seems to me, ambiguous usages which are within the range of tolerance. Stern (1931), Apresjan (1974), and Norvig (1988) discuss this for lexical items. Apresjan in particular argues that "syncretic manifestation" is necessary for our understanding of a polysemous word as a *single word*, and not as a mere set of homonyms. Michaelis (1990ms) notes the possibility of the combined temporal-adversative understanding of still in examples like The dog is still asleep. She attributes this 'syncretic manifestation' to the existence of a schematic image which is common to the temporal and adversative readings.

The semantic changes that are part of the

grammaticalization process are no exception to this pattern of overlapping meanings. Semantic theory must recognize that synchronic overlap between related meanings which are in flux is the norm (cf. Traugott 1989). Whether by pragmatic strengthening (as for will and while - Traugott 1985, 1989; Traugott & König, in press), by metaphorical extension (as for the speech act and epistemic uses of modals, conditionals, and connectives - Sweetser 1984, 1990), or by the process of Abstraction ("Generalization" - as in the development of an imperfective from a progressive, Bybee & Dahl 1989), simultaneous realization of meanings within a single use of the item in question occurs. Sweetser's data, for instance, includes sentences like He loves me, because he wouldn't have proofread my thesis if he didn't., for which we can easily entertain either an epistemic reading (causality between premise and conclusion in the speaker's mind) or a speech act reading (assuming the sentence to be a speech act in this case, the causality may be paraphrased as 'I say to you that he loves me because I am justified by the evidence to that effect). When the sentence is in fact a speech act, it is possible to hold both readings simultaneously. The connection, as Sweetser points out, resides in the fact that "our conversational rules make it incumbent upon us to say things we believe to be true". I am suggesting that these "combined simultaneous interpretations" are a semantic embodiment of the experiential link which motivates semantic extension in

grammaticalization.

## 6.2 Multiplicity

A look in Chp.4 at the kinds of functions performed by the Chagga Consecutive helped to highlight what appears to be a common property of grammatical constructions, a property I have called "multiplicity". Multiplicity is simultaneous functioning in different domains. The Consecutive expresses temporal sequentiality and semantic contingency, indicates topic continuity as it contributes to the advancement of the main line of a narrative, and indicates that the link between its clause and a reference clause is co-subordinate. It typically accomplishes all this in a single instance of use. In a similar way, other tense-aspect markers are known to function in, for instance, the discourse-pragmatic realm, the expressive component, and the syntactic area of juncture and nexus (see 4.2.2).

Multiplicity differs from canonical polysemy in that the non-exclusivity of multiple functions is *typical*, rather than a special case. The parallel between multiplicity (simultaneous functioning in different domains) and simultaneous realization of different meanings in one domain is probably obvious. The difference can perhaps be stated in terms of what constitutes the usual state of affairs: in cases of multiplicity, it is usual for several functions to be performed at once, while cases of the simultaneous

realization of meanings are, it appears, restricted to periods of semantic change (although to speak as if periods of semantic change are easily identified as such is, of course, inaccurate). Moreover, multiplicity, in being a property of morphemes which span several functional domains, is quintessentially an attribute of *grammatical* morphemes. The situation of overlapping meanings, discussed in the last section, is perhaps broader, in that it is a potential attribute of lexical or grammatical morphemes. The cases I have come across, however, are all 'meanings proper', that is, functions within the so-called "referential component" of language. Nevertheless, these cases, too, may cross domains in the narrow sense - many exhibit overlap between their literal and metaphorical meanings. Furthermore, a choice of lexical item often carries social connotations, which can be considered 'meanings' in the "expressive component". The phenomena of multiplicity and overlapping meanings are clearly related.

One of the puzzles remaining at the end of Chp.2 is the origin of cases of automorphism. One basis for the functional extension resulting in automorphism may be the association of what Haiman (1985b) calls "incidental properties" (what we might call non-basic). For instance, two different grammatical constructions which have a discourse-pragmatic function in common (such as the building of a space, in Fauconnier's sense) may be associated with each other on that basis. From there it is possible for one

of the constructions to assume (some of?) the functions of the other (as interrogatives may come to perform the functions of conditionals).

It seems to me that for the association of 'incidental properties' to lead to automorphism, we first need multiplicitous grammatical markers or constructions. That is, we must have grammatical markers which function simultaneously in different domains, whose functions are not mutually exclusive, in order for an association to take place on the grounds of a shared 'incidental property' (a less basic or less essential function). Once a grammatical morpheme acquires a function in a new domain, say, clause-cohesion - a motivated function, given its others - if the function is simultaneously performed, the morpheme can then exhibit partial functional overlap with other clause-cohesion devices, and extend to other functions of those morphemes. I would like to offer as a hypothesis, then, the idea that in order for automorphism to develop, the grammatical morphemes involved must be multiplicitous. Looking only at the endpoint of this process, the state of automorphism, the relationship between the functions may be obscure. Obviously, at this point little is known about automorphism itself, or about simultaneous functioning, and even less is linguistic theory prepared to deal with them. I hope to have established multiplicity as a topic for further research in its own right.

### 6.3 Similarity

A number of researchers (Schon 1963; Lakoff & Johnson 1980; Norrick 1981; Levinson 1983; Langacker 1987a) have argued that no concept of objectively given, pre-existing similarity will adequately account for metaphorical transfer. It is not only that similarity is in the eye of the beholder (that is, it is *perceived* similarity). In some cases, the metaphorical mapping itself *imposes* the similarity: what, for instance, is similar about arguments and buildings? Yet in American English one of the ways that we structure our thoughts and talk about arguments is in terms of (some of) what we know about buildings. The target concept is structured like the source concept *via the metaphor* (see Lakoff & Johnson 1980; Schon 1963). In other words, things in the world may be not be similar, but they are construed as similar, with the result that the *concepts* are similarly structured. Clearly, a simplistic notion of similarity will not suffice to account for metaphor. But even with a more sophisticated notion, the question remains, can anything at all be metaphorically mapped (that is, 'be similar') to anything else? what are the constraints on *construed similarity*?

Several constraints on polysemy have been proposed. One of the benefits of looking at *grammatical* polysemy is that it provides a context for understanding and assessing these proposals with respect to one another. In this section, I would like to suggest two things: first, that the sharing of

a diagram (Haiman 1985b), the extraction of a shared schema (Langacker 1987a), and the Invariance Hypothesis (Lakoff 1990, Turner 1990) are all essentially statements of a single fundamental idea; and second, that the notion of similarity might be a viable way to capture the relationships in some intractable cases of grammatical polysemy, as well as in more straightforward instances of metaphor, if what we attend to is the very abstract level of the 'meaning' which inheres in form itself, that is, at the level of the diagram.

Both diagrams and image-schemas capture structural relationships. The sort of diagrams relevant to linguistic expression are the simple ones of linear order, hierarchy, and symmetry/asymmetry (see 4.5). Image-schemas are a much broader category, which nonetheless includes these simple structural relationships. When it comes to the kinds of meanings grammatical morphemes have, attributing polysemy to a shared image-schema or to a shared diagram amount to the same thing.

The Isomorphism Principle has been put forth as the underlying principle of polysemy (Haiman 1985b). It states that recurrent homonymy signals recurrent meaning, that is, if we find the same form, we should expect the same meaning. Again, with respect to grammatical markers, a recurrent diagrammatic relationship - or recurrent schematic image -



indicates a recurrent function (an abstract or schematic 'meaning').

When (often less simple) image-schemas are mapped across more contentful domains, the term metaphor applies. The idea that metaphors preserve image-schematic structure has been captured as the Invariance Hypothesis. In recent work, Lakoff & Turner (1990) admit that there may in fact be a kind of similarity relationship involved in metaphor, that of the invariant (shared) image-schema. In Turner's words (1990), "in metaphor, we are constrained not to violate the image-schematic structure of the target...The constraint is not inviolable; however, if it is violated, the violation is to be taken as a carrier of significance" (p.252). That is, the violation of invariance is itself a mark of variance in meaning across the two domains.

This is strikingly like Haiman's proposed iconic constraint on the association of meanings in polysemous categories: the Principle of Motivation says that a structure "may be associated only with those meanings of which it is itself a motivated diagram" (1986:225). Diacritics (marks) on a structure will indicate that its meaning is at variance with the meaning signified by the diacritic-free diagram. Both Haiman's Principle of Motivation and Lakoff's and Turner's Invariance Hypothesis are iconic principles. They are statements of a regularity which underlies rather different kinds of polysemy: similarity of form indicates similarity of meaning.

Note that similarity underlies relationships other than metaphor as well. For instance, a relationship of similarity relates members of taxonomic categories: 'robin' is similar to 'jay' in the category 'bird' (Geeraerts 1985). In Lakoff 1987 the concept of similarity is used to relate schemas of meanings of polysemous words even where there is no metaphor involved. "Similarity links" relate schemas which share sub-schemas, as in the 'above-across' (The plane flew over the hill.) and 'touching-across' (Sam walked over the hill.) meanings of over (see also Brugman & Lakoff 1988).

Langacker (1987a) proposes an "abstractionist" account (see Sweetser 1986) of metaphor, whereby there exists a highly abstract shared structure that allows language users to experience similar cognitive events in the use of the target and source concepts. The concept of similarity is here embodied in the extraction of a *shared* schema. Although Langacker's approach to metaphor is incomplete as it stands (containing no provisions for the directionality of mapping), the idea of a single shared schema is quite close to the gist of the Invariance Hypothesis.

We might reconcile recent proposals about metaphor and the shared diagramming which may be found in multifunctional grammatical markers with earlier treatments of metaphor if we understand the concept of similarity in a certain way. If we allow that what is being construed as similar may be highly abstract, the concept of similarity may be salvagable. What is similar or shared across meanings or

functions may be something as general (unspecified) as 'any of the meanings which can be diagrammed by (inferred from) the form {linear precedence}'; these might include 'temporally prior', 'causally prior', 'more topical', or 'foregrounded' for any other reason.

It is only through the study of grammatical polysemy that the parallels among these approaches have become evident.

#### **6.4 Grammatical Polysemy**

We now return to the question with which we began this study: is grammatical polysemy the same sort of phenomenon as lexical polysemy? Of course the answer is 'Yes and No'. Yes, in the many ways discussed in this dissertation. No, most tellingly because different polysemy relationships may obtain for grammatical morphemes than for lexical items. For instance, as far as I can tell, there are no direct parallels to automorphism among lexemes. The shared properties which are the basis for automorphic extension do not appear to be of a sort that we can label with the familiar relations of metonymy, metaphor, or image-schema transformation. When we say, for instance, that both conditionals and interrogatives have the property of setting up a mental space, or that both conditionals and existential copulas have the property of presupposing the existence of a mental space (or possible world - see Traugott 1985), we are not talking about a shared schematic image or a mapped

structure. We might, however, be able to assimilate such cases to metonymy, in that the two constructions involved become associated via the property they hold in common. Not enough is known about automorphism at present to judge this proposal. Another example of a different kind of polysemy relation in grammar is the shared diagramming which may be found in multifunctional grammatical markers. Although it bears some resemblance to metaphor, it is nevertheless different from it.

Are the differences between lexical and grammatical polysemy differences in kind? I think it is clear from the present work that the answer is 'no'. Rather, they are essentially the same phenomenon. With a sufficiently broad scope of analysis, the parallels between lexical polysemy and grammatical multifunctionality are striking. Both kinds of polysemy involve what, broadly speaking, we may consider to be metaphorical relationships, metonymic relationships, and transformational relationships among image-schemas, as Chp.2 documents.

It is a major claim of this study that the differences between the two sorts of polysemy fall out of the differences between lexical meaning and grammatical meaning. In particular, the typical schematicity (underspecification and/or abstractness) of grammatical meanings accounts for the ways in which metaphorical, metonymic, and image-schematic relationships get instantiated in grammatical multifunctionality. For instance, the fact that grammatical

examples of part-whole metonymy are confined to part-whole category structure (as in the Generalization of the resultative to perfect - 2.1.4) or to the discourse domain (as with different conventions for explicit linguistic coding of subparts of complex events - 2.1.3.1) may be a consequence of the difficulty of imposing part-whole structure on abstract meanings such as 'perfective' or 'definite'. Since lexical items often refer to entities and events in the world, part-whole structuring is more easily perceived or imposed. To take another example, schematic grammatical meanings readily diagram relationships. While lexical items do not diagram (though they may be icons, as in sound symbolism), they may have associated with them an image-schema. When that image-schema is held in common by two senses of a word, we have either metaphor (if different domains are involved) or Abstraction (when there is a shared sub-schema - see discussion in 2.1.1).

Of course, if grammatical meaning and lexical meaning are two ends of a continuum (see Chp.2), if there is no way to draw a principled boundary between lexical and grammatical phenomena, then we should expect grammatical polysemy to be different from lexical polysemy only in degree (cf. Hopper, in press). Polysemy is the result of semantic extension. If semantic change is rule-governed (Nikiforidou & Sweetser 1989), we should expect it to be so, regardless of the degree of abstractness of the semantic elements involved.

Within the last decade, research in cognitive and functional linguistics has been directed toward examining the nature of polysemy and the properties of semantic extension. Dirven's (1985) claim, that we can largely determine the type of semantic extension from the properties of a lexical item, shows some promise of being given substance in some of the recent work on grammaticalization. Traugott and König (in press) offer the provocative hypothesis that different kinds of grammatical functions are grammaticalized through different kinds of "inferential processes": they assert that tense-aspect and case are primarily the results of metaphORIZATION, while causal, concessive and preference connectives develop primarily through the pragmatic strengthening of informativeness. The work of Bybee, Pagliuca & Perkins (1988ms), which traces 'future' grammatical markers to their source lexemes and constructions, using a randomized sample of languages (cf. Heine & Reh 1984), moves us several steps forward. The question their study leaves us with is *Why* do 'future' grammatical markers have the sources they do, rather than any others? I think that, with more studies like Chp.2 and the Chagga investigations in Part II, we might eventually answer such questions and meet the challenge of Dirven's claim.

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