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Subtle semantics: universals in the polysemy
of reflexive and causative constructions

By

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**Subtle semantics: universals in the polysemy
of reflexive and causative constructions**

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Abstract

This dissertation explores the question "What motivates the multiple uses of single grammatical morphemes?" by cross-linguistically examining the reflexive and the causative grammatical constructions.

The basic meaning (or *prototype*) of the grammaticized marker semantically motivates the various types of extensions it subsequently undergoes. These principles are motivated by the speaker's desire to signal often subtle nuances of meaning by using one grammatical construction in preference to another. All languages which share the common prototype will have a set of extensions from that prototype which is a coherent subset of the universally-sanctioned potential extensional structure.

For the bulk of the dissertation, I treat reflexive constructions and causative constructions separately – returning to a more unified treatment in §6-7. Section 2 discusses the basic theoretical concerns commonly found in discussions of reflexive constructions. Section 3 focuses on the polyfunctionality or polysemy of reflexive constructions and provide an account of how this polyfunctionality can be understood in a way that is coherent and actually fairly simple. Section 4 discusses certain theoretical issues concerning the nature of causative constructions. Section 5 discusses causative polysemy – attempting, as with reflexives, to explain the sensibility of the various co-

existent uses. Section 6 summarizes some theoretical consequences of these polysemy accounts for lexical semantics and categorization theory. Section 7 explores what I posit is a major factor in motivating the language-particular extensional structures of grammatical morphemes: the *ecology* of the semantic space. The semantic space is the domain of a particular type of event structure which can be characterized in different ways by using different grammatical constructions. Grammatical constructions "populate" the semantic space and readily extend to fill unexpressed regions of the space and do not extend to fill already expressed regions of this space. In the concluding section (section 8), I suggest a few directions where my semantic-polysemy approach might also be useful. The appendix lists the languages I surveyed as well as their bibliographic references.

Eve E. Sweetser Nov. 1, 1991

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Our proper concern in establishing the basis of a typology should be not to try to include in it every fact, but to select those facts that are the keys to others.

Colin Masica (1976:63)

1. Introduction

1.1. Central points

This dissertation attempts to answer the question: what motivates the multiple uses of single grammatical morphemes? In my view, there are four main parts to the answer to this question:

1) The original (often metaphorical) extension from an open-class lexical item to a grammaticized marker affects the ways in which it grammaticizes. I give only brief discussion of this point – especially since it has been significantly treated elsewhere (cf. especially the recent work by Traugott and Sweetser). I will focus more on points 2-4 as they are less explored at this point.

2) The basic meaning (or *prototype*) of the grammaticized marker will motivate the various types of extensions it subsequently undergoes. To investigate this, we must ask "What is the basic use of the grammaticized marker after grammaticization is 'complete'?" There may still be some effect on the semantic nuance left over from the original metaphor as per point (1) above. However, if all languages which have such a marker use it in at least one common way, we can suspect this usage to reflect a universal prototype. Accordingly, we may use this prototype as evidence toward understanding more general facts about human linguistic and conceptual structure.

3) There are various general principles motivating the semantic and functional extensions from the prototype of a construction. These principles are predominantly

semantic in nature. They are motivated by the speaker's desire to signal often subtle nuances of meaning by using one grammatical construction in preference to another. My faith in the importance of this factor motivates my title "subtle semantics" for this work. We also need these principles to account for subsequent extensions beyond the original extensions. We can probably take basic semantics and functions to be at least potentially universal. To the extent we can assume a universal prototype for certain classes of grammatical markers, the network of extensions "radiating" out from the prototype will be universal. I call this extensional network *universal* because all languages which share the common prototype will have a set of extensions from that prototype which is a coherent subset of the universally-sanctioned potential extensional structure. That is, while each language may have a unique extensional structure, each language's extensional structure will consist only of nodes and links which are adjacent in the universal network. No language will have nodes which are non-adjacent in the universal network unless it also has (or has had) all the intermediate nodes as well. Each node represents a distinguishable meaning or function and the nodes are linked by metaphor, image schema transformation, etc. (cf. Lakoff 1987).

Looking at the cross-linguistic functional distribution of grammatical morphemes, we can attempt to determine the universal network by determining the implicational hierarchies implicit in the data. An implicational hierarchy is something of the form: *if a certain grammatical marker has function A, it will also have (or have had) function B. However the reverse (B implies A) need not be the case.* Any implicational hierarchies we find will guide us in determining the directionality of grammatical extension.

Just as any universal prototype will have general cognitive implications, I assume that any universal network of functions shall have cognitive implications as well.

4) Since each language will have only a subset of the possible extensions for a given grammatical marker, we must ultimately also explain why a marker extends in the language particular way it does in each language – rather than in some other pattern of extension. There are presumably many specific influences. The semantic nuance of the original metaphor may have considerable influence – even if the original metaphor is "dead" – because the semantic nuance – which historically could be attributed to the "living" metaphor – may still be active in the synchronic use of the markers. Unfortunately, I cannot adequately explore this point in my dissertation. I do however explore what I believe is another major factor in motivating the language-particular extensional structures of grammatical morphemes: the ecology of the semantic space. Briefly, the semantic space is the domain of a particular type of event structure which can be characterized in different ways by using different grammatical construction. These grammatical constructions "populate" the semantic space and readily extend to fill unexpressed regions of the space and do not extend to fill already expressed regions of this space (cf. §7 for details).

This dissertation explores these four issues by focussing on two cross-linguistically common and very basic grammatical constructions: the reflexive and the causative. I choose these, because they typically have a clear morphology (even dedicated morphemes), are widespread in languages of the world, express basic concepts, and are typically quite polyfunctional (used in a wide range of constructions). Because

of this, we can have greater faith that these constructions will help to reveal general cognitive factors operative in language. Further, the two constructions stand in a special relationship to one another. Both are used to effect basic changes in the valence of the verb. The reflexive typically reduces the number of referents in the sentence to one less than the non-reflexive verb. The causative typically increases the number of referents by one. As such, they typically have opposite and quite complementary functions. Accordingly, a study of the factors laid out above, will do well to study the effects of these two constructions as they contrast with each other in each language. Despite this, because of expository needs, I have elected to present the polyfunctionality and polysemy of each morpheme in its own section. They will be reunited in the discussion of the general system of semantic space ecology.

Summary:

Each of these four factors has many subparts. None of them can be adequately explored in this writing. I believe that exploring each factor should provide useful tools for understanding the basic processes of grammaticization, pragmatic and semantic extension, the interactive grammatical systems which are complete and unique to each language, and the human minds which make this all possible.

1.2 Organization of the dissertation

1.21 Structure of the sections

For the bulk of the dissertation, I treat reflexive constructions and causative constructions separately – returning to a more unified treatment in §6-7. In section 2, I discuss the basic theoretical concerns commonly found in discussions of reflexive constructions. In section 3, I focus on the polyfunctionality or polysemy of reflexive constructions and provide an account of how this polyfunctionality can be understood in a way that is coherent and actually fairly simple. In section 4, I discuss certain theoretical issues concerning the nature of causative constructions. I then discuss causative polysemy in section 5 – attempting, as with reflexives, to explain the sensibility of the various co-existent uses. I see the polysemy accounts I give for both constructions as having important theoretical consequences for lexical semantics and categorization theory. These points are summarized in section 6. Finally, in section 7, I lay out a metaphor of *grammatical ecology* to help us understand the semantic extensions of grammatical constructions in terms of entire dynamic systems of related grammatical constructions. I primarily apply this ecology metaphor to the reflexive and causative constructions, because those are the constructions explored in this work. However, I consider this metaphor applicable to many different types of grammatical constructions. In the concluding section (section 8), I suggest a few directions where the approach I take might also be useful. The appendix lists the languages I surveyed as well as their bibliographic references.

The literatures on reflexive and causative constructions are two of the most vast literatures in modern linguistics. To give an unannotated bibliography alone would

take the length of a dissertation. Further, most of this literature is oriented towards providing syntactic accounts of the reflexive and causative phenomena. While the syntactic effects can be quite striking and are theoretically important, the main thrust of this dissertation is to focus on the semantic effects and uses of reflexive and causative constructions. Because of my semantic orientation, I do not cover the bulk of the syntactic treatises in this work.

I describe individual works (both on individual languages and more typological work) at the relevant points throughout the dissertation. That is, I do not provide a separate chapter summarizing the basic canon of syntactic work of reflexives and causatives. There are some very important cross-linguistic studies of reflexives and causatives which are semantically quite sensitive. I summarize these works which most influenced my own thoughts in the reflexive and causative sections (§2 and §4).

Readers with little time or those less interested in the details of the various reflexive and causative constructions would do well to focus primarily on sections 6-8 which discuss the most general theoretical issues this work introduces.

1.22 Why the reflexive and the causative?

As presented in more detail in the introductory sections to the separate discussions of reflexives and causatives (§2 and §4), I subscribe to the general approach that argument structure is a representation of the semantic structure of the sentence. That is, phenomena which are treated as purely syntactic usually exhibit their syntactic behavior because of the underlying expressive needs of the semantic representation. This is scarcely a new notion and was influentially discussed during the 1970's and 1980's by

functionally and cognitively oriented linguists such as (to name but a few) Delancey, Givón, Haiman, Hopper, Lakoff, Talmy, and Thompson. The work of various Soviet linguists has taken a similar orientation – the most influential for my work being Nedjalkov and Geniušienė.

It has thus become less controversial to analyse variation of syntactic phenomena in terms of underlying semantic motivation. Nonetheless, certain types of grammatical constructions continue to be treated as though they were essentially purely syntactically-driven with incidental (and confusing) semantic effects. Chief among these constructions are the reflexive and the causative. I feel both of these have been mistreated by giving purely syntactic (or morphological) accounts which view reflexive and causative constructions as essentially valence-decreasing and valence-increasing operations. Such syntactic views are understandable when the attached semantic theory is too limited. Most grammatical frameworks do not allow for semantic nuance which is rich enough to account for the often subtle differences in meaning between "nearly synonymous" reflexive and non-reflexive constructions or causative and non-causative constructions.

Semantics which is based on truth-conditional logic does not readily allow for accounts of meaning in terms of prototypes, family resemblances, metaphor, metonymy, or image schema transformation. Using such notions, we can give sophisticated accounts of meanings for morphemes and constructions which allow us to understand how disparate senses may indeed be sensibly linked in the mental representation of the speaker.

As a graduate student, I have been privileged to be exposed to the development of various studies in cognitive linguistics which examined the lexical semantics using these semantic tools. Some of these studies have been of individual morphemes (e.g. Brugman 1988a, 1988b; Lakoff 1987; Nikiforodou, in press.) and others have examined larger systems of grammatical morphemes (e.g. Sweetser 1990 (chapter 3) for English modals; Talmy 1976, 1988 for causative and extended causative constructions, and Talmy 1985 for motion verb typology).

Before these works, a complex range of semantic phenomena was usually treated by assembling unprincipled lists of meanings. These newer approaches explain semantic variation as the natural consequence of simple semantic and cognitive principles which apply to one or two basic meanings to derive a complex range of meanings. Even the most polysemous form will commonly have a single prototype and the diverse senses of the form all link back to that prototype. (Cf. especially Lakoff's (1987) treatment of radial categories.)

The time has come, then, to apply this semantic-category approach to two of the more "syntactic" of grammatical constructions: the reflexive and the causative. Both constructions are highly polyfunctional in many languages. Both constructions have been given extensive treatment as purely syntactically driven constructions – as discussed in §2 and §4. The two constructions also have a certain mirror-image relationship: 1) The reflexive marker typically has the effect of reducing the valence description of the verb; the causative marker typically increases the valence. 2) The reflexive marker almost always historically derives from a nominal element selected from a

fairly narrow semantic range; the causative marker typically derives from a verbal element selected from a fairly broad semantic range. 3) Both markers are associated with cross-clause reference. Reflexives often link referents between clauses. Causatives typically add a referent to one clause with varying effects on the other clause (cf. §4.2 on clause union). 4) As discussed in §7, the prototypical use of both reflexives and causatives ascribes *responsibility* to the subject referent for the event represented by the verb. Reflexives ascribe responsibility to the patient of the resultant event. Causatives assign responsibility to an agent – which may or may not be a participant of the resultant event.

Accordingly, it is especially fitting to study these two constructions in conjunction with one another. The reflexive and the causative alone do not constitute a closed system of marking strategies however. After all, they contrast with other constructions as well. Ultimately, I hope to expand my approach to include many other constructions which are functionally similar to the reflexive and causative. I am further pleased to be but a part of the ever-increasing general interest in grammatical polysemy. The expansion of polysemy studies to markers of various functions is now helping to define the field of semantic typology.

1.3 Methodological notes

Many of the conclusions of my study come from subjective impressions gained from talking with informants and poring over reference grammars. Because of this, all my conclusions should be taken as still tentative. Exact and statistical confirmation is certainly desirable, but has been beyond the feasibility of my last few years.

By surveying many languages (even though I focus on just two basic constructions), I have had to sacrifice depth of detail and risked inaccuracies. Overall, it is likely that the inaccuracies which will have crept in from various sources will not prove undermining to my main points.

For example, if many of my sources report the use of some grammatical construction erroneously in the same way, that type of error will not be treated as an error but rather will lead me to false conclusions. On the other hand, various sources may report various errors with each source making an error different from the errors of the other sources. In this scenario, while the errors may still remain undetected, given the large number of sources, my conclusions are less likely to be led astray in any specific direction. That is, the various errors will be essentially static noise and have little overall effect on the conclusions (or signal, to complete the metaphor). It is my belief that the errors which will have inevitably crept into this work are likely to be of the latter kind. All of my major conclusions are based on data reported from multiple sources. So unless there is an unnoticed bias to all of these sources, my data should be sound and my conclusions drawn from the data should be as sound as my reasoning.

The heart of this work is the result of a broad survey of the reflexive and causative constructions in various languages of the world. Before beginning discussion of the

results of this survey, I need to introduce my general approach to finding the data I used. This discussion has three parts: 1) the selection of the languages from which data was collected; 2) other researchers' surveys from which I borrowed heavily; 3) the nature of the data collected.

1.31 Sampling methods

As a typologist, I am faced with a dilemma every time I search for cross-linguistic data. From which languages do I select my data? There are several different factors which can influence my choice: 1) I can draw a random sample from the world's languages and/or minimize risk of data biased by the selection of a non-representative sampling; 2) I can use the languages for which I can obtain the most complete and accurate descriptions; 3) I can select the languages which provide the most interesting data for the particular questions I am exploring.

While these three factors are not necessarily in conflict with one another, in practice, I have often had to favor one factor over another. I address these factors in turn. First, there have been several studies which have been careful to select essentially random samples of languages in order to determine cross-linguistic generalizations. One of the earlier and most influential of these studies was Greenberg's (1963) study of the correlations between basic word order (SOV, etc.) and other ordering features (such as pre- vs. post-positions). More recently, the Gramcats sampling procedure (cf. Bybee and Pagliuca 1985; Svorou 1988) surveyed the morphological characteristics of languages while being extremely conscientious to ensure that the sampling proportionately represented the languages of the world. Since not all languages can be stu-

died, the basic technique relies on dividing the world's languages into groups, selecting a random subset of those groups, and using a language from each selected group. Further, Bybee's system uses a final cross-check to ensure that any random sampling does not accidentally favor any particular larger grouping of groups over another.

As Dryer (1989) points out, samplings of languages can inadvertently include results which come from areal influences. These results, might mistakenly be understood as representing what is somehow typical of languages which are outside of mutual areal influence. Thus, for a statistically valid sampling of languages it is not only necessary to select on the basis of genetic grouping, but also geographical grouping. Given migration and trade patterns areal influences can spread over quite large areas. Dryer concludes that there is even a *hemispherical* areal effect to the propensity for certain basic word orders. In short, the researcher interested in determining what a "typical" language is like – devoid of areal influence – needs to take great pains to determine the appropriate representation of a linguistic area.

Perkins (1989) suggests that a language sample should contain about 100 members in order to have adequate representativeness of the field while still allowing for sufficient independence of the members of the sample. It is relatively simple to find a sampling of 100 languages with descriptions adequate to address issues as broad as basic word-order type. However, it proves quite difficult to find 100 languages which are reasonably independent of one another when looking at phenomena which are only described in more detailed reference grammars. Bybee's sampling carefully selects a very large sampling of languages to be representative and then selects a sub-set of those

languages for which adequate grammatical descriptions can be found. Unfortunately, descriptions of grammatical polysemy are often sadly minimal even in the larger reference grammars. On a practical level, then, it is overly difficult to study grammatical polysemy using a language sample which is reasonably guaranteed to be statistically representative of the world's languages.

Recognizing that it would not be possible for me to determine what the statistical norms for grammatical polysemy might be, I have instead asked a different question: Regardless of what the average language might have, what is the potential range of grammatical polysemy for the constructions under consideration? That is, if all uses of a grammatical construction from all languages were combined, what would the total combination look like? Of course, one language might have extended uses of a construction in a myriad of ways and another language might have extended its version of the same construction in many different ways still. To constrain this explosion of potential functions, I am most interested in uses of a construction which recur in languages which are not related genetically or areally. If a particular extension is found to recur in distant, unrelated languages, we can treat it as non-idiosyncratic and claim that there is a cross-linguistic tendency for this to be a potential function or meaning (dependent on appropriate necessary pre-conditions).

Some languages – for whatever reasons – do not have polysemous causative or reflexive markers. That is, some languages may lack a clear reflexive or causative marker. Other languages may have both a reflexive and causative marker, but they will not be particularly polysemous. Since I am interested in the *potential* range of

polysemy, the inclusion of such languages in my survey is not particularly important. It is useful then, to bias my sampling toward over-representing languages which are suspected of polysemous reflexive or causative constructions. At the same time, it is important to examine as many independent language groupings as possible in order to determine what meanings and functions are prone to recurrence.¹

My selection of languages was accordingly organized as follows. For each continent, I selected a few language families and selected languages for which I could find adequate grammatical descriptions. I concentrated in greater depth when the language family had particularly interesting reflexive or causative polysemy. If the polysemy of the constructions were not particularly noteworthy, I moved on to another independent language family. Looking for cognate grammatical constructions gives greater detail into the particular extensions which proved possible for a given proto-form. After surveying several languages in a single group, I then would move on to examining a single language from the next independent group and repeat the process from continent to continent. In this way, I sacrificed statistical exactness for data which could be optimized for polysemy phenomena. I still retained the general benefits and breadth of a cross-linguistic sampling.

European languages prove especially rich in reflexive polysemy and I was able to draw heavily on the survey of Geniusiēnē (discussed below). For causative polysemy, I

¹ For genetic classification, I have used the groupings of Voegelīn and Voegelīn (1977) when more updated sources were not readily available.

found it most useful to focus on Oceanic, Uto-Aztecan, and Niger-Congo. It would have probably proved useful to further examine the languages in the Andean-Equatorial group and the Khoisan family. Unfortunately, I was only able to access adequate descriptions for a few of these languages.

My survey has two other biases:

- 1) As discussed below, I relied heavily on Geniušienė's survey of reflexive constructions and her survey has a heavy Eurasian bias.
- 2) I included a disproportionate number of languages with agglutinative morphology. In a preliminary survey, I found that the widest grammatical polysemy is generally found in affixes. Further, when free morphemes are highly polysemous it is often difficult to determine whether the polysemy is the result of extensions from the reflexive or causative function or whether it is the result of lexical polysemy which is relatively independent of the reflexive or causative function. Affixal markers are more likely to be polysemous because of extensions from the reflexive or causative rather than from some other function. Because of this, agglutinative languages are particularly relevant to this study.

1.32 Other surveys in this work

In addition to the languages which I have selected for my survey, I have used the results of other surveys of reflexive and causative constructions as well. The work of Geniušienė (1987) was of particular importance to me (as discussed in §2 and §3). Her work contains a careful survey of polyfunctionality of reflexive morphology for Indo-European languages. She also surveys over 20 non-Indo-European languages – though

these are primarily limited to languages which Soviet field workers have had access to. Because of this, her survey over-represents languages of Eurasia. Most of my conclusions about distribution of reflexive functions were originally drawn from her distributional data. As I surveyed more non-Eurasian languages, I found the occasional interesting variation, but overall found that the same patterns of extension are instantiated on other continents as well. Because of this, my language survey is essentially supportive of hers with regards to reflexives and I do not give full details of reflexive distribution here. I do however provide additional analysis from drawing on her data and my own.

In contrast to the work on reflexives, previous surveys of causative constructions have not proved as central to my work. Comrie (1976 and 1985) informally surveys various causative constructions, and I have incorporated many of his points into §4. However, his surveys are not as well documented nor as systematic as the survey of Geniušienė.

Masica (1976, chapter 3) provides a survey of the causative constructions of many Eurasian languages – both within and outside of the South Asian area. Like mine, his work laments the English bias of research into causative constructions. But unlike mine, his survey focusses on syntactic valence concerns rather than on semantic function. He looks for the following seven valence relations: intransitive verb + causative, semi-transitive verb (e.g. eat) + causative, transitive verb plus causative, intransitive / semi-transitive / transitive verbs plus double causatives, and anti-causative constructions.² Thus, while very useful, his survey does not provide enough semantic detail for

my purposes.

Masica also provides a convenient table indicating whether or not the languages in his survey morphologically indicate the various causative (and anti-causative) relationships. He also tabularizes the manner of morphological marking for causative and anti-causative in these languages (eg. suffix / clitic / paradigmatic / vowel reduction, cf. §4.3).

Masica's survey establishes for his sampling that causative functions are more commonly used with base intransitive verbs, less commonly with semi-transitive verbs (see => show, eat => feed, understand => explain), and least commonly with fully transitive verbs. From his survey he concludes that if a language has a causative construction which takes a transitive base verb then it will also have a causative which takes a semi-transitive verb and an intransitive verb. If a language has a causative which combines with a semi-transitive verb, then it will have a causative which will combine with an intransitive verb. This establishes, what Geniusienė has called an *implicational hierarchy* for the valence patterns of the causative constructions. It is the effort of this

² Interestingly, Turkish is the only language which clearly has all 7 valence relations Masica looks for.

Also of note, Masica claims that double causatives are quite rare. I have found a many languages which allow double causatives outside of Eurasia. This demonstrates the importance of conducting a world-wide survey of languages rather than just on one continent – a point, I'm certain Masica would agree with.

work to determine implicational hierarchies for semantic functions of reflexive and causative constructions.

1.33 Nature of data

In this survey, I have relied on data of different qualities. I have tried to minimize my reliance on sketchy and incomplete grammatical descriptions; However, even the fullest grammatical description may have omissions and errors. In general, I have assumed that a grammatical description will list a subset of the functions for each construction. While it is possible that a reference grammar might include functions which the construction actually does not have, this is in general far less likely than the grammar simply omitting mention of various functions.

The majority of my languages were chosen in part because I could find fairly good reference grammar-style descriptions of the causative and reflexive constructions. Some languages were included because they were used as data by linguists working on some issue pertinent to reflexives or causatives. I have extracted this data from various articles when the examples were serviceable and appeared to give a reasonable survey of the functions of the various morphemes. Because of these sources, not all the languages in my survey have had both all reflexive and all causative constructions noted. Generally, I have used data from this source only when they demonstrate some particularly salient point.

I have also used native-speaker informants whenever possible. Some informant work was done before beginning this project (e.g. Hmong), and other work was done specifically for this project (e.g. Chichewa). I cannot thank everybody individually (for

Tamil, I have pestered dozens of people with questionnaires and endless questions). If I have confused my facts about any of these languages, it is certainly through no fault of those I consulted.

1.4 List of abbreviations

Abs	Absolutive	Pr	Present
AgFoc	Agent Focus	Pre	Prefix (usually aspectual)
Agr	Agreement morphology	Prf	Perfect
AjP	Adjectival Participle	Prfv	Perfective
All	Allative	Prog	Progressive
Asp	Aspectual marker (unspecified)	Prt	Participle
Art	Article	Prtv	Partitive
AvP	Adverbial Participle	Ps	Past
Caus	Causative	RC	Reflexive Construction
Cl	Classifier	Rec	Reciprocal
Ctv	Completive	RM	Reflexive Marker
Dir	Directional	RV	Reflexive Verb
Dis	Disjunctive	Seq	Sequential aspect
DO	Direct Object	Soc	Sociative
Erg	Ergative	SR	Switch-Reference
Expl	Expletive	Su	Subject
Fu	Future	Subord	Subordinator
Ger	Gerund	Sbj	Subjunctive
Imp	Imperative	Vlz	Verbalizer
Inc	Inclusive	VN	Verbal-Noun
Ind	Indefinite	VR	Verbal Reflexive
Indic	Indicative	!	emphatic clitic
Ins	Instrumental	-	morpheme boundary
IO	Indirect Object	.	connected string represents gloss of single morpheme e.g. young.man
Loc	Locative		
Log	Logophoric		
Nlz	Nominalizer		
NC	Non-reflexive Construction		
Neg	Negative		
NF	Non-Finite		
Nom	Nominative		
NR	Nominal Reflexive		
Nu	Number		
NV	Non-reflexive Verb		
Obl	Oblique		
Opt	Optative		
Pas	Passive		
Pfv	Perfective		
Pl	Plural		
Pnct	Punctual aspect		
Pol	Polite form		
Pot	Potential		
Pos	Possessive		
Ppart	Past participle		

2. Reflexive voice

2.1. Introduction to reflexive constructions

When confronted with the large and semantically diverse range of functions of the reflexive marker (RM), researchers seeking to give a unified account of the various reflexive constructions have often claimed that the RM for their particular language has become bleached through time to having a purely syntactic role – that of intransitivizer. I will briefly survey the various factors concerning the RM which relate to transitivity effects in a variety of languages – focussing especially on RMs which are affixed or cliticized onto the verb. Analyses of languages such as Russian (cf. Babby and Brecht 1975), which claim the RM has become a purely syntactic device to mark intransitivity, may be inevitable when the analysts are forced through theoretical or personal orientation to treat separate functions of a morpheme as either unified through some common abstract meaning or function, or as mere homonyms which have no synchronic relation.

Taking a semantic approach, Gonda (1960) accounted for all uses of (Classical) Indo-European middle forms (which we would generally treat as reflexives here) as having a unified basic meaning: *subject is affected by verbal action* or simply *Beteiligung*. Even when drawing such an abstraction is possible, it does not provide any explanation of why reflexive constructions are used for certain semantic functions in one I-E language, but not another, nor why they extend from one usage to another in predictable ways, when both usages can be equally well characterized as involving *Beteiligung*.¹ However, not being oriented towards requiring a single invariant meaning

¹ Timberlake (1982:305) rather aptly refers to this style of search for a single unifying meaning of a grammatical form as "stalking the wild invariant".

for all related instances of a grammatical form, I am able to account for the range of reflexive constructions (RCs) as semantic and pragmatic extensions from a prototype. Semantic features may be inherited by extended uses of the RC, but there is no necessity to posit a single underlying abstraction in order to unify the reflexive marking system as a coherent whole.

I exemplify the range of valence effects of the RM cross-linguistically in section 2.2. There is a great deal of similarity of effects of the uses of RCs from language to language. Languages such as French and Russian, for which some analysts have claimed that the RM is simply a formal means for deriving intransitivity, are not exceptional with regard to reflexivity. That is, the types of reflexive usage in these languages are commonly found in other languages, and vice versa. However, the detransitivizing hypothesis does not work universally, in that there are clear examples of RMs being used in transitive constructions, and in other constructions where there is (simple) detransitivization. Thus, there is good reason to reject the detransitivizing analysis both as an (implied) universal claim about reflexive constructions, and as a perspicuous analysis for even the particular languages for which such claims have been made.

In the section 3, I discuss the various semantic and pragmatic functions of the RM which commonly appear from language family to language family. I explain how *all* of these functions can be seen as natural extensions (or extensions of extensions) of a prototypical reflexive situation. Only if the language also has certain RC functions, will certain other functions be found. So, examining which functions can occur, and which must occur to allow other functions, will allow us to posit implicational hierarchies of

semantic functions, which we may presume model diachronic development as well. Therefore, since this account works for reflexive constructions in all languages, we should prefer it over the detransitivizing accounts which are possible for only a few languages at best.

In the section 3.5, I discuss the effects on syntactic valence as a consequence of the semantic and pragmatic functions of the RM, interacting with the argument marking requirements of the particular language. I argue that syntactic transitivity is primarily a by-product of semantic functioning.

In the section 3.6, I examine a theory of iconicity as an additional motivation for the variability of functions of the RM from language to language. While I take syntactic transitivity to be a consequence of semantic and pragmatic function, I allow for the formal representation of the reflexive construction to influence the range of semantic functions in its turn. Thus, form and function are assumed to be reciprocally influential.

2.1.1 Terminology

Emma Geniūsiene's (1987) *Typology of Reflexives* is the most thorough examination of reflexive systems from a cross-linguistic perspective that has yet been produced. It is written in a basically taxonomic style, surveying over fifty languages from a variety of families. Primarily following the work of earlier Soviet linguists, Geniūsiene develops a formal framework which allows ready comparison of different languages' reflexive strategies. Wishing to avoid reinventing the wheel, I extensively employ Geniūsiene's descriptive vocabulary and terminological definitions in this study. A brief summary of these follows.

Geniušienė takes an RM to be any marker which marks the semantic or prototypical reflexive meaning or any marker which is known to have had such meaning at one time. In general, I will limit my survey to those RMs which either still mark the semantic reflexive or mark functions known to be closely related. As a result of this definition, the term RM encompasses morphemes which may also be referred to as "middle" markers, passive markers, markers of impersonal constructions, etc., in those cases when there is a clear connection between these morphemes and the reflexive construction of the language.

Reflexive verbs (RVs) are simply those verbs which co-occur with an RM or some other (polymorphemic) reflexive construction (RC). The abbreviations NV and NC refer to non-reflexive verbs and non-reflexive constructions respectively, i.e. constructions which have no overt RM(s), regardless of their actual or probable semantic interpretation. Thus *He shaved* is an NC, and *He shaved himself* is an RC, by this terminology. For this study, the relation of NCs to their corresponding RCs is of paramount importance.

Verbal reflexives (VRs) are RCs constructed with an RM bound to the verb. These will include forms which clearly derive from free morphemes (usually from nominals, as in Russian *sebja* "self" => -sja or -s', but also occasionally from other elements, as in Tamil *koḷ* "to take and keep" => -koḷ or -kiṭu) as well as forms which have an uncertain history (e.g. Turkish -ın). Nominal reflexives (NRs) are RCs constructed with an RM which is not bound to the verb. These include pronominal forms, nouns like "self" or "body", and combinations of (possessive) pronouns with full nouns. There

is no absolute line between NRs and VRs, as languages like French and Vietnamese exhibit characteristics of both types (cf. Faltz 1985:61-66 for more discussion of this point). Nonetheless, for heuristic and typological purposes, the binary categorization proves useful.

Many languages have more than one RC. Those which can utilize more than one RM are called two-form languages. These include languages like Russian, where the multiple forms are clearly related, and languages like Turkish (NR: *kendi* in partial alternation with the VR: *-in*) where the forms are not related. Again, no absolute distinction is implied, as the transparency of any given morpheme may be more or less obscure to both the historical linguist and the contemporary speaker.

Reversible RVs are those RVs which can be accounted for entirely by the composition of the morphemes, etc. in the corresponding NC, plus the regular features of the RM. There may be either formal or semantic reversibility. Thus *He saw himself* is fully decomposable into the regular syntax and semantics of the English RM *himself* and the NC *He saw X*. *He prided himself in his work* is formally non-reversible as there is no NC: **He prided John in his work*. These have been called *deponents* or *reflexiva tantum* elsewhere. *He addressed himself (to...)* is formally reversible, but semantically irreversible to the extent that *address oneself* indicates a different event of "addressing" than *address John*. The particulars of semantic irreversibility may be regular and well-motivated, but are by definition not fully predictable. To some extent, no RV will be fully reversible, in that any action performed reflexively is necessarily distinct from an action performed on another. However, insofar as we can expect to predict such differ-

ences from the semantics of any RM (approximately: acting on the self) and from commonsense understanding of actions in the real world, we may safely refer to that RV as semantically reversible. So, while the action of washing oneself may be quite different from that of washing another object or a particular body part, the two actions are sufficiently similar to warrant our naming them with the same verb. Needless to say, an RV must be formally reversible in order to be evaluated as to its semantic reversibility.

RMs often interact with other derivational and aspectual morphology to form complex RCs (e.g., *the storm rained itself out*). More for reasons of space than ideology, I will consider such constructions peripheral to this study.

Geniušienė (1987) uses the theoretical apparatus of *diathesis* in the sense of Xolodovič (1970) to discuss all phenomena of mapping from the semantic to the formal levels. Diathesis is defined simply as "a pattern of correspondences between units at the syntactic level and units at the semantic level" (Xolodovič 1970:13). Diathesis will then subsume voice as a type of grammatical marking on the verb. To account for the mapping relations in the diathesis of the RC, Geniušienė posits four separate, but interdependent levels for analysis beyond the morphological/derivational: 1) the semantic component structure; 2) the semantic role structure (RolS); 3) the referent structure (RefS); and 4) the syntactic function (SynS). The first three of these constitute the semantic structure of verbal meaning, and the last constitutes the means of formally representing these three.

There are two types of semantic components relevant here: basic and derivative. Basic semantic components are abstract and common to large groups of verbs, namely

whether the verb expresses a state, action, process, or causation. The latter two are complex in that they indicate change of the former two, respectively. Each of these large classes may be further subdivided into smaller *lexico-semantic groups*. For reflexives, derivative semantic components are notions such as 'oneself', 'one another' and the like, which are additional meanings brought to the verb through the reflexive derivation. The semantic component structure largely determines the possibility of reflexive derivation.

Geniušienė describes three hyper-roles (cf. Fillmore's hyper-case) relevant to her study, each subsuming several lexically-determined semantic roles (of the relations between the participants and the event): 1) *semantic subject* – agent, actor, causer, initiator, experiencer; 2) *semantic object* – patient, quasi-patient, content; and 3) *semantic dative* – addressee, recipient, beneficiary, possessor. A *quasi-patient* is the role of a body part which an actor moves. *Content* is the second role of verbs of perception and mental activity (e.g. John hates *content*). *Possessor* (or *total patient*) is "the role assigned to the referent of the dative object indirectly involved through his body-part" (41), e.g. the dative possessor in Baltic constructions like *I comb child-Dat hair-Acc*. Additionally, the semantic roles *instrument*, *means*, and *locative* occasionally prove relevant. These roles have a hierarchical ordering $Sb > Ob > Dat > Ins/Loc$ which determines the selection of surface syntactic position. Combining RolS with the semantic verb types as organized by the semantic component structure allows generalizations about when reflexive derivation may occur.

Geniušienė separates the semantic features of referents from semantic roles. She

acknowledges that there is "a high degree of correlation between the semantic type of referent and the semantic roles it can be assigned in a prototypical situation [but] this correlation is relative rather than absolute." (46) Semantic referent type is unambiguously recoverable from the semantic features of NPs, whereas semantic roles are not.

The most obvious realization of reflexivization at the level of syntactic function is the change in valence properties of the verb. There appears to be a hierarchy of syntactic roles governing such phenomena as demotion: *S* > *DO* > *IO* > *OblO* > *AO* (agentive object, or the *chômeur* of passive constructions). While the SynS is viewed here as a means of encoding the RolS and RefS, changes in the SynS can be simply part of a strategy to reduce the prominence of the object without any concomitant change in the RolS or RefS, so a description at the level of syntactic function independent of the semantic function may sometimes be necessary.

2.1.2 What will not be studied here

Owing to the vast range of possible topics relating to the use of RMs in the languages of the world, I will be unable to explore a number of topics in this dissertation. These include: 1) Issues of under which conditions coreference between clauses will "trigger" RMs – this topic has been the focus of most of the work on reflexivity by those working within generative frameworks. 2) The exact semantic and pragmatic nuances of various RCs beyond what will be necessary to exemplify general points about cross-linguistic tendencies – any language may have developed its own particular character in its use of the reflexive, but I must assume that such characteristics are minimally relevant to a cross-linguistic study. 3) How the use of RCs interacts with the

grammar of the language as a whole, and similarly, how speakers really use RCs in actual connected discourse. This last issue is probably the most important to a complete description of reflexivity, but such descriptions have not been made for individual languages, which necessarily precludes cross-linguistic comparison and universal/typological generalization.

2.2. The RM and intransitivity

One of the most striking characteristics of RCs from language to language is their frequent co-occurrence with changes in the valence of the verb. This is only natural given the basic use of the RM to signal that instead of an expected second referent, the first referent (the subject) is acting with respect to itself. Thus *He saw his reflection* has two referents, while *He saw himself* has only one. So in examples like these, the RM signals an effective reduction (from one to two) in the number of non-oblique referents of the verb. If we define intransitivity as the state of a verb having only one argument², and we assume that the RM derives a new argument structure from the NC, we can call the RM, in these simple examples, an intransitivizer when we are certain that the RM is not itself an argument. In English, the RM marking basic reflexives appears to be an argument by several criteria. For example, it appears in the same word order slot (and presumably underlying case relation) that a non-coreferential object would, and it can be conjoined with other object NPs (*He saw Mary and himself in the mirror*). On the other hand, the English RM fails to resemble an argument in some other ways. For example, it is optional with many verbs (*He shaved* is nearly identical with *He shaved himself* but not with *He shaved a stranger*), and with some RVs, the RM may not be replaceable with another object (e.g. *He behaved himself* vs. **He behaved the children*).

² There are many arguments for defining transitivity by appeal to more than simply the number of overt arguments surrounding a verb. Hopper and Thompson (1980) is seminal in this regard.

Languages vary considerably in the relative numbers of ways the RM may and may not resemble an argument. In traditional terms, for languages which may express an NP as a non-bound argument, any marker coreferential to this argument (whether attached to the verb or not) and which can be assumed to represent the same case relation to the verb, is not an argument of the verb. Thus emphatic pronouns and person inflections have not been taken as arguments. The situation is less clear with RMs, even those bound to the verb. At one end of the spectrum, some VRs may no longer be even (consciously) recognized as RVs by the speakers of a language but simply as monomorphemic verbs. Working with informants, I have found this often to be the case with the Turkish reflexive affix when it occurs as part of a non-reversible RV. Towards the other end, speakers of French understandably feel that the cliticized reflexive pronoun is exactly parallel to the object pronoun arguments which also appears in the same cliticized position.

Seeking to resolve this uncertain status of the RM (which speakers manage to live with) many linguists have applied syntactic "tests" to RCs to determine transitivity. For example, Grimshaw (1982) notes that French RVs participate in the presentational construction with NP extraposition as do intransitive verbs:

1) Il se dénoncera trois milles hommes ce mois-ci.

"Three thousand men will denounce themselves this month"

while non-reflexive transitive verbs do not:

- 2) *Il a dénoncé la décision trois mille hommes.
"Three thousand men denounced the decision"

- 3) *Il l'a dénoncée trois mille hommes³
"Three thousand men denounced it (the decision)"

Similarly, many linguists have noted that RVs in French always take être as an auxiliary.

- | | |
|----------------------|------------------------|
| 4) Il s'est regardé | "He looked at himself" |
| 5) Il a regardé Jean | "He looked at Jean" |

While not all intransitive verbs take être, all verbs which do take être are intransitive or reflexive, suggesting a similarity between RVs and (a sub-class of) intransitive verbs.

The conclusion that this syntactic behavior proves that RVs in French are intransitive, forces Grimshaw to treat all RVs in French as equally intransitive since all RVs exhibit the same behavior. The RV *se regarder* is as fully intransitive as *se briser* (used inchoatively) by these tests. To give a unified account with the greatest economy of description, she posits a function of *se* as a syntactic intransitivizer which is "nonre-

³ A functional explanation for this restriction against transitives in the NP extraposition construction could be constructed as follows: Since this is a presentational construction used to introduce new referents into the discourse, only verbs which don't require multiple referents would be suited to this purpose. For the purposes of introduction, *three thousand men* is a single referent, *three thousand men* plus what they denounce is two referents. Another motivation could be simply that the "dummy" subject *il* is nonetheless a grammatical subject, requiring what would normally be the subject to be in object position, which is not possible when an object is present.

ferential and meaningless" (1982: 102).

However, even in French, RVs frequently occur with direct objects, making the highly suspect assumption that these syntactic tests give the final word as to transitivity. In French, RVs are commonly used for both self-benefactive senses, where the RM would appear to refer to a semantic dative:

6) Jean s'est acheté un livre⁴
 "Jean bought himself a book"

and possessor reflexives, where the RM denotes that the subject is the one who inalienably possesses the direct object:

7) Jean s'est cassé la jambe
 "Jean broke his leg"

In a manner similar to Grimshaw, Babby (1975) claims that the Russian RV is intransitive: "[The RM's] only function is to signal that an underlying transitive verb is intransitive in the surface structure" (297-298). As Geniešiene (1987) suggests, this assumes that intransitivity is a basic feature which a language could choose to mark, and the various semantic consequences of such a transformational operation would be secondary features of the RC.

⁴ Notice that ditransitive RVs fail Grimshaw's syntactic test for intransitivity:

*Il s'est acheté une femme un livre
 "A woman bought herself a book"

so that such examples are transitive even by Grimshaw's test. Notice further however, that the être auxiliary is still used with these RVs.

This claim is moderated somewhat in Babby and Brecht (1975): "The morpheme -sja ... signals a marked realization of a verb's subcategorization feature" (365-66). But intransitive verbs, such as *rabotat* 'work', acquire "a -sja when its agent is realized in the surface structure as a dative 'experiencer' rather than a nominative object [such that] we are dealing with a marked realization of a subcategorization feature not involving a direct object" (365). Thus Babby and Brecht are forced to back off from the simple claim that the RM is a detransitivizer and instead claim that it functions to signal a marked valence of the RV. This approach retains the bias that the RM is a marker of syntactic shifts with only consequential semantics of the RCs. However, they are still hard pressed to give a coherent account of what can be expected to constitute "a marked realization of a verb's subcategorization feature". Also, if there might be more than one possible marked subcategorization feature, they do not account for how the RM is used for one and just that one.

On a different line of argumentation, ergative languages overtly mark the transitivity of the verb by virtue of the case which the subject receives. Edmondson (1978) found that "of those ergative languages I have consulted[,] many with verbally encoded reflexives have subjects with absolutive markers, indicating that these languages regard [transitive verb] plus reflexive as intransitive." (646) This implies that other ergative languages regard RVs as *transitive*, and Edmondson admits that "when the reflexive is encoded as a noun or pronoun, ergative languages generally regard the verb as transitive, i.e. the subject takes an ergative marker." (647) However, he goes on to argue that such RCs are *syntactically* intransitive because they must have "deleted" a presumed

deep structure element in the examples he cites (which his source viewed as exceptional examples). But if we take ergative as correlating with transitive verbs, and do not commit ourselves to searching for some other correlation of intransitivity with which to deny the implications of such case marking, we can simply infer that ergative languages vary as to whether they mark RVs as transitive or not.

It is simplest, and certainly not harmful, to assume that the variation among ergative languages and the underdetermined nature of the transitivity of the reflexive in languages like French reflects the intermediate status of RVs as sharing properties typical of both transitive and intransitive verbs.

In the next two sub-sections, I explore some of this variation with regard to transitivity. In §2.21, I consider how different languages vary with regard to the same type of construction, and in §2.22, I exemplify variation of transitivity of RVs in different RCs.

2.2.1 Same construction, different languages

In this section, I simply note that there are cases where the semantic reflexive construction in one language necessarily appears as an intransitive, while the same basic construction may appear in another language as a transitive.

Consider a prototypical RV "to hit oneself".

8) Il s'est frappé

9) *Il s'est frappé lui

10) nān ennai atittukkontēn (Tamil)
1s-Nom 1s-Acc hit.ÄvP-RM-Ps-1s
"I hit myself"

Of course, in examples like (10), where the expression of an object coreferential with the subject and an RM is necessarily redundant, the expression of the object is

redundant and typically omitted:

- 11) *nān aṭittukkoṭēn*. (Tamil)
 1s hit-RM-Ps-1s
 "I hit myself"

Thus, even for the most basic uses of the RM, we find variation regarding whether or not a language allows the RV to take a direct object.

2.2.2 Transitivity effects varying as per construction type

While it is true that each language may have its own requirements regarding the transitivity of the RV, many languages will also vary as to the valence effects of using an RM from construction to construction, making generalizations about the RV and intransitivity problematic even without searching for cross-linguistic generalizations. Give only minimal regard to the semantic functions of the RCs in this section, as I will return to them in greater depth in §3 when I detail the range of functions RCs can acquire cross-linguistically. For the moment, these examples only serve to demonstrate the range of valence effects found in association with the RM.

As mentioned, in some languages, the RMs participate in constructions with ditransitive verbs, as in *He bought himself a book* or *Il s'est acheté un livre*. In such examples, the verb remains transitive in the sense that it clearly has a direct object independent of the RM. These transitive RVs are typically referred to as self-benefactive or self-affective. If the RM is taken not to be an argument,

- 12) *On-a pa-si-siuvo suknel-ę* (Lithuanian, from *Geniusiene*)
 Ann-Nom Pre-RM-sewed dress-Acc
 "Ann (has) made herself a dress"

then the RM can still be said to be participating in valence reduction vis-à-vis the corresponding NC by necessitating the non-expression of a dative or recipient

referent/role in the RC. In some languages, however, a "dative" RM can even appear with an explicit non-coreferential recipient.

- 13) kumār tan tampikku oru pēnā vāṅkikoṭṭān
 K. his younger.bro a pen buy.AvP-RM-Ps-3sm (trans. mine)
 "?Kumar bought himself a pen for his brother"
 (Tamil; Annamalai 1985)

In such cases, it is questionable to claim that the RM is participating in any sort of valence reduction at all, especially given the unacceptability of sentences with two separate recipients neither of which is an RM:

- 14) *avalukku avarukku oru pēṇavai vāṅkikkoṭṭēn
 she-Dat he-Dat a pen-Acc buy.AvP-give-Ps-1s
 "??I bought a pen for her for him"
- 15) OK: Avalukkāka oru pēṇavai vāṅki avanītam koṭṭēn
 she-Dat-Adv a pen-Acc buy.AvP he-Loc give-Ps-1s
 "For her sake, I bought a pen and gave it to him"

The RM can be used to achieve a variety of valence shifts. The most prevalent are those cases typically called object demotion, whereby what might otherwise be expressed as a direct object finds expression lower on the SynS hierarchy, as in a locative, instrumental or other oblique construction. Thus, in English, *He hit his head* alternates with *He hit himself on the head*. Alternations of this sort abound:

- 16) Elle moquait tout le monde
"She mocked everybody"
- 17) Elle *se* moquait de tout le monde
"?She mocked at everybody"
- 18) Er fürchtete den Elefant
"He feared the elephant"
- 19) Er fürchtete *sich* vor dem Elefant
"He was afraid of the elephant"

However in many languages, more complex changes in valence co-occur with the RM which cannot be characterized as simple intransitivization or reduction. These can demote the subject of the NC to an oblique case in the RC, while promoting the object to the nominative:

- 20) Aš girdžiu muzik-a (Lithuanian, from Geniušiene)
I-Nom hear music-Acc
- 21) Man girdi-si muzik-a
I-Dat hears-RM music-Nom
"I can hear music"
- 22) Uden-s ataino kok-us (Latvian, from Geniušiene)
water-Nom reflects tree-Acc.Pl
"Water reflects the trees"
- 23) kok-i atainoja-s ūden-ī
tree-Nom.Pl reflect-RM water-Loc
"?The trees reflect themselves in the water"

or the object can be promoted and the subject eliminated altogether:

- 24) Ten girdi-si muzik-a (Lithuanian, from Geniušiene)
there hears-RM music-Nom
"One can hear music there"

Geniušiene refers to these cases of RVs with object promotion as "objective reflexives".

Upon inspection, some types of objective reflexives prove to occur even in languages

such as English in a few semi-productive cases, e.g.:

- 25) He manifested his impatience.
- 26) His impatience manifested itself.
- 27) *His impatience manifested.

But for the most part, English uses an unmarked intransitive form of the verb in such cases. The participation of verbs in this alternation is to some extent lexically determined:

- 28) The solution suggested/revealed itself (* $\emptyset$) (to me) last night.
 $\neq$ I suggested/revealed the solution last night.
- 29) *The scene imagined itself (to me) last night.
- 30) The tape unwound (itself) (?on me) last night.
- 31) The bottle broke (?itself) (on me) last night.
- 32) The idea proved itself (*to me) (last night).
- 33) The idea proved (*itself) (*to me) to be splendid.

Similarly, when viewed as a transformational rule, the RC can be used to demote the subject even when no object is involved in the NC:

- 34) Aš ne-dirbu (Lithuanian, from *Geniusiėne*)
 I-Nom Neg-work
 "I don't work"
- 35) Man ne-si-dirba
 I-Dat Neg-RM-work
 "I don't feel like working / I can't work."

There are also cases where the use of the RM has no effect on the valence requirements of the verb. While the verb in the English sentence *The bottle rolled off the table* is usually taken to be intransitive, it is not clear from English morphology whether to treat the verb in *The bottle just rolled itself right off the table* as transitive or not. On the one hand, the RM could be taken as an object, but on the other hand, if we take this use to be a transitive use, it is in just those cases when transitive *roll* is used as an RV that the requirement that the subject be *potent*⁵ is waived.

36) The logger/wind/machine/*slope rolled the log down the hill.

37) The log rolled itself down the hill.

Other cases of objective RVs in English do not directly relate to a corresponding agent-patient use of the verb:

38) He buried the bullet in the wall.

39) The bullet buried itself in the wall.

Consider also cases such as these examples from Geniušienė, where it is clear that the valence requirements of the NV are the same as in the corresponding RV. Geniušienė (1987:72-73) cites examples of transitive NVs which retain a direct object in the RV form:

40) Vaik-as ap-kabino motin-a (Lithuanian)
child-Nom Pre-embraced mother-Acc
"The child embraced his mother."

41) Vaik-as ap-si-kabino motin-a
child-Nom Pre-RM-embraced mother-Acc
"The child embraced his mother."

She also cites examples of RVs which retain the oblique object specified by the NV:

⁵ Following Geniušienė, it proves more relevant in investigating reflexives to divide referents into *potents* (referents capable of performing actions, etc. through "internal power") and *non-potents* (referents lacking internal power) rather than to simply distinguish between animate vs. inanimate. Potents may be further subdivided as to whether they are animate or inanimate. This allows us to explain the existence of reflexive forms for *inanimate potents* such as natural forces, machines, and the like. It is distinctly possible that this RC may be used specifically to suggest that the inanimate subject is actually potent contrary to expectation.

42) Jis at-kersijo pries-ui (Lithuanian)
 he-Nom Pre-revenged enemy-Dat
 "He revenged himself on his enemy."

43) Jis at-si-kersijo pries-ui
 he-Nom Pre-RM-revenged enemy-Dat
 "He revenged himself on his enemy."

Geniušiene further gives an example of a single-valent verb which can optionally take an RM as well as a subject:

44) Sāpes norima(-s) (Latvian)
 pain subsided(-RM)
 "The pain subsided"

In these examples, the RM has no direct relevance to the formal valence descriptions of the verb.

Occasional examples of intransitive verbs with agentive subjects in English can be marginally "reflexivized". For example, while *to sit oneself down* may be related to a transitive verb *?to sit someone-else down*, *(?)to ski oneself up the hill* clearly does not relate to a transitive form **to ski someone-else up the hill*.

Similarly, as mentioned above, reflexiva tantum verbs by definition do not effect a shift in valence because there is no non-reflexive form for comparison:

- 45) He prides himself in his work.
- 46) *He prides (in) his work.
- 47) *He prides her in her work.
- 48) deport oneself

As mentioned in Herbert (1975), RMs regularly participate in resultative constructions in English, where the verb is clearly intransitive when not used in these constructions

49) He cried himself hoarse.

50) *She cried him hoarse.

The RM can also form resultative constructions with non-agentive subjects:

51) The fire burnt (itself) out.

52) It rained (*Ø) itself out.

Almost antithetical to an analysis of the RM as an intransitivizer are cases where the RM serves as a device to allow transitive sentences, with a subject and a direct object, when the corresponding intransitive NC had a subject and an oblique object. Thus, whereas the RC is often used to demote an experiencer to an oblique case as in

53) Man duoda-si, kad tu tai padarei (Lithuanian, from Geniušienė)

I-Dat gives-RM that you it did

"It seems to me that you have done it."

it can occasionally be used (with a small set of verbs) to promote an obliquely marked experiencer to a nominative subject – and hence increase a sense of active agency on the behalf of that referent:

54) ennakku avan terintatu (Tamil, from Pederson 1990)

I-Dat he-Nom become.known-Ps-3sn

"I knew him"

55) nan avanai(ppam) nanrāka terintukonṭēn.

I-Nom he-Acc(-about) well become.known-RM-Ps-1s

"I found out all about him"

There are many examples of the RM appearing as though in an additional argument slot of a main verb when the subject of the main verb is the implied subject of a subordinate verb. Thus in English, we have examples like

56) He wanted himself to win the election

which alternates with the non-reflexive form of want. Of course, in such examples, the RM is usually analyzed as a substitute of a syntactic slot normally filled by a non-

coreferential NP:

57) He wanted John to win the election.
where when he and John are coreferential, John obligatorily becomes the RM or is deleted altogether. Any differences between the zero form and the RM in such examples can presumably be treated in terms of pragmatic focus, etc..

However, there are uses which Kemmer (1988) has termed the logophoric middle, where the "raised" subject "becomes" an affixed marker on the verb rather than a pronominal RM. For example, in Icelandic, which has both pronominal and affixal RMs, coreference between the subject of the main verb and the implied subject of the subordinate verb may be marked by either a pronominal RM in the main clause or an affixal RM on the main verb.

58) Hann telur sig vera sterkan (from Andrews 1982)
he believes RM.Acc to.be strong.Acc
"He believes that he is strong"

59) Haraldur segi-st hafa skrifað ritgerðina
H. says-RM to.have written thesis-Art.Acc
"Harold says that he has written his thesis"

Similarly, in this example from Lithuanian, coreference is marked between the subject of the main verb and the implied *patient* of the subordinate verb:

60) Jis prašė-si išleidžia-m-as (from Geniušienė)
he-Nom asked-RM let.out-Pr.Pas.Prt-3ms
"He asked to be let out"

If this is indeed parallel to the case in English, it is noteworthy that the affixal form may be used. This argues that the affixal RM be treated as having at least some of the properties of an argument even when an alternate nominal RM exists. This prohibits an intransitivizing analysis of the RM at least for languages of this type.

2.2.3 Summary of intransitivization analyses

The recurring presence of the RM with a reduction of the number of arguments of a verb – taking for a moment the RM as a non-argument – has understandably prompted many analysts to consider the RM as an intransitivizer. Considering this to be the primary effect of the RM from which semantic differentia are derived, or considering intransitivity to be derivative of the semantic use of the construction, appears to be dependent on whether the analyst operates on the assumption that semantics maps onto autonomous syntax, or that syntax is a reflection of more basic semantic content. In either case, cross-linguistic data suggest that it would be incorrect to conclude that the RM is universally associated with intransitivization. In the most prototypical cases of reflexive marking, there is a reduction of valence, by some analyses, but this is often optional or associated with demotion of arguments depending on various semantic and pragmatic purposes. In less typical, but widely attested, functions of reflexive marking, the RM operates with the promotion and/or addition of arguments and sometimes has no effect on valence at all.

From these observations, it is clear that no simple generalization about the syntactic valence function of the RM can be universally true. However, if cross-linguistic generalizations about the function of the RM can be made on non-syntactic grounds, and these generalizations about the functions of the RM can be shown to motivate the various valence reflexes of the RC in each particular language, then we will have achieved a universal description of the RM. If the variation between languages can further be shown to be motivated by typological considerations, then we will be well on our way to accounting for the often puzzling interaction of the RM and valence as a

consequence of general and non-language specific principles. I hope to partly achieve this goal through explanation of typological motivations in §3.6# – though I will fall short of describing typological principles which give full predictive accuracy. I assume that there will always be some "noise" involved in any particular language's instantiation of general linguistic principles, which prevents the language from being completely regular according to these general principles. So, it suffices if the account I give below can explain a greater majority of RCs in languages of the world than other accounts.

Central to my thesis is the following article of faith: Given two competing hypotheses which account for a set of data with equal predictive accuracy, the hypothesis which appeals to the most general cognitive and communicative principles is more likely to be operative in the grammar of the particular language. Such an assumption rests on the beliefs that speakers construct their speech according to the simplest available principles which meet the current exigencies, and that the simplest principles are exactly those to which a speaker appeals most frequently in all modes of behavior. Or as Du Bois (1987) phrased it: "Language codes best what speakers do most."

3. Polysemy of reflexive markers

If we are to provide an account of cross-linguistic variation of valence as dependent on the various semantic functions of the RC, we must first examine these functions with an eye towards their possible range, principles of organization, and motivations.

In this section, I will provide an overview of the possible range of semantic/pragmatic functions an RC can acquire. Note that while no single language has all of these functions, I give an account motivating them as though one language could have developed each of these functions. It should be even more reasonable to assume a similar style of semantic/pragmatic explanation for the more limited range to be found in just one language – as long as each language's particular set of RC functions constitutes an equally coherent set of extensions from a prototype. In essence, we seek an explanation of each and every language's set of RCs as united through family resemblances.

Two important recent works discussing the typology of reflexive/middle constructions are Geniušienė (1987) and Kemmer (1988). Both explore the range of semantic functions of the RC cross-linguistically in greater depth than I can do here. Accordingly, most of the examples of this section will be drawn from these sources, and I encourage the reader seeking finer detail regarding particular construction types to consult these works directly.

In section §3.5, I discuss the relation of semantic functions to syntactic intransitivity. I explore, in section §3.6, the relation of other formal properties of reflexive marking to semantic and pragmatic function in an attempt to explicate general principles correlating linguistic form with meaning.

3.1 Basic reflexive uses

3.11 The prototypical reflexive

It appears that all languages which have a morphologically marked RC will mark certain situations in common even if they do not mark any other functions associated with RCs in other languages. If a language has two or more RM forms, the least phonetically reduced (cf. Haiman 1983) or the most recently acquired form (cf. Kemmer 1988) will be used to mark coreferentiality of agent and patient in a prototypically semantically transitive situation – although in many languages, both forms can be used. Few, if any, languages use RCs for only these prototypical situation types. However, since two-form languages use the most recently acquired "emphatic" RM for such situations,¹ it seems reasonable to assume that this is the normal starting point for the development of extensions of RCs in one form languages as well.

Kemmer, appealing to radial categories (cf. Lakoff 1987) as a model of semantic extension, refers to the most prototypical uses of this situation type as the *direct reflexive*. Examples like the following are taken as the most basic uses of the semantic reflexive, and are the earliest to be represented by a new RM.

¹ Kemmer (1988) gives the example of Surselvan (from Stimin 1973) which has developed an "emphatic RM" to supplement the less focussed RM for describing the direct reflexive situation and any other reflexive situations which seem especially salient. Of course, to construct a list of what those situations might be would be impossible given the infinite range of situations a speaker might choose to describe and the wide variety of affect qualities the speaker might want to imbue the situation with.

- 1) John hit himself
- 2) Er hat sich erschossen "He shot himself"
- 3) kendimi incittim (Turkish)
RM-1s.Acc hurt-Ps-1s
"I hurt myself."

Common to this type of described situation are the following features: 1) an animate subject acting as agent; 2) the same referent as the subject also filling the role of patient – affected physically by the agent's action; 3) a high degree of *salience* (particularly strong relevance to the present discourse context) that one referent is serving in two roles. This high degree of salience is what motivates the use of a new RC construction for these situation types. Generally, a new RC construction is constructed from highly marked, reiterative or emphatic elements which by their very infrequency of use suggest an unusual, contrastive or salient aspect of the reflexively described situation. Thus the sorts of situations we would most expect to be marked initially with a new RC would be those in which the expected object/patient of the NV would normally not be coreferential with the subject/agent. Hairman (1983) has referred to verbs which typically describe such situation types as *extroverted*.

I follow the approach of Lichtenberk (1985), who claims that functions of the reflexive and reciprocal markers are extended on the basis of *perceived similarity of the situation types* which they express.² In the tradition of many Soviet linguists working

² Lichtenberk applies Lakoff's (1977) principle of linguistic gestalts to the reciprocal/reflexive marked situation types to his analysis.

on reflexive typology (e.g. Geniušienė, Nedjalkov, Otaina, Xolodovič), I call the situation type most universally expressed by an RC, and expressed historically by the RC before other situations, the *semantic reflexive*, as it is the basis of all subsequent functional extensions. For example, in Gothic, the reflexive meaning in sentences such as

4) Jah galei ands ushaihah sik (from Guchman 1948)
 "And having-gone, [he] hanged [him]self"

is marked with *sik*, the ancestor of modern Scandinavian *sig/-s*, which is used for a wider variety of functions.

Volitionality is another feature frequently associated with the semantic reflexive. However, we should not take this as a feature particular to the prototypical reflexive schema for two reasons: 1) many examples of RCs which we might want to consider prototypical (certainly many of high salience) involve non-volitional action; 2) volitionality is typically associated with agentivity in general, thus any volitionality of the prototypical reflexive would actually be an inherited feature from a general prototype of what it means to be an agent. While volitionality may become associated with the RC, it is easily overridden by the semantics of the verb, context, additional clauses, and inanimacy of the subject. But all else being equal, the use of the RC – especially when grammatically optional – can serve to emphasize volitionality as a consequence of its explicit marking of agency. As we shall see (in §3.31), this *suggestion* of volitionality on the part of the subject of an RC will become an important motivation for the RC extending itself to certain types of semantic and pragmatic functions.

Another quality generally associated with the agent which is inherited by the prototypical RC is *responsibility*. Even if the agent is not assumed to be volitionally

carrying out the action, there is almost always some attribution of responsibility of the action to the agent. As we will see in §3.2, there are a number of constructions which attribute responsibility to the patient of an action by shifting it to the subject/nominative position of the RC, to formally mark it as though it were the agent or entity responsible for the predicate which it undergoes.

3.12 Immediate extensions of the prototype

A number of situations can be naturally expressed by the RC because of perceived similarity with the direct reflexive. The most immediate extension is to those situations where coreference between subject and object needs to be expressed, by reason of high salience or contrast with an expected non-coreferential object, but the object is not seen as a significantly affected patient. Thus the RC is used in cases like *He saw himself* in which the object of a typical *seeing* event in the real world is seldom coreferential with the subject, e.g. *He saw the lake* and *He saw his reflection in the water*. As such uses become more common, it is increasingly likely that the RM will become less of a marker of *unexpected* coreference of roles, and simply a marker of coreference. Accordingly, the RM becomes used with verbs of grooming, dressing and the like:

5) Hún klæddi sig í flýti (Icelandic, from Valfells 1970)
 she dressed RM in hurry
 "She dressed herself in a hurry."

6) A5naq- mataRta-qu-q (Eskimo, from Vaxtin 1981)
 woman-Abs undress-RM-Pr.3s
 "The woman undresses"

In languages such as English, the low salience of the coreference of the subject and presumed object of verbs of dressing and grooming is usually manifested by simply using the verb intransitively – this is further discussed in §3.6.

3.121 Partitive reflexives

It is immediately obvious that many semantic reflexives (whether direct, grooming, etc.) involve an agent acting upon a part of the body, rather than on the whole. When this part is salient and recoverable from the semantic nature of the verb, it is natural to extend semantic reflexives to verbs which would normally take a partitive direct object. Thus, just as *He_i washed him_j*, can become *He washed himself* for a semantic reflexive, it becomes natural for languages to extend *He_i combed his_j hair* to *He combed RM*:

7) *çocuğ^ün saçlar^ını taradım* (Turkish)
 child-Poss hair-Acc comb-Ps.1s
 "I combed my child's hair"

8) *taradım*
 comb-RM-Ps.1s
 "I combed my hair"

9) **saçlar^ını taradım*
 hair-Acc.1s comb-RM-Ps.1s

10) *Ille emungit nar-es* (Latin; Hatcher 1942)
 he blows nose-Acc
 "He blows his nose"

11) *Ille emungit se*
 he blows RM
 "He blows his nose"

12) *El inrețește fruntea* (Moldavian, from *Geniușiene*)
 he knits forehead
 "He knits his brow"

13) *El se inrețește*
 he RM knits
 "He knits his brow"

Many languages appear to have conventionalized parts associated with the RV even when the NV does not necessarily imply a particular body part.

14) O tiggit-ii gite makko dêe (Fula; Njalibuli 1983)
 3sf raise-Act.Prf eyes her these
 "She has raised her eyes."

15) O tiggit-ike
 3sf raise-RM.Prf
 "She has raised her eyes."

16) Viņ-š sabrien kāj-as (Latvian, from Geniušiene)
 3sm-Nom got.wet foot-Acc.Pl
 "He got his feet wet"

17) Viņ-š sabriena-s³
 3sm-Nom got.wet-RM
 "He got his feet wet"

The sources of the idiomatic quality of these partitive reflexives will vary from instance to instance. The non-reversible semantics of such constructions discourages accounting for them as simple transformations applied to NVs.

In addition to body parts, the RM can refer to what Geniušiene calls *quasi-inalienable possessions* such as clothing, handbags and the like. Thus we have examples like *He zipped himself up* in English, and the Russian:

18) On rasstegnul-sja
 3sm-Nom unbuttoned-RM
 "He unbuttoned his coat"

3.122 Intrinsic reflexives

There are certain classes of actions which are necessarily or typically performed wholly on or with respect to the self. Actions which can only be performed upon the

³ Examples of this type are generally not found in English, though there is the common reading of "wet oneself", and a few other examples.

self (or are constrained to such a valence) such as *behave* in English may become candidates for reflexive marking because of the lack of a non-coreferential direct object. In English, at least, such forms alternate with zero forms as in *behave (yourself)* and *He ran (himself) right off the cliff*, where the RC seems to serve (at the very least) the function of providing greater emphasis of some feature inherited from the more prototypical reflexive schema which is being exploited for some use-specific purpose. For example, the speaker might wish to imbue a greater sense of agency and thus volitionality to the action.

Of course, in any language, there will always be more verbs whose action is necessarily restricted to one referent than such verbs which can or must take an RM. For example, English does not readily admit a reflexive form of *burp* despite the occasional transitive use and the potential volitionality of the action, nor *laugh* despite the implied volitionality of the action.⁴

Most languages will use the RM with a large range of verbs of bodily motion and the like. Geniušienė has referred to these as *autocausative* RVs and Kemmer has grouped these verbs with verbs of grooming and refers to them as *body action middles*. By Kemmer's classification, these RVs include 1) Change in body posture:

⁴ Such verbs can occur in the highly productive resultative constructions which use RMs, as in *laugh oneself silly* or *burp oneself into a state of indigestion*.

19) sich hinlegen
RM lie.down

20) emel-ked- (Hungarian)
rise-RM-

21) Lazar diže knjigu (Serbian, Mørk 1970)
L. picks.up book
"Lazar picks up the book"

22) Lazar se diže
L. RM picks.up
"Lazar rises"

2) Non-translational motion (or movement which affects the configuration of the body parts, but leaves it in place and leaves its standing or sitting unchanged):

23) stretch oneself out

24) sich verbeugen "bow"

25) O hommb-ii terde makko (Fula, from Njalibuli 1983)
he bend-Act.Prf body his
"He has bent his body"

26) O hommb-ike
he bend-RM.Prf
"He has bent"

3) Translational motion (or movement to a different location):

27) mene-ked- "flee" (Hungarian)

28) Toj premesti vešči-te (Bulgarian, from Geniusiene)
he moved things-Art
"He moved the things"

29) Toj se premesti
he RM moved
"He moved (changed place)"

But as always with such classifications, there are verbs which resist tidy classification, such as the cross-linguistically common *hide oneself*, which typically involves translational motion, but may simply involve a change in body posture:

30) Jean s'est caché

31) Ul jäšer-en-de (Tatar, from Geniušiene)
3s.Abs hide-RM-Ps.3s

It is not clear how distinct the autocausative RCs are from semantic reflexives, except that two-form languages almost always mark them with the reduced form, whereas (other) semantic reflexives are often marked with either form or the full form (cf. section 3.6).

3.123 Reciprocal constructions

In many languages, the reflexive marker is also used as the marker of reciprocal actions.

32) avarkaḷ aṭikkaṭi santittukkoṇṭārkaḷ. (Tamil)
they often meet.AvP-RM-Ps-3p
"They often met each another."

Lichtenberk (1985) sees no reason to consider a marker which can be used for both reflexive and reciprocal function as having one of these functions derivative of the other. However, in languages which have distinct markers for these two situation types (semantic reflexive and reciprocal), it is (probably) universally the reflexive marker which is extended to the variety of functions discussed in the rest of section 3, while the reciprocal marker may only be extended to the uses covered in this subsection on the reciprocal. Thus, in examining a marker which marks a variety of functions including the reflexive and reciprocal, it is reasonable to assume that the reflexive functioning, not the reciprocal functioning, of the marker is responsible for the extended range of functions. I know of no languages which have an attested reciprocal marker later acquiring a semantic reflexive function, while the reverse is commonly true. Accordingly, I take

polyfunctional RMs to have the prototypical reflexive as the central semantic schema of the network of senses, where the reciprocal function is one of these extended senses.

As has been repeatedly pointed out (cf. Faltz 1985, Garcia 1975, Geniušienė 1987, Kemmer 1988, Lichtenberk 1985, Nadjalkov 1980, to name a few recent works), there is a natural similarity between reciprocal actions and reflexive actions. Lichtenberk points out that in reciprocal situations, the participants are less individuated than the participants in typical non-reciprocal transitive situations, by virtue of having identical roles. In reflexive situations, there is necessarily less individuation, by virtue of there only being a single participant. Additionally, both the reflexive and reciprocal situation types share a multiplicity of roles. According to Kemmer, because the reciprocal can receive its own marking, it should be viewed as a prototypical situation. But because it can be subsumed by the reflexive marker, it should be assumed to be a more "minor" prototype. While it is unclear what is meant by "minor", we can take this to imply that *reflexive* (a non-minor type) is a relatively more fundamental notion than is *reciprocal*, and for this reason may frequently subsume the reciprocal, while the reciprocal will never subsume the reflexive.

Similar to reciprocal situations are *chaining* situations, such as *The soldiers followed each other*, which – following Lichtenberk – can be either *open* as in *The soldiers followed each other out of the room* or *closed* as in *The soldiers followed each other around in a circle*. Open chaining situations have initial and final participants in a somewhat different relation to the other participants, whereas in closed chaining situations, all participants have exactly the same role(s) relative to one another. However,

there may be no language which grammatically distinguishes open from closed chaining situations, so this need not concern us here. Languages which distinguish between reflexive and reciprocal will mark chaining events either with a special chaining morpheme or with the reciprocal marker and not with the reflexive marker. Thus in languages which mark both reflexive and reciprocal with one form, this one form (which we would call the RM) extends *via* the reciprocal function to chaining situations. The reciprocal is presumably perceived as more similar to such situations than the reflexive because of the common semantic feature of multiple referents.

Collective situations, e.g. *the soldiers left together*, may also be marked with the reciprocal marker, as in the Turkish:

- 33) arılar uçuşuyorlar.
bee-Pl fly-Rec-Prog-3pl
"The bees are swarming."

Like the chaining situation, the collective situation can be marked by the RM in some languages, as long as the RM has a reciprocal function as well.

- 34) Vojaci se shroma'ždili na na'městi (Czech, from H. Filip, p.c.)
soldiers RM/Rec convened on square
"The soldiers gathered together in the town square"

There are occasional examples of the RM being used for collective reference even when the language has a separate marker of reciprocal constructions. However, this only seems possible when there is unlikely to be an interpretation that each singular constituent of the plural group is acting upon itself alone:

- 35) The boys beat themselves black and blue in the brawl.

- 36) The players congratulated themselves after the game.

In such uses, the reflexive de-emphasizes any reciprocal aspect of the situation and

treats the plural subject as though it were a single entity acting upon itself. Note that only transitive verbs may participate in this interpretation.

3.124 Summary of immediate extended types

All of the above RCs are extensions of a purely semantic sort, essentially preserving the semantic relation between the subject and the NV, and differing in the relation between the object/patient of the NV and the referent of the subject of the RV. The frequency of occurrence of reciprocal situations, and the high salience of multiple interactive referents, provides the motivation for the development of a distinct reciprocal marker in many languages. However, if they are represented with any explicit morphology at all, the other situation types discussed above are almost universally represented with the RM. For example, English, with relatively few semantic functions of its RC, either uses the RM or a simple intransitive form of the verb to describe situations of change of body posture, as in *He pressed himself against the wall*. I hope that this section has shown that this cluster of senses of the reflexive is well motivated semantically, and thus the syntactic similarities are similarly well motivated.

3.125 Dative reflexives

Another common semantic extension of the RM is to a self-benefactive, recipient or other semantic dative use.

37) Il s'est acheté un livre.

38) He bought himself a book.

- 39) O özü kitab al-dy (Azerbaijani, from Geniušiene)
3ms-Abs RM-Dat book buy-Ps.3s

- 40) edinmek "make for oneself" (Turkish)
make-RM-Inf

Kemmer (1988) has referred to this type as the indirect reflexive or middle, whereby the third participant (either a recipient or a benefactor) of a three role situation is coreferential with the subject. The similarity of this type of RM use with the semantic reflexive should be obvious: the subject is the one who feels the ultimate effect of its own action; this is direct in the case of the semantic reflexive and indirect (through the action of an intermediary patient) in the case of the indirect reflexive. However, the contrast in case roles of the semantic/direct and dative/indirect reflexive seems sharp enough that it has kept many languages from developing an indirect use of the RM. In Geniušiene's survey, only about one half of the languages allow a self-benefactive or coreferential recipient use of the RM. The majority of the rest use simple pronominal forms.

Of those languages which allow the RC to be used for expression of coreferential semantic dative, many have extended this RC to *possessor reflexives*, in which the RM indicates that the subject inalienably possesses the direct object which is directly affected, and hence the subject is "indirectly" affected:

- 41) Nān talaiyai aṭittukkoṇṭēn
1s head-Acc hit.Avp-RM-Ps-1s
"I hit myself [on] the head"

- 42) ?Nān talaiyil aṭittukkoṇṭēn
1s head-Loc hit.Avp-RM-Ps-1s
"I hit myself on the head"
(Tamil)

- 43) Zit-a prausia-st veid-a (Lithuanian, from Geniušiene)
 Z.-Nom washes-RM face-Acc
 "Zita washes her face"

- 44) Il s'est lavé les mains
 "He washed his hands"

In even greater contrast with languages which disallow the indirect reflexive use, many languages have extended the self-benefactive sense to cases of general self-involvement or situations where the outcome of the action is relevant to the subject alone:

- 45) apa-ku-y "lift for oneself" (Quechua, from Kemmer)
 lift-RM-Vrb

- 46) llamka-ku-y "work for oneself"
 work-RM-Vrb

- 47) pa-slidineti "ski for a while" (Lithuanian, from Geniušiene)
 Pre-ski

- 48) pa-si-slidineti "ski for one's pleasure for a while"
 Pre-RM-ski

3.2 Reflexives which modify role and referent structure

While the reflexive examples in §3.1 all preserve the basic agent or actor relation of the NV, the examples in this section will be of the type where the use of the RC encodes some basic deviation of semantic role structure from the transitive NV. In some languages and with some verbs, the RV alternates with an intransitive NV which has basically the same role structure. However, in these cases, both the RV and the intransitive NV are related to a transitive NV with a different role structure. Quechua often encodes the inchoative form of a verb with the RM, and the transitive form of the verb with a causative marker, not using a bare intransitive form of the verb at all (M. Salomao, p.c.). But Spanish has many verbs for which the RM is optional with the inchoative sense and is used for additional semantic nuance, as in the examples below where a rocking stone may fall under different circumstances – unexpectedly, and as expected by those who were issuing warnings:

49) La Piedra Movediza del Tandil se cayó en 1905 (from Garcia 1975)
 "The Moving Stone of Tandil fell in 1905"

50) Imbéciles! Tanto hicieron que por fin cayó la Piedra
 "Idiots! They interfered so long that at last the Stone fell"

English only occasionally uses RCs with inchoative semantics in opposition to transitive verbs (e.g. *The idea suggested itself* vs. *He suggested the idea*). The ability of the English speaker to use simple intransitives for most simple inchoatives allows most inchoative RC use to be optional (e.g. *The idea formed (itself) in my mind*).

In §3.21, I detail the range of RC functions, such as the marking of inchoatives, which have the effect of eliminating an argument from the role and referent structures of the corresponding NC. In §3.22, I discuss RCs which demote and/or promote

arguments of the NV on the case hierarchy *Nom > Acc > Dat > Ins/Loc / Gen > passive agent*.

3.21 RCs with fewer arguments than the NC

Given a basic two argument transitive NC, it follows that a language might well have special derivative constructions which need only mention the agent or which need only mention the patient. It is of note that in language after language the RC can be used for both seemingly opposite purposes.

3.211 Agentless RCs

At first blush, it might seem peculiar that the RM, which has a prototypical use to remove mention of a distinct referent serving a patient role, should be widely used as a marker which removes mention of the agent of the NC. On the basis of case role assignment alone, the use of the same marker to indicate both the relations between

51) Il a regardé Jean

Il s'est regardé

52) He looked at John

He looked at himself

and

53) Il a cassé la bouteille

La bouteille s'est cassée

54) He broke the bottle

The bottle broke (?itself)

would seem ill-motivated. However, as both Kemmer and Geniušienė have pointed out, the semantic extension from the use of the RC to describe autocausative situations (cf. §3.122) to situations described by *se casser* is quite reasonable. Despite any explicit morphology and implied conceptualization, there is clearly a single participant involved in sentences which change the state (positional or locational) of the subject such as *He curled himself up into a ball*. The only change necessary in the implied

semantics of the RC to allow it to be used for inchoative constructions is that the requirement that the subject be animate is weakened. English semi-consistently represents a stage of such an extension where the animacy criterion for the use of the reflexive has been weakened, but only to the point where the subject must still be potent in some conceptualizable or metaphorical sense. Thus machines can *destroy themselves*, but unless a bottle was created or situated in such a way as to break without a logically necessary external cause, it is odd to say that the *bottle broke itself*. It would be worthy of another study to explore which nouns in English regularly can be treated as potent (machines, ideas, cancer cells, certain body parts, etc.) and which can only be treated as potent in especially creative language use or unusual contexts.⁵

In contrast to English, languages such as French have gone only one small step further in allowing non-potents to appear as subjects of RVs. Thus in French, both machines and bottles break themselves with great regularity. French, as with any other language, limits this use of the RC to a proper subset of all possible NVs of the appropriate lexico-semantic group, by reasons of historical accident and conceptualizations too complex to detail here.

It is reasonable that a language might choose to represent an action, which in a real world sense must have occurred only at the instigation of some outside force, as an action brought about by the patient itself. I will refer to RCs used for this purpose as

⁵ English also allows *contentful* nouns to serve as subjects of stative deagentive RCs, e.g. **This chapter concerns itself with the deagentive construction.**

deagentive. The basic motivation is that it may be inappropriate to mention the actual cause of the event. This can be for a wide variety of reasons: the agent is unknown, the cause is insufficiently salient to mention or is too diffuse a "thing" (e.g. gravity, an incline, plus a hard surface breaking a bottle), the speaker has reasons to avoid mention of the agent (e.g. Honest, Ma, the bottle just broke itself in my hands!), and so on. In any event, the use of this construction disallows the mention of an external agent, even when an external agent is logically necessary for the event to have occurred. For example, in Latvian, the swallower cannot be mentioned in the following deagentive RC:

55) Es noriju kauliņ-u (from Geniūšiene)
 1s-Nom swallowed small.bone-Acc
 "I (have) swallowed a small bone"

56) Kauliņ-š norijā-s
 small.bone-Nom swallowed-RM (*by me)
 "A small bone got swallowed"

Deagentive RCs are often found in semantic opposition with the active, passive, and/or impersonal constructions of the language. In such cases, the active form asserts that the subject is the agent who did the act, the passive form asserts that the act was done, but backgrounds or omits reference to who the *particular* agent was, the impersonal construction asserts that the act was done but that it was done by indefinite agent(s), and the deagentive-reflexive asserts that the act occurred, but denies that an outside agent or cause is involved.⁶ In some languages, the strength of this denial weakens with time, as

⁶ Ruth Berman (1979a) has found exactly these implicational effects from the selection of the active, passive, or middle (which effectively equals the RC under discussion

the deagentive-reflexive begins to take over more and more passive-like functions, as will be discussed in §3.221.

With deagentive RCs, we see the first example of a simple functional extension of the RM having profound effects on the valence structure of the verb. Similar to these inchoative uses are the uses of the RC as a *quasi-passive*.⁷ Such examples necessarily involve a human agent of some sort on the scene, but the identity of this referent is completely irrelevant. Semantically, the quasi-passive is only minimally distinct from the inchoative/deagentive and for this reason, there are very few languages with the deagentive use of the reflexive but not the quasi-passive.⁸ Geniušienė (1987:261-64) distinguishes between three types of quasi-passive in Indo-European, and distributional evidence suggests that they evolve in the following order. 1) Potential-passive RVs with a "modal" meaning of potential:

here) verbal paradigms in Modern Hebrew.

⁷ I use Geniušienė's somewhat clumsy term here, rather than the more traditional *middle*, because the latter has been used by numerous researchers in a large number of ways. While everyone who uses the term *middle* includes these examples of *quasi-passive* within its scope, I wish to distinguish these examples from whatever other senses the *middle* may be used for.

⁸ English may be just such a language. It uses inchoative reflexives only with potents and almost never uses a reflexive quasi-passive, instead using a simple intransitive form of the verb.

57) Diese Bücher verkaufen sich gut.
 these book-Pl sell RM good
 "These books sell well"

58) Plumb-ul se topește ușor (Rumanian, from Geniusi^vene)
 tin-Art RM melts easily
 "Tin melts easily"

These are an immediate extension of the deagentive RCs with an inchoative sense, because these RCs are used to focus on an inherent quality of the subject which is perceived as responsible for whatever qualitative predicate is appended to the RV. That is, when one says that a pen writes well, one is claiming that it writes well for anybody. So *writing well* can be predicated of *a pen* independent of a writer in much the same way that *breaking* can be predicated of *a bottle* independent of a breaker.

2) Potential-passive RVs, with a modal sense of necessity or propriety:

59) L'f dans le mot 'clef' ne se prononce pas (from Faltz 1985)
 the-*f* in the word 'clef' not RM pronounced

60) Cvetjata se otgleždat na toplo (Bulgarian; Fiedler 1972)
 flowers RM keep in warmth
 "Flowers must be kept in warmth"

Again, we see that a feature of the subject is viewed as responsible for the predication, but this use gives an injunction which *any* human should follow.

3) Resultative-passive:

61) Die Schuhsohlen haben sich schnell abgenutzt
 "The soles of the shoes wore (?themselves) out quickly"

This last type is not semantically so far afield from the inchoative uses of the deagentive RCs above – the only clear difference being the definite pragmatic implication of a reasonably particular human agent (e.g. the speaker). This use may be relatively uncommon because the function is often usurped by the passive construction, which

functions specifically to represent such situational types.

The quasi-passive has the effect of attributing the responsibility for the event to the patient, by removing the actual agent or actor from mention and linguistically marking the patient as though it were an agent, allowing it to inherit the responsibility for the event which would normally be attributed to the actual agent. Thus the potential-passive implies that a pen writes well because of the pen itself – which must be an inherent property rather than some activity which the pen initiates – or that it is the nature of the word *clef* that the "f" is not pronounced. Similarly, cases of resultative passives are used to deny that the responsibility of the event lies with the actual agent:

62) Gribēju dzert līdz pusei, (Latvian, from *Geniusiene*)
(1s-)wanted to.drink till half,

bet izdzēra-s lielāka daļ-a
but drank-RM greater part-Nom

"I wanted to drink half, but more than half got drunk."

In section §3.221, I exemplify RCs in which the patient of the corresponding NV is the subject of the RV, as in the examples above, but the agent of the NV still may be given explicit representation in the RC. Before considering such extensions, let us consider some other RCs which have one less argument than their corresponding NCs.

3.212 Patientless RCs

As seen above, the semantic reflexive is frequently extended to be used in a construction which describes events as though they concerned only a single participant, with any physically necessary cause or agent removed from expression. Less commonly, but in many language families, some languages employ the RM for what

Geniušienė has termed the *absolute* construction, which removes any logically necessary *patient* from linguistic expression:

63) Vaik-as stumdo-si (Lithuanian, from Geniušienė)
 child-Nom pushes-RM
 "The child is a pusher, one who habitually pushes"

64) Sobak-a kusajet-sja (Russian, from Geniušienė)
 dog-Nom bites-RM
 "The dog bites"

65) Puni kurtčil-išk-e (Udmurt, from Pozdejeva 1975)
 dag-Nom bite-RM-Pr.3s
 "The dog bites"

The paraphrasability of these constructions with bare intransitives, even in those languages which have this construction for certain verbs, might incline the analyst to simply analyze the RM as an intransitivizer. Certainly the RM does not imply a coreferential patient,⁹ but rather implies indefinite or completely general patients. Like the English *eat* and *drink* (the form is intransitive, but the sense is that there is a patient consumed, cf. Fillmore 1985), such constructions can be considered semantically transitive.

If we were to attempt a syntactic account of the evolution of this construction, it might be as follows: the RM is associated with intransitivity because in the semantic reflexive there is no distinct direct object; thus it becomes natural to express other constructions (without any direct object) with the same marker. However, there are no

⁹ Geniušienė discusses these RCs at some length and considers them to be a close relative of the partitive use of the reflexive. I will not consider her analysis here.

languages in Geniūsiene's survey which have an absolute reflexive, but not an inchoative reflexive, suggesting that the inchoative is the more basic of the two, and that the forces of extension which gave rise to the inchoative use historically precede the forces of extension giving rise to the absolute use. A syntactic account of these extensions, whereby the RM is analyzed as a simple intransitivizer, would not predict that the inchoative use would always come before the absolute – both are equally syntactically intransitive – nor would it predict that the absolute, but not the inchoative, would be relatively uncommon. Since many – if not most – languages (like English) can say *The dog bites* as readily as *The bottle breaks*, both with a simple intransitive form, there seems little a priori reason to assume that the latter would be more likely to be marked with a special intransitivizing morpheme.

Just as with the inchoatives discussed above, the RM is used as an absolute marker in cases where a logical argument (in this case, the direct object or patient) is irrelevant or not recoverable. That is, it is used for the pragmatic effect of de-emphasizing the patient role to the point of complete non-mention. That this should be less common than the inchoative use of the RM to eliminate mention of an agent follows from our real world understanding of inchoative vs. absolute events: We know that while things may not change without any cause, they often do so for causes beyond our understanding and/or beyond our caring – it can be as if they happen autonomously. So, language after language treats such situations as happening of their own accord. However, agentive actions (such as *pushing* or *biting*) almost certainly involve a salient patient. Only in describing certain aspects of such situations (such as the habitualness

of the *eating* or *pushing*) does the particular referent of the patient become irrelevant.

The extension of the RM from a marker of autonomous change of state situations to a marker of habitual action, is less a semantic extension than it is an extension of the pragmatic function of allowing non-mention of irrelevant referents. This pragmatic function develops first in inchoatives as a result of semantic extension from the reflexives of body action and the like (*autocausatives*), and then is extended – and not as a semantic extension – on the basis of this pragmatic function to the absolutive RC. In all cases, this construction should more naturally extend to verbs with which the RM would be unlikely to be interpreted as indicating a coreferential patient role. The absolutive RC is quite typical of the Slavic languages, but, according to Geniušienė, is limited in many of these languages to only those cases with human subjects. Thus we can infer that the most usual sequence of extension is first to cases of humans, who are well known to be creatures of habit and generally avoid pushing and biting themselves, and gradually to those creatures lower on the animacy hierarchy.

We will see a number of similar uses of the RM for the pragmatic goals of changing emphasis and focus in the next several sub-sections.

3.22 RCs which allow different valence configurations

As mentioned above, the RM can be used for the pragmatic effect of removing mention of arguments of the NC (e.g. absolutives) or promoting arguments on the case hierarchy (e.g. quasi-passives) for the effect of producing different implications as to *responsibility*, *foregrounding*, and the like. In addition, many RCs are used for similar effects without removing mention of arguments, but by demoting them on the case

hierarchy, while promoting other arguments. The most pragmatically prominent position is subject position, or nominative case, which generally has a focusing function regardless of whether the construction is active or passive. That is, the subject position controls agreement and tends to be used as the position for the most relevant referent in the local discourse. Thus it seems only natural that a grammatical morpheme, which has acquired the pragmatic function of allowing arguments to be promoted to this focus position, will be used to promote direct objects which are perceived as the most appropriate loci for such prominence. We have seen examples of this in §3.211, where the subject of the NV is lost and the object of the NV is promoted in its place for the corresponding RV. There are also cases where it may not be desirable to lose all mention of the displaced subject, in which case, demotion of the subject of the NV co-occurs with the promotion of the object. I give several examples of this general type in §3.221 and discuss their various semantic and pragmatic effects. In §3.222, I discuss examples in which there is demotion (defocusing) of the subject, but no particular object is promoted in its stead. In §3.223, I exemplify a less common function of the RM, that of demoting the object to a less prominent case, having the subject of both the NV and the RV the same.

3.221 Demotion of subject with promotion of object

As an extension of the inchoative and quasi-passive functions of the RC, we have uses in which a cause external to the patient can be mentioned in defocused position, low on the case hierarchy.

First off, there is a certain set of verbs in many languages (especially the Baltic

languages) which participate in what Geniušienė has called *converse reflexives*. These verbs make up, in conjunction with the RM, what we might call *lexical converses*, which require the same number of referents in both the NV and the RV form, but which vary as to which role is expressed as the subject. The NV form obligatorily takes both a nominative and accusative object, while the RV form obligatorily takes a nominative (the same referent as the accusative object of the NV) and an oblique NP. Thus the primary function of the converse RC is to allow flexibility as to which referent appears as the focussed entity. We have already seen an example of this from Latvian – here is a similar lexical converse from a Turkic language:

66) Loj suv-ni ušla-b kol-a-di (Uzbek, from Geniušienė)
 clay.Abs water-Acc retain-Ger keep-Pr-3s
 "Clay retains water"

67) Loj-da suv ušla-n-ib kol-a-di
 clay-Loc water.Abs retain-RM-Ger keep-Pr-3s
 "Water is retained in clay"

The verbs that participate in these converse sets tend to be those which are not highly agentive, but rather more stative, such as *cover* (as snow), *support*, and *hold*, but which nevertheless require two (distinct) referents. Examples such as these are not so far removed from the semantics of the agentless sentences in §3.211, but they differ in that the RM is used with verbs which still pragmatically require two referents "on the scene" no matter what implications of agentivity the speaker might wish to convey.

Some perception verbs such as *see* or *dream*, and other mental state verbs, also participate as lexical converses. The nature of the valence changes with the RM is dependent on the valence of the NV. These NV/RV converses can have the human experiencer as either the subject or the oblique object:

68) Aš sapnavau keistą sapn-ą (Lithuanian, from Geniušienė)
 1s-Nom dreamed strange dream-Acc
 "I had a strange dream"

69) Man sapnavo-si keistas sapn-as¹⁰
 1s-Dat dreamed-RM strange dream-Nom
 "I had a strange dream"

Similarly, when the stimulus appears as subject of the mental state NV, the experiencer is the subject of the RV, while the stimulus appears in an oblique case.

70) Mane žavi muzik-a (Lithuanian, from Geniušienė)
 1s-Acc charms music-Nom
 "Music charms me"

71) Aš žaviuo-si muzik-a
 1s-Nom charm-RM music-Ins
 "I admire the music"

Another common construction formed by extension of reflexive marking is the *reflexive causative*. These are structurally nearly identical to the converse reflexive, but differ in virtue of the type of verbal situation to which the construction is applied. Geniušienė (1987:124-25) characterizes this construction for Baltic, though she gives examples of the construction for other languages as well: "[The meaning of the reflexive causative] can be paraphrased in the following way: 'Y ... causes X ... to perform the action denoted by NV upon Y (himself)'"

¹⁰ These sentences are truth-functionally equivalent in that both can be used to describe the same real world (dream world?) event. Compare these to the similar English sentences *I revealed the solution* and *The solution revealed itself to me*, which refer to very different events.

72) Kirpej-as ap-kirpo Petr-ą (Lithuanian, from Geniušiene)
 barber-Nom Pre-cut.hair P.-Acc
 "The barber gave Peter a haircut"

73) Petr-as ap-si-kirpo pas kirpej-ą
 P.-Nom Pre-RM-cut.hair at barber-Acc
 "Peter had his hair cut at the barber's"

The motivation for this sub-type of converse reflexive comes clearly from the class of verbs that the construction has been extended to: those verbs which have two human referents, the subject typically being a professional who performs the action of the NV and who can stand metonymically for the place of service performed. Typical verbs which participate in this construction include *marry*, *divorce*, *grant credit*, *give medical treatment* and the like.

If the RC is to extend to this function, the Patient of the base NC must be a person capable of initiating the situation:

74) *Kūdik-is ap-si-kirpo pas kirpej-ą
 baby-Nom Pre-RM-cut.hair at barber-Acc

That the subject of these RCs, but not RCs such as inchoatives, must be able to indirectly cause (or initiate) the event of their own power seems a consequence of the use of this reflexive causative construction with human subjects. If the human subject were merely undergoing the event, there would be little motivation to promote it to the subject position, which normally implies that the NP is responsible for the predicate. The inanimate patients of NVs are promoted to subject of inchoative RCs (e.g. *X broke the bottle* vs. *The bottle broke itself*), precisely to imply that they are the cause of the event, or at least, given that such an interpretation is unlikely in the real world, that the hearer should not seek any other cause.

Similar to the cases of converse reflexives are what Nedjalkov (1980) has referred to as *modal-deagentive* reflexives: the human experiencer as the subject of the NV appears in the dative case in the RV with corresponding promotion of the NV object to subject of the RV. By removing the human referent from the subject role, the speaker de-emphasizes any agency and/or control on the human's part, and by transferring the object to subject position, the object acquires a greater sense of somehow controlling or being responsible for the situation – a phenomenon we have already seen with the inchoative and quasi-passive use of RCs:

75) On čte knih-u (Russian, from Nedjalkov)
 3sm-Nom reads book-Acc
 "He reads (is reading) a book"

76) Ta knih-a se mu čte hezky
 that book-Nom RM 3sm-Dat reads well
 "He can read that book easily"

Thus it is due to the quality of the book, that he can read it easily. Examples like these differ from the quasi-passive in that instead of requiring an indefinite (non-responsible) actor or agent, the expression of a definite human actor or agent is allowed. The de-emphasis of human control by demotion to dative in conjunction with an RC is a general process, and even occurs with the occasional intransitive verb:

77) Aš ne-dirbu (Lithuanian, from Geniušiene)
 I-Nom not-work
 "I don't work"

78) Man ne-si-dirba
 I-Dat not-RM-work
 "I don't feel like working / I can't work."

This demotion of the human subject to dative object (a sort of ethical dative), can often pragmatically imply unexpected events:

79) Yo rompí el pantalón (Spanish, from Lantolf 1976)
 "I have torn my trousers"

80) Se me rompió el pantalón
 RM 1s.Dat tear-Ps-3s trousers
 "My trousers got torn on me"
 or: "I have torn my trousers unintentionally"

These constructions are essentially the same as the inchoative RCs of §3.211, but there is the addition of a (specific) human passively undergoing the autonomous event. A more literal translation of the last example would be "My trousers tore themselves on me!"

This expressed loss of control of the situation on the part of the human referent demoted to dative in the RC, often motivates somewhat idiomatic interpretations:

81) Viņ-š paveica lielu darb-u (Latvian, from Geniušiene)
 3sm-Nom carried.out great work-Acc
 "He completed a great task" (agentive)

82) Viņ-am paveicās
 he-Dat carried.out-RM
 "He was lucky" (deagentive)

Another common extension of the RM is from its use in the inchoative (and quasi-passive) constructions to its use as a full-fledged passive marker. Usually by the time an RC has become the primary passivizing construct in a language the RM will be so old as to have lost its original semantic reflexive functions – at which point it is no longer called an RM at all. However, a number of languages do exist which have retained the semantic reflexive function of the RM – even as the RM comes to be used as a regular passive marker. Whether the two functions are synchronically related or merely historically connected, the process of extension remains the same.

Firstly, in addition to using the RM for inchoative-type uses where the agent is not mentioned, many languages allow mention of external causes by non-animate forces but not by human agents.

83) *Metalas plečia-si nuo šilum-os* (Lithuanian, from Geniusiene)
 metal-Nom expands-RM from heat-Gen
 "Metal expands (itself) from heat"

84) *Jur dilpe vėdeterė-n-et* (Chuvash, from Geniusiene)
 snow-Abs wind-Ins blow-RM-Pr.3s
 "The snow is blown away by the wind"

Other languages have generalized this construction still further, such that in addition to non-animate causes, a human agent can be expressed:

85) *Leder-en skrive-s av redaktør-en*
 editorial-Art writes-RM of editor-Art
 "The editorial is (being) written by the editor"
 (Norwegian; Dyvik 1980, cited in Geniusienė 1987)

86) *Ta křiga (vařminizi) lid -sk-e* (Udmurt, from Geniusiene)
 this book-Nom (by-all) read-RM-Pr.3s
 "This book is (being) read (by everybody)"

For all intents and purposes, this RC is a passive construction. The extension of the RM from an inchoative construction to a passive is simply the result of a step-by-step weakening of the strength of the implication (and the corresponding marking) that the event occurred autonomously and without human agency.

At this point, we would do well to consider the use of the RM for impersonal constructions in languages such as Spanish. In such constructions, there is no mentioned agent at all, and it is not always clear whether the patient has been promoted. However, I include the impersonal in this section, because the reflexive passive, discussed above, appears to be the universal source of the reflexive impersonal construction. Once a

language has reached a state where it uses the RM to create passives with a backgrounded, and optionally expressed human agent, it is really only one small step to assume that the use of structurally identical constructions with no expressed human agent implies that there is no specific human agent in mind, but that human agency is nonetheless involved in the event. By the diachronic stage when the patient is expressed as an object in both the NV and the RV, we can call the RC an impersonal construction distinct from the reflexive passive with the optionally mentioned agent omitted.

87) On prodaje konj-a (Serbo-Croatian, from *Geniusiēne*)
 he sell-3s horse-Acc
 "He is selling a horse"

88) Prodaje se konj-a
 sell-3s RM horse-Acc
 "They are selling a horse" or "One sells a horse"

For a language to reach this stage requires a reanalysis of the construction such that some element (zero form or 3s inflection) is taken to be the grammatical subject of the RC. Barry (1985) has detailed the evolution of the 15th century Spanish reflexive passive as it develops (and is still developing) as an impersonal (reflexive) construction. The RM *se* is gradually being reanalyzed as an indefinite human subject pronoun, similar to *man* in German or *one* in English, such that in many dialects it may even control verb agreement in these constructions.

89) Se vendieron los autos
 RM sold (pl) the cars [The cars were sold.]

90) Se (los) vendió (los autos)
 RM sold (sg) them/the-cars [One sold the cars]

As Barry points out, there is little reason for a speaker to consider the object clitic pro-

noun *se* as a subject on structural grounds. However, *se* appears in pre-verbal (subject) position in a construction which has the sense of "human indefinite agent" with no explicit marking of this agency. Further, by the 17th century, *se* appears with intransitive verbs in certain uses. By the 19th century, the *se* is even permitted to occur in sentence initial position (and not cliticized onto the verb). "Thus...*se*, although a clitic object pronoun and not a good candidate for subjecthood, competes with other poor candidates and gains ground [on being reanalyzed as subject] steadily" (215). By the time the RM has been reanalyzed as an indefinite human subject pronoun, we have left the realm of the reflexive altogether.

3.222 Demotion of subject without promotion of object

Among the least common RC types is one where the subject of the NV is demoted in the RC and there is no corresponding promotion of an object. This is an extension of the modal-deagentive RC construction where the human subject is demoted to suggest loss of agency and volitionality (cf. §3.221). There are only isolated instances of this, such as the following from Lithuanian:

91) *Aš noriu riešut-u* (from *Geniušiene*)
 1s.Nom want nut-Gen.Pl
 "I want nuts"

92) *Man nori-si riešut-u*
 1s.Dat wants-RM nut-Gen.Pl
 "I want nuts"

Geniušiene only found instances of this construction where the NV takes an oblique object. This construction is not itself syntactically restricted, however, because NVs with accusative objects would simply participate as modal-deagentives. The modal-deagentive RCs seem to be restricted to NVs with direct objects, since objects lower on

the case hierarchy apparently resist promotion, and this subject demotion is the extension of the RC to verbs without direct/accusative objects. The reflexive forms of such pairs give an additional meaning of involuntariness. All other things being equal, human subjects are assumed to be voluntarily involved in events (cf. §3.1). Here, the RC effects a valence shift which demotes the subject away from a possible agentive and voluntary interpretation. The *wanting* is something which happens to the human in this example. The grammatical case of *nuts* prevents its becoming subject of the RC, and so the neutral 3s inflection is used. Seeing as there are only a few examples of this type, any discussion of them must remain speculative.

3.223 Demotion of object

Common to many languages, but generally appearing with only a limited set of verbs, are RCs where there is no demotion of the (human) subject relative to the NV, but there is demotion of the object. Geniusiene (1987) has referred to these as *deaccusative* RCs. Perhaps the most cited example of this is the German NV/RV pairing *fürchten/fürchten sich*:

93) Er fürchtet den Elefant
"He fears the elephant"

94) Er fürchtet sich vor dem Elefant
"He is afraid of the elephant"

The general effect of these constructions is, predictably, to defocus the object of the NV as being a basic participant in the event, and to make it more of a feature of the setting where the human subject is more autonomously engaged in the event of the verb.¹¹ In other words, the RC is extended to a function suggesting that the subject is also somehow serving as patient of the verb, and hence the main focus is on the containment

of the event to the subject, with the external referent being defocused. However, denotationally, there is no distinction between the NC and the RC:

95) On brosa^vjet kamn-i (Russian, from Geniušiene, pp. 48-49)
he-Nom throws stone-Acc.Pl
"He is throwing stones"

96) On brosa^vjet-sja kamn-i^{ami}
he-Nom throws-RM stone-Ins.Pl
"He is throwing stones"

97) Jis dažnai lanko Kaun-ą (Lithuanian, from Geniušiene)
he-Nom often visits K.-Acc
"He often visits Kaunas"

98) Jis dažnai lanko-si Kaun-e
he-Nom often visits-RM K.-Loc
"He often visits Kaunas"

¹¹ Compare the English *He is digging the hole* with **He is digging himself in the hole*.

3.3 Expressive RVs

Thus far, we have mostly concerned ourselves with major construction types which are used to effect semantic (in terms of number and type of participants) and pragmatic (in terms of focus and degree of agency) contrasts between the NC and the RC. In this section, I briefly examine how the basic principles motivating such constructions can be further exploited for often complex expressive effect. The two main motivating factors associated with RM use are the association of features of agentivity (most notably that of responsibility) with the resultant subject of the RV, and the association of a self-benefactive sense.

3.31 Exploitation of agentivity

Perhaps the most unifying single concept of the subject as regards the various RCs discussed is that of *responsibility*. The subject of the sentence is assumed to be responsible for the verbal event or state. If there is no known cause, nor reason to express a cause, of a typically transitive event, the agentive subject is removed and the patient is promoted to subject, and thus the former object acquires the responsibility for the predicate. We have seen this process in examples of the inchoative, quasi-passive, and modal-deagentive RCs. When there exists a need to express an actual cause for the predicate and yet the speaker needs to place subject focus on the patient of the event, the agent is demoted, as we have seen with passive and converse RCs, as well as the reflexive causative construction, which also requires some responsibility on the part of the subject of the RV.

Using the RC to bequeath features of agentivity can be exploited for many expressive effects. These effects will vary as finely and as widely as current speech context

will allow, but the most common and simplest to characterize are summarized below.

3.311 Unexpected predicate

In examples such as *Se me rompió el pantalón* "My trousers got torn on me (cf. §3.221), the use of the RC is associated with unexpectedness or unintentionality on the part of a referent who might otherwise be construed as responsible for the event or state. That is, the use of the RC to deny responsibility may imply unintentionality and surprise. Similarly, many languages allow inchoative RCs to alternate with simple (usually) intransitive NVs, both of which contrast with a transitive causative form of the NV. The inclusion of the RM may imply that the event took place unexpectedly:

99) *La pelota (*se) cayó de la mesa como era esperado*
 "The ball fell down from the table as was expected"

100) *La pelota se (*Ø) cayó de la mesa inesperadamente*
 "The ball fell down from the table unexpectedly"
 (Maldonado 1988)

The marking with the reflexive serves to emphasize that the imaginable subject of the corresponding transitive NV is not being considered as agent or cause. Simultaneous with that suggestion, the marking with the RM creates a greater resemblance between this construction and the prototypical RC, which has the subject acting agentively without outside cause. Since the subject of this type of RC is assumed not to be naturally inclined to perform the action of the predicate (or any action at all, for inanimates), the very markedness of the RM highlights the unusualness of the situation. This sense of contrary to expectation has the potential to occur in any construction where marking with the RM is optional:

101) pūṇaikkutṭi nāyōṭu viḷaiyāṭinaṭu.
cat-baby dog-Soc play-Ps-3sn

102) pūṇaikkutṭi nāyōṭu viḷaiyāṭikkonṭatu.
cat-baby dog-Soc play.AvP-RM-Ps-3sn

Both: "The kitten played with the dog."

Latter: "Contrary to expectation" "Took it upon itself"
(Tamil, from Pederson 1990)

and may even occur when the RC construction is structurally quite distinct from its NC counterpart:

103) Daug pinig-u iš-si-eikvojo (Lithuanian, from Geniusienė)
much money-Gen Perf-RM-spent
"A lot of money got spent"

(158) is effectively synonymous with:

104) Netčia (netiketai) daug pinig-u išėikvo-j-au
by.chance (unexpectedly) much money-Gen Perf-spend-Ps.1s
"I have unexpectedly spent much money"

Note that it is only when the use of the RC is optional that a sense of unexpectedness can arise. Whenever the RC is obligatory by reasons of the semantics or focus requirements of the discourse, the construction is used to meet those requirements and is not free to suggest that characteristics secondary to these more primary functions of the RM are involved in the scene depicted. But optional marking with a morpheme associated with the particular secondary characteristics can be used to make such implications about the relation of the speaker to the depicted event.

3.312 Dynamic predicate

Similar to, and perhaps overlapping with, the examples of suggested unexpectedness are the widely occurring examples of what have been referred to as "dynamic" reflexives (cf. Maldonado 1988 for Spanish, Fiedler 1972 for Bulgarian, et al.). The

optional use of the RM suggests that there is greater involvement or "dynamism" on the part of the subject of the sentence with respect to the predicate:

105) Janek upił siebie (Polish, from Kubiński 1982)
J. get.drunk RM(Heavy)

106) Janek upił się
J get.drunk RM(Light)

In this example, *upił* normally takes an RM, but when the more marked, emphatic RM is used "the subject NP stands for a demoralized agent who seems to have got himself drunk on purpose while in [the less marked example,] the subject NP seems to denote a rather unlucky patient" (Kubiński 1982:58). Optional use of the RM may have the effect of emphasizing the suddenness of the change of state:

107) Nacho despertó a las 8 de la mañana (Maldonado 1988)
"Nacho woke up at 8 A.M"

108) Valeria se (*Ø) despertó de pronto
"Valeria woke up suddenly"

Optional RM use may also have the effect of placing a greater focus on the inception of the event with less focus on the result:

109) Il est allé à l'école
"He went to school (and he arrived)"

110) Il s'en est allé (?à l'école)
"He up and left (?for school) (he may not have arrived)"

Again, we may presume a suggestion of dynamism comes from the semantic feature of agentivity of the proto-typical RC, which is suggested by the optional use of the RM in these non-prototypical reflexive situations. Which feature is inherited will depend on speech context and the particular conventionalizations of the language, but here we have seen *exertion of force* used to imply greater intent on the part of the

subject, to imply suddenness of the subject's action, and to give greater attention to the inception of the action.

3.32 Exploitation of the self-benefactive

The use of the RM often implies that the subject is the recipient or beneficiary of the subject's action. This can take the form of suggesting that the referent of the subject is also in the role of the patient, as in the semantic reflexive, or that the subject is also the ultimate (as in Dative) recipient for whom the action is being performed, as in the self-benefactive examples in §3.125. This latter sense is frequently extended to more generally suggest that the subject is performing the predicate for its own concern, regardless of the valence of the NV:

111) Jis niek-am savo bed-u ne-pasakoja (Lithuanian, from Geniušiene)
 he-Nom nobody-Dat his trouble-Gen.Pl not-tells
 "He does not tell anybody of his troubles"

112) Jis niek-am savo bed-u ne-si-pasakoja
 he-Nom nobody-Dat his trouble-Gen.Pl not-RM-tells
 "He does not unburden himself on anybody"

113) Petr-as į-kvepe or-o (Lithuanian, from Geniušiene)
 Peter-Nom Pre-inhaled air-Gen
 "Peter inhaled some air"

114) Petr-as į-si-kvepe or-o
 Peter-Nom Pre-RM-inhaled air-Gen
 "Peter inhaled himself some air"

In these examples, as the English translations may suggest, the subject is more involved with the action when there is marking with the RM. The subject is acting "for its own sake".

Accordingly, the RM can be used as a self-benefactive with many verbs regardless of whether or not the valence or frame semantics of the verb normally suggests the

presence of a beneficiary. Thus, for example, Lithuanian has developed reflexive marking with even normally intransitive verbs such as *pa-slidinėti* 'ski for a while' and *su-begti* 'come running together' to create verbs such as *pa-si-slidinėti* 'ski for one's pleasure for a while' and *su-si-begti* 'come running together for a purpose'.

The cross-linguistically common association of the RM with self-benefactive makes the use of the RM a ready candidate as a marker of politeness (cf. a discussion of this for Tamil in Pederson 1990) whenever its use is optional. For example, Hebrew can use the middle inflection of an imperative verb to suggest that performing the action would be for the benefit of the addressee – as opposed to the benefit of the speaker – thus making the utterance seem more polite. This use of the RC is not commonly mentioned in linguistic writings, as the functions and mechanisms of politeness have been little explored; but preliminary inquiries suggest that it may actually be fairly widespread.

3.33 Speaker's disapproval

In at least one language (Tamil), and probably others, the recurrent use of the RM to suggest that the subject performed an action on its own initiative, contrary to the speaker's expectations, and/or for its own benefit (a.k.a. selfishly), has become conventionalized to the point where the optional use of the RM, routinely suggests speaker *disapproval* of the subject's action.

115) *appā etiril vēṁilai pōṭṭukkōṇṭār.*
 father opposite-Loc betel.leaf put.AvP-RM-Ps-3s.Pol
 "Father went and chewed betel right in front [of me]."

Use of the Tamil RM to mark disapproval has become conventionalized to the point of

being obligatory in the presence of certain morphemes which are used only in disapproving or irritated speech:

- 116) *rāmaṇ tūkkattiḷ irattai maṇtaiyai muttikkōṇṭāṇ.*
 R. sleep-Loc cleft skull-Acc hit.head.AvP-RM-Ps-3sm
 "Rama went and knocked his fat head in his sleep."

- 117) **rāmaṇ tūkkattiḷ irattai maṇtaiyai muttiṇṇāṇ.*
 R. sleep-Loc cleft skull-Acc hit.head-Ps-3sm

- 118) *anta mūtēvi iṇṇoru kuraṇkaip perrukkōṇṭāl.*
 that lazy.bitch another monkey-Acc beget.AvP-RM-Ps-3sf

atukkuc cāppātu pōṭa mutiyātē!
 3sn-Dat food put.Inf be.possible-Fu.Neg-3sn-!

"That lazy bitch went and had herself another lousy child.
 It's not going to be possible to feed it!"

- 119) ??*anta mūtēvi iṇṇoru kuraṇkaip perrāl.*
 that lazy.bitch another monkey-Acc beget-Ps-3sf

atukkuc cāppātu pōṭa mutiyātē!
 3sn-Dat food put.Inf be.possible-Fu.Neg-3sn-!

Conversely, it is pragmatically peculiar to optionally mark verbs with this use of the RM when certain other positively-valued constructs or morphemes (such as "fortunately" or first person inflection) are present.

- 120) ?*nalla vēlai rāṇi iṇṇoru kuḷantaiyaip perrukkōṇṭāl.*
 good timeR. another child-Acc beget.AvP-RM-Ps-3sf
 "?Fortunately, Rani up and had another child."

More likely than not, speakers of any language will disapprove of unapproved, unexpected, and selfish action on the part of others, so we would not expect the RM to become *conventionalized* to indicate, say, pleasant surprise. However, at a stage in the language when the RM is used to imply that the subject acted on its own initiative, etc., but before any further conventionalization occurs, we would expect that the use of the

RM in various contexts could have a wide range of interpretations.

3.4 Summary of the semantic and pragmatic extensions of the RC

I hope that this section has provided, without direct appeal to purely syntactic criteria, a reasonable explanation of the sort of semantic and functional extensions that the RC can undergo. As there exists a wide range of reflexive constructions to be found in the world, not all could be explicated here. But given how readily these functions can be traced back to a prototype RC, we may assume the likelihood that other RCs would be similarly connected. Of course, whether all other RCs can be traced to a single prototype can only be demonstrated by fully exhaustive research.

In the table below, I summarize each of the RCs discussed above, with a suggestive literal English translation.

Table 1: Summary of RC types

Prototypical reflexive	<i>He shot himself</i>
Semantic reflexive	<i>He saw himself</i>
Coreference with sub-ordinate subject	<i>He wanted himself to win</i>
Reciprocal	<i>They kissed themselves</i>
Chaining	<i>They followed themselves out of the room</i>
Collective	<i>They gathered themselves in the square</i>
Self-recipient	<i>He gave himself a book</i>
Self-benefactive	<i>He ate himself a cake</i>
Possessor reflexive	<i>He broke himself the leg</i>
Grooming	<i>He washed himself</i>
Partitive	<i>He winked himself</i>
Autocausative	
Body posture	<i>He raised himself</i>
Translational motion	<i>He ran himself</i>
Non-translational motion	<i>He bowed himself</i>
Deagentive	<i>The branch broke itself</i>
Modal-deagentive	<i>The book read itself quickly by me</i>

Subject demotion	<i>It doesn't work itself for me</i>
Converse reflexive	<i>The trees reflect themselves in the water</i>
Reflexive causative	<i>He shaved himself at the barber's</i>
Object demotion	<i>He fears himself in front of the elephant</i>
Quasi-passive	
Potential	<i>These books read themselves well</i>
Necessity	<i>The "gh" pronounces itself like an "f"</i>
Resultative	<i>The shoes wore themselves out</i>
Reflexive passive	
External force	<i>The branch broke itself (from the wind)</i>
External agent	<i>The branch broke itself (by me)</i>
Impersonal	<i>Itself signed the document</i>
Expressive uses	
Unexpected	<i>The ball fell itself off the table</i>
Dynamic	<i>She woke herself suddenly</i>
Selfish/disapproval	<i>He chewed himself tobacco in church</i>

I graphically suggest the inter-relatedness of these functions on the next page.

Text which has a balloon drawn around it represents a label for a particular RC function. Each line segment represents an extension to a newer or less central situation/pragmatic function. Adjacent balloons are iconic for adjacent or not fully distinct semantic domains/pragmatic functions, that is, they suggest a broadening of the scope of a function, more than an extension to a truly separate situation type. Text without a balloon represents a macro-label for the related set of RC functions. Balloons within balloons represent sub-types which may or may not be sequentially linked.

The process of semantic and pragmatic extension – via creative use in particular speech contexts to conventionalized semantics with particular verbs, to conventionalized semantics with particular lexico-semantic verb groups, to full fledged productive construction types – is complex and difficult to untangle. For this reason, the diagram has been greatly simplified. I ask the reader to remember that the discreteness of the

visual representations of functions is meant to imply neither that any one function is fully isolatable from any other, nor that any function arises in the language as a full fledged construction type without gradual and creative introduction by generations of speakers. Also note that the diagram does not include any of the range of possible expressive uses the RC can be put to.

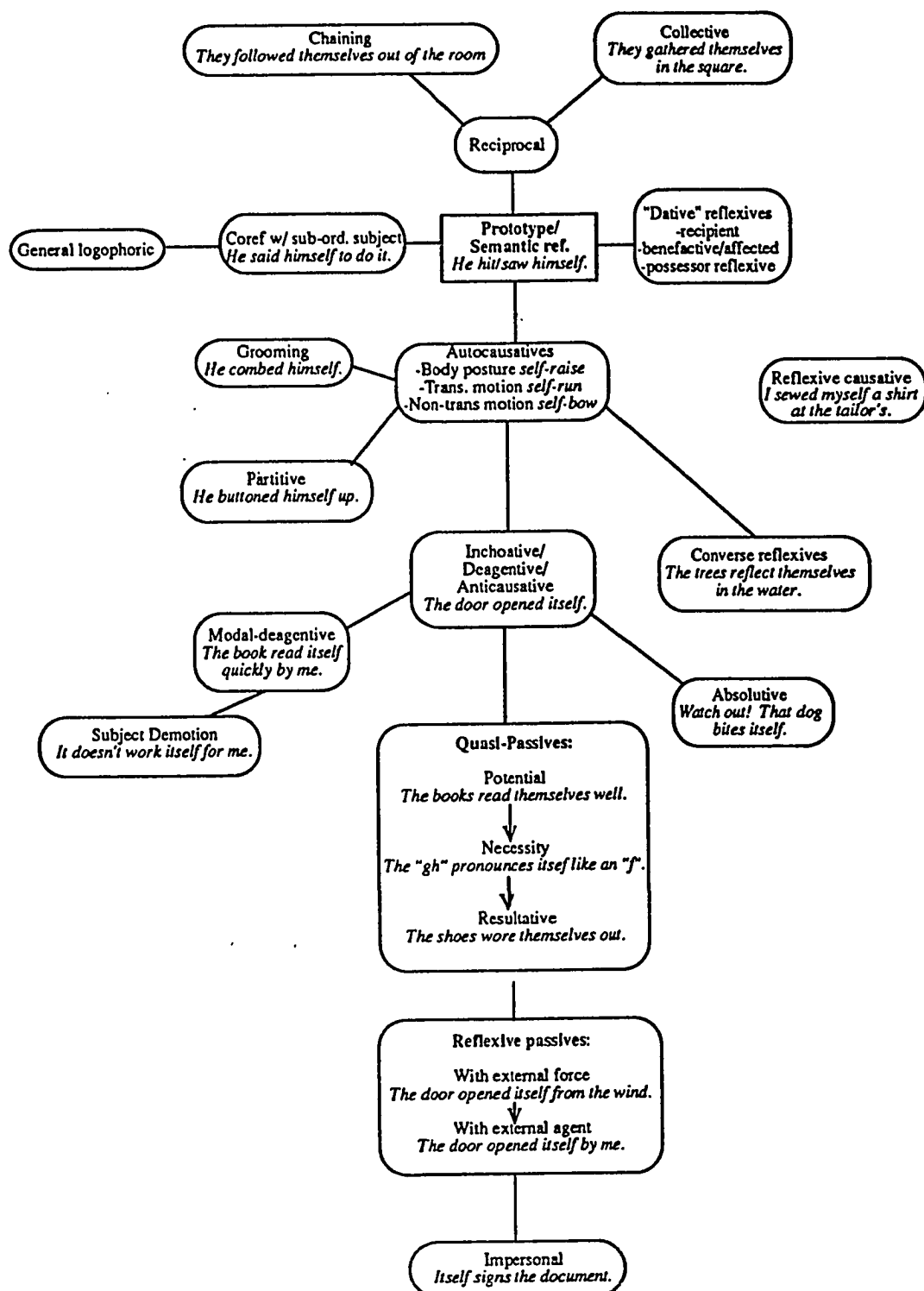


Diagram 1: Network of potential functional extensions of the reflexive construction

3.5 Intransitivity revisited

In the last section, we saw how the wide range of functions associated with RMs cross-linguistically can be united into a network of senses each directly related to its neighbor, and increasingly less directly related to the proto-typical reflexive use. If we take this as representative of the "unity" of the RM in languages in general, two further tasks remain: 1) to explain how the various functions of the RM in any one language can be explained as a subset of the universally possible functions of the RM, and how this subset has its own unity and coherence; 2) to demonstrate how the observed correlations of syntactic intransitivity are derivative of the various RM functions. Since the scope of this dissertation is cross-linguistic, I will leave the first of these tasks for other research, and focus in this section on the second.

My basic claim is that intransitivity results from the semantic and pragmatic functions of the RC. This resultant intransitivity will vary from language to language depending on which functions the RC for that language has acquired. However, to the extent that we are correct in assuming that any given language will have RM functions as a coherent subset of the set of universally possible functions, we can determine general correlations between the RC and intransitivity using data from the smattering of languages so far considered.

First off, having a theory which claims that intransitivity is a by-product and not the primary function of RC use provides us with no theoretical awkwardness having transitive RC uses. Thus examples which do not even affect valence, such as some possessor reflexives,

121) O hett-ii fedenndu makko (Fula, from Njalibuli 1983)
 he cut-Act.Prf finger his
 "He has cut his finger"

122) O hett-ike fedenndu
 he cut-RM.Prf finger
 "He has cut his finger"

present no difficulties, as we explain the syntactic facts as the result of the RM being extended to this use for various semantic/pragmatic effects *independent* of the syntactic valence facts of the NV.

While it would not be expedient to go back through all of the RCs mentioned above and account for their transitivity, it is worth examining a few of the more interesting cases.

3.51 Examples of derived valence

The most immediate extension from the prototype RC which affects the valence vis-à-vis its corresponding NC is the use of inchoative RCs, e.g. *The bottle broke itself*. In this type, the standard account goes, the NV's object is promoted to subject of the RV. Further extensions from this type retain this basic change in valence, so the inchoative use accounts for the valence shifts of many subsequent extensions. However, is the inchoative RV really changing the valence of the verb? The transitive NV has a subject and an object and under one interpretation the RV is similarly transitive, but with a single referent.

If we were to take a transformational view of reflexivization, we would view the deagentive RC as deriving from a transitive NC. In contrast to such a view, I hold that the deagentive RC is an extension of the RC to a new situation type and to new verbs.

Sentences such as *The bottle rolled itself off of the table* are usually compared with *He rolled the bottle off of the table*. However, on the basis of the actual extensions discussed in section three, *The bottle rolled itself off of the table* should be compared with *He rolled himself off of the table* and not *He rolled the bottle off of the table*. The valence of the RC does not actually change, it is preserved from the animate subject RC to the inanimate subject RC. That is, rather than the extended use of deagentive RCs changing valence from an NC, they *preserve* the valence of the parent RC. The requirements of agency are loosened to apply to inanimates which undergo a change with little or no evident external cause. The effect of this creation of a new use of an old construction is that there is now a new expressive device which the speaker can use in opposition to NVs with inanimate objects. Thus the valence appears to differ only relative to this NV, from which the new construction is not directly derived. There is no transformation which converts transitive NVs into intransitive RVs, rather more and more NVs have reflexive counterparts which may have their own valence characteristics as a consequence of their own semantics and pragmatic function.

Converse RCs clearly exhibit a change in valence relative to the corresponding NC.

123) Uden-s ataino kok-us (Latvian, from Geniušiene)
 water-Nom reflects tree-Acc.Pl
 "Water reflects the trees"

124) kok-i atainoja-s ūden-ī
 tree-Nom.Pl reflect-RM water-Loc
 "?The trees reflect themselves in the water"

But as we saw above, the converse RC is only an extension of the application of the deagentive RC to use with verbs which pragmatically require the mention of two

referents, for the simple reason that the relations of the predicates are highly semantically transitive. Verbs like *support* are meaningless without a supporter and a supported, and similarly for *reflect*, etc. So the converse RC should not be compared with a corresponding NC which uses the same verb, because this construction does not derive from the NV directly, but rather from the deagentive RC applied to verbs which were formerly only used transitively and non-reflexively. To wit, it is more appropriate to compare *The trees reflected themselves in the water* to *The trees turned themselves in the water*, than to *The water reflected the trees*. Again, the seemingly syntactic change in valence is the consequence of comparing the RV with the NV and not with the construction from which it actually derives.

As the last of this set, let us consider the so-called deaccusative RC.

125) Er fürchtet den Elefant
"He fears the elephant"

126) Er fürchtet sich vor dem Elefant
"He is afraid of the elephant"

Again, if we were to consider the latter of these two constructions to be a transformational derivative of the former, the RM would appear to trigger a syntactic change of object demotion. Certainly, when the speaker wishes to have an object in a "demoted" position, the latter construction would be the construction of choice. However, this RC did not historically directly arise from the NC, but was an extension from a more central function of the RC. I would further hazard that it does not synchronically derive from the NV given here either. Instead, while *sich fürchten* is a verb morphologically derived from *fürchten*, the RC type which sanctions this derivation is the extension of RCs used to denote autonomous action. Thus, we would do better to compare *Er*

fürchtet sich with examples of the construction after which it is modelled; i.e. those which originally used other RVs, such as perhaps *Er erschreckte sich (über X)* "He panicked (at X)". Again, this use of the deaccusative RC provides the speaker with an effective valence contrast between the NV and the RV, which the speaker may choose to exploit. However, the direct function of the RM is to map verbs, which previously were not participating in an RC, into an extended use of an extant RC.

To summarize: a transformational account which holds that an RC derives from a corresponding NC will entail a change in syntactic valence for these RCs; but an extensional account which has an RC functionally extended to encompass more and more verbs and situations does not entail any change in syntactic valence between the two functions. Even if each RC type were learned separately, with no concept of a central or prototypical use, they would not need to be learned as transformations of the non-reflexive instantiations of verbs. Given a prevalence of semantically non-reversible RVs, learning RVs simply as transformations of NVs seems quite improbable.

Finally, consider the impersonal construction. In a state of the language prior to the reanalysis of the RM as an indefinite human subject pronoun (as appears to be happening in many Spanish dialects), there is one less NP with distinct reference surrounding the verb of the impersonal RC when compared with the corresponding active NC.¹² However, as the RM comes to be viewed as more and more like a subject pronoun (as

¹² Assuming the RM to be only minimally an argument by this point in its extension, cf. §3.6.

appears to be happening in modern Spanish), there is less and less cause to say that there is one less referent in the RC. If the RM were primarily a marker of intransitivity (or reduced valence), what syntactic motivation could account for a reanalysis of an "intransitivizer" into an additional argument of the verb? Regardless of whether or not a Spanish speaker perceives the RM as a subject pronoun, the meaning and use of the impersonal RC remains the same; and yet, under a syntactic analysis, the function of the RM varies radically depending on which particular grammatical class the speaker may have personally decided that this marker belongs to. On one syntactic analysis, the impersonal construction is related to other RCs by virtue of a common morpheme with a common grammatical function; on the other analysis, the construction is not related (synchronically) to the other RCs, which only happen to closely resemble it in meaning and function. The two different syntactic analyses of the marker would differ greatly, while the actual use and history of the construction remains identical (because the semantic motivation remains the same). Since there is no reason not to relate the impersonal construction to other RCs by virtue of semantic and functional extension, we are not forced to take these less elegant approaches.

3.52 Geniusienė's implicational hierarchy of syntactic types

At the conclusion of her survey of RCs from various language families, Geniusienė derives an implicational hierarchy which states that if a language has RCs which are transitive (e.g. self-benefactive uses), then it will also have objective RCs (i.e. those RCs which have a subject corresponding to the object of an NV, such as deagentives) and subjective RCs (i.e. those RCs which have the same subject as the

NC). If a language has objective RCs, then it must also have subjective RCs. Beyond this, the data suggest no other syntactic universals concerning valence.

However, this hierarchy is even less revealing about syntactic universals than one might think, indicating, again, the inappropriateness of a syntactic approach to the universal features of reflexive voice. All of the languages in her sample, with the possible exception of Arabic and Nivkh, use the RM in inchoative constructions, suggesting that the extension from the prototypical reflexive to this type of objective reflexive happens naturally and relatively soon in the RM's development. From a functional perspective, we can say that the weakening of the requirement of animacy of the subject of an RV happens readily (with at least certain verbs). This weakening really only brings the RC in parallel with the general state of language which only seldom requires animacy for the subject of construction types. So it seems natural – as well as expressively useful – that such an extension would readily occur. Given this immediate extension of subject RCs to (at least one type of) objective RCs, there is no implication that the objective RC type is a prerequisite for the transitive RC type. Any language which has extended the use of RCs to include self-benefactives and other transitive RCs will have already acquired an objective RC on the basis of extreme statistical probability.

A language that supports the view of the lack of causality in the sequentiality of the objective and transitive RCs is Tamil. Faltz (1985) hypothesized that all RMs historically derive from the same source: some sort of nominal form of marking coreference. If this were so, we would expect universal similarities in the evolution of func-

tions, as indeed we have generally found. However, in the South Dravidian languages, the reflexive marker is derived from a verb originally meaning something like "to take and retain", and at least for Tamil, the pattern of function acquisition is somewhat distinct from the pattern just described.¹³ To trace the relevant portion of the morpheme's history, the verb *koḷ* originally meant "take" as part of its basic meaning complex. This sense became extended to use as a conventionalized serial verb marking self-affective, to wit, the subject of the first verb would perform whatever action and then would "take" – where the implication is "taking the result of the preceding verb". From this often transitive use (in Geniušienė's terminology), the semantic reflexive developed. The semantic reflexive function has been further extended to other uses, some of which are mentioned in this dissertation. While Annamalai (1985) gives a few examples of objective reflexives using this marker, they are not generally used and they have not occurred in any natural language texts which I have seen. So we can probably safely surmise that the language is only beginning to develop (if it is at all) an objective RC. Thus, contrary to the above hierarchy, the sequence of development for the Tamil RC is roughly transitive > subjective > objective. This route is well motivated by the original meaning of the RM, and it is worth noting that once the form became used for the semantic reflexive (the construction most central for the other languages in this survey), this function extended in much the same way as RCs of other languages. This would seem to indicate that there is a universally basic function of *semantic reflexive*, which,

¹³ The overall network of extensions of the Tamil RM is covered in Pederson (1990).

once acquired, develops according to the universal principles suggested above. Fundamental deviation from the paths diagrammed in §3.4 will probably prove to be the result of fundamental differences in the original form of marking.

3.53 What remains to be explained?

If, barring profoundly differing semantic and formal origins, RMs are extended similarly from language to language along the lines suggested in section 3, the topic remains: how do we account for cross-linguistic variation of development? There are two major parts to a complete answer to this question: 1) How does the RM interact with other formal devices in the language to divide up the semantic space needing to be expressed? For example, if a language has no separate passive construction, we might presume that an RC would more readily be extended to such a function. 2) How does the nature of the formal marking of the RM itself affect the semantic/pragmatic range of constructions which make use of the RM?

The first of these points requires investigation into each particular language, and is beyond the scope of this dissertation. The second point will be the topic of the next section.

3.6 The structural typology of reflexive voice

The previous sections have concerned themselves with the semantic universals of the RC and the consequent syntactic reflexes of these semantic uses. This section is concerned with how the semantics and pragmatics of the RC may vary in conjunction with variation of the type of morphological marking of the RM. This has been discussed from similar theoretical perspectives by Haiman (1983), Pederson (1986) and Kemmer (1988), as will be reviewed here. However, these accounts alone are far from fully explanatory, so other approaches need to be considered as well.

3.61 The aging of the RM

Lichtenberk (1985) accounts for the extensions of functions of the RC as extensions to new situation types which are perceived as sufficiently similar to the situation types which the RC previously expressed. We are forced to take a broader view of the processes of extension than Lichtenberk because we also consider cases of semantic and pragmatic extension where an RC is extended to refer to the same situation as the corresponding NC. If all extensions of RCs were simply extensions on the basis of perceived similarity between real-world situations, there would be no pressure to extend a reflexive construction to cover a situation type which is already denoted by an NC. Examples of this include converse RCs, which are used to shift focus and perspective, but otherwise denote the same situation as the NC. In Geniušienė's (1987) account, putting aside language particular variation, the RM acquires new functions on the basis of a general process of semantic extension over time. Thus in general, the older a reflexive form, the more numerous we would expect its functions to be. This generally is the case, as we would expect given the discussion in sections 3.1-3.4. Following

Geniušienė, we may refer to the process of semantic extension and change as *diachronic shift*.¹⁴

There are exceptions to the general principle that the older a form, the more numerous its functions. The most basic exception is simple *loss* of function(s). Geniušienė gives examples of this in two-form languages where the newer form acquires ever more functions of the older form. The Vulgar Latin -r RM which already had lost many reflexive functions from earlier Latin finally lost all of its functions to the newer pronominal RM by the time of the later Romance languages. (Geniušienė cites Reichenkron 1933 on this.)

As another example, consider some of the developments in Scandinavian. Scandinavian languages have two RMs: one is an affix derived from the Old Scandinavian reflexive pronoun, and the other is a set of personal reflexive pronouns more recently developed. In Icelandic (representing an earlier stage of development), the affix has a wide range of functions and the pronominal RM is used for relatively few functions. In

¹⁴ Geniušienė qualifies her diachronic shift analysis by pointing out that there are a number of language-internal factors determining variation in RVs across languages. These include the bound or free status of the RM, the availability of rival valence recession markers (i.e. markers that encode that there are demoted arguments or a reduced number of arguments of the verb), and the means of encoding semantic roles in "surface" structure. Unfortunately, the details of how these factors affect variation are not explored.

Swedish and Norwegian (representing a later stage of development), the affixal form is used for fewer functions and the pronominal form for more.

As Geniušienė mentions, the bound or free status of the RM also affects the number of functions of the RV as a factor independent of age. This factor is significant enough to warrant greater explication than Geniušienė gives it. A striking case of this is when both RM forms in a two-form language derive from the same morpheme. Clearly, in a simple sense, the age of the RM should not be the primary factor accounting for variation in this case. For example, the longer form of the RM in Polish cannot be used for the deagentive and the quasi-passive RCs:

127) Janek myje się (Polish, from Kubiński 1982)
"John is washing (himself)"

128) Janek myje siebie
"John is washing (himself)"

129) Drzwi otworzyły się
"The door opened-RM"

130) *Drzwi otworzyły siebie

131) Tę książkę czyta się z przyjemnością
"This book is pleasant to read"

132) *Tę książkę czyta siebie z przyjemnością

This factor comes up repeatedly in many languages and needs to be accounted for. The work of Hairman and Kemmer addresses just this point, and is synopsized in the next sub-section

Furthermore, when a one-form language becomes a two-form language and the older form loses functions to the newer form, it is predictable that the semantic

reflexive function will be lost first. This too can be reconciled within the Haiman/Kemmer approach.

3.62 Iconicity and the RM

Haiman (1983) gives examples of two-form languages and notes that there are systematic differences between the semantics of the two RCs which use these forms. We have already seen an example of this in Polish (160-161); here is another from Russian:

133) On utixomiril sebja (from Haiman)
he pacified RM
(e.g. His better nature prevailed over his enraged self)

134) On utixomiril-sja
he pacified-RM
(e.g. He settled down after sowing his wild oats)

Haiman describes this phenomenon as the consequence of the "iconic expression of individuation" which states that *separate words denote separate entities*, and that *bound morphemes are non-referential*. Also, bound morphemes are incapable of expressing focus or contrast. Thus, for Haiman, bound reflexive forms (such as reflexive verbs in Russian and Turkish) are non-focussed, non-contrastive, and *non-referential* in meaning. Unfortunately, Haiman fails to adequately spell out what it means for a morpheme to be non-referential in his sense. His translations suggest a contrast between a pronominal form with independent reference, and a bound form which only serves to deagentify the subject:¹⁵

- 135) On utomil sebja. (Russian)
 he exhausted himself
 "His will drove his body to exhaustion"

- 136) On utomil-sja
 he exhausted-RM
 "He grew weary"

Haiman denies that bound reflexive morphology can be adequately described as simply detransitivizing morphology, and he calls for an adequately rich semantic theory which would account for how reflexive meaning can become extended to passive and other non-transitive uses. The account given in section 3.4, while perhaps not rich, serves to explain how such extensions may occur independent of whether or not the form is bound.

While Haiman's examples demonstrate that reflexive verbs, when in contrast with reflexive pronouns, do not bear stress or focus, it is not clear whether this fact alone may give the bound forms their particular meaning, or whether the additional notion of bound forms as non-referential is necessary. In Pederson (1986), using some of the same Turkish examples which Haiman cites in his paper, I argue that the often varying semantics of the two RMs in Turkish can be accounted for (simply) in terms of degree of focus on the RM constituent, where bound constituents have lower prosodic and per-

¹⁵ Talmy (1977) makes a similar claim regarding the choice between the English RC and NC, where the reflexive pronominal is used to divide the self into agent and patient roles. That is, the RM is referential and the zero form is not. So *He threw himself off the cliff* has an ego divided into agent and patient, while *He jumped off the cliff* does not.

ceptual focus than unbound constituents. The use of low focus forms is more consistent with expected reflexivity (what Haiman calls *introverted* verbs). Given the rather subjective nature of the interpretation of these forms, it is not at all clear whether "low degree of focus" and Haiman's non-referentiality (or Kemmer's corresponding "low degree of individuation") are really separate concepts. The latter may simply be derivative of the former.

Assuming a more general statement of Haiman's basic iconic metaphor of language, WORDS ARE THINGS, increasing focus on a word should increase the effect or salience of this metaphor. That is, marked words are notable things, unmarked words are less notable things, and bound grammatical morphemes are hardly things at all. Since, in some general way, words are used referentially, it follows from these very basic principles that the speaker could use focus to express implications about the degree of referentiality/individuation. This implies that degree of referentiality/individuation is indeed a direct derivative of the amount of focus the RM bears.

If we accept the essence of Faltz's claim that new RMs, at least typically, come into the language from unbound nominal forms, then new RM forms will most naturally take on reflexive functions associated with a high degree of expression of individuation, namely the prototypical reflexive. Kemmer gives as an example of this the recent Sur-selvan development in Romance where the emphatic *sesez* has come to be used for the direct or prototypical reflexive function, while the older Romance *se* continues to mark the "middle" functions.¹⁶ To explain what Kemmer means by "middle" functions,

however, I need to digress for a paragraph.

Kemmer assumes a basic contrast between middle semantics and reflexive semantics. The characteristic which all of the middle senses share, and which the reflexive senses do not, is low degree of individuation. So, middle semantics refers to that conceptual domain which speakers map onto the affixal, reduced, or *light* form of a two-form RV system. Reflexive semantics refers to that conceptual domain which maps onto the *heavy* RM. There is a danger of circularity in this argument, however. Since low degree of individuation is a direct consequence of the formal marking of Kemmer's middle functions, the defining semantic characteristic of the middle conceptual domain is dependent on the formal definition she makes. Thus her term "middle" may just refer to the lower focussed use of the RM, and the middle, in her sense, may not be a conceptualization distinct from the system of marking at all. Accordingly, pending further demonstration of the existence of a non-formal, but conceptual, category "middle", I will continue to refer to both her reflexive and middle constructions as RCs.

Kemmer (1988) has thus taken Haiman's iconic principle and applied it to her typology of the "middle voice" (i.e. those RCs which have RMs with a low degree of individuation). Thus, for her, new nominal RMs first come into the language as heavy markers, marking the prototypical reflexive, and then they extend their meaning on the basis of Haiman's iconic principle to other semantic types which require a similar degree of individuation.¹⁷

¹⁶ Kemmer cites Stimm 1973 for her data on Surselvan.

¹⁷ For a thorough overview of this complicated topic (with special reference to the two

3.63 Reconciling iconicity with other diachronic facts

Even if we combine Haiman's iconic principles with the types of semantic extensions discussed in sections 3.1-3.4 – and this is roughly the approach that Kemmer takes – there are still some problems with the iconically-driven approach which need to be addressed.¹⁸

First off, it does not account for many of the patterns of extensions of one or the other RM in a two form language. For example, the pronominal RM in Icelandic is used for all self-benefactive uses and no impersonal construction uses. The affixal RM cannot be used for self-benefactive but does have an impersonal function. It is not difficult to imagine an iconic account that says an impersonal construction should have iconically little focus on the RM. However, why shouldn't the affixal form be used to mark activities which are intrinsically or unmarkedly for the subject's benefit? For example, English typically uses a zero form for intrinsically self-benefactive verbs (e.g. *receive* or *keep*), but uses the (heavy) RM for non-intrinsically self-benefactive verbs (e.g. *He gave himself a hat*). There are, of course, verbs that can take either marking, such as *buy*. Kemmer cites a number of two-form languages as using the affixal RM for intrinsic self-benefactives and the heavy RM for non-intrinsic self-benefactives, so we can be certain that this RC pattern can exist. She only exemplifies the intrinsic, affixal

Dutch RMs), consult Leek 1991.

¹⁸ I do not mean to suggest that either Haiman or Kemmer would feel that the iconic approach given above is sufficient in and of itself. However, there are more qualifications and limits needed for this approach than they indicate.

self-benefactives, but examples of extrinsic self-benefactives marked with the heavier of the two RMs are not hard to find:

137) Kendime hediye verdim (Turkish)

RM-Dat.1s present give-Ps.1s

"I gave myself a present"

138) *hediye verindim

present give-RM-Ps.1s

It seems that we must assume that there will be conventionalization and specialization of functions with certain forms, and that while these may be influenced by iconic principles, the RM may come to be conventionally used in a way not directly governed by these principles. Far from invalidating the iconic hypothesis, this suggests that iconicity plays a guiding (though not determining) role, in conjunction with other general principles which still need explication. Were all of these other factors neutralized, we would expect that semantic extension of the sort in section 3 would proceed at a more regular pace when the nature of the formal reflexive marking is more iconically appropriate to the extended sense.

One general linguistic principle which we may invoke to explain the Icelandic case might be *specialization of function*. It is simply more efficient for a language to give some functions – or coherent cluster of functions – wholly to one form and not to another, often at the expense of semantic nuance. When a cluster of situation types is *not* represented by the same morpheme or construction from language to language, it implies that there is a strong independent reason to mark a formal contrast between two sub-types of the semantic or pragmatic function, or that there are really two distinct conceptual functions.

However, the contrast between light and heavy forms need not always be present, and this is a second reason to avoid a purely iconic approach. There are a number of cases of virtual synonymy between the two RCs of a two-form language system. Thus in normal speech, examples like

139) Hún klæddi-st í flýti (Icelandic, from Valfells, 1970)
 she dressed-RM in hurry
 "She dressed herself in a hurry"

140) Hún klæddi sig í flýti
 she dressed RM in hurry
 "She dressed herself in a hurry"

and

141) çocuk kendini soydu. (Turkish)
 child RM-Acc.3strip-Ps.3s
 "The child undressed"

142) çocuk soyundu.
 child strip-RM-Ps.3s
 "The child undressed"

143) *çocuk kendini soyundu.
 child RM-Acc.3s strip-RM-Ps.3s

may not be semantically contrastive at all. While we would expect that the nominal RM forms would be used in cases of contrastive stress, or when the verbal action would not be expected to be reflexive (*extroverted* actions, in Haiman's terms), such a context is not an essential correlate of nominal RM use. The iconic principle may guide production or interpretation of an utterance, but it need not effect every use of a form. If we were to assume that every potential contrast between the uttered sentence and its not-uttered alternatives was always present, the information load per utterance would be enormous. In slower, careful, or written speech, the information load can certainly

increase, and it may increase according to principles like iconicity. A sentence dissected at leisure by the native-speaker linguist may appear to have remarkable semantic nuance, but we cannot assume that the speaker has the luxury of always maximally exploiting iconic principles.

Thus, the contrast between two forms may be either conventionalized beyond direct control of iconicity, or the contrast may be accessible to iconic nuance, but only occasional in use. I assume that the less frequently light and heavy forms are used iconically to contrast nuances of meaning within a general category such as self-benefactive, the greater the chance that the language will conventionalize the more frequent form as the sole marker of the general category. (This form may well be the form more iconically consistent in the majority of instantiations.) This is presumably what has happened with the self-benefactive in Icelandic. But this has not (yet?) happened in Turkish, in that other RVs such as *edinmek* "make/have made for oneself" are constructed with the affixal RM *-in*. To account for the difference between languages like Icelandic and Turkish, we can incorporate Geniušiene's notion of the aging of the marking into our evolving system of factors. As an RM ages, its likelihood of specialization relative to another form increases. In the trivial case, when a new RM is incorporated into the language, as in Surselvan, it initially shares the semantic reflexive function with the older RM, often breaking this function up according to whether or not the action is viewed as intrinsically reflexive. As we have seen, eventually the older RM is used for only non-semantic reflexive functions, and the newer form is specialized for the semantic reflexive and immediate extensions of the semantic reflexive.

It would be a worthwhile endeavor to see just how much effect on specialization simple diachronic age of the morpheme has, and how greatly it is effected by iconic and intra-linguistic factors. Sadly, this would prove to be a task far beyond my current scope, but should be considered as a potentially profitable domain of inquiry. I discuss some of the theoretical implications raised by RC polysemy for theories of categorization in §6.2.

In any event, we can suspect that an RM's aging (Geniušienė's non-iconic diachronic shift) plays at least a partially determining factor in cases of functional extension. Thus, while accepting the spirit of Kemmer's claims about the general nature of affixal and non-affixal RMs, we should take such effects as influences on use, and not as determiners of function.

To make a stronger case for the limited effects of iconicity on the function of the RC, consider the functions of the RC in one-form languages. Putting aside highly marked emphatic constructions, Spanish uses its single RM *se* for the following functions (by Geniušienė's count): semantic reflexive, partitive, body movement/autocausative, reciprocal, object demotion, inchoative/deagentive, quasi-passive, passive, converse reflexive, impersonal, and causative reflexive. These semantic extensions (which make up a majority of the types mentioned in section 3) have clearly developed outside of iconic control. Iconicity needs then to be viewed as significant only when a choice of forms exists.

Another principle which may prove significant in the diachrony of the RC is the general type of marking used by a language. Kemmer wisely uses the terms *light* and

heavy to refer to the two different RMs in a two-form language, because the contrast between the forms is a *relative* contrast. Thus, if an RM is a free nominal and free nominals are uncommon in a (polysynthetic) language, we may assume that the RM will be more heavily marked or in more prominent focus than a free nominal RM in a highly analytic language. On the other hand, regardless of whether a bound RM is used in a minimally affixing language, or in a highly agglutinative language, it is likely that it will be less focussed than any free nominal RM, by the cross-linguistic principle that always gives greater perceptual salience to separate and longer forms. If an RM were the only verbal affix of a language, or one of an extremely limited set, then we might expect that the very unusualness of such marking might give it some greater focus, to offset this general principle – but such is a highly unlikely situation.

3.64 Nouniness and verbiness

Along with Haiman's (1980 and 1983) work, Givón (1979), Hopper and Thompson (1985), Langacker (1987), and others have described the grammatical categories of nouns and verbs as being relatively iconic for the entities and events they represent. For Givón, a noun is most typically an object which is characterized by temporal stability, while verbs lack this stability and typically refer to events or actions. While there is no shortage of obvious exceptions to such an account, it seems to generally hold as an exploitable iconic principle. Many languages nominalize their verbal forms to emphasize the concreteness of the situation. Other languages express states which are temporally stable as nouns, using nominal-nominal sentences rather than a copula or a stative verb. The most currently relevant aspect of these inquiries into the iconicity of

nouns and verbs as categories has to do with noun incorporation in the verbal complex. In Givón's (1981) terms, noun-incorporation makes the morpheme *pragmatically non-referential*. For example, it is odder to say **We had been picking berries, but couldn't find any** than it is to say **We had been berry-picking, but couldn't find any**. Other languages which more regularly noun-incorporate make stronger contrasts. The contrast of greater and lesser pragmatic referentiality often makes implications as to the definiteness of the patient, as in Ponapean:

144) I pahn dok-o-mwomw (from Sugita 1973)
 I Fu spear-Link-fish
 "I will spear fish"

145) I pahn doakoa mqahmwa-o
 I Fu spear fish-Det
 "I will spear *the* fish"

Noun incorporation can also encode contrasts less directly related to referentiality, as in Nahuatl:

146) Ke-na, nečk^ˈapilpokonilli. (from Merlan 1976)
 "He stick-hit me" [implies unintentional]

147) Ke-na, nečpokonilli ika k^ˈapilli.
 "Yes, he hit me with a stick." [implies deliberate]

Languages with two RM forms are exactly parallel to this iconic contrast. Russian -sja can be treated as an incorporated variant of the nominal sebja (cf. examples (188-191)). In these terms, Haiman's Russian example is further motivated by the iconicity of the incorporation of the nominal RM into the verbal construct. On the other hand, languages such as Turkish, which have two RMs which are not morphologically related to one another, are harder to treat as exemplifying noun incorporation. Nonetheless, the same semantic implications as resulted from noun incorporation may result from the

Turkish alternation:

148) *çarşafa sarımdım* (Turkish)
 sheet-Dat wrap-RM-Ps.1s
 "I wrapped myself up in a sheet" [unintentionally, e.g. in sleep]

149) *kendimi çarşafa sardım*
 RM-Acc.1s sheet-Dat wrap-Ps.1s
 "I wrapped myself up in a sheet" [intentionally, e.g. in play]

This suggests that noun incorporation and affixal vs. free RM systems should be given a common treatment. Towards this aim, I have drawn so far on the notion of focus, where affixal/light/incorporated forms receive less focus than free/heavy/non-incorporated forms. The iconicity of this has already been discussed.

There is another effect of the placement of the RM: If the RM is affixed onto the verb, it is iconically being used to modify the semantics of the verb. If it appears as a free nominal, it is iconically standing in for a temporally stable *object*. Thus, the use of a free RM iconically suggests that there is a different referent or thing (since there is a different noun), though restrictions on interpretation usually provide that the RM simply connote a separate role. Likewise, the use of a bound RM iconically suggests that the RM connotes some property of the temporally unstable event or action, and not a different referent or role. Again, such iconicity effects are easily diminished or eliminated by other factors, as per above.

Bybee (1985) demonstrates, on the basis of cross-linguistic evidence, a principle of verbal morphology which states that affixes appearing closest to the verb root are those which are semantically most relevant to the semantics of the root. This can be viewed as another instantiation of Haiman's iconic principle, which states that *the*

linguistic distance between morphemes correlates with the conceptual distance between these morphemes. Note that the verbal affix RM typically is attached very close to the verb. For example, in Turkish, the general sequence of agglutinative morphology suffixed on the verb is extracted from a master template *reflexive + reciprocal + causative + passive + negative + aspect/mood + tense + person/number*, as in the somewhat contrived utterance:

150) acmđırlmadık (from Lewis 1967)
 feel.pain-RM-Caus-Pas-Neg-Ps.1p
 "We were not made to grieve"

The RM is directly attached to the verb root, iconically implying that the notion of reflexivity of the action is most central to the characterization of the quality of event. The RM appears adjacent to the verb root with remarkable frequency on a cross-linguistic count, indicating that, by and large, speakers view *reflexivity* as a fairly basic quality of the verbal event. Typically, by this measure, reflexivity is more basic than negation.

For this reason, the nature of affixal reflexive morphology is highly derivational, creating new verbs from NVs. The most obvious effect of this derivation is the cross-linguistic frequency of irreversible RVs. Reflexiva tantum, or RVs for which there are no corresponding NVs, are found in perhaps all languages which have RCs. Semantically irreversible RVs (those which cannot be simply decomposed into the meaning of the NV plus the meaning of the RC) are quite common. Most significantly, however, is that irreversible RVs occur with far greater frequency with affixal RMs. If a language has two RMs, and one of these RMs participates in an irreversible RV, the bound RM will perhaps universally be the RM so participating. Even more striking is that the

iconic principle motivating this phenomenon applies virtually non-relatively. That is, even if a nominal reflexive is the normal or only way to mark reflexivity, as in English, there will still be far fewer irreversible RVs than in a language with an affixal RM and no other RM. Formally irreversible (reflexiva tantum) RVs are quite rare in languages like English¹⁹, and semantically irreversible RVs, while not as rare, do not appear with the frequency that they do in affixal RM languages.²⁰

The conceptual fusion of the affixal RM and the verb may vary considerably. Some of these RVs are no longer even analyzed as made up of separate morphemes by native speakers. Others are not predictable in their semantics, but form classes of RVs which can be grouped according to the type of semantic derivation the RM originally effected on the NV, further dependent on the various metaphors involved. For example, Geniušiene gives a class of Latvian RVs with an "underlying" body movement function:

151) malt ==> maltie-s
grind, mill lounge about

152) cirst ==> cirstie-s
cut, chop dash aside

¹⁹ Geniušiene notes that of the few reflexiva tanta she has found for English, they are predominantly archaic in tone: betake oneself, pride oneself, demean oneself, deport oneself, etc.

²⁰ As for now, this remains a subjective impression, based on my own survey of reflexive systems. It would certainly behoove me to eventually demonstrate this point.

153) maisīt ==> maisītie-s
 stir (sth) meddle, interfere

Still others have conventionalized more specific readings than would seem strictly called for by the NV plus RM combination. While English has some of these, such as *soil oneself* and *wet oneself* – the forces producing idiomatic speech cannot be completely held at bay by non-iconicity – Lithuanian, with its affixal reflexive, has produced others, e.g. *disfigure-RM*, i.e. "dress horribly". I hypothesize that two-form languages, compared to one-form languages which have an affixal RM, would be the more inclined to allow the VR to become semantically opaque. Given two RVs built on the same NV, one may retain the reversible meaning, which will, after all, need to be occasionally expressed, and the other may slip into the den of idiomaticity. Since the affixal RM is iconically more central to the quality of a verbal action, the affixal RM will specialize as the less semantically reversible RM.

We might also ask whether iconicity can motivate the apparently greater breadth of functions found for VRs than is typically found for NRs. While this is distinctly possible, it would be difficult to demonstrate, because there are two non-iconic factors which can easily motivate this skewing of functions to formal type. One of these is that the expression of a reflexive by use of an NP is clearly more costly in terms of speech effort than a simple affix. If a form has many functions, then it is probable that it will be used very frequently and have less need for a high degree of prosodic markedness. The converse should also hold. Therefore, within the general morphological and attentional strategies employed, we would expect proliferation of functions to be associated with affixal RMs. Even if the language does not widely employ affixal derivational ver-

bal morphology, we would expect that at least a phonologically *lighter* form would be associated with such wide use. If the only RM the language has is *heavy* and takes a full NP slot in the grammar of the sentence, then we would either expect there to be a strong pressure on the language to lighten the form as it acquires more functions, or that the language would find modes of expression for those functions which do not rely on the reflexive morphology. English, for example, has generally followed this latter path, and does not use the reflexive for functions such as the quasi-passive; instead it developed an efficient alternative NC expression (*These books sell well*).

An equally strong diachronic factor motivating affixal forms to have a wider set of functions than free nominal RMs is, simply, that as the aging process of diachronic shift occurs, phonological reduction and increasing cliticization/affixation also affect the grammatical forms of the language. Thus any older grammatical morpheme – and the RM should be no exception to this – is more likely to be affixed/lighter than a historically newer grammatical morpheme. And as we already know, an older RM is more likely to have more functions, at least until a new form comes into the language and begins to replace the older RM in these functions.

Eventually, a replaced polyfunctional RM with a long history may become completely functionless, or, less drastically, limited to just a few functions, such as passive marker, and no longer be associated with reflexivity at all.

There still remains a thorn in the side of this moderated presentation of iconicity. If reflexivity is so basic to the quality of the action of a verb that it is affixed adjacent to the verb root even in complex agglutinative structures, why would a language ever

choose to mark it with a free nominal form? The simplest answer is that reflexivity has several basic qualities – recalling the prototypical use of the reflexive. One of these is to mark coreference of roles, that is, two roles which are readily conceptualizable as two objects. Indeed, in the normal transitive sentence the two roles correspond exactly to two distinct objects. In a language which takes nominal arguments, it is appropriate to mark the reflexive with a nominal form for this reason. Conflicting with this tendency is the essential verbal nature of the reflexive quality, as discussed above. A secondary factor which keeps the RM from always being expressed verbally is that the semantic extensions (listed in section 3.4) start with the prototypical reflexive, and the prototype has high salience attached to coreferentiality. This salience usually requires a certain amount of focus, in the form of prosody, if nothing else. Thus in terms of focus, emphatic free forms are the most appropriate markers of the prototypical reflexive. As mentioned, nominals are the usual RM for the initial RC, but there are rare, more verbal exceptions to this, as in the case of the South Dravidian languages.²¹

Thus the reflexive is indeed a "middle" voice, in that it is caught midway between the iconic poles of nouns and verbs. It is the various forces which pull the RM to be marked this way or that, and to express this function and the other, that make the cross-linguistic study of the reflexive so revealing with regard to general processes of language use and change.

²¹ Some Oceanic languages apparently derive reciprocal / reflexive marking from a verb meaning "return".

3.65 List of factors affecting the typology of the reflexive

To summarize, in the briefest possible form, the basic principles affecting the evolution of the RM and the RC are as follows:

1. *Diachronic shift*, or general aging and extension of functions
2. Focus, or the iconicity of individuation
3. Morphology of the RM: one form or two, *light* or *heavy*
4. Specialization of a morpheme's grammatical function
5. The general morpho-syntactic strategy of the language:
analytic or agglutinative
(including the RM's contrast with the norm)
6. The availability of alternate constructions for non-central reflexive functions
(cf. the discussion of semantic ecology §7)
7. Nouniness vs. verbiness of grammatical categories

4. On the nature of causatives

In the preceding chapter's account of RC functional polysemy, we saw how the variation of valence associated with the RM's use was a natural consequence of the various semantic functions of the RC. Further we saw how the RC can be characterized by providing a range of potential, well-motivated extensions from a prototype to more peripheral functions. Each language will have a particular and coherent subset of these extensions. The primary function of this chapter is to demonstrate that the grammatical effects of causative constructions (CCs) and the polysemy structures associated with them can be treated in a similar way. Important contrasts with the RC will be made along the way and the CC is discussed in tandem with the RC in chapters 6&7.

In the first section, I critique the account that posits the use of CCs with "transitivizing" strategies. This is not as much of a straw man argument as it might seem at first blush. While few if any contemporary linguists would characterize "make fall" as a simple transitive of "fall", many linguists will characterize extended functions (especially of agglutinative CCs) in purely valence-affecting terms. However, attempts to characterize CCs in terms of a semantic causative prove troubling as will be discussed in §4.12. Alternative approaches are entertained in §4.13-14.

In section 4.2, I briefly discuss the phenomenon of "clause union" especially as described by Comrie (1976, 1985). I limit discussion to the most relevant features since this work is not intended to critique the extensive work already extant concerning case marking in CCs. In §4.3-4.4, I discuss various types and typical origins of CMs. In chapter 5, I present and discuss the organized results of the various functions and polysemy patterns discovered during my cross-linguistic survey of CCs (cf. the

appendix for languages, and the introduction (§1.4) for methodological details).

4.1. The CM and transitivity

4.11 The CM is not a simple transitivity morpheme

Reading through grammatical descriptions of the verbal systems of various languages, one is struck by how often the phrase "transitivity morpheme" or some such similar phrase is used. This is not a feature of old-fashioned grammars lacking a modern sensibility. "Transitivity" abound in 1980's reference grammars with no less frequency than 1880's grammars. Of course, we can easily find references to causative morphemes as well. In fact, while one grammar might refer to marker as a transitivity, another grammar of the same language might well describe that morpheme as a causative. Or the same author might describe one morpheme as a causativity and another, functionally similar, morpheme as a transitivity. For example, for Ainu (from Refsing 1986):

The verb suffixes which enable the predicate to take an extra adjunct mark either transitivity or causativity. The allomorphs -ke, -ka, -(vowel), are added to intransitive verbs to form transitive ones [e.g., ray "die" and rayke "kill"]. The allomorphs, -re, -e, and -te, mark the causative [e.g., wen "be bad" and wente "destroy"] (188-89).¹

¹ I do not mean to single out Refsing anymore than any other author. It is a fine reference grammar and a sense of the contrast between the two forms can be found in the examples provided. Generally, it appears that the "causative" is used with typically volitional causees and includes a permissive reading. The "transitive" morpheme seems to more typically have non-volitional causees. NB: inexplicably, [-ke] is also a suffix which marks intransitivity with some verbs

There may be a contrast between the two forms, but the terms causative and transitive alone cannot spell out what that difference is. In general though, this is evidence of the field's basic confusion of terminology. But more troubling for a researcher relying (even partially) on reference books is the use of both terms by the same author for the same language. Linguists working with a language which have two or more morphemes (even those in lexical complementary distribution), each of which adds an additional agent to the described event, search for terminological contrasts between them. *Transitivizing* is contrasted with *causative* and either may be contrasted with *factive*. Such contrasts might be useful if they were consistently applied from language to language. But to even consider some usage "consistent" presupposes a functional contrast which has not been adequately demonstrated.

For example, the term *factive* has been used in a number of ways. Some use it roughly synonymously with *causative*. Lyons, for one, uses it to contrast with simple *operative* verbs which affect a patient, but do not imply a cause and effect relationship (Lyons 1977 v.2:491-2). The nature of cause and effect relationships is further discussed shortly below in §4.12.

Others contrast *causative* with *factive*, reserving the latter for coercion of sentient beings into performing some action described by the downstairs verb in a periphrastic CC. The former is reserved for operations effecting or changing a patient whose sentience is irrelevant.² This is the traditional use of the term "factive" in Finnish studies

(significant/"violent" change of state inchoatives).

² More abstractly, factive constructions are used for events characterized by a causing sub-

and especially many Eastern European traditions. For example, Korponay (ms.) claims that "the causative:factitive distinction is almost completely grammaticalized" for Hungarian (3). "The factitive construction differs from the 'real' causative at least in two respects: (a) the verbs occurring in the factitive constructions are in opposition to verbs of action, and (b) the factitive construction contains two active participants..."(5).

Still others use the term "factitive" for constructions or markers which convert base transitive verbs into ditransitive verbs or which drop out the causee who affects another patient altogether. This will have considerable overlap with the preceding sense of factitive because most transitive verbs will require an active participant (*I made him break the stick*). However, many verbs considered factitive by the first account will be excluded by this account (e.g., *I made them march*). Those markers which attach with base intransitive verbs can then be called causatives.

The immediate problem for an empirical linguist with these two uses of factitive contra causative is that the distinction seems not to be borne out in any consistent way in actual languages. Many languages have multiple markers expressing some rough notion of causation, and many of those languages have one which predominantly or exclusively occurs with intransitive verbs and many of those languages have one which frequently occurs with transitive verbs or base verbs requiring a sentient acting subject. However, to this point I have only found one language (Hungarian, at least as discussed by Korponay) which might actually realize such a contrast of constructions in an

event which is wholly distinct from the (subsequent?) effected sub-event.

entirely consistent way. It is certainly possible that the distinction between factitive and causative is available or even essential for all languages. Still, the dearth of marking for just that contrast suggests that we should more profitably seek elsewhere for explanations of the contrastive use of multiple CCs.

Further highly idiosyncratic uses of "factitive" can also be found. Heath (1984) seems to reserve the term for the verbalizing morpheme which attaches to adjectival noun roots in Nunggubuyu. For example, /w₂ulun^aa-ga-/ "put [it] in middle" derived from //w₂ulun^a/ "middle". The only thing that this use of factitive has in common with the others is that we might call them all causative.

For the purposes of this chapter, I define all constructions which add an agent to the role structure of a verb (even if the verb originally takes an agent anyway) as causative constructions. Any construction which adds any other argument to the role structure in a way parallel to the addition of an agent (e.g. an effect-triggering stimulus) is also a causative construction. I define as CMs all markers which may be used to mark such a construction even when they may also be used in a function which seems only marginally related to any notion of causation. The causative function may extend to mark many distally related functions, or the causative function itself may be an extension of some other function or meaning. This definition inherently relies on a prototype and extension account of CMs, just as did my definition for RMs. I trust that by the end of this chapter, the use of such an account will appear not so much theoretically motivated as simply necessary to account for recurrent patterns of polysemy.

Of course, an attempt to ascribe relative unity to the various functions of a given

CM makes a simple "transitivizing" account for CM function especially unsatisfying. Most obviously, many languages have CMs which combine with certain verbs in a way which does not make them transitive. The contrast between a verb with and without a CM does not necessarily correlate with a contrast between a one and a two argument predicate, nor even between a two and a three argument predicate. Dramatically in Fijian, as one of many examples, *vaka-/va'a-* clearly functions as a CM. However, many of its functions have no effect on the valence of the verb at all. With reduplicated verb roots, *vaka-* "conveys the notion of pretending to do something" (Schütz 1985:230):

- 1) *vaka-mate-mate-a* "pretend to die"
 CM-die-die-

Or similarly in Rotuman, the presumably related CM (suffix this time) can function as a "moderative" (cf. Churchward 1940:106):

- 2) *inea* => *inea'aki*
 to.know to.know.somewhat

In languages where the CM can mark an increase in affectedness of a patient or have a similar semantic quality, there may be no (even allowable) increase in valence:³

- 3) *e rai-c-a* "he saw / looked at it"
 e vaka-rai-c-a "He searched for it"
 Fijian (Schütz)

³ These examples are given more detail in §5.31.

- 4) qatalahum "He killed them"
 [transitive/causative]
 qattalahum "He massacred them"
 [causative]
 Classical Arabic (Saad)

We certainly could apply the transitivity analysis to CMs in just those cases when they are associated with an automatic increase in valence. If we were to do that however, our definition loses any sense of unity for the construction, becomes circular, and grows effectively useless.

When a CM does sanction the addition of an additional argument, there is an overwhelming universal tendency for that argument to be an agent which serves as subject of the causative construction (cf. the discussion of clause union in §4.2). This is after all, our main reason for supposing that we are dealing with a causative construction as opposed to some other construction. However, some languages allow the use of a CM to sanction the addition of a patient or other object while preserving the subject from the non-causative verb in the derived causative verb (cf. the examples of §5.2, one of which is previewed here).

- 5) Mungi dyàng-al eleew yi téew yi tééré-ém
 he read-CM/App pupil the.PI book-his
 "He is reading his book to the pupils"
 Wolof (Niger-Congo; Comrie 1981:176)

Such examples are in a definite minority among the world's languages. Still, any purported universal CM cannot be claimed to simply transitivity – if we take the term to mean add a core argument to the predicate – but rather must be characterized more specifically in terms of the actual semantic and syntactic adjustments which it sanctions.

More subtly perhaps, we find variation among languages as to the valence effects of the presence of the CM. Some languages simply allow the addition of a new agent with preservation of all the "original" arguments of the non-causativized verb.

6) I made him give her the book.

7) Nān avanai/āl avalukku pustakattai tarakavattēn. (Tamil)

1s 3sm-Acc/Inst 3sf-Dat book-Acc give-Inf-CM-Ps-1s

"I made him give her the book/?I made the book be given by him to her"

By report, Canela Krahô (Popjes and Popjes 1986) deletes the causee, when it would serve as the subject of a transitive verb in the "downstairs" clause. Some languages allow deletion of the causee (with some verbs) at the same time as allowing the CM to occur with transitive verbs without increasing their valence, resulting in ambiguity:

8) ñ-jāk-āk-à dī-kàb-ēs-é ñ-dáwò è-néè

1s-want-Dur-Foc 5-sell-CM-Foc 9-house 9-this

"I want to sell this house (myself/have someone else sell it)"

(Londo (NW Bantu) in Kuperus 1985:200)

If the CM were considered a transitivity, or even just valence augmenting, morpheme, then we would need to provide very different *syntactic* accounts for the CM in those examples. This is possible, but loses the ready generalization that the CM in both languages has virtually identical function, when one views semantic functioning as the central characteristic of such morphemes. In all cases, the CM sanctions the addition of a causer which would otherwise not be as saliently expressible to the depiction of the event.

Before continuing, we must establish a clearer notion of what constitutes a causative event. I discuss this in the next section, and will return in chapter 7 to revise the characterization in terms not of the actual event depicted, but rather in terms of prag-

matically driven construals of an event.

4.12 What constitutes causation and causative verbs?

4.121 The causative event

In his discussion of causatives, Lyons (1977) admits that the philosophical underpinnings of the nature of causation are quite controversial as to whether *situations* cause events or *agents* cause events. Lyons further states – perhaps correctly – that we as linguists need not concern ourselves with this distinction too greatly since there is at least a clear relationship between agentive causes and situation or event causes in language. For example, in *The man/the unveiling forced the audience back*, either an agent or an event can be the subject. I see this as applying a basic force metaphor to either type of referent. However even if we do not concern ourselves with the controversies surrounding this distinction, we still have no philosophical ground to determine the exact nature of the relationship between cause and effect.

Even as a linguist, Lyons does not spell out what the nature of a cause and effect relationship might be. Of course everyone, at least within the academic tradition which also contains this thesis, has a fairly well established intuition for what makes an event causal and what does not. As with many such intuitions, using unusual cases shows that our intuitions apply best to the simple cases and become less adequate with complex causal events. Indeed, an absolute characterization may not be possible.⁴

⁴ For a discussion of the complexities associated with characterizing a causative event, cf. Hart and Honoré 1985.

I can safely assume that actual real or objective world causality is largely irrelevant to a speaker's decision whether or not to use a CC. There may be an experiential basis for conceptualizing causal relations as grounded in perceptions of force (cf. especially Talmy 1976 and 1988, but also Espenson 1989). This is discussed further in §4.13. But there may be no experiential basis to characterize any given event as involving force, yet speakers will still use causative constructions. I am thus not fundamentally concerned with the ultimate reasons for characterizing causation in terms of force, but rather why a speaker chooses to characterize a (potentially non-force-involving) event as causal. In Chapter 7, I discuss again the motivation for using a CC. I adopting an *ecological* approach which analyses the decisions to use a CC as motivated by the entire set of functions of other available constructions affecting basic argument structure.

For now, consider the difficulty in determining whether or not an event described by a transitive verb is "causative" or not. It is quite commonplace to refer to certain transitive verbs as "lexical causatives". In Generative Semantics terms, these are verbs which, while lacking any explicit constructional correlates with causative semantics, are felt to have the semantics of X CAUSE Y to V, where V represents some inchoative change of state. Evidence for such accounts is varied. One of the most thorough accounts which takes such a decompositional approach to verbal semantics is Talmy (1976). He gives detailed arguments that there is an underlying Cause to various "lexical causative" verbs.

We may argue at great length about whether a given verb has an underlying causal

element in its semantic character. In doing cross-linguistic work, it is not always immediately obvious how closely a verb in one language will correspond to the behavior of the most ready translation of that verb in the researcher's language. The typologist simply lacks the resources to make detailed studies of each verb in each language. There is the further risk of the gradual unveiling of counter-arguments and data which will call into question any initial attempts to treat two words from two languages as functional equivalents. Such counter-arguments – while necessary – will occur piecemeal and over a long period of time. Most desirable then, would be a general method of determining the causal nature of each verb simply on the basis of the coarsely described semantics of the verb (e.g. by means of a dictionary entry). In other words, can we find a fairly mechanistic method for determining the causal status of verbal semantics, or are we essentially limited to "semantic intuition", which runs the serious risk of linguacentrism?

As a first pass – putting off the notion of simple vs complex events for a few paragraphs – we could characterize a causative event as prototypically having the following properties:

- a) An agent affects a patient,
volitionally and definitely at a single point in time.
- b) The patient undergoes a change of state
- c) Each of (a) and (b) are distinct salient events.
- d) The agent and patient are both definite entities
- e) The agent and patient are in direct spatio-temporal contact

Hopper and Thompson (1980) characterize events as having varying degrees of transitivity. For Hopper and Thompson, the most prototypical highly transitive event has the following properties (to paraphrase):

- a) Two or more participants
- b) Action (vs. non-action)
- c) Telic
- d) Punctual
- e) Volitional
- f) affirmative
- g) realis
- h) highly agentive
- i) patient highly affected
- j) patient highly individuated

While one might quibble over the details of this prototype, most researchers accept the general spirit of such a characterization if they are to agree with a prototype account of transitivity at all.

Of course, the prototypes for the causative and for the transitive look virtually identical. Thus, on the basis of commonly accepted prototype analyses, a causative can be viewed as simply the most transitive extreme of Hopper and Thompson's continuum. In such a way, *kill* can be viewed as a causative verb because it shares all of the features of the highly transitive prototype. *Hit* would not be a causative verb, because it does not entail that the patient be affected. (Cf. Delancey 1984 and Croft 1991.)

Verbs such as *eat* and *drink* are somewhat problematic. On the one hand, they involve an Agent completely affecting a Patient in a way that it undergoes a considerable change of state. On the other hand, such verbs describe conventional actions where little attention is given to the resultant state of the patient. Generic NPs can fill in for the actual patient or reference to the patient can be dropped altogether – creating effectively an intransitive verb (cf. Fillmore 1986).⁵ This low salience or irrelevance of

⁵ Such verbs as *eat*, *drink*, *read*, *write* are called *ingestive* by Masica (1976) in his account of causative constructions of Eurasia and clearly make up a special class with respect to their

the patient can allow us to characterize such verbs as less highly transitive. Such a characterization further allows us – under this account – to call them non-causative verbs. But what about those uses of such verbs in exactly those cases where we care very deeply about the fate of the patient. Is *drink* in "the last of the well water was all drunk up" suddenly a passivized causative verb or a non-causative verb used causatively? Similarly, *kill* as nominalized in *He went out on a killing spree* certainly does not place much linguistically marked emphasis on the change of state of the patients. Does *kill* become then less-transitive and thus non-causative in such uses? If so, we cannot call verbs either causative or non-causative (even when they have the same valence), but must always rely on discourse analysis to determine their causal nature. This would be a radical theoretical departure for most linguists since they would assume causation is at the core of a verb's semantic description. Hopper and Thompson's work assumes the necessity of at least partial contextual determination of transitivity. Similarly, contextual influence for causativity should be possible. However, looking at the influences of context is impossible in a cross-linguistic survey and doesn't prove necessary to discuss the cases of grammatical polysemy I am primarily concerned with. However, even if we shy away from a discourse driven account of causatives, we must determine some other way of distinguishing between the causative and the non-causative verb.

behavior with explicit additional causative morphology. They occupy a "halfway station" (48) between transitive and intransitive verbs in that they frequently occur with no patient or with a fully generic patient as pure activity verbs.

Another potential problem with this highly transitive prototype approach is that many verbs which might be characterized as lexical causative verbs do not entail that the patient undergo any change of state. Thus in Tamil, *uṭai* "break" does not entail that the patient actually change state. Though it certainly implies this in unmarked contexts, it is a fully defeasible implication:

9) *Aiyar tēnkāyai uṭaittār.*
brahmin coconut-acc break(tr/caus)-Ps-3sResp

Āṇāl tēnkāy uṭaiya-villai.
but coconut break(int)-Ps-Neg

'The brahmin broke the coconut. But the coconut didn't break.'

Similarly, with many other verbs:

10) *nāṇ kattiyāl avamūṭaiya kaiyai tappippōy vetṭinēn.*
I knife-Ins his-Gen hand-Acc accidentally cut-Ps-1s

āṇāl nalla-vēlai aṭipāṭavillai.
but fortunately blow-suffer-Neg

"I accidentally cut his hand with a knife. But fortunately, he wasn't cut."

We might then be tempted to say that such verbs in Tamil are not a causative verbs, while the most closely corresponding verbs in English are a causative verbs. Or to characterize the verbs in terms used by Dowty (1979) and Foley and Van Valin (1984), we might say that *break* is an accomplishment verb in English, whereas "break" is only a process or activity verb in Tamil. Either of such characterizations destroys hope of a universal notion of causative. Languages (such as Mandarin) which systematically allow defeasibility of the assumption of successful affect on the patient could be said to lack causative verbs altogether. This might be necessary for the characterization of causation which we are considering here, but it lacks appeal given the basic intuition

that both the Tamil and the English speakers are saying basically the same thing when they talk of breaking coconuts.⁶

However, there would still be a way out of this dilemma. A causative verb can be defined as a verb for which the agent creates a change of state for the patient in every instance of actual (vs. attempted) action and only in those instances of actual action. Thus a blow may or may not land in "Agent hits Patient" in some languages. But in all languages, if the Agent is marked as successfully hitting the Patient, the Patient is actually struck by the Agent. If there is no entailment that the patient undergoes a change of state in all instances where successful hitting occurs, then we can safely call "hit" a non-causative verb. If the "hit" verb entails change of state for the Patient whenever the "hitting" is successful, then "hit" will be a causative verb just like "kill" which entail the death of the patient in all cases of successful killing. Language being what it is, there are murky cases. Is wash a causative verb then for English? It certainly does not entail that the Patient changes state to "be.clean". An item might be completely clean before washing it or it might remain dirty even after a thorough (and very actual) washing – though we might not call the washing successful in such cases. So clean might be a causative verb for English while wash is non-causal. What of a language which makes no such distinction between the two verbs? Perhaps the language has a single "wash" verb which strongly implies or even entails a successful cleaning, but the action can be

⁶ Thanks to Chuck Fillmore, Bill Ladusaw, K. Paramasivam, and Len Talmy for – perhaps unwittingly – inspiring much of this discussion.

carried out on an initially clean patient so there may be no change of state. Some speakers of English can even use *clean* this way. Is it only for speakers who can't use *clean* with initially clean patients, that *clean* is a causative verb? If we need to make such fine-tuned allowances accounting for idiolectal variation with each verb in a cross-linguistic survey, then we have no hope of determining which are "truly" causative.

Fortunately then for this work, we have other reasons to not use the term "causative" as a shorthand for "really highly transitive". Several results would follow from such a definition: 1) We must ignore the clash with most linguists' semantic intuition that a causative is something more than just "highly transitive". 2) We lose a convenient way to account for systematic differences between causative constructions and simple transitives which exist in perhaps all languages. 3) We have trouble explaining why CMs are quite commonly used to convert already highly transitive verbs into three argument "causative" verbs where a causer impels a causee to VERB someone or something else. If a CM simply made an intransitive into a highly transitive verb, what is a CM doing on an already highly transitive verb? The CM is adding another agent argument – though not in languages which do not allow expression of the causee – to the valence, but this is not something we will now want to simply call "highly highly transitive". There is clearly separate, semantic component ascribed to the scene which is indicated by the use of the CM. An additional action is added to the overall scene which is in some sense separable from the resultant state of the patient argument or arguments.⁷

⁷ Using the characterization of CVs as accomplishment verbs (cf. Dowty 1979 as well as Foley

Many languages use the same marker to mark both causer/causee caused events and relatively simple events (typically described with simple transitive verbs in many other languages). Accordingly, we have strong typological support for the various accounts which seek to characterize the causative in terms of distinct resultant states or distinct causal events. Accounts such as Jackendoff (1983) or Talmy (1976) characterize the causative by positing a distinct sub-event which causes another distinct resultant event. This need not preclude including a prototype semantics in the description of a most prototypical causative, but they do not as crucially rely on such prototype features. Thus an event is no more no less causative for having an inanimate cause. However, an indirect causal sequence would need to be characterized as having a (potentially unexpressed) sequence of sub-events.

This returns us to the original quest for independent semantic characterization. How do we know when an event has a causal sub-event and a resultant sub-event? Kill has a killing action and a dying action which it is easy to see are relatively independent even with a causal link established between them. They can occur even at separate times. This is not the prototypical case of course. Generally the so-called lexical causative verbs like kill require that the causal connection between the two sub-events be quite tightly linked. Cf. §4.14 which contrasts direct vs indirect causation as discussed by Ross, Macauley, Fodor, Haiman, et al..

So the causal sub-event of killing is likely to be closely bound to the resultant

and Van Valin 1984), has the same difficulties as a "highly" transitive characterization.

event. However, they are always distinguishable: "With 'kill' there is complete lack of involvement of the agent in the result: the agent doesn't DIE; the patient dies alone" (Ladusaw, p.c).

Under such an account, we can easily describe eat as non-causative by saying that the act of eating on the part of the agent and the change of state to eaten on the part of the patient are not only coterminous but indistinguishable. Requiring causatives to have causal components distinguishable from effect components might seem a convenient way to characterize eat as non-causative, in line with common intuition. However other cases aren't as readily distinguished in this way. For example, the transitive expose could also be characterized as non-causative semantically. Since translations of this verb are sometimes derived from an intransitive "be.exposed" or "be.visible" via causative morphology, this would be an undesirable effect. Yet it remains difficult to characterize what the separable cause and event components of expose's meaning would be. Certainly the "be.exposed" component is at least initially coterminous with the "exposing" of the exposer. The resultant state can last long beyond the exposing action, but the resultant state of having.been.consumed or having.been.killed long outlasts the event of eating as well. To use this criterion of distinguishability, we must be certain that there is something clearly distinct about the causing event and the resultant state. This must always be far clearer than any distinction between the purported non-causal events such as eating and those resultant states such as being eaten.

How would we compare even a well accepted causative verb like *break.Tr* with eat according to the parameter of having resultant events distinguishable from causing

events? We could tease the two apart by describing micro-subevents such as the force-transfer event and the increasing-weakening-of-structure event for instances of breaking. However it is not obvious what would prevent us from doing similarly for eating events. Certainly the two events (at least with perfective aspect) seem to combine with the same adverbial modifiers (quickly, slowly, bit-by-bit) and follow the same syntactic patterning (passivization, focus-phenomena, etc.). Though it is often a bit odd to use a monomorphemic form in such cases (cf. §4.14), it is conceivable that break can be used for discrete initiating and resultant sub-events. This is less likely with eat. However it is certainly possible with some non-*proto-typical* senses of eat, as in "The sea air really eats up a car's sheet metal around here".

4.122 Four types of causative verbs

Thus far I have basically restricted the discussion of (potentially) causative verbs to those which have a typically volitional agent acting on a typically non-volitional or inanimate patient/object. Intuitively causative verbs can also occur with inanimate causers and/or volitional/animate causees. Since the causer can be a typically volitional agent or not and the causee can be a typically volitional being or not as well, we have four possible combinations, each of which we can characterize as causative:

CAUSER		CAUSEE	
Actor	affecting	actor	Social causation "have, order"
Actor	affecting	object	Agent-patient causation
Object	affecting	actor	Stimulus-experiencer causation
Object	affecting	object	Linked-event causation

The second and fourth of these are closely related and are typically expressed by the same verbs or constructions. Thus *I broke the window with a ball* is not a distinct

construction from **The ball broke the window** and both contrast in the same way with the inchoative **The window broke**. As per discussion in Fillmore (1971) and Talmy (1976), cases of "instrument causation" only apply to the most relevant instrument, where relevant usually refers to the final intermediary in a causally linked series of sub-events. To take Fillmore's example, **I break a window with a bat** implies that the bat came into contact with the window at the point of shattering. It is infelicitous to use this sentence when I used the bat to propel a ball which subsequently contacted and broke the window. Object affecting object (or linked-event) causation has the same requirement: If one says **The bat broke the window** then one implies that the bat came into contact with the window, not that it propelled a ball into the window. However, both the bat and the ball make poor subjects for break when there is a human instigator to the sequence of sub-events – especially if the identity of the instigator is not clearly established in the universe of discourse. As discussed in Hart and Honoré (1985), there is a universal assumption (at least in the Western tradition) that there is typically a unique answer to the question "What caused this event?" There may be any number of necessary participants (human and otherwise) to make a causal sequence possible, but one needs to be singled out for causal prominence. If there is a human agent somewhere in the causal sequence then this human is typically singled out as the cause. For example, consider a ball which was involved in a window's breaking. The cause is at issue and a person known only to the speaker was critically involved in a sequence which involved the propelling of a ball into the window. For this example, it is misleading to say **the ball broke the window**. Exceptions to this general tendency are of course possible. Typically one need not single out the human participant if the

human is acting in such a way that under normal circumstances basically analogous to the causal sequence in question there would not be the resultant event described by the predicate. To continue this example, I might felicitously state that The ball broke the window when I threw it into the window when there was a reasonable expectation that owing to the known sponginess of the ball that it was safe to throw it into windows without fear of breaking them. The responsibility, as it were, lies then with the failure of the ball to not break the window as was supposedly reasonable to expect.

Barring such exceptions, this points us to the general conclusion that human agents are linguistically (and conceptually) privileged participants in any causal event sequence. Lack of a human agent in the linguistic expression implies lack of a responsible human in the actual world event(s).

Both agent-patient and linked-event causation can express a resultant event which is conceptualizable as distinct from the causing event. But as mentioned above, distinguishability is not always straight-forward. Consider further the contrast between verbs which can express both agent-patient and linked event causation and verbs which can only express agent-patient causation, eg. kill or break versus murder or dissect.

We might (as Toupin, p.c., has suggested) define causative verbs as exactly those verbs which have a resultant event which can be readily conceived as having two characteristics: 1) the resultant event is a change of state event; 2) the resultant event can also occur without a human agency, that is, it can be conceived of as occurring relatively autonomously. Being eaten, by such an account, meets the first requirement, but not the second and thus eat is non-causative. Break satisfies both conditions and is

thus causative. Hit satisfies the the second condition (non-human agents hit things all the time), but there is no clearly conceived change of state, so it is thus non-causative.

By such an account, verbs of change of state which can only take human subjects are definitionally non-causative. In this way, the transitive verbs erode and destroy become causative, demolish is an uncertain case, and deconstruct becomes non-causative. Of course, this approach only can apply to agent-patient and linked-event type causatives.

Some transitive verbs which require human subjects might be considered causative inasmuch as their resultant state is precisely identical with the resultant state of a causative verb which can take non-human agents. Basic level verbs which require human agents may fall into this category. Thus polish might be a lexical causative for be.shiny on a par with shine. This may be related to the productive ability of English speakers to create new lexical causative from intransitive verbs when they are basic level, but not when they are more semantically expressive (this latter point again from Toupin p.c.). For example, one seems prohibited in normal speech from using glisten as a lexical causative in parallel with shine.

Similarly, transitive non-basic level category verbs may have a resultant state distinct from a (more basic level) resultant state readily conceptualizable as sometimes occurring autonomously. For example, scour in the sense of make spotlessly clean or sterilize, have a resultant state which is perhaps not the same as basic level become.clean or even become.very.very.clean. Perhaps such examples then are not as readily characterizable as lexical causatives under this approach. Again, it seems

difficult to make a clear cut distinction between the causative and the non-causative.

Further troubling examples are *innoculate*, which can create an immunity (change of state) exactly like the immunity sometimes acquired by having had a disease. And yet it doesn't seem intuitively a clear causative. How about *mutilate*? It brings about a clear change of state which can also occur without human agency. Yet the process of mutilation is so different from any non-human agency process which gives the equivocal result that it is certainly not a comfortable causative like *break*. To say that something was broken needn't imply a human agent. But to say that something was mutilated most certainly does, despite the variety of ways a person might have various changes of state with the same end result as mutilation.

To return to the other two types of causative (Social and experiencer causation), we find some systematic differences from these last two. Just as agent-patient and linked-event causatives seem closely linked semantically because of the many verbs which could express both, social and experiencer causation seem quite closely linked. This suggests that the causee has a greater role in our categorizations of causation than the causer has. For example, social and experiencer verbs both exist only seldom in English in intransitive/transitive pairings (or labile words, cf. below) expressed by the same phonetic string: *wake.up* and a few others do, but most examples of verbs which require a human (or quite animate) object cannot occur "unaccusatively" as intransitives, e.g. *convince*, *alert*, *deceive*, and so forth. The bulk of these verbs can only be used transitively, but common to them all is that they are neutral with regard to an animacy requirement for the subject.⁸ As with linked event causatives, it is infelicitous

⁸ We perhaps should say that they prototypically take human subjects, but that may be less a

to select a non-human subject when there is a salient human one can view as responsible for the causal sequence. Thus we can perhaps safely reduce these four types of causatives to just two types depending on the requirement of humanness or sentience of the causee. I will use the terms *human causee causatives* and *object causee causatives* for now.

All of these types of causatives tend to express a resultant change of state. This tends to be the case when we limit our discussion to so-called "lexical" causatives. However, as soon as we move into the realm of the causative construction using explicit morphology, we see that causal sequences often result in processes undertaken, experiences undergone, and further events triggered. We would not want to say for example that *I made him dance* is not a causative simply because it does not indicate a change of state in the physical nature of the patient. For this reason, as we broaden out into more causative constructions, we need to refine the notion of the causal event and the second caused event. What constitutes the caused event really matters relatively little in terms of whether or not a construction is marked as an explicit CC or not. What makes a construction critically causative is the causal event. Following Talmy (1988), I prefer to generalize causal events to any event which is construed as applying force to a causee or patient with some resultant change in state, process, etc. (cf. the discussion of Force Dynamics in §4.13).

factor of the semantics of each verb and may be more of a factor of some general (English) proto-type of what a subject is.

4.123 Determining a causative verb

So if we are to define causatives as those verbs which denote a causal event distinct from the resultant event, it can still be difficult to decide whether or not the transitive verb is a causative. To complicate this problem, some transitive verbs have corresponding intransitive verbs which can have very different semantic characteristics. If the postulated resultant event is not the same as the event depicted by the intransitive form of the verb which corresponds to the postulated causative form, how are we to relate the two forms?

The causative forms of "eat" and "drink" are notorious world-wide for having semantics distinct from a literal CAUSE + eat/drink. These verbs, when marked with causative markers, typically mean "to provide substance such that one can eat/drink". (cf. Masica 1976) This even occurs in languages which do not allow the CM to be interpreted with an "enabling" reading (cf. §5.123). If the language allows contrastive use of two CCs, the heavier construction will be more literally causative, while the lighter CC will have the more social and/or enabling reading. English *feed* vs. *eat* or the now archaic, but morphologically related pair *drench* vs. *drink* exemplify this quite well. To feed someone who is capable of self-controlled eating usually means to provide with food such that they then (can) eat. Similarly, to make this point that the supposed causative of the intransitive is not truly a causative, we can rewrite an old adage: "You can drench a horse, but you can't make it drink." The stronger implication of a realized resultant event with *make drink* is probably (in part) a factor of having an explicit form *drink* following the CM. This is parallel to the colloquial use of *kill (but) dead* used in some English dialects to indicate that the resultant event of dying most definitely

occured. Note this is in strong contrast with the usual assumptions regarding direct vs. indirect causation with lexical/morphological vs. periphrastic causatives (cf. §4.14).

Examples like these are quite common when the intransitive verb refers to a process rather than to an inchoative event. We could ignore the common use of causative morphology cross-linguistically for such cases and simply define causative as limited to those verbs which entail the non-causal sub-event be truly inchoative and not just a process or action. Certainly "to walk the dog" is less causative in a coercive or forcing sense than "to break the stick" in that it doesn't imply some noteworthy change of state on the part of the patient. This may motivate the use of the explicit causative "make" in English when we do want to signal causation as coercive. That is, the causative of He walked the plank is We made him walk the plank not We walked him the plank. On the other hand for the causative of The cattle run somewhere, we tend to say drive/run cattle. We do not tend to say make cattle run which we might expect to use in parallel with make walk. Indeed, we say We made the cattle run under very different circumstances. So, it seems capricious to exclude such cases as drive from being semantically causative.

So a researcher in causative verbs needs to be wary of verbs or verbally expressed notions which have a transitive form which is not a simple causative of the corresponding intransitive verb. The researcher also needs to be cautious with intransitive verbs which do not denote a change of state which matches the resultant state of the purported causative verb. Hide, if we are to take it as a causative, would mean something like "CAUSE to become.hidden" not "CAUSE to hide.Intransitive. That is, to hide some-

thing is quite distinct from making something hide. Examples like this abound and each will vary with the individual semantics of the verb. Lead is quite different from make follow. So should we consider lead as a causative verb or not?

Even the resultant state of verbs which are considered fairly basic causatives can have different semantic properties from any corresponding inchoative verb. For example, bend-Transitive strongly implies that the patient stay bent. Bend-Intransitive implies this weakly at best. Cases as these above demonstrate that we need a healthy amount of uncertainty in attaching the label "causative" to transitive verbs.

So we are left thus far with an intuition about which verbs more robustly involve a causal event distinguishable from a relevant resultant event and which verbs do not. Such intuitions are perhaps fine for detailed examinations within a single language – though of course non-intuitively based empirical explanations should be preferred. However, in cross-linguistic comparison, such intuitions become unavailable; or worse, they become unreliable. Of course a causative verb will have a resultant event regardless of the semantics of any related intransitive form, but since languages (especially with affixal CMs) typically have such verbs in paradigmatic or derivational relation to one another, we should search for a characterization of the causative which corresponds to this distribution. Thus I need a further metric for determining causative vs non-causative verbs in a language survey. This metric should be more explicit than an intuition about how many distinguishable events are depicted by the verb for the languages in question.

On the other hand, the notion that a causative verb adds another causing event to a

basic inchoative scene retains appeal. I will argue (in chapter 7) that it is precisely to satisfy that intuition that speakers will often choose to use causative constructions even when the actual world event might not seem to require a construal of a distinct causal event and/or causer.

To shift our perspective somewhat, consider whether or not we must evaluate verbs as though they must always have a binary value: causative or non-causative. I prefer to avoid simple equation of causativity with high degree of transitivity – if I am to use the term *causative* at all. But this does not mean that causativity itself cannot also be a scalar notion, perhaps with considerable overlap with a scale of transitivity.

The notion of degrees of causativity is useless without a metric. We could use the presence of morphologically related intransitive (and presumably fairly inchoative) forms as an indicator of whether or not the notion expressed by a verb is causative or not. The examples above – which show how poorly the intransitive and causative verbs may fit together – should remind us to take the presence of such pairs as only indicative, not as conclusive evidence of a causative nature to the transitive verb. Still, if a language has a pair, (e.g. break-Tr, break-Intr) it is probably more likely that the transitive form will be causative – by most definitions – than if there is no corresponding intransitive form.

Nichols (1982) has termed such pairs *labile verbs*, a term I will adopt here. Note further that not all labile transitive/intransitive verb pairs by this approach will a causative transitive verb even when the intransitive verb is clearly inchoative. For example, *build* from Early Modern English or *cook* for many current dialects. But of further

concern are explicit causative constructions which seem parallel to the semantics of what would need to be considered lexical non-causatives. We can make something be all wrapped up and we can simply wrap something up, but there is no ready inchoative available and it seems that objects do not autonomously become wrapped up. (Of course, animates can always wrap themselves up, but that is a different story.) Yet there is a clear change of state with a clear cause and this is indicated by an explicit available choice of a causative construction. I prefer to not use an account of causation which defines such uses as *wrap.up* as non-causative when there is a common motivation in just those circumstances to use a causative construction in a fairly central use.

Of course, any language might have a "lexical gap" where there simply fails to be such a related form for the intransitive. Similarly – and perhaps less commonly – a language may happen to have a simple intransitive form such as "*be.eaten*" from which a transitive verb must be derived even though the simple transitive verb is cross-linguistically much more common.

Even more dramatic are those languages whose verbal inventory is made of almost entirely intransitive roots from which all transitives must be morphologically derived. For example, Boumaa Fijian (following Dixon 1988) has a range of transitivizing suffixes and "the great majority of verbs in Fijian can be used without any suffix – and are then intransitive, taking subject but not object; or with a suffix – and are then transitive, taking subject and object" (201). This includes verbs such as "*paint*", "*eat*", "*see*" and other verbs which imply an object. However, some verbs will require an actor/agent as the subject, whereas other verbs will require a patient subject.

As another alternative, a language may use the same verb form for X eats Y and Y is eaten.

- 11) An be sogo dumu
1p Prog eat meat
"We are eating the meat."

- 12) Sogo be dumu.
meat Prog eat
"The meat is being eaten." (Maninka; Bird and Shopin 1979:81)

Similarly many languages (especially European languages) will have a basic transitive verb which allows an reflexive form for the change of state, though again with often specialized meaning or function, as discussed in the previous chapter.

So within any single language, we cannot rely on the presence or absence of such intransitive forms to tell us much about the causativity of a transitive verb. That is, unless we are willing to have causativity of verbally expressed notions be dependent on whether or not lexical gaps or stuffings exist. Personally, I am unwilling to let any single language tell me about basic semantic characterizations in this way.

For more accurate results, we may pool a sufficiently large and varied pool of languages and examine the morphological patterning that recurs. That is, which verbs have recurring intransitive verbs associated with them and which do not. The recurring patterns common to most or many languages should be roughly indicative of basic human semantics independent of the historical vagaries found in any one language. Of course, interpretation of recurrent patterns is an often suspect business, but cross-linguistic patterning can provide some metric for deciding whether or not basic transitive verbs are causative.

Even if we assume that there may be a non-scalar or absolute notion of causation, it is still possible to characterize the basic semantics of verbs as more or less closely representing some causal notion. If a causative implies a distinguishable and salient resultant state or process, it seems likely that true causative verbs will recurrently represent resultative states which commonly are represented by inchoative or process verbs. These may be either simplex or derived from the causative via reflexive morphology, etc. We can create a hierarchy of inchoative/processual concepts on the basis of the presence of intransitive forms. We could better establish two scales for derived vs non-derived forms, in which case we should also factor in the tendency for each language to derive transitives from intransitives or vice versa. (Nichols 1982 provides an explication of the idea of fundamentally transitive vs. fundamentally intransitive language types.) This factoring of each language's tendency can't be considered here.

Suppose we examine the various translations of a multivalent verb, and discover that all languages have a one participant verb which represents (something close to) the resultant state or process called for by this multivalent verb. Then we can be fairly confident that this multivalent verb is truly a causative verb. If on the other hand, no language has a verb to represent the resultant event, we can be fairly certain that there is no salient resultant event and the multivalent verb is simply transitive without being causative. Between these extremes, lies the bulk of the verbs. There will be one participant verbs which have an accurate translation in most, many, some and few languages. Multivalent verbs which purportedly have resultant states corresponding to these one participant verbs can be thought of – with regard only to purely distributional

concerns – as less and less (likely to be) causative as the resultant state proves to be less and less commonly expressed with a one-participant pattern. I leave as an open question how closely a scale like this will correspond to a scale of degree of transitivity.

For this distributional test to have any hope to be diagnostic of intrinsic causative semantics in multivalent verbs, we must make certain that the intransitive/transitive contrast is only one of adding an (additional) agent to the scene. If we compare a one participant verb with a two participant verb which invokes basically the same semantics and has the same participant as agent but adds an instrumental, beneficiary, or location to the event structuring, then we would have to disqualify this two participant verb from being a causative in the normal sense of the word.

We must also not include attributive constructions in our list of one participant verbs. Virtually any concept we might wish to consider will be constructable via a copula plus participle/adjective or equivalent construction in the vast majority of languages which have any cultural need whatsoever to talk about these concepts.

There are probably only very few languages with no word for "die" or "move". Accordingly, we should be completely comfortable under this approach in saying that verbs which invoke "dying" (inchoative) or "moving" (process) as the result of the action of an agent will clearly be causative verbs. At the other end of the scale, few languages have a basic one participant verb with the semantics "become.eaten". This distribution suggests on this approach that we consider verbs which add an agent which creates a resultant state of "eaten" (eg. verbs like eat in English, and probably any other language you might think of) to be non-causative even when clearly transitive with a

specific patient, etc.

Many, but by no means all, languages – especially those with a preponderance of basically intransitive verbs – will have a verb such as "turn.up" meaning to suddenly come into perception out of the blue as it were. By this account then, we have reason to consider verbs meaning "find" as middling causative transitive verbs, less clearly causative than "kill" and "make.move" but more clearly causative than verbs like "eat". Causative marking patterns reflect this. Impressionistically, my survey suggest that languages will occasionally but not commonly derive verbs meaning "find" from verbs of "turning.up" or "be.available". E.g. in Old Tamil, the verb *keṭi* meant "be.available, be around here". Affixing a CM would give the meaning "to find".

Somewhat more commonly, we find verbs meaning more simply "appear" or "be.visible". Accordingly we may consider two or more participant verbs meaning "make.appear" or "show" to be more fundamentally causative than verbs meaning "find", but still less fundamentally causative than verbs meaning "kill" or "make.move". Again, the distribution of causative morphology seems parallel with this observation. "Show" or "display" verbs are commonly derived from such one participant verbs as "appear". Whether this is more or less common than deriving "kill" verbs from "die" verbs, I leave as an unanswered question to be researched by someone with more faith in this methodology than I have. That intrepid soul should further attend to the need for factoring in cultural factors relevant of each concept. The more frequently talked about causative events are more likely to show up as monomorphemic verbs.

4.124 Abandoning the search for a universal causative

The approaches thus far characterize causatives either by the inherent semantics of the verb or on the basis of verb distribution cross-linguistically. In contrast with these, we can partially disregard "real-world" semantics and focus instead on the "communicative aims and means" (to take a term from Talmy 1976b) of the speaker. Further, we may view the use of causatives as reflective of a speaker's perspective that a represented event should be taken as causal and we may cease worrying about whether or not it actually may be causal. In the next chapter I wish to focus on the various uses of causative constructions available to the speaker, leaving aside the mechanisms motivating the choice of constructions. From examining the range of functions, we can better motivate the original choices to use such constructions. We can also trace extensions of functions back to their original function and learn more about that ur-function on the basis of what it can readily extend to and what it cannot.

I suggest then that we take causatives as reflecting the speaker's perspective and put aside the search for an absolute characterization of linguistically based causals. However, in this case we can only clearly perceive speaker's perspective or construal when the use of a causative is (at least potentially) contrastive with some non-causative construction. Simply put, if the speaker has no choice of constructions with which to represent an event, then the construction used may indicate precious little – beyond perhaps a bare bones truth conditional account – of how the event is being construed. If we cannot tell how the event is being construed, we have little basis for calling the construal "causative". Thus, we have little basis for calling the verb or construction in question a "causative" either.

A candidate for causative verb status may be contrastive in several ways. It may contrast with some alternative verb or verbal construction. Kill and die are often said to be a "suppletive" causative/inchoative pairing which contrast in terms of causation. This causal/non-causal contrast should hold even when both are represented with only a single explicit participant for the event, e.g., He was killed contrasting with He died. Of course, such a search for such contrastive "suppletive" pairs brings us back to the dilemmas discussed above about lexical gaps, etc.

Instead of a "suppletive" non-causative verb for contrast, languages will often allow a single verb to be used both causatively and non-causatively. The stick was broken contrasting with The stick broke. However well motivated they may be, such examples exist in much the same way that the suppletive pairs exist: at the mercy of the lexicon. So, they are not cross-linguistically reliable either.

Finally, explicit causative constructions may contrast with explicitly non-causative constructions. Here we seem to have a contrast which we can reliably determine for all languages. Whereas, only some languages will have a "kill" simple verb distinct from a "make-die" derived verb, all languages will have the ability to derive verbs or constructions such as "make-die" which will be distinct from a "die" verb. There may still be lexical gaps in the sense that some causativa tantum verbs may exist – that is, derivationally causative verbs for which no underived root can be (synchronically) found. But there will never exist a *constructional* gap where causative verbs are consistently created from non-extant verbs or where a causative construction has no corresponding non-causative construction.

Thus we have high reliability of this causative/non-causative *constructional* contrast and low reliability of purely semantically driven contrasts between suspected causative and non-causative verbs – at least without highly involved semantic exploration into individual verbs. Because of this, in a cross-linguistic comparison where there often is no access into the exact semantic decomposition of individual verbs, I feel it is more reliable to limit myself to studying just the use of those derived verbs and constructions which exhibit clear causative marking. While limiting my scope in this way may limit the breadth of understanding of all causative uses, it allows me to focus quite simply on exactly the causative constructions which are known to be contrastive with non-causative constructions. This, in turn, allows me to study constructional polysemy certain that the constructions involved are being used in opposition to alternative constructions. The presence of this explicit contrast assures us that an extended function of the causative construction is being used precisely because it is the causative construction which is best suited to that extension in that language.

This forms an exact parallel with the preceding chapter on reflexive construction polysemy. In that chapter, I was only interested in explicit reflexive constructions and how they may contrast with non-reflexive constructions. It would have been fruitless to survey implicitly "reflexive" verbs which took no RM, in an investigation which views each *explicit* construction as part of a system of constructions. Since the reflexive and the causative verbs are often set up in contrast with one another within the general constructional set of a language, it also makes sense to limit causative extensional polysemy to explicit (that is, contrastive) morphology. Of course, both RMs and CMs

can contrast with unmarked verb forms, in which case the two markers will have roughly complementary functions: The RM as an anti-causative, to explicitly deny or defocus external causal events; the CM as an anti-reflexive, to explicitly add or focus on external causal events. Which marker is to be used depends on the communicative desires of the speaker. Whether a marker is to be used or not depends on the intrinsic semantics of the verb. That is the verb in combination with the desired nuance determines the use of explicit reflexive or causative marking

As we progress through extended functions of the CM (in §5.12-5.3), we will see that the CM often functions as an anti-reflexive in its extended functions as well – that is, the CM's various extensions maintain a contrast with corresponding extensions of the RM. It is possible however, to have cases where an extension of the RM or the CM may have a functional contrast with a function not (yet?) expressed by an extension of the CM or RM respectively. For example, Talmy (p.c.) reports that in Yiddish and Bulgarian, there is a productive use of the RC to mark positively evaluated empathy on the part of the speaker for the subject. I have no evidence that the causative constructions in either of these languages is used to mark a negatively evaluated attitude of the speaker towards the subject. Thus this function of the RC cannot have evolved as a contrast with the CCs available in these languages.

In such cases (and perhaps more), we should assume that the RM/CM is extending on the basis of semantic extension from one function to another without regard to potential contrast with multiple functions of a single contrastive form.

4.13 Force Dynamics

As mentioned above, it is often difficult to determine on the basis of purely linguistic evidence whether or not a speaker has conceptualized an event as having a separable causal sub-event or not. On the other hand, if we view causatives as expressing a type of force from causer to causee (generalizing over agent to patient, stimulus to experiencer, etc.), our task of determining semantic causatives is not so difficult. Even more important to the task at hand, an explication of causation in terms of force rather than presumed sub-events will allow us to link up basic causative types with many extended functions.

Talmy (1988) explicates a careful framework of *Force Dynamics* which enables us to treat causatives and other phenomena in a systematic way by appealing to postulated semantic primitives. In this sub-section, I give an overview of his approach to force dynamics with comments on the particular relevance of Talmy's observations to the sections subsequent to this one.

Talmy (1988:51) makes a fairly sharp distinction between "notional categories" which play a fundamental role in the grammatical systems of languages as evidenced by their recurrent expression with closed-class elements and those notional categories which no matter how fundamentally basic in psychology, do not find recurrent expression with closed-class elements. To the former belong such notions as *number*, *spatial orientation*, and the like; to the latter belong such notions as *color* and *absolute size*. (Talmy 1985, appendix details this distinction.) *Force* also plays a fundamental role in grammatical systems. More specifically, transfer or application of force from one entity to another. The entity which provides a (typically oppositional) force is termed the

antagonist. The entity acted upon is the *agonist*. These correspond roughly to the causer and causee respectively. Using Talmy's terms for causative force dynamic situations allows generalizations to be made with other force dynamic situations which could not in any conventional way be called causative and yet have striking similarities. However, for convenience, I will continue to use the terms *causer* and *causee*, when it is clear that I am talking specifically about the causative situation types which are the focus of my study.

While the force involved in a causative situation can certainly be actual physical force, as in *The wind rolled the ball across the grass*, it can certainly be a metaphorical force as well: *The revelation forced him into despair* contrasts only minimally with *The revelation caused him to despair*. There is a clear and consistent semantic relation between explicit force metaphors and causatives without any explicit mention of force. This allows us to surmise that causation in general tends to be viewed in (metaphorical) terms of force. The work of Espenson (1988) supports this view that causation, a fairly abstract concept, is fundamentally conceived of as force which fits into a larger metaphorical system. I assume that such metaphors of causation as force underlie force dynamics as a whole and will concern myself primarily with the schematic representations of force dynamics rather than their metaphorical underpinnings.

Generally speaking, only linked-event causatives require force in physical terms (*The ball made the lamp fall*). Agent-patient causatives typically imply physical force (*The man made the tree fall*). However, this need not be the case (*The man made the tree fall by poisoning its root system*). There have been various attempts to contrast

agent-patient causatives with and without physical force as discussed in the section on the purported direct versus indirect causative types. A distinction between physical and non-physical force is ultimately unenlightening given that we already are well aware of the wide range of force metaphors available to a speaker. If a speaker chooses to construe an event as causative, then that speaker can use a force dynamic characterization regardless of the nature of the physical/non-physical domain. To wit, force can be construed in the physical, social, psychological, and mythological realms with trivial ease. Thus the use of force construal for social causation is virtually an automatic consequence of the general conceptualizations of society and causation. Talmy gives explication of this "extension" from physical-force force dynamics to social causation, but does not extend the notion of force to cases of stimulus-experiencer causation. However, this can easily be done by allowing force transfer to extend from the physical perception domain into the psychological or motivational domain. In other words, stimulus-experiencer causation is equally force dynamic by virtue of basic metaphorical conceptualizations of psychological processes and causation. A picture can make one think as surely as a wet floor can make one slip.

As implied by the source domain of physical force, all force in force dynamic situations will be construed as having a direction. For causative situations, this typically is force directed from the antagonist onto the agonist. Other force dynamic combinations are possible: from agonist against antagonist, from each to each, and from antagonist shifted away from agonist. If both antagonist and agonist are construed as directing force, then they either direct it in opposition to one another or in concert. In

both cases, either the agonist or the antagonist can have the stronger force. For example, if the agonist has an implicit force directing it toward some action and the antagonist applies another force also toward the agonist doing the same action, we call it *helping* when the agonist has sufficient force to overcome any obstacles towards its tendency. We call it *enabling* when the agonist alone has insufficient force to overcome any obstacles. When there is insufficient total force to overcome any obstacles – regardless of the intrinsic tendency of the agonist – we have *trying*. In general, when the antagonist provides the necessary force for the resultant event, we consider this *causation*.

However, if we are to contrast causation with enablement, we need to reserve the term *causation* for cases when the antagonist applies force contrary to the tendency of the agonist (towards rest/motion/action/inaction/etc.). This seems to be a somewhat arbitrary distinction for affected object causatives however. We often have no knowledge of a presumed inherent tendency of the agonist/causee and when the antagonist/causer's force is essential for the resultant event anyway, the nuance between the two types is too subtle to have shown up as a basic constructional contrast in any language I know of. One can of course say "enable" in many languages to make it explicit that the agonist's tendency was in the same direction as the antagonist's force. On the other hand, the basic causative constructions will *not* conversely make it explicit that the antagonist's force was applied *in opposition to* the tendency of the agonist. Such information may be immediately obvious from context or general human beliefs, but this is not constructionally-conveyed information.

With affected actor causation, the causee is construed as having independent volition and ability toward action. As such, force directed by the causer is typically assumed to be in opposition to the tendency of the causee, to wit causing, but not enabling. For example, it is nearly impossible to construe a scenario for **I made him leave** or **I forced him to leave** as anything other than one where the causee would not attempt to leave in the absence of the causer. However, when the causative morphology makes no explicit reference to force, ambiguity between coercion and enablement can result.

13) Adama müzik dinlettim (Turkish)

man-Dat music listen-CM-Ps-1s

"I made/enabled/(let/ordered/directed) him to listen to the music."

In such cases, all the CC marks is that the causer was necessary or *responsible* for the resultant event. This notion of responsibility for the resultant event is the common factor of the two interpretations.

Notice that force dynamic patterns occur in both *steady-state* and *shifting* events. The difference between these two is summarized in Talmy (1988:55-60). Briefly, a steady-state force is continually applied (as in **The wind kept blowing the leaves around**). When the antagonist's force is stronger and in opposition to the tendency of the agonist, Talmy uses the term *extended causation*. When the agonist is pointedly not being opposed by the stronger antagonist's force, Talmy uses the term *extended letting*. When the agonist's tendency overcomes the antagonist's weaker force, there is *hindrance* of action *despite* the antagonist.

A shifting force involves the imposition or removal of an antagonist's force (as in **The ball made the window break** or **The plug's coming loose let the water flow**

from the tank). Cases of imposition, Talmy terms *onset causation*. Removal of a stronger antagonist's force which had been blocking the tendency of the agonist is another type of letting. Imposition of force in concert with the agonist's tendency constitutes onset enabling or helping (depending on the relative strength of the agonist and any obstacles). Removal of force which was in concert with the agonist's tendency seems to seldom show up in grammatical constructions. It would constitute cessation of enabling or helping (again depending on the relative strength of the agonist and any obstacles). Common to both onset and extended causative types is the antagonist/causer's force opposition to the agonist/causee's tendency.

As per section 5.124, it is interesting to note how CCs extend most readily to cases of *enabling* (mentioned above) and next most readily to cases of *letting*. *Let* shares with causing and enablement the responsibility for creating a change in resultant state. Cases of *hindering* are also part of the same force dynamic matrix. Yet hindering specifies that the antagonist's force is relatively incidental to the change of state and furthermore that this force is not in the same direction as the resultant event. Accordingly, we do not find CCs extending to the semantic function of marking hinderance. *Helping* also has the antagonist's force as non-essential to the resultant action, but unlike hindering, the force of the antagonist is directed *towards* the resultant state. Thus it shares one important feature with causing, enabling, and letting and is accordingly not uncommonly within the semantic range of a CC. That is, it is less common than causing, enabling, and letting, but infinitely more possible than hinderance. This distribution strongly suggests that having the antagonist's force in the same direction as

the resultant action is far more critical to the characterization of linguistic causation than any opposition between the antagonist's force and the agonist's tendency.

Talmy too notices that there is an asymmetry between the representation of causing events and letting events.⁹ The antagonist can be either an object/instrument or a complete nominalized event in causal sentences:

14) The piston's pressing against it made the oil flow from the tank.

15) The piston made the oil flow from the tank.

In contrast, objects/instruments which allow the resultant event which is the agonist's tendency are not supposed to occur as subjects, though nominalizations of the letting event can still occur as subject (sentences and grammaticality judgements are Talmy's (1988:62)):

16) The plug's coming loose let the oil flow from the tank.

17) *The plug let the oil flow from the tank.

Talmy suggests that this asymmetry may be due to "a language-universal treatment of 'instrument' as involving only positive impingement" (64). However, I find that simple adjectival modification to the object/instrument allows an acceptable reading:

18) The faulty plug let the oil flow from the tank.

This suggests that there is at most a tendency to interpret antagonists as unmarkedly in "positive impingement" with the agonist. Given appropriate context or other semantic material this assumption can be readily cancelled. The above acceptability pattern quite naturally follows from an assumption that the antagonist is most readily under-

⁹ Talmy credits Jackendoff 1976 with essentially the same observation.

stood as *responsible* for the resultant event. It is difficult to understand how a plug can be responsible for draining (or letting drain) a tank. However, a faulty plug is quite naturally responsible and can appear as a simple subject of a causative or letting sentence.

4.14 Direct versus Indirect causation

When one reviews the literature on causatives, one finds a recurrence of the terms "direct" versus "indirect" causation. Other terms have also been used for roughly the same distinction (e.g. Shibatani's (1976) "manipulative" causation is roughly equivalent to "direct" causation).

Both many reference grammars and treatises specific to causatives alike treat such a distinction as non-controversial and do not bother to justify calling some particular use of a CC as "direct" or "indirect". Yet, when we look at the details, we can see that such a characterization is at best an approximation of the contrast that really exists in the CCs of a language. At worst it misleads us into holding "directness" as a semantic primitive essential to the characterization of causative strategies when other accounts might be better considered. I give just a brief background of the alleged direct/indirect contrast. This should free us to look at causative polysemy free from such a bias.

The familiar literature (e.g. Fodor 1970; Lakoff and Ross 1972; Shibatani 1972, 1976) on direct versus indirect causation dates to the Generative Semantics debates where certain verbs were described as lexical causatives (roughly as per the discussion above). The claim was that these verbs derived from a semantic deep structure of

semantic primitives involving a component CAUSE. Thus **kill** was a semantically complex verb not only decomposable but actually grammatically *derived* from CAUSE to die and sentences containing **kill** would need to have CAUSE to die in their deep structure.

Fodor (1970) initially, and later many others, pointed out that **kill** and the English phrase **cause to die** are certainly not interchangeable. Each is best used to describe often notably different situations. Even if **kill** is to be derived from a semantic deep structure CAUSE (the semantic primitive, not the lexeme) to die, it is not clear that we must be able to always replace **kill** with the phrase **cause to die**. Such arguments belong to work on Generative Semantics and the original authors themselves have moved over to greener theoretical pastures.

Still the original contrast between a periphrastic CC and a lexical causative remains actively explored – though few today would base any arguments on the awkward phrase **cause to die**. As mentioned, there remains a tendency to pigeon-hole contrastive CC use as "another example" of the direct/indirect distinction. Working with English, McCawley (1978) was, I believe, essentially correct, when he accounted for the contrast as being the *result* of pragmatic inference rather than as a relatively primitive semantic characterization.¹⁰ Speakers will use the word **kill** when they wish the hearers to assume that the situation was essentially a "normal" instance of killing in the

¹⁰ For a contrasting point of view, see Horn (1984:27-28) for his comments on McCawley's analysis.

absence of any other contextual information. This normal instance is typically what might be called "direct". To violate the Gricean (1973) maxim of quantity (and, I would add, of relevance) by using the phrase *cause to (or make) die* implies that there is something about the described situation which needs marking. Various "deviations" from the normal killing situation might be involved, but most of them are likely to be less direct than the archetype.

Lakoff and Johnson (1980) characterize this same phenomenon in terms of the grammatical metaphor **CLOSENESS IS STRENGTH OF EFFECT** rather than Gricean pragmatics: "The **CLOSER** the form indicating causation is to the form indicating the **EFFECT**, the **STRONGER** the causal link is." (131) Thus **Sam killed Harry** is more direct than **Sam caused Harry to die** which is more direct than **Sam brought it about that Harry died**. Despite the theoretical differences between McCawley's and Lakoff's account, they make basically the same predictions.

To generalize beyond the English lexical causative versus periphrastic causative contrast, we see similar, if not identical, contrasts in languages with alternative CCs. The phonologically or syntactically "heavier" or more marked construction will tend to be used for "indirect causation". As with Macauley, we can view this as epiphenomenal from pragmatic inference: The use of a heavy CM adds emphasis to any function of the CC. Usually this is because of unusual/unexpected circumstances which call for highlighting the causality or responsibility involved in the event. These unusual circumstances may frequently correlate with the use of the blanket term "indirect causation". Further, there is always the possibility of ultimate conventionalization of the use

of the heavier CC with situations characterizable as "indirect" – forgoing the need for pragmatic inference. However, as long as pragmatic inference remains an alternative to a purely semantic distinction between direct and indirect causatives, there is acute need for caution about situating such a contrast in the grammar of the language.

It is possible to test whether there is pragmatic inference about marking strategies involved or whether the a direct-versus-indirect contrast really is a basic semantic distinction in a the language. If there is "direct" causation involved in the event, but it is not expected, or needs to be highlighted for some other reason, and the use of the heavy marking is still used, then the distinction is inferential, not basic semantics. We find heavy marking used for unexpected yet direct causation in language after language, even for the paradigm cases said to exemplify this contrast. We also find light marking (or lexical causatives) used for expected, yet indirect, causation. For example, in the kill vs make-die arguments some of the most "indirect" causative types must take kill not cause/make-die.¹¹

19) The news of the war finally killed her.

20) ??The news of the war finally caused her to die.

Since so many linguists talk of the distinction between direct and indirect causation, we do well to consider what is most typically meant by "direct". This usually is

¹¹ However, if the second of these is to be acceptable, it will probably be interpreted as the more indirect. This is in general support of the periphrastic causative being associated with indirect causation. The problem these examples bring up is how to account for kill being clearly used for what is understood as an indirect causal chain.

used to refer to direct contact or manipulation (cf. Shibatani 1976) as opposed to non-contact, non-manipulative use of instruments or complex schemes. The best example of an indirect causative would be a Rube Goldberg device. (The goldfish woke me up by exciting the cat which jumped off the ledge knocking over the water which wet the floor which made the dwarf slip who fell onto...)

The notion of direct causation has evolved into a *prototype* for causation represented by Lakoff and Johnson 1980 (and again in Lakoff 1990) who posits the "direct manipulation prototype" from which all other causative uses extend. Basically this is the causative event which Piaget postulated was the event children experiment with while they are learning to conceptualize causation as a process (which they can also have control over).¹²

The agent has as a goal some change of state in the patient.

The change of state is physical.

The agent has a "plan" for carrying out this goal.

The plan requires the agent's use of a motor program.

The agent is in control of that motor program.

The agent is primarily responsible for carrying out the plan.

¹² Similarly, Slobin (1985) gives a brief description of the "manipulative activity scene" which correlates with Lakoff and Johnson's prototype direct manipulation. Slobin presents the manipulative activity scene as the source for acquisition of case marking in simple transitive clauses. As such, Slobin should not be taken as suggesting that the manipulative activity scene is a source for the development of CCs.

The agent is the energy source ... and the patient is the energy goal...

The agent touches the patient either with his body or an instrument

(i.e., there is a spatiotemporal overlap between what the agent does and the change in the patient)¹³.

The agent successfully carries out the plan.

The change in the patient is perceptible.

The agent monitors the change in the patient through sensory perception.

There is a single specific agent and a single specific patient.

(Lakoff and Johnson 1980:71-72)

This explicit characterization may indeed be the prototype of human conceptualization of causation. It certainly is a rich set of parameters relevant to a child's early experiments with bringing about change of states in other entities. However, when looking at the cross-linguistically recurrent extensions of CMs, this prototype does not prove particularly useful. I have found no examples of a CC or CM which is limited to expressing just this proposed prototype. Of course there need not be any forms limited to just the prototype for the prototype to be nonetheless real. Still, the absence of any markers correlating with the proposed prototype should discourage us from blindly applying a prototype model to extensional structures. This need not discourage us from

¹³ I am not clear how the parenthetical remark about spatiotemporal overlap between the two events is supposed to be an explication of the direct or instrumental contact. Direct contact certainly implies adjacency if not overlap, but this need not imply any temporal overlap between the causal and caused events.

believing in the existence of a prototype, rather we should try to find the most general semantic features of causation which motivate various extensions of function. Contrast this with the prototype for the reflexive as discussed in the last chapter. Many RMs express just the prototype function and no others. From this prototype, the RM extends to new and varied functions. With CMs the reverse appears to be true: The explicit CC or CM is often used to mark those situations when the causative situation is emphatically different from the proposed prototype. Lexical causatives (when available) are far more likely than morphological or periphrastic CCs to mark situations which correspond to this prototype. For example, as discussed, when the caused event has a distant temporal relation to the caused event, we typically prefer to use "make V" rather than "V(lexical.causative)". So the prototype seems especially relevant for the distinction between explicitly marked CCs and implicit causatives.

In short, the prototype as stated is unnecessarily rich in details (that is, over-specified) for our purpose of explaining semantic extensions of CMs. Much of the prototype is quite important to the extensions. However, only those various features which prove relevant at each extension away from a prototype, seem critical to this study. Thus for us, the prototype of causation need not be this fully detailed. Indeed, the wealth of unnecessary details may distract from the more critically important features of the prototype. Accordingly, I focus on the two most essential parts of the causative construal: force (discussed in §4.13) and responsibility (discussed in §5.1 and §7). Keep in mind the influence of the original metaphorical extension from the lexical source of the CM to a marker of causation (§4.4). This proves essentially adequate to

account for for the great bulk of CC functional extensions.

4.2 Clause Union

Much has been written on the phenomenon of clause union for causative constructions (cf. especially Comrie 1976, discussed below). Because clause union can have some fairly dramatic effects on argument structure which has traditionally been a topic for work in syntax, most approaches usually take a fairly syntactically-based approach to the phenomenon. In this section, I provide only the merest overviews of the literature on clause union and of the Keenan and Comrie (1976) hypothesized case hierarchy. The breadth and type of linguistic variation here is well beyond the scope of this dissertation. Still, these notions are basic to any syntactic account of causative constructions and the interest in clause union has probably generated more discussion about causative typology than any other interest. Further, we should keep the basic notions in mind during the discussion of the various functions of the causative construction because a CM may indicate one function with one reflex of the argument structure and may indicate another function with a differently arranged argument structure. Of course, whenever possible, I will try to show how the correlations between argument structure and functional type can be semantically motivated, assuming an appeal to prototypical functions of the various case roles.

By "clause union" I refer to cases where two (or more) verbs (or verbal predicates) are combined in a single sentence such that they come to share a single argument structure. Constructions which indicate causal relations between events by conjoining clauses will not exhibit clause union. For example, languages which routinely use causative constructions of the form "causer forces/orders causee such.that/and.then causee Verbs" preserve the argument structure requirements of each of the two verbs, as in

the following examples.

21) awok-o men-e ki-mab-o-a aai-e
mother-Cl child-Cl command-Fu-3sf-Seq water-Cl

fucla-n-a-mab-e bo
bathe-Pnct-Nu-Fu-3sm Indicative

"The mother will make the child bathe"
(Mianmin, Smith and Weston (1974:138-39), cited in Song 1990:163)

22) ija od-ude-ce-min na qete-i-s 1s do-3s-SR-1s tree cut-3s-Ps "I made
the man cut the tree" (Amele, Roberts (1987:222), cited in Song
1990:163)

Similarly, constructions which indicate causation by means of causal conjunction (Sentence.1 cause Sentence.2 or Sentence.2 because Sentence.1) preserve the argument structure of each sentence basically intact (though there may be some ellipsis). In this Hua example, sentence.2 is the natural consequence of sentence.1. Thus we might more loosely translate it with "His copulating weakened him":¹⁴

23) Abadegi' sokropa aima'namu' sobo haure
"Because he copulated with girls, he is weakened"
(Haiman 1980b:452, no glosses given)

On the other hand, constructions with tighter morphosyntactic fusion between the causative marker and the verb expressing the resultant event or state will naturally be more likely to have merged their argument structures into a single argument structure.

¹⁴ Haiman (1980b) discusses the conjunction causal construction at some length and the reader is invited to consult with it directly.

- 24) General askere çocuđu dövdiirtü
 general soldier-Dat boy-Acc beat-CM-CM-Ps-3s
 "The General made the soldier beat the boy" (Turkish)

In such cases, the combined CM and resultant verb have a single argument structure similar in effect to having a single (semantically causative) verb. The degree of fusion between the two elements can vary widely on morphophonological, syntactic, and semantic grounds. Various degrees of fusion can correlate with different effects on the argument structure (cf. Givón 1990). Needless to say, many syntactic frameworks do not allow for a range of degrees of syntactic fusion, preferring a binary value fused/not-fused or some complication thereof. In the absence of such a theoretical predisposition, it proves easier to explain the wide range of fusion phenomena by allowing for fusion to be a truly scalar notion, as we will see below.

4.21 Paradigm clause union

In 1974, Comrie presented what he called the "paradigm case" for clause union and its effect on argument structure. Since the publication of that article, various researchers have brought forth exceptions to his claims. Perhaps the most radical exception is Kroeger's (1988) account of Kimaragang which posited a fundamentally different ordering to the case hierarchy and will be discussed in the next two sections after presenting the basics Comrie's paradigm case. While such exceptions should not be ignored, we should remember that Comrie only posited his original claims as representing a paradigm case and devoted the bulk of the article to exploring seeming exceptions to that case. It is not against the spirit nor the claims of that article if yet more exceptions continue to turn up. If a set of languages can be shown to have properties fundamentally and radically opposed to his paradigm case, then his germ of a

typology of argument structures will need to be rejected. But after nearly two decades radical counter-evidence seems unlikely.¹⁵

To use the language of a generative framework, in the paradigm case of clause union when a non-causative verb becomes causativized the resultant construction has a single argument structure. This argument structure prefers to accept or requires a maximum of one argument for each of its basic case positions: subject, direct object, indirect object, and oblique constituent. These case positions are ordered like this as a purported universal case hierarchy. Comrie stresses that his theory was developed in investigation of non-causative phenomenon and hence has greater likelihood of independent linguistic validity. When an argument is searching for a case expression (for whatever reason) it will search for an unoccupied case position by examining each of case position in the order just mentioned. The first empty or free slot becomes its home.

Whenever there is clause union there is an extremely high likelihood that the two argument structures being merged will both have been actively using a common case position before the merger. Since in the paradigm case, two arguments may not fill the same slot, one must find accommodation elsewhere or vanish altogether. With CCs lacking clause union – as with the bisentential examples above – both the causal event and the resultant state would be represented independently with independent subjects. If the

¹⁵ Note, of course, that one may radically reframe Comrie's observations in theoretically different terms, using e.g. metaphors of case roles, but the basic observations remain intact.

construction were to merge these into a single sentence the result would be a double subject sentence which would be hopelessly confusing. A CC would have minimal communicative function if it could not distinguish between the causer and the causee of a causative event. So one of these two participants must be distinguished by placing it into another case – the first available case in the hierarchy. Interestingly, it is always the subject of the resultant event (the causee, not the causer) which will be "demoted" along the case hierarchy. This is clear evidence that the resultant clause is fundamentally subordinate to the causative semantically and syntactically. Agreement phenomena, etc. are also controlled by the causative. This syntactic behavior argues for the primacy of the causer and the causing sub-event in the conceptualization of the typical causal complex. After all, why use a CC at all if not to draw attention to the causal portion of the complex event? Further, the causee may be little more than an intermediary in a causal event where we focus preferentially on the instigator and the final patient/end result of the event. This can be easily overridden, and much stress may be put on the importance of the causee – see the discussion below for double accusative marking versus oblique marking of the causee.

The effect for the paradigm case is that causatives of intransitives place the causee in the direct object slot:

25) Jean-Pierre a fait chanter Marie
J have.Pr make.Ppart sing M
"Jean-Pierre made Marie sing"

Causatives of basic transitives (with a subject and a direct object) place the causee in the indirect object slot:

- 26) J'ai fait manger la pomme à Jean-Pierre.
1s-have.Pr make.Ppart Def apple to J
"I made Jean-Pierre eat the apple"

This contrasts with the less common case where the causee must "skip over" the indirect object slot to be expressed by an oblique:

- 27) Jean-Pierre a fait construire la maison par Marie.
J have.Pr make.Ppart build Def house by M
"Jean-Pierre made Marie build the house."

- 28) *Jean-Pierre a fait construire la maison à Marie.

Causatives of ditransitive verbs place the causee in an oblique position:

- 29) Cişçi Hasan-a mektub-u müdür tarafından göster-t-ti
dentist(Nom) H-Dat letter-Acc director by show-CM-Ps
"The dentist got the director to show the letter to Hasan"
(Turkish, Comrie 1985:324)

However, as the number of arguments of the resultant verb increases, the likelihood of a language actually following this paradigm case hierarchy pattern decreases. That is, as a "displaced" causee searches for an empty slot, the further it proceeds along the case hierarchy, the greater the likelihood that the language will permit its expression with an already filled slot – resulting in two arguments in the same case within a single sentence. Some languages have clear cut-off points, before which a causee may never take an already occupied case slot and other languages allow for a certain amount of leeway, depending on semantic nuance (to be discussed later). According to Comrie (1976), very few languages forbid double expression with an oblique. So the causee can be expressed with an oblique there in most languages even when the same oblique case argument is already subcategorized for by the resultant event verb.

- 30) Nān rakuvāl mūtikku nalla pēṇṇāl inta kaṭitattai eḷutavaittēn
1s R-Inst M-Dat good pen-Inst this letter-Acc write-CM-Ps-1s
"I made Ragu write this letter to Murthi with a good pen."
or "I made this letter be written to Murthi with a good pen by Ragu."
(Tamil)

Notice that the cases further along the case hierarchy more readily permit doubling up of constituents in that case. Multiple obliques are permitted as the norm in complex sentences. Multiple indirect objects are quite common even for non-causative sentences. This is especially likely to occur when each participant has a distinct function in the event.

31) I gave the book to Bill for Cathy for five dollars.
Correlating with this is the common doubling of indirect object expression for both the causee and the indirect object of the resultant event.

32) J'ai fait donner à Claude une pomme au professeur.
"I made Claude give an apple to the teacher." (Comrie 1976:277)
Multiple direct objects are uncommon. I have not seen any non-causative examples:

- 33) *Nān rakuvai pustakattai koṭittēn.
1s R-Acc book-Acc give-Ps-1s
"*I gave a book Ragu"

Examples with causative constructions can be found in a number of languages, but by no means all:

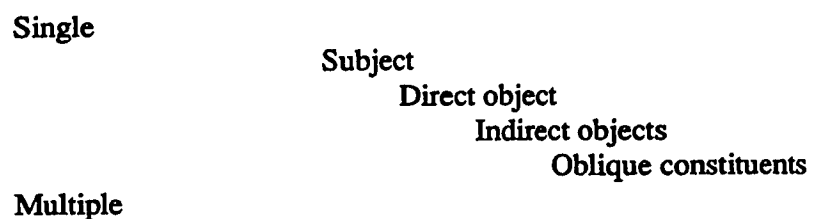
- 34) Ich habe ihn den Brief schreiben gelassen.
 1s have.Pr-1s 3sm.Acc the.Acc letter write.Inf let-Ppart
 "I had him write the letter."
- 35) katal avan-ai tan kaṭamaiyai maṛakk vaittatu.
 love.Nom 2s-Acc Log duty-Acc forget-Inf CM-Ps-3sn
 "Love made him forget his duty" (Tamil; Fedson 1985:13)
- 36) nān tān avanai anta katavait tirakk vaittēn
 1s Emph 3s-Acc that door-Acc open-Inf CM-Ps-1s
 "I had him open the door" (Tamil)

The probability of multiple subjects is probably close to nil. In language which makes no clear distinction between finite and non-finite verbs, and if a sentence in this language has two (non-conjoined) subjects both of which are participants and we have two verbs (a causative verb and a caused verb), it would even be difficult to be certain that we would have only a single sentence. I have no uncontroversial examples of double subject marking with affixal CMs (i.e. sentences where there is no doubt that there is only one main verb).

These prohibitions against doubling also correlate with the fairly universal pattern of polysemy for case positions. For any single verb, the subject will have very few permitted semantic roles, direct objects a few more, and indirect objects yet more. That is, cases higher on the case hierarchy (especially subject) have a semantic role more tightly dependent on the lexical semantics of the verb. There is greater tolerance for multiple role expression with the same case marking when each argument can be given a different relationship to the rest of the predicate. This sanctions greater freedom for causees to be expressed by "doubling up" with case assignments lower on the hierarchy, as these case assignments become generally more polyfunctional.¹⁶

It is important to note further, that any given oblique marker may be less polysemous than an indirect object marker from the same language. However, in general there tend to be far more forms marking obliques than mark indirect objects. Thus the total number of oblique functions may still exceed the total number of indirect object functions.

We can represent the case hierarchy as a pyramid diagram of the universal tendency from single or few functions for any given verb and allowed participants to greater polyfunctionality and allowed participants. Subjects will lie at the top of this hierarchy and obliques will lie at the bottom.



Case hierarchy and typical case polysemy

4.22 Non-paradigm clause union

Languages can sanction or require deviations from the paradigm pattern in a number of ways. First, there is what Comrie has termed *causative blockage* where "there can be no causative equivalent to a verb which has both a direct and an indirect object" (1976:264). Comrie (279) cites a Songhai example from Shopen and Konaré (1970:215):

¹⁶ Particular thanks to Eve Sweetser for discussions on these points.

37) *Garba neere-ndi bari di Musa se Ali se.

G. sell CM horse the M. IO A. IO

"Garba made Mousa sell the horse to Ali."

He notes only a few possible examples of this and I think it is safe to say that he has misstated the situation somewhat. There may be languages which block *clause union* CCs which have base verbs which normally take both an indirect and a direct object. However, we would expect other causation-denoting constructions (e.g. causal conjunctions, cf. §4.33), to be available for at least these verbs and probably all verbs as long as there is sufficient motivation to use a biclausal construction rather than a monoclausal one. In my own sample, many languages have CMs which primarily affix either to just intransitive verbs or to the set of intransitive verbs plus those transitive verbs which readily suppress a realized direct object, such as "eat". As one example, Heath (1984) cites the CM marker of Nunggubuyu:

The most usual meaning [of /-jga-/] is *causal/permissive*.... The verb to which /-jga-/ is added is normally intransitive, but the Caus derivative is transitive, with the causal/permissive agent the subject and the underlying downstairs subject becoming direct object.... In one or two exx. which might look like Caus from trans. root, it may be that the form is really of the type Verb-Refl-Caus, where the Refl has no surface phonological effect (Refl basically shows up as change of verb-final vowel to /i/, but this is done anyway before /-jga-/ ... (393-94)

Of course, such CMs are often called *transitivizers*. They are even so described when the same form elsewhere causativizes transitive verbs. An interesting example of

this is Barr (1988) who describes the Da'a form *pa-/pe-/po-* (presumably descended from / cognate with the Proto-Oceanic causative *paka-) as a transitive prefix. He also describes *pa-/po-* as also having causative function.¹⁷ The "transitive function" adds an argument to an intransitive verb but without necessarily invoking an agent/causer patient/causee relationship:

38) Ngana-ngana nom-po-ngiri roa ira.
children Actor.Foc-"Trans"-laugh friend their
"The children laughed at their friend" (15)

39) Balinawa nom-pa-ro'o jaula
B Actor.Foc-"Trans"-hard floor
"Balinawa pressed on the floor."

When the same form invokes a causer-causee relationship it is sensibly called a causative even though the base verb is still an intransitive:

40) Kami nom-pa-tuwu manu
1p.excl Actor.Foc-CM-live chicken
"We raise chickens"

Clearly, what is needed is an attempt to relate these two functions as mutual extensions of a single form. (Cf. applicative and other argument adding CCs in §5.2).

Putting ergative languages aside, if we include both patient subject ("unaccusative") and actor/agent subject ("unergative") verbs among intransitives, the role of the

¹⁷ Admittedly the case is more complex than this. Only *pa-* is instantiated as a CM for transitives when occurring alone. *po-* must co-occur with *pa-/pe-/po-* to serve as a CM for transitive verbs (but of course the *pa-/pe-/po-* is what just transitivized/causativized the root intransitive). How much simpler and more accurate semantically to just call them all CMs, each with different occurrence restrictions.

causee for caused transitives will not necessarily be notably distinct from the role of the causee for at least many caused intransitives. Hungarian is one of the few languages which consistently uses separate markers to distinguish between direct causation affecting simple patients (CM: -*ít*) and causative events which impute force (in the sense of force dynamics) to another volitional entity (CM¹⁸: -*at/-et/-tat/-tet*).

41) A kötél meglazult
the rope.Nom slacken-RM-Ps

42) Harry meglazította a kötelet
H slacken-CM-Ps the rope-Acc

43) A katonák meneteltek
the soldiers march-Pl-Ps

44) John meneteltette a katonákat
J march-CM-Ps the soldiers-Acc

45) Jane sétátatta a kutyát
J walk-CM-Ps the dog-Acc (Korponay ms.:4-5)

Even involuntary verbs such as "cough", which nonetheless must take an animate subject, can only occur with the CM (t)Et:

46) Köhögtettem a gyereket/gyerekkal
1s-cough-CMPs the boy-Acc/boy-Inst
"I made the boy cough."

47) *Köhögíttem a gyereket/gyerekkal
(following Korponay ms.:12)

But even here, the distinction is not one of transitive versus intransitive input, rather the animacy requirements on the role of the recipient of the causal force and the nature of that force.

¹⁸ This marker is traditionally termed the *factive* in Hungarian linguistics.

So we may conclude that the constraint in some languages against combining affixal CMs with transitive verbs is motivated for more purely structural reasons. We should prefer a structural motivation in terms of general constraints rather than an ill-motivated atomistic subcategorization prohibition against transitive verbs. The most likely motivation then is that even though the language has 1) a high degree of fusion between CM and verb, and 2) strong paradigmatic clause union preventing multiple participants from having expression in the same case slots, it may still lack 3) no ready strategy of demotion to a ready oblique constituent. Thus the language will be unable to use a CM marked CC for certain cases. A language might not have such a demotional strategy for any number of reasons (effectively unresearched at this point): general constraints against demotion between non-adjacent slots in the case hierarchy, lack of a suitable oblique slot, unacceptably high potential for ambiguity with other oblique functions, preferred alternative strategies for expressing 4 or more participant events.

A second related deviation from the paradigm case of clause union are those cases where the expression of the causee is suppressed. While some languages restrict their CMs to cooccurrence with an intransitive verb, other languages allow the CM to occur with transitive verbs only by suppressing the original "downstairs" subject altogether:

- 48) i-te i-prō jâpên na ton
 1-Ps 1-wife work(.on) Subord 3.make
 "I made my wife work"
 not: "I made my wife work on something"
 (Canela-Krahô, Popjes and Popjes 1986:143)
 (glosses mine)

Note that this may occur even though the CM – as here in Canela-Krahô – is a non-affixal, full causative verb which is combined with a subordinate verb construction.

Thus it is not simply a restriction against single CVs being ditransitive, but rather a general restriction requiring causatives to demote subjects to direct objects with no interference from other (potential) arguments of the non-causative verb.

Some languages retain some reference to a causee, but mark it in a very backgrounded way (eg. just in the verbal morphology):

- 49) X a-na-wa-chit-itsa kuti a-tha-we
 X Sub-Pt-3p-do-CM-Ptc Comp Sub-escape-Sbj
 "X let [them] escape" (Chichewa)

This is similar to deletion of explicit NPs in CC's when the reference is presupposed in languages with agreement inflection indicating the skeletal relationships of causer and causee. In other languages which can allow causatives of passives, the causee may be omitted as with a non- or pre-causative passivize:¹⁹

- 50) He made the apple get eaten somehow.

- 51) He had the car washed.

Obviously, optional deletion strategies will only be invoked when there is little perceived need to express the causee as relevant to the event. Where causatives of transitive or ditransitive verbs are permitted, some languages require suppression of the causee.²⁰ That is, there is no causative of the former sentence which retains the seller when

¹⁹ Notice the preference for clearly agent-agent type causation when there is a passive "downstairs". After all, a passive prototypically requires an agent acting relatively freely on the patient.

²⁰ The semantic loss may be negligible even with this constraint. The causee in causatives of transitive or ditransitive verbs may be, after all, little more than a useful intermediary.

there is an indirect object as well:

52) Ali neere bari di Musa se
A sell horse Def M IO
"Ali sold the horse to Musa."

53) Garba neere-ndi bari di Musa se
G sell-CM horse Def M IO
i) "Garba made [someone] sell the horse to Musa."
ii) "Garba made Musa sell the horse."
(Songhai, Comrie 1985:341)

As another strategy of minimizing the centrality of the causee, some languages allow what I will call *extended demotion* in which the causee is demoted to an oblique argument slot when the next higher (indirect object) slot is vacant as well. This may have the same effect as causativizing a passive with its demoted agent (that is, the causativized causee) but without the complication of passive morphology. For example, French does not allow the causative of a passive verb, but it does allow the expression of the causee to appear with the same oblique marking as the demoted agent of a simple passive. Note that it allow this even when the indirect object case slot is left unfilled:

54) On a fait construire la maison par Casimiro.
we made construct the house by Casimiro
"We made Casimiro construct the house" (Zubizarreta 1985:268)

There is a semantic difference between sentences which take *à* and sentences which take *par*. The use of an indirect object slot for the causee emphasizes the sub-event of the causer's force on the causee towards a certain action. The use of the oblique either 1) encodes the causee as having relatively little importance focussing instead on the ultimate patient of the "downstairs" verb and/or 2) encodes the causee as a clear agent with independent volition. Of course, this is exactly the function of the demotion of the

agent in the prototype of passive constructions (cf. Shibatani 1985). Because the oblique *par* is needed to express a self-volitional agent, the above sentence with the indirect object marker on the causee is unacceptable:

55) *On a fait construire la maison à Casimiro.

That is, the oblique is necessary if either of the above two conditions apply.

Examples such as these have led Givón (1990) and others (following Cole 1983) to claim that case is assigned on the basis of ascribed independent agentivity of the causee. Thus the following sentence prefers an indirect object marking for its relatively non-volitional causee:

56) Marie a réussi à faire aimer la France à Jean
 M have-Pr succeed-Pprt Inf CM love Def F Dat J
 "Marie succeeded in making John love France."

So, cases of semantically motivated deviation from the paradigm case hierarchy with clause union can be found. However, they cannot be relied on to entirely replace Comrie's more formal case hierarchy demotion.²¹ The cases of French have the oblique *par* as the agentive "by-phrase", so it is not surprising that – *when there is an option* – speakers will choose a *par*-phrase to emphasize the agentivity of the causee. However other languages typically demote the causee to other oblique phrases such as the instrumental which have different and non-agentive semantic implications.

Similarly, many languages allow the option of expressing the volitional causee of

²¹ Kemmer and Verhagen. (ms.) argue that the formal case hierarchy *can* be entirely replaced by a cognitively-sensitive semantic theory.

causativized intransitive with the direct object. In some cases, the direct-object causee marking will emphasize the patient-like non-volitional/independent qualities of the causee:

57) Taroo ga Ziroo o ik-ase-ta.

T Sub Z Obj go-CM-Ps (Japanese)

"Taro made Jiro go." (Shibatani 1973, cited in Givón 1990:558)

Marking it with the dative/indirect object implies that the causee has free volition:

58) Taroo ga Ziroo ni ik-ase-ta.

T Sub Z Dat go-CM-Ps (Shibatani 1973, cited in Givón 1990:558)

"Taro had/persuaded Jiro (to) go."

Thus, in Japanese the indirect object case connotes greater agentivity of the causee, while the indirect object case connotes reduced agentivity of the causee. While semantically sensible accounts can be given for each, we would be over-simplifying if we ignored the case hierarchy in favor of positing a simple correlation between agentivity and case.²²

We don't find cases of extended demotion to the indirect object slot. For such a demotion to be extended, it would need to be "skipping" over the direct object slot. Pre-causativized verbs which would have an empty direct object slot would be intransitives. There seems little motivation to demote the subject of the intransitive resultant verb (eg. the branch in *I made the branch break*) to oblique slot. Doing so would leave no main argument of the caused event. Such a case is certainly imaginable, especially

²² Note that when a language has the ability to use extended demotion of the causee, there is little motivation to also require passive morphology.

when it is the event (of *breaking* or whatever), not the participants which are the focus of the sentence. For example, *?John made crying with the baby* in the context, say, of needing the sound of crying for an audio recording. However such cases are still likely to be anomalous and sufficiently unusual to dictate alternative focus constructions,

59) *?*Jean a fait pleurer par le bebe*

60) *?*Jean a fait courir par l'athlete*

There are certainly exceptional verbs which subcategorize for an indirect object but not for a direct object, eg. "telephone" in French/Italian:

61) *Il a fait téléphoner au psychiâtre par Jean.*

3s have.Pr CM-Pprt telephone Dat psychiatrist by J

"He had Jean call the psychiatrist" (Givón 1990:560)

62) *?* Il a fait téléphoner au psychiâtre à Jean.*²³

63) *Farò telefonare a Maria da Giovanni.*

1s.make.Fu telephone to M by G

"I will make Giovanni call Maria." (Burzio 1986:252)

When these verbs appear in CCs in languages which allow extended causee demotion, then there automatically is no empty slot which is adjacent in the hierarchy to the oblique (Indirect object) for the causee to hop over. Rather the causee hops over the empty slot two further up in the hierarchy (direct object). The focus effect is the same as with the passive function of the oblique agent phrase in the earlier examples.

²³ Note that since the marking is necessarily with *par*, this may or may not imply greater volition on the part of the causee because of the marking with the *by*-phrase.

	S	DO	IO	Obl
NC:	Sub		IO	
	-----	-----	-----	---
CC:	Causer		IO	Causee

64) Je ferai manger une pomme par Claude
(Comrie 1976:272)

So, in no situations do we find extended demotion to the indirect object slot. With causativized intransitives it is ill-motivated. With causativized transitives it is impossible given the limited number of slots and given that the subject and the direct object slot will already be filled. Any causee demotion with a regular transitive verb will either be to the oblique or it will just be the paradigm non-extended demotion to the indirect object slot.

According to Givón, as cited in Comrie (1976:265,fn 1), some Bantu languages have a two-stage causee demotion where a direct object is (extended) demoted to an oblique slot and then the causee is demoted to the now-vacant direct-object slot. Like Comrie, I do not have enough data on such languages to evaluate them carefully. Such cases suggest a radically different structure for clause union.

Kroeger (1988) makes the claim that Kimaragang (a Dusunic language in East Malasia) violates Comrie's hypothesized basic structure of clause union. Whereas Comrie's hierarchy order has Subject > Direct Object > Indirect Object > Oblique Object, Kimaragang has

a very similar hierarchy: Nominative > Accusative > Translative/Locative > Dative. However, the rule governing the operation of the hierarchy in

Kimaragan is very different from that described by Comrie. [Comrie's] hierarchy relates only to the case marking of the Causee, while [Kimaragang's] hierarchy operates like a push-down stack involving all the arguments of the causative verb. The basic pattern in Kimaragang is that the Causer takes Nominative Focus.... This forces the demotion of the Agent from Nominative to Accusative Focus...as causee. The Patient in turn is demoted from Accusative to Translative Focus...and further demoted from Translative to Dative Focus...in secondary (indirect) causation. (241)

For example, note that there is a translative-focus affix on the verb when a transitive verb has been causativized:

65) I-po-omot dit tidi kuh
Transl.Focus-CM-harvest Def mother.Nom my

do tulun do sokid it parai yah.
Indef person.Acc of hill Def rice our

"My mother will get some people from the hills to harvest our rice."
(245)

This contrasts with an intransitive causative sentence where rice appears as an accusative NP:

66) ØPo-suwang okuh do parai sid kadut
Nom.Focus-CM-enter 1s Indef rice.Acc in sack
"I am putting rice in sacks." (244)

The case system in Kimaragang is too complex to rely on just this one account, but if Kroeger's analysis stands up under further scrutiny, it represents a serious challenge to the suggested universality of Comrie's clause union case hierarchy. Comrie's system allows us to see a clear semantic relationship because a morphological identity is

preserved between most of the arguments of a transitive or ditransitive verb and the corresponding arguments of the same verb in a CC. The causee is displaced (except in cases of double accusative CCs), but all other NPs remain in the same case relation to the "subordinate" verb. That is, a recipient of transfer marked with the dative for the NC, remains a recipient of the same basic event in the CC. Allowing the causee to displace these NPs from their original roles runs grave risk of unintelligibility. If the recipient is suddenly in an oblique, how is the hearer to know that it is still the recipient? Presumably the only way would be to realize that the uttered sentence contains a CC and thus the speaker would need to process the sentence by interpreting the semantic role of each NP as actually being that which would be marked "one higher" on the case hierarchy. This seems to me unnaturally complex.

However, the use of cases in Kimaragang is quite distinct from the more familiar use of cases to indicate subject, direct object, and indirect object. When we examine the use of these cases in more detail the use of a "push-down" strategy seems more sensible. To better understand this, I will first examine the use of the accusative in moderate detail – examining how its semantic function can be revealed in double accusative-marking CCs.

4.23 Double accusative CCs

The most common interesting deviations from the paradigm case of clause union are those cases where the causee can be expressed in an argument slot already expressing another participant in the event. Doubling up the indirect object slot is fairly common, albeit often restricted.

To continue with French examples, it is possible to have two indirect object NPs when the causee is expressed by a pronominal indirect object clitic: It is also possible to simply have the causee fill the direct object slot, when this direct object slot is not filled by the argument structure of the resultant verb. This happens in French verbs which normally take an indirect object but not a direct object:

67) ??Jean a fait téléphoner a Marie a Jean

68) Jean lui a fait téléphoner a Marie

Note that only the causee (not the dative argument of the resultant event verb) can be cliticized when there are two datives in the causative sentence. Accordingly there is no ambiguity as to which is the causee and which the dative of the original verb:

69) Je lui ai fait téléphoner à eux.

"I made him/her phone them."

not "I made them phone him/her."

Cases of double direct objects are less common. The failure to demote the causee to the first open slot, but rather to the first non-subject slot even when that is already occupied by the patient of the downstairs verb is especially dramatic in languages where full demotion to oblique remains an option. To violate the purported universal tendency in some cases, but not others suggests that there should be a strong motivation for each of the two strategies. Indeed, we can find systematic differences between the two types of clause union. In Tamil, like many languages (e.g. German as §4.21), we find that direct object marked causees of transitive verbs are used in those cases where there is a strong need to emphasize the affectedness of or the force directed upon the centrally important causee:

70) Nāṇ avanai anta puṣṭakattai koṇṭivara-vaitten
1s 3s-Acc that book-Acc bring.Inf-CM-Ps-1s
"I made him bring the book"

71) Nāṇ avanāli anta puṣṭakattai koṇṭivara-vaitten
1s 3s-Inst that book-Acc bring.Inf-CM-Ps-1s
"I had the book brought by him"

The prototype use of accusative marking, following the Hopper and Thompson (1980) prototype of transitivity, strongly suggests that the participant is affected as a patient. In a CC, marking of the causee with the accusative/direct object marking emphasizes its patient qualities. Such a constructional choice treats the causee as though it were best treated as an inanimate patient of the causative event rather than the (secondary) agent of the caused event. Accusatively-marked causees treat the causal event as though it were of the agent-(inanimate)patient type of causative rather than of the agent to agent/actor type. If it were really of the agent-(inanimate)patient causation type, rather than a characterization of the causee as simple patient, the verb to be causativized would typically be intransitive. If the verb to be causativized were intransitive, there would be no competition for the direct object slot and hence no potential demotion to lower than that on the hierarchy. Choosing to characterize the causal event as of the agent-patient type naturally puts the causee in the direct object slot already associated with this type of causation. The presence of another direct object is relatively incidental and tolerated according to as-yet-undetermined motivations in the individual languages.²⁴ Since the acceptable double direct object CC puts emphasis on the patient

²⁴ Double direct object causatives occur with both affixal and free verb (periphrastic) causatives. So an analysis which would simply have each direct object be the object of a different verb will not work in any simple way.

status of the causee, when such an emphasis is incongruous or awkward, the sentence becomes less acceptable. A number of researchers have noticed this generally. Comrie refers to the use of optional marking of causees with direct object marking as "direct coercion" (1985:337).

Similarly, Saksena (1980), claims that the dative/accusative marking (as opposed to oblique marking) of the causee in Hindi CCs indicates an "affected" causee.

72) māi-nee raam-see kitaab parh-vaa-ii.
1s-Ag R-Inst book read CM-Ps.f
"I had Ram read the book"
(i.e. I got the book read by Ram)

73) māi-nee raam-koo kitaab parh-vaa-ii.
1s-Ag R-Dat/Acc book read CM-Ps.f
"I had Ram read the book"
(i.e. I wanted him to do some reading) (816)

In general, the connotation of the alternative construction depends on the function(s) of the alternative case-marking for the causee. But most importantly, the use of non-direct object marking for the causee when permitted implies that the causee is *not* a typical patient in the structure of the described event.

Such cases seem at odds with the examples from Kimaragang as cited in Kroeger (1988). Double marking with accusative and or undergoer focus does not indicate a particularly affected causee:

74) N-i-po-owit
Ps-Translative.Focus-CM-bring

dogon dih Janama itih siin i-taak sid dikau
1s-Acc Def J this(Patient) money Tr.Focus-give to 2s

"Janama asked me to bring you this money" (*money* is demoted)
(261-62)

75) Po-owit-an
CM-bring-DatFocus

dogon dih Janama itih siin i-taak sid tanak kuh
1s-Acc Def J this(Patient) money Tr.Focus-give to child my

"Please have Janama bring this money to my son for me" (261)

There is no way of determining from the shape of the NPs whether "I" or "Janama" is to be the causee. However, context (and the use of the "indirect" or unaffected causee CM) allows us to interpret Janama as the causee and "I" as the beneficiary. Thus, the case marking pattern does not correlate as we might expect from the above discussion of affected causee marking in CCs.

However, the affected causee semantics above are the results of the prototypical use of the accusative and undergoer marking for the languages known to make an affected/unaffected distinction in its causee marking. Following and simplifying Kroeger (who in turn was following Schachter's (1976) account of Tagalog focus affixes), the Kimaragang accusative case is centrally used for "focussing" strategies. While the "accusative focus" *may* indicate that the NP is a patient, such is not essentially, unchangeably, or centrally the case. The morpheme marking the causee in causative sentences (-on) marks actor, locative, or instrumental in non-causative sentences. Clearly then, two uses of double accusative marking should not be expected to

have the same semantic functions across two languages which have profoundly different central functions for the accusative.

Kroeger further discusses the way affectedness of the causee *is* indicated in Kimaragang: there are apparently two different CMs which at least sometimes are chosen between on the basis of affectness of the causee:²⁵

76) Po-tuun-on kuh ikau silo!
CM-drop-AccFocus 1s 2s(Causee) there
"I am going to push you over the edge." (248)

77) PoN-tuun-on kuh ikau silo!
CM-drop-AccFocus 1s 2s(Causee) there
"I am going to send you down there (over the edge)." (248)

This is quite similar to the Hindi contrast between the -aa and -waa CMs. Cf. Masica 1976, Bahl (1967), and Saksena (1982).

78) māi-nee lar'* .kee-koo daur-vaa-yaa
1s-Ag boy-Dat/Acc run-CM-Ps.m
"I had the boy run."

79) māi-nee lar'* .kee-koo daur-aa-yaa
1s-Ag boy-Dat/Acc run-CM-Ps.m
"I chased the boy."
Saksena (1982:823)

Also note, as per the earlier discussion of Kimaragang, the causee always takes the accusative case and the NP from the non-causative is pushed down lower on the hierarchy. Accordingly the use of accusative marking for the causee is the norm. Double accusative/undergoer/patient marking comes from the failure to further demote the

²⁵ The morphophonemic changes as not all represented here to allow for greater morphological transparency.

former occupant of the accusative slot. It is this non-causee argument ("money" in the Kimaragang examples with Janama above) which is actually receiving special marking. So we see that the function of double marking with accusative/direct object can have very different effects. Notably, these two different effects really both derive from the basic functions of accusative marking. The corollary to this: to the extent that the basic functions of accusative marking can vary from language to language, we should expect that the effects of accusative marking of causees will correspondingly vary.

4.3 CC marking types

Until this point, I have treated all CCs as though they were essentially stamped from the same morphosyntactic mold. The only division between types of causatives I've made thus far has been between lexical causatives and explicitly marked CCs. Lexical causatives are those lexical items which contain, or purportedly contain, a semantic notion of causation. I am not treating such lexical causatives which only show up behaving like simple transitive verbs as CCs for the purposes of my survey. I will not focus much on lexical causatives, but will use this section to review the various types of explicit marking strategies commonly found in my language survey. I will mention in passing a few uncommon types as well.

To give an account of various types of CCs presupposes that there is a coherent and accessible notion of causation with which to determine whether or not a given construction is actually a CC.²⁶ This presupposition is fairly uncontroversial for most of my examples. Again, the difficulties with lexical causatives can be disregarded in this section because such cases as they are essentially disregarded in my survey. The examples of explicit CCs that follow are all fairly uncontroversially causative in at least one of their functions.

Types discussed below include analytic, morphological, productive zero-derivation CCs, and coordination/subordination.

²⁶ The difficulties with such a determination were discussed in §4.1 and are not repeated here.

4.31 Analytic causatives

For an English speaker, the analytic causatives are the most familiar type. **I made him go, I had him go, and I got him to go** are all causative in function – whatever their particular nuance. An analytic causative described simply involves a CM which is a distinct and separable lexical item. These can be typed according to three parameters:

- 1) degree of syntactic independence as a lexical item (how bound to the rest of verbal predicate);
- 2) degree of grammaticization/conventionalization;
- 3) whether the CM is dedicated to expressing causation or whether the causative use is one conventionalized (and probably metaphorical) function of a still viable independent verb.

All three of these factors are interrelated in that, for example, syntactic independence (1) will tend to correlate with semantic independence (2). For the purposes of exposition, I will consider them as relatively independent factors in turn.

To simplify, syntactic independence of the CM is the degree to which the CM and the resultant event verb stand together as a single and/or distinct syntactic construction. For example, there is a small restricted class of verbs in English (cf. "the greater modal system" of Talmy 1988) which combine with following verbs without requiring the usual **to**-infinitive marking on the following verb. This includes the modals, such as **I must go**, as well as the CMs **have** and **make**: **I had him go** and **I made him go**. Other verbs, which semantically belong to the same set with modals and causatives, require the **to**-infinitive: e.g. **want** and **cause**. This latter set is larger and essentially unrestricted: **I caused/told/persuaded/get/forced/cajoled/pressured/... him to go**.

Similarly, the "to"-less CMs are intonationally more closely bound to the following verb. For example, parentheticals are more readily inserted between the unrestricted class and the following verb than between the restricted class and the following verb.

Such factors as syntactic independence of the CM correlate fairly well with the degree of grammaticization of the CM. Indeed, one of the usual tests of grammaticization is whether it belongs to a syntactically specialized class, such as this class which requires a "to"-less bare verb-stem rather than an infinitive.

However, another characteristic associated with grammaticized markers is the degree to which their semantic function is a "bleached" (in older terminology) version of an earlier "robust" lexical meaning. We can improve on the notion of "bleaching" by treating the CMs in terms of the degree to which their semantics has become image schematic or "grammatical" in function rather than restricted to a more "lexical" domain. Sweetser (1990) discusses at some length how lexemes become grammatically "bleached" markers (she prudently rejects the term "bleached") not by virtue of loss of meaning, but rather by transference of qualities of the original meaning to different, more image-schematic domains.

For typological purposes, we can consider CMs semantically fully grammaticized when they represent a meaning of causation which is image-schematically reduced to the fundamental notions of force and responsibility. That is, lexical items which retain specific nuances of *manner*, etc. are less grammaticized. Verbs like *persuade*, *tell*, and *command* are causative when combined with a following verb, but retain rich and

specific information as to the actual process of causation involved. Yet in time, in many languages, these verbs become grammaticized as general CMs which no longer require use in a context where the originally specified manner is used. For example, the newest grammaticizing CM in Tamil is the verb *col* "to tell, say". It no longer entails that the causing event involved verbal communication:

- 80) *Nān avanai ataippati teriyac comēn.*
 1s 3sm-Acc it-Acc-about know.Inf say-Ps-1s
 "I made him know about it."

However, it still must occur only in cases of human-human causative – much like the have CC in English:

- 81) *Nān marataiyai vaḷarac comēn.*
 1s tree-Acc grow.Inf say-Ps-1s
 "I told the tree to grow."
 not: "?I had the tree grow."

To use a CM with agent-patient causation, a Tamil must use *vai* or a similar CM, which were in turn grammaticized as CMs a millenia ago:²⁷

- 82) *Nān marataiyai vaḷarav vaittēn.*
 1s tree-Acc grow.Inf CM/put-Ps-1s
 "I made the tree grow."

It is also possible to have verbs with an original function of marking a fairly abstract, image-schematic notion of causation, which nonetheless seem little grammaticized. Cause in English is one such example. Since its early history in English (after borrowing), it has had the function of indicating image-schematic causation. Today,

²⁷ I should note that *vai* also occurs as a main (that is non-causative) verb with the meaning "place, put".

this is the lexical, non-metaphorical, non-extensional meaning of cause. Thus it makes little sense to talk of this verb as grammaticized on the basis of semantic evidence. Syntactically, it behaves like an unrestricted open-class lexical item and it just happens to indicate causation. Further, its use in natural non-technical language is fairly uncommon, while more grammaticized CMs are typically common.

The final factor relevant to classifying analytical CMs is the degree to which the CM has a range of functions independent of its causative function. CMs often will have multiple functions extended from a central causative function. Conversely, some CMs have their causative function – and any extensions from the causative function – because it is an extension of some more basic lexical meaning. Such an extension is typically via metaphor (cf. Espenson 1989). English *make* and *have* are rich examples of this. For a detailed discussion of the many extensions and functions of *have*, of which one is causative, cf. Brugman (1988b). I call CMs whose functions are semantically centered on causation *dedicated* CMs. CMs which have a causative function or functions as a extension of some more central sense, I call *non-dedicated* or *metaphorical* CMs.

We might expect a correlation between dedicated CMs and grammaticization. However, with analytic CMs such a correlation will be weak at best. Using English as a fairly typical example, *make* is, syntactically speaking, more grammaticized than *cause*. But *cause* is far more dedicated to causative expression than *make*. The correlation between grammaticization and dedication becomes far tighter in the case of morphological CCs.

4.32 Morphological causatives

Morphological causatives, especially affixal causatives, typically form from cliticized or otherwise attached analytic CMs. As such, the border between analytic and morphological causatives is not always clear and the two notions should be treated as values on a cline. This is in keeping with the previous discussion which had already placed various analytic CMs on a cline of syntactic independence. When a CM has zero morphological independence (*bound*) we can safely call the form affixal. I will only mention a few clearly affixal cases.

4.321 Affixal causatives

Typically, an affixal CM historically arises from the attachment of what was at one time a fully independent lexeme. The Tamil example above with CM *vai* "put" was of a case of a CM intermediate between a status as an independent verb and as an affix. In spoken Tamil, the form *vai* is far more likely to undergo phonological change when it is used as an auxiliary than as an independent main verb.²⁸ This is also true for other auxiliaries, such as the RM *koɭ* discussed in chapter 2. As such, *vai* is midway between serial verb status and being a pure morphological CM.

Many languages will have an affixal CM which is related to an independent verb, but which occurs in a phonologically reduced form.

²⁸ This is a recurrent phenomenon. Consider the phonological change in *going to* in English, when it becomes used as an auxiliary.

- 83) sá?à hà nà kee
 CM Nom Opt eat.Pot
 "Make him eat"
 s?à "make, fabricate"
- 84) ndoo clean
 sándoo make clean (Mixtec, Hinton 1982:354-55)
- 85) la-ze "know"
 86) la-ze yabi-ze "teach, cause to know"
 87) la-z-abi-ze
 (Avar, Nedjalkov and Silnitsky 1973:6)

This is exactly in parallel with noun incorporation strategies which in many languages will incorporate the noun in a phonologically reduced form as well.

- 88) Ne? kica?ki kallaktli
 3s 3s-it-Indef-closed door
 "He closed the *door*."
- 89) Ne? kaica?ki
 3s 3s-door-closed
 "He closed the door." (Nahuatl; Merlan 1976)

Alternatively, some languages can incorporate a generic classifier instead of a reduced noun:

- 90) kassi' háh-'č'á-sswĩ'-sa'.
 bead Prog-eye-string-Prog
 "She is stringing beads."
- 91) ka'ás háh-'ic'ah-'ĩ'-sa'.
 plum Prog-eye-grow-Prog
 "Plums are growing." (Caddo; Chafe 1977, cited in Mithun 1984:865)

We have already seen examples similar to the Nahuatl for RMs in a variety of two-form languages such as Russian. In such cases, the free form and the bound form have a clear morphological relation:

92) On utomil sebja.
 he exhausted himself
 "His will drove his body to exhaustion"

93) On utomil-sja
 he exhausted-RM
 "He grew weary" (Haiman 1983)

Likewise affixal CMs can be viewed as a type of incorporation. RMs typically derive from nouns (cf. §3.6), and can be considered a type of noun incorporation. Since CMs typically derive from verbs (cf. §4.41), cases such as these affixal CMs can be considered incorporation of a *verb* into a main verb. Baker (1988) extensively treats such cases of verb incorporation within an essentially GB framework where the primary concern is syntactic and thematic role relations.

While we can treat such cases of CCs as verb incorporation, we need not assume a transformational model (as Baker does) to draw the analogy with other types of incorporation. The arguments for a transformational account of transformationally "moving" a free verbal CM into the main verb as an affixal CM are mostly derived from theory-dependent argumentation. Arguments which do not rely on the assumptions of a transformational framework are weak. Such arguments are especially weak in languages which have no free CM. In such languages, movement must be inferred on the basis of fairly weak indirect syntactic evidence or on analogy with more analytic languages (such as, not surprisingly, English).

The crux of Baker's argument rests on the following assumptions: 1) there are similar movement transformations in all languages; 2) transformations are essentially meaning-preserving and allow cooccurrence with idioms; 3) affixation typically disal-

lows cooccurrence with idioms. Baker and others working with transformational models of affixal CC before him (cf. especially Aissen 1974) assume that the facts for English are relevant to highly synthetic languages and that both types of languages will have essentially the same D-structure. Baker notes the strong restrictions against certain types of English derivational affixes cooccurring with (some) idioms:

94) *John's kicking of the bucket surprised me.

95) *The bucket is kickable at any moment. (153)

From this, he assumes that derivational affixation – even in highly synthetic languages – must disallow use with idioms. Affixal CMs in agglutinative languages may be used with idiomatic expressions. Baker cites his own argument for Chichewa and Aissen's similar argument²⁹ for Turkish:

96) Mphunzitsi a-na-uz-a atsikana kuti a-tch-e makutu
teacher Su-Ps-tell girls that Su-set-Su ears
"The teacher told the girls to pay close attention"
[kutcha makutu "set the ears (as a trap)" = pay attention]

97) Mphunzitsi a-na-tch-ets-a makutu atsikana
teacher Su-Ps-set-CM-Asp ears girls
"The teacher had the girls pay close attention."
(Baker 1988:153)

98) O adam el aç-ryordu.
the man hand open-Prog.3s
"The man is begging."
[el açmak "open the hand" = beg]

²⁹ Aissen (1974) argues for an account via "verb raising" in keeping with the syntactic explanation fashionable at the time. It seems essentially compatible with Baker's Incorporation Theory.

- 99) O adam-a el açtır-d-m.
 the man-Dat hand open-CM-Ps-1s
 "I made the man beg."
 (Aissen 1974, cited in Baker 1988:153)

However, without sharing Baker's assumptions, we need not assume that derivational affixes in these languages must behave as English affixes. Indeed, the general typology of the language may – for all we know – have significant effect on the semantic possibilities of morphological cooccurrence. Thus it is hasty reasoning to assume on the basis of English that CMs in such synthetic languages must not be affixal, but rather derived by movement rules from (lexically non-extant) nodes.

So I take a more cautious view and treat such cases of CMs morphologically attached to verbs as cases *semantically* akin to other incorporation phenomena. What the more exact structural relationships are, I leave to future research.

Other languages use affixal CMs which bear no relationship to still extant free lexemes, though they may well historically derive from such lexemes. One such case is the Proto-Austronesian/Oceanic causative *vaka which has appeared in various phonetic guises in the descendant languages as both a suffix and prefix depending on the individual language:

- 100) 'asa "run ashore"
 101) va'a-. 'asa-va "make someone run ashore" (Boumaa Fijian; Dixon 1988)
 102) e katakata "it is hot"
 103) e vā-katakata "it heats" (Fijian; Schütz 1985:176)

104) al(a) "to die"

105) al'aki "kill" (Rotuman (E. Oceanic); Churchward 1940)

106) I'a nomba-vawu-saka maku ka aku

3s AgFoc,Real-fall-CM rose.apple to 1s

"He dropped a rose apple to me."

(Da'a (Central Celebes of Austronesian); Barr 1988:16)

Because of their grammaticization affixal CMs will tend towards greater generality than lexical CMs. On the average, a language which uses affixal CMs is likely to have fewer CMs than languages with analytic CMs. This is motivated by the general tendency toward fewer bound morphemes than free morphemes in languages and by the broader semantic range of the affixal CMs. These fewer affixal CMs tend to be used for a wider range of causal event types than the typical analytic CM, because the analytic CM is more likely to encode specific manners of causation and the like. With affixal CCs, semantic nuance concerning the exact nature of the causing event is typically expressed adverbially, in separate clauses, etc.

There are noteworthy exceptions to this generalization however. Polysynthetic languages are quite likely to express causation using bound morphemes which evoke quite specific types of causative or instrumental (sub-)events. Not surprisingly then, we find large numbers of such affixes can attach to verb stems. The number of affixal CMs in Algonquian languages can run from the ten to perhaps close to a hundred (counting non-productive forms).

Similarly, Hokan languages (California) have a rich set of instrumental affixes which attach to roots. Following Talmy's (1972) analysis for Atsugewi, these indicate that the root verb meaning of "for X to move or be located" needs to be interpreted as

motion/change/etc. brought about by an external force. This, together with inflections indicating event participants, indicates a causal notion, while not being a dedicated CC.

I include his list in full to give some indication of the range of meanings such affixes³⁰ can indicate.

Atsugewi Instrumental satellites (P = the Patient, E = the Experiencer)

natural forces

- ca- 'from the wind blowing on P'
- cu- 'from flowing liquid acting on P' (e.g., a river on a bank)
- ka- 'from the rain acting on P'
- ra- 'from a substance exerting steady pressure on P' (e.g. gas in the stomach)
- uh- 'from the weight of a substance bearing down on P' (e.g. snow on a limb)
- miw- 'from heat/fire acting on P'

objects in action

- cu- 'from a linear object acting axially on P' (e.g. as in poking, prodding, pool-cueing, piercing, propping)
- uh- 'from a linear object acting circumpivotally (swinging) on P' (as in pounding, shopping, batting)
- ra- a. 'from a linear object acting obliquely on P' (as in digging, sewing, poling, leaning)
 b. 'from a linear/planar object acting laterally along the surface of P'
 (as in raking, sweeping, scraping, plowing whittling, smoothing, vising)
- ta- 'from a linear object acting within a liquid P' (as in stirring, paddling)
- ka- 'from a linear object moving rotationally into P' (as in boring)
- mi- 'from a knife cutting into P'
- ru- 'from a (flexible) linear object pulling on or inward upon P' (as in dragging, suspending, girding, binding)

body parts in action

- tu- 'from the hand(s)—moving centripetally—acting on P' (as in choking, pinching)
- ci- 'from the hand(s)—moving manipulatively—acting on P'
- ma- 'from the foot/feet acting on P'

³⁰ Talmy calls these prefixes "satellites" to allow their discussion to be included with other types of non-root material morpho-syntactically and semantically associated with the verb root.

The details of this class need not concern us here.

ti-	'from the buttocks acting on P'
wi-	'from the teeth acting on P'
pri-	'from the mouth-working ingressively-acting on P' (as in sucking, swallowing)
phu-	'from the mouth-working egressively-acting on P' (as in spitting, blowing)
pu-	'from the lips acting on P'
hi-	'from any other body part (e.g. head, shoulder) or the whole body acting on P'

sensations

sa-	'from the visual aspect of an object acting on E'
ka-	'from the auditory aspect of an object acting on E'
tu-	'from the feel of an object acting on E'
pri-	'from the taste/smell of an object acting on E' (52-53)

Putting such polysynthetic examples aside, affixal CMs typically have greater polysemy or extended functions which extend from a basic causative function. Because of this, my survey has been weighted to disproportionately represent languages with affixal morphology. In turn, agglutinative languages are more likely to have clearly demarcated affixal CMs, so the language sample is biased toward this as well. Again, my goal is to explore the recurrent range of grammatical polysemy – not to come up with a statistical average of the degree of polysemy. In summary, affixing languages give the richest results for CM polysemy. Accordingly, it's acceptable to focus on heavily affixing languages to explore the potential range of polysemy. To determine a statistical average, of course, we would need to construct a more random language sampling which might yield less interesting results for a polysemy study.

4.322 Paradigmatic causatives

Closely related to affixal CCs are paradigmatic CCs. Indeed paradigmatic CCs often historically derive from affixal CCs. In paradigmatic CCs, there is either no clearly discernable demarcated affix associated with the causative or if there is a clear affix, this is associated with further fully fused morphological alternations. Rather,

there is a regular or semi-regular patterning of causative verbs which makes them (semi-)distinct from non-causative verbs.

The Germanic and Semitic language families exemplify two typical types of paradigmatic CCs. The relics of the Germanic type are familiar to any English speaker.³¹ Vowel alternation, a type of ablaut, occurs between causative and non-causative forms of a verb, e.g., sit/set, fall/fell. Through time, different vowel qualities might lead to other phonetic changes which further distinguish between the two forms, e.g., drink/drench.

Interestingly, I have found no cases of CCs marked by tonal change of a NCV. However, my survey has not included many tone languages and has even fewer contour tone languages (which tend to be quite analytic). Nonetheless, it would be interesting to see if such cases exist. I cannot think of any clear reason to not expect them.

The Semitic languages have typical multiple paradigms where a basic frame of a verb (or noun) can take various vowel patterns and as such be expressing reflexive or causative voice (among other paradigms and functions). Classical Arabic had over a dozen such patterns for its verbs, Modern Hebrew has seven. Modern Hebrew's *binyanim* (verbal patterns) has two patterns used to express causatives (amongst other functions). *Hifil* is used with verb roots (this synopsis is culled from Junger 1985: 236-238):

³¹ This is not to say that this was the only or primary means of creating CVs

107) reuven axal tapuah (Paal: Active)

R ate apple

"Reuven ate an apple."

108) dan heexil et reuven et hatapuah (Hifil: Causative)

D made.eat Acc T Acc the-apple

"Dan made Reuven eat the apple."

The *Piel* pattern is used with nominal or adjectival roots to form causatives. As such, it is in complementary distribution with the *Hifil* pattern:

109) kar kerer
cold cooled(*Piel*)

110) sameah simeah
glad made.glad(*Piel*) (Junger 1985:242)

For current purposes, we can ignore the complexity of these paradigm marking strategies. We need only note that such systems of marking CCs are fairly common. They only occur when there is a complete system of marking reflexive/active/passive/etc. voice distinctions as well.

Another type of paradigmatic indication of causative function is a causative-marking usage of an alternation between two affixes which are dedicated to indicating meanings other than causative. For example, Tamil has weak and strong tense suffixes for many of its verbs in all three tenses. Weak suffixes either consist of a single obstruent or a nasal consonant followed by a single obstruent. Strong suffixes consist of a geminated obstruent. For verbs which allow alternation between the two sets of suffixes, the weak suffixes are associated with intransitive or inchoative/non-causative meanings. The strong suffixes are associated with causative meaning.³² This construction is no longer productive for Tamil, but a large percentage of verbs still follow this paradigm pattern:

³² For an alternate analysis, consult Paramasivam (1979) who analyses the alternation in terms

111) *atu ʔai-nt-atu / ʔai-kir-atu ʔai-v-atu.*
 3sn break-Ps-3sn / break-Pr-3sn / break-Fu-3sn
 "It broke / is breaking / will break."

112) *Nān atai ʔai-tt-ēn / ʔai-kkir-ēn ʔai-pp-ēn.*
 1s 3sn-Acc break-Ps-1s / break-Pr-1s / break-Fu-1s
 "I broke / am breaking / will break it."

4.323 Borderline cases of morphological causatives

Needless to say, there are many cases where the morphological nature of the CC is not clearly statable. A CC might have a productive form which seems affixal in origin, but which – through various morphophonemic processes – has gained reflexes internal to the stem. Similarly, affix boundaries may become unclear as a CM becomes more fusional. Forms may also be constructed on the basis of analogy with the phonetic shape of semantically causative verbs which are not morphologically marked as causative. The borderlines between affixes, clitics and free morphemes are notoriously difficult to determine.

This work does not address such issues. They are well discussed in works on morphological theory which are independent of accounts concerning the semantic functioning of CCs. For present purposes, it suffices to say that there are best examples of each morphological type of CC and there are borderline or fuzzy cases which deviate from best example cases in various ways. This study is not fundamentally concerned with the exact relationship between morphological form and function. Rather, any correlations are assumed to be largely relative in nature. Certain form-types are more likely to

of an affecting/effecting distinction.

be associated with certain functions. These form-types are determined relative to the general morphological type of the language and more specifically to the morphological type(s) of valence affecting constructions.

4.324 Zero-derived causatives

As discussed in §3.1, English has a wealth of "labile" verbs which can be used either transitively or intransitively. Such examples are frequently called zero-derived causatives. This allows them to be treated alongside other morphological CCs with the simple caveat that in such cases the CM is a derivational $\emptyset$. Such a treatment may be little more than a theoretical convenience. It assumes that the causative is derived from the intransitive despite the commonality of derived intransitives from semantic causatives in European languages.³³ As a simple example, *spill* can be used both inchoatively and causatively. It is very difficult to say with any certainty that *spill.Int* is somehow the more semantically basic of the two uses and that *spill.Tr* is derived from it.

Nonetheless, to the extent that a language *productively* uses the same verb roots as CVs and NCVs, we can speak somewhat confidently of zero-derivation. Whether the causative derives from the inchoative, the inchoative derives from the causative, or whether there is no particular direction of derivation should be empirically testable. If an inchoative is coined and a speaker can readily use it causatively but the reverse is not

³³ Cf. Nichol's (1982) discussion on the difficulty determining whether the transitive or intransitive form is the more basic.

the case, then we can strongly argue that language has a zero-derived morphological CC. Unfortunately, I know of no such studies. Reports of languages which can use inchoatives as causatives fully productively are quite uncommon. It is quite common for many inchoatives in many languages to be used as causatives, but not all such verbs can behave this way. We should expect some intransitive verbs would be semantically anomalous if used transitively, but not all disallowed zero-derived causatives can be explained in this way. Thus, we are reduced to having a lexical marking (in some sense) of whether or not a verb can be labile. For such cases, we cannot say that there is a productive derivational rule involved.

Note, this is not to say it is essential that all languages have productive rules – of some sort or another – for deriving CVs. It may be the case that the lexical inventory of CVs (historically derivational or not) is sufficiently inclusive that synchronically productive mechanisms are minimally necessary. Such is not the case for English, but the Mayan language Mam has a set of transitive, applicative, and causative suffixes. Many have fairly specific meanings and there is no single general CM. According to the list in England (1983), none of the verbal affixes which have a causative function (they may have other functions as well) are productive. There is one "semiproductive" (106) suffix which derives causative verbs from adjectives or adjectival verbs:

- 113) nim "a lot" nimsaa- "make big"
- 114) nooj "fill" nojsaa- "fill it"
- 115) tx'e71 "toasted" tx'e71sa- "toast"

This is probably not a coincidence that the most productive CM is one which derives verbs from other adjectivals. Impressionistically, it seems there is greater productivity among affixes which change the word class of open class lexical items than among

affixes which are limited to affixing to particular verb classes. Derivational morphemes which change word class generally need to be reasonably productive in order to convert borrowings and other innovations into the word class suitable for the specific utterance.

In the sense of productivity, we can also consider cases of productive zero derivation as full fledged CCs. Lord (1979) notes that children learning English will commonly make "errors" by using English NCVs causatively when they are only non-causative in adult language:

116) (Age 4;3) Now, hold it to me! (let me hold [the balloon])

117) (Age 2;5) I'm dancing Jeremy Fisher. (causing stuffed toy to dance)

118) (Age 4;5) Benjy might poke himeself and bleed his hands...
(cause to bleed) (82-83)

We could explain this as a well motivated over-extension of the adult pattern. The child thinks there is a productive zero-derivation for English when there really isn't. When adults do regularly refer to causative events containing resultant events such as "dance" or "bleed", they also are likely to use the simple verb stem as a lexical causative. Doctors used to bleed their patients; A bouncer at a discotheque might routinely dance drunken customers to the door; and so on. Adult examples like these also confirm the sensibility of the children's productive pattern of making use of simple intransitive verbs as lexical causatives. On the other hand, adult Modern Hebrew (with its fairly consistently applied paradigm CCs) does not provide a productive lexical causative model to over-extend from. So "over-generalization" of an adult pattern should not be expected. However, Hebrew speaking children, like English speaking children, also make similar "over-generalization errors" (cf. Berman 1982).

119) anin roca še aba yoxal oti axsäv
 1s want that Daddy Fu.eat(*Paal*: Active) me now
 [Contrasts with ya'axil(*Hifil*: Causative) "feed"]

120) er'e lax masieu, tov?
 1s-Fu-see(*Paal*: Active) 2s something OK
 [Contrasts with ar'e(*Hifil*: Causative) "I'll show"]
 (Berman 1982:173)

Since the use of the *Paal* pattern for causative function can't be motivated by clear analogy with an adult pattern, we can conclude there is something fairly universal motivating the use of simple active intransitive forms for causative meaning. This is (partially) unlearned by the time of speaking an adult language which doesn't use zero derivation productively.³⁴ For this reason, we should not be surprised by the large number of labile verbs in many languages despite the relative paucity of languages which have zero derivation as a fully productive strategy. After all, the use of the same verb for both clearly related meanings is quite efficient. Ambiguity is unlikely since the argument structure will vary clearly depending on the sense.

4.325 Reduplicative causatives

The final two types of morphologically marked CCs discussed here are the rarest in my survey. These involve either a reduplicated causative morpheme as a common way of marking a CC or in the case of one language in the survey – and the only language of that family for which I could find sufficient semantic information – redupli-

³⁴ Needless to say, children do not overgeneralize randomly. They tend to use this strategy in limited situations. Cecile Toupin (p.c.) finds that such uses are most common with direct manipulative causation, which is widely spoken in children's play.

cation of just the verb root itself. Other than the use of doubled morphemes, these two construction types have relatively little to do with each other and are not confusable – as the various other types of morphological CCs might be.

4.3251 Double CMs

It is certainly widespread that CMs will occur with many verbs which (when unmarked) are considered semantically causative. Somewhat less common than this is the occurrence of two CMs associated with an otherwise non-causative verb. Examples of this are almost perfectly restricted to predicates where at least one of the CMs is affixal. A corollary of this is that languages which have double CMs associated with a single verb stem are almost universally agglutinative. The converse is not true however: by no means do all morphologically agglutinative languages permit double CMs.

Semantically, there are two basic types of double CMs: 1) those which indicate that there is one causative event (semantically single causative) and 2) those which embed one causative event within another (semantically double causative, eg. I had her make him dance). Many languages (such as Turkish) allow ambiguity between whether one or two causative events is implied by a double CM.

Both of these types can be cross-cut by another distinction: both CMs may be the same marker (phonemically) or each CM must be morphologically distinct. For example, in Turkish – which can have up to three CMs – adjacent CMs must be different morphemes (there are two to choose from):

121) döṽ-dür-t-tü "make [someone] beat [someone]"
beat-CM-CM-Ps-3s

122) *döṽ-dür-dür-dü (Turkish)
beat-CM-CM-Ps-3s

On the other hand, in Oceanic Da'a, we can find identical transitive/causative morphemes adjacent to one another:

123) I'a nom-po-po-koni ka apu buya-ku
3s AgFoc.Real-CM-Tr-eat to fire sarong-my
"He burned up my sarong in the fire."
(lit: "caused the fire to eat my sarong")
(Da'a; Barr 1988:17)

It is also possible to have dissimilar transitive/causative morphemes adjacent as well:

124) Aku nom-po-pa-njili sero ka pue-na
1s AgFoc.Real-CM-Tr-return shovel to owner-its
"I returned the shovel to its owner."
(lit: "caused to return")
(Da'a; Barr 1988:17)

In Oromo (following Dubinsky, Lloret, and Newman 1988), the number of CMs depends on the number of "initial (logical) subjects" (497). A verb like "go home" can be causativized to produce a transitive/causative verb "bring home". Thus a causative like "make bring home" is constructed from this transitive verb stem will actually have two allomorphs of the CM -s:³⁵

125) galč^ṽ- + -si(i)s --> galčisiis-
bring.home CM-CM "make-bring.home"

It is not possible to reduce the number of CMs despite the redundancy with the arguments present and any phonological motivations to do so.

126) galč^ṽ- + -si(i)s --> *galčiis-
CM

4.3252 Stem reduplication

In the Central Khoisan language Nama, Hagman (1977) reports three types of CCs. There is a CM suffix -ĩ which can only occur with a small number of roots (mostly verbs of position, it seems) (72). There is an independent auxiliary verb kái with the meaning "compel, make, or allow someone to do ___"³⁶ (93). Most interestingly is a third strategy which marks a causative function (cause to happen or to be ___) via reduplication (with morphotonemic adjustment) of simple active verb roots.

127) ʃxũ --> ʃxũʃxũ
be.happy make.happy

128) tsúũ --> tsúũtsúũ
feel.pain hurt (someone) (Hagman 1977:73)

Unfortunately I have only found this one example of reduplicative marking of causative function. There is little known about the CCs of the other Khoisan languages and there is no evidence of spread of this CC type into neighboring Bantu languages. According to Snyman (1970), the !Kung language from the Northern Khoisan group uses a "dependent verbal stem" functioning as a CM prefix (129-30). Snyman gives no evidence of a reduplicative CC akin to the Nama reduplicative CC. On the other hand, the languages

³⁵ This example is somewhat more complex because "bring home" like most transitive verbs is derived from an intransitive verb "return home" plus a CM in its turn. Dubinsky, et al. treat this derived transitive verb as simply a transitive verb stem here. Else, one could argue for the presence of triple CM marking on this verb.

³⁶ káá is also a copular verb "become". "Cause to become" is just káá not *káá káá. Hagman explains this as a case of deletion, but it seems that this fact really raises the question of what exactly is the basic meaning of káá?

do not seem to be that closely related (certainly their affixal CCs are quite distinct).

So, further research on reduplicated stem CCs is very much needed. If such cases prove true, they represent an unexplored use of reduplication. I have no particular account for how this might have occurred, but then my intuitions and most historical work on functions of reduplication are formed from Eurasian language families.

To hazard a guess on how such a construction might come about, remember that a causative event consists of two sub-events: the causing and the resultant. A non-causative verb consists of a single event. Two non-causative verbs will describe two events. Thus there is an iconicity between two verbs and two events. This is parallel with languages which use a verb like "cause" to form a causing event matrix for the resultant event. Languages which make extensive use of zero-derivation provide evidence for the ease with which speakers can recover from a single verb either a single (inchoative) event or a complex causing and resultant event scenario.

Like zero-derivational CC languages, Nama may use the same verb to mark both the simple event semantics and the complex causing plus resultant event semantics. But additionally, Nama explicitly marks which interpretation (simple vs causative) is intended by the iconic means of reduplicating the verb stem when two sub-events are in the depicted event (i.e., with the CV).

4.33 Two clause causatives

My interest is primarily in dedicated CCs (those which explicitly and unambiguously express causation as a central function). Accordingly, many two-clause constructions fall outside of my focus. On the other hand, there are a number of two-clause

constructions which are perhaps borderline dedicated CCs. So some overview of two-clause constructions which can express some notion of causation is in order.

I distinguish between two basic types of multi-clause CCs: Conjunctive and subordinate. Following Song (1990) (cf. §4.42), the first of these subsumes his *AND* type and the second subsumes his *PURP* type.

Many languages will simply indicate (or let the hearer infer) that there is a causal event by linking two clauses together by means of a conjunction. The simplest of these is a conjunction like English "and" whereby any causal relation between the two clauses is inferred:

129) I ordered him and he left.

130) awok-o men-e ki-mab-o-a aai-e
mother-Cl child-Cl command-Fu-3sf-Seq water-Cl

fucla-n-a-mab-e bo
bathe-Pnct-Nu-Fu-3sm Indicative
"The mother will make the child bathe"
(Mianmin; Smith and Weston (1974:138-39), cited in Song 1990:163)

131) Evasi' rokafuna dtegada mue
"He asked me for money, and (so) I gave him some."
(Hua; Haiman 1980b:451 – no glosses given)

In such cases, each verb is fully independent, still indicating the grammatical relations it would indicate if it were appearing in isolation.

More explicitly semantically causative are cases of causal conjunctions, such as "because":

132) He left because I ordered him.

133) I ordered him, so he left.

In such cases, little is left to inference. The order of the two clauses need not follow temporal order. Ordering is usually determined by the exact nature of the causal conjunction. Often, two constructions will exist to allow the speaker the choice of whether or not to follow temporal sequencing:

- 134) *avan pōyvittān ēṁnāl conṁēn.*
3s go-Prfv-Ps-3sm because speak-Ps-1s
"He went because I told him to."

- 135) *nān avanitāṁ colli, pōyvittān.*
1s 3s-to speak.Conj go-Prfv-Ps-3sm
"I told him and he went." = "I had him go" (Tamil)

Coordinate conjunction constructions which are CCs or imply causal relations between two events have a fixed order causal event -- resultant event. Subordinate constructions will vary in terms of the basic word order of the language (main verb -- subordinate verb vs. subordinate verb -- main verb). I do not explore the various syntactic properties of subordinate CCs as they are well explored in the basic corpus of the syntax of analytical causatives.

Of particular note for our present purposes are cases of subordinate constructions which are not CCs, but which might further grammaticize. Many two-clause constructions involve subordinate clauses which indicate the "purpose" for the performance of the main verb event. Song 1990 discusses purposive constructions and their potential development into CCs at some length. I review his work in §4.42.

136) Kim ssi-ka ai-til-i koñpu-ha-ke pañ-es
K Mr.-Nom child-Pl-Nom study-do-Purp room-from

na=o-ass-ta
get=out-Ps-Indic

"Mr. Kim left the room so that the shildren would study."

137) Kim ssi-ka ai-til-i koñpu-ha-ke ha-əss-ta
K Mr.-Nom child-Pl-Nom study-do-Purp cause-Ps-Indic
"Mr. Kim made the children study."
(Korean; Song 1990:175)

Purposive-type CCs or proto-CCs are akin to conjunction CCs in that they may not entail two actual events with a strict causal relation between them. The two constructions differ in an important way, however. With conjunctions two events are asserted and if the conjunction marker is not explicitly causal, a causal link between the two asserted events is only implied. With subordinated puposive clauses which imply causation, there may not be an entailment that the second (or intended) event actually occured. However, regardless of whether or not the intended event occured, there is an entailment that the two events are causally linked.

4.34 Summary of typical correlation between morphosyntactic type and polysemy

To summarize, we find a wide array of formal strategies which mark or imply causal relations. Given the wide range of constructions, I find it noteworthy that they can all express basically the same notion: there was one event and the occurance of this event transfered some manner of force onto some entity such that a second event occured. Surely this is a basic notion in human cognition. All languages have means for expressing this basic notion of causation. Yet languages may vary tremendously in how they express this causative notion.

This is not to say that there is a fully arbitrary relation between the form of the CC and the causative function it serves. There is a statistical tendency, as formatted in Table 2 for morphological CCs to less constrained ranges to their semantic extensional structures than non-morphological CCs. Exceptions abound – for example, as mentioned, polysynthetic languages violate the generalization that affixal CMs tend to have a wide semantic range. On the other hand, for most languages, the relation between polysemy and morphological type of construction is roughly as summarized:

	Proliferation of CCs	Polysemy per form
Analytic	many forms	specific causative function
Morphological		
Affix	few forms	wide range of functions
Paradigm	single form	wide range of functions
Conjunction/		
Subordination	several forms	specific causative function

Table 2: Summary of typical correlations between morphology and polysemy

4.4 Origins of CCs

Thus far in chapter 4, we have focussed on the nature of the causative event and CCs (§4.1), clause union and case marking strategies (§4.2), and the various types of marking found in CCs (§4.3). Having discussed the various types of CC marking, it remains with this section to discuss the various origins of these causative marking strategies. Again, I will give particular emphasis on affixal CMs.

In §4.41, I discuss the most common verbal origin of CMs and the effect of the original lexical meaning of the CM on the type causative function it expresses. Song (1990) makes the claim that purposive markers commonly develop into affixal CMs. In §4.42, I evaluate this claim and argue that while purposive markers *may* sometimes develop into CMs, Song's evidence poorly demonstrates the likelihood of this being a common development. §4.43 reviews various exceptions and potential exceptions to the verbal origins of CMs – including reanalysis of double causative marking as single marking and the extension of case marking function.

Having surveyed the nature of causative events, structural types of CCs, and the origins of these CCs, in section 5, I discuss my survey of the functional polysemy CCs may possess.

4.41 Typical verbal origin of the CM

The overwhelming majority of RMs historically derive from nominal elements. Furthermore, these elements are drawn from a fairly limited set of notions involving "self", "body", "own", etc. The typical origin of CMs contrasts with that of RMs in many respects. Most immediately obvious is that most CMs with a transparent history derive from verbal elements. Also these verbal sources make up a larger set of lexical

items and as a result, multiple CMs on the order of five or more in a language are quite common. While multiple RMs are also somewhat common, I know of no examples of more than two unrelated forms in a single language. Further, the source lexical items originally express a greater range of notions. In languages where the history of the CM is not known, there is a clear sense of the origin of the marker only when it retains at least some original lexical meaning. As will be mentioned in §5.4, when the CM still retains original lexical meaning, it is unlikely to be highly polysemous by having many extensions from a causative prototype. It may be a highly polysemous marker, but this polysemy will be structured around a core meaning inherent to the lexical semantics of the CM.

Because my study is weighted towards the synchronic study of affixal CMs, I have a fairly limited set of examples with a documented semantic history from lexical item to grammaticized CM. English, however, provides copious illustrations of the different stages of grammaticization. As far as can be told, most analytic CMs derive from verbs, though not perhaps as predictably as RMs from nouns. There is a large set of meanings for these verbs, but they can be organized into several basic types:

- 1) "dummy verbs"
- 2) verbs of transfer of force
- 3) verbs of creation
- 4) verbs of transfer of possession or of property placement

Additionally, there are a number of CMs which historically were literally causative in their central lexical meaning such as "cause", "allow", or "order". Such verbs may

remain specific to the original lexical meaning (as in these English verbs). Alternatively, they may become more grammaticized and acquire a broader range of meaning or causative functions. An example of this is the German *lassen* which had the meaning extensions "lose, leave" --> "allow" --> more general causative. We still find *lassen* used to express all of these meanings in Modern German. Tamil, as discussed above in §4.31 provides another example with its verb "tell" which is currently grammaticizing into a more general causative

1) "Dummy" verbs are those verbs which had already become highly grammaticized prior to being used in a CC. Traditionally, such verbs as "do" have been treated as "bleached" of lexical meaning and treated as pure morphosyntactic operators. I do not wish to enter into an argument with that view here, but it is interesting to note that there is one common route of grammaticization from dummy verb to CM.³⁷

Perhaps all languages need and have a strategy for converting nouns and/or adjectives into verbs or verbal predicates. Such deadjectival/denominal verbs are typically created with some fairly abstract verb which would translate into English as "do" or "make".

³⁷ Given that there is semantic content to CMs, the progress of dummy verb to CM suggests either that there was not total "bleaching" of the dummy verb's semantics after all, or that there has been a reintroduction of semantic material to the dummy verb which sanctioned its use as a CM.

138) benkyō suru literally: "do study(Noun)", i.e. "to study"
(Japanese)

139) nakai cey literally: "do laughter", i.e. "to laugh"
(Tamil)

140) do lunch "eat lunch together"
(American English)

This verb may first function just to create verbs, but many (or all) of these newly derived verbs will be causative in meaning. Thus "make green" is on a par with "redden" in that both involve an agent acting on a patient to bring about a definite change of state. Since this "dummy" verb is associated with causative meaning in derivational-verb or predicate structures, it may extend to become a more general causative marker – first marking causative verbs by combining with nouns or adjectives and later extending to creating causative verbs by combining with other verbs. The same "dummy verb" we saw for Tamil above (cey) is used as a general periphrastic CM.

141) Nān avanaip pōkac ceyvēn.
1s 3sm-Ācc go.Inf CM/"do"-Fū-1s
"I'll make him go." (Tamil)

2) Given the force dynamic nature of the basic metaphor of causation (cf. §4.13), it is no surprise that many CMs grammaticize from verbs denoting transfer of force. Espenson (1989) gives an extensive treatment of verbs which denote force and causation in English. It would certainly be interesting to reexamine English in a few centuries to see how many of these verbs became further grammaticized. More immediately possible, it would be nice to have a Force Dynamically sensitive study of earlier English CCs on a par with Sweetser's (1990) account of the development of the English

modal system. Thus I pushed him to do something does not literally mean that physical force was applied to the patient to move him towards action. Rather, push is used as a force dynamic term by metaphorically extending from its physical force domain to the domain of interpersonal relations. More grammaticized examples of this can be found in many languages.

3) Related to verbs of force are verbs of creation. Creation verbs (which are not CMs) do not assume prior existence as such of the patient at all. Thus *I created him (to) go is unacceptable (as long as it is not grammaticized) as a CC because the resultant event expressed by the verb go presupposes prior existence of the patient. Create presupposes no prior existence of the patient. (There is an acceptable reading where the to go gives a purposive reading for the creation of the existence of the patient.)

So, just as verbs of force effect *change* in the state or location of the patient, verbs of creation effect the very existence of the patient. Intuitively, there is a common folk model of causation which assumes that existence comes from the prior existence of some other material.³⁸ It is profoundly unsettling to think of something coming into existence without it coming "out" of some prior state. When we physically "make" something, we convert one set of materials into something else. Similarly, when we "make" an event or state occur, our folk model assumes the existence of a prior causal

³⁸ Even when Europeans subscribed to a notion of spontaneous generation of life, they still used language such as coming out of nothingness into existence. The language at least presupposes a model of prior and following states which are typically metaphorically viewed as regions or containers.

or pre-causal event or state. We can "make a disturbance" out of a prior state of calm. However, while this prior state is perhaps necessary for the resultant state or event, it is not necessarily assumed to be causally responsible to the resultant event. We "make a disturbance" out of calm *by* acting causally on the prior state. This model of creation extends to all types of causation with any type of causee. The resultant state is encoded by the non-causative verb: I made him dance, I made it break, It made me think, The wind made it break. The CM indicates that the subject "creates" the resultant state out of the previous state by means of some (typically unspecified) action, appearance, quality, etc. CMs derived from creation verbs are different from non-CM creation verbs. These CMs allow expression of a patient which has independent existence, but whose resultant state would not have an independent existence if not for the causer. Again, the causer is deemed *responsible* for the result.

In short, the typical grammaticization of creation verbs into CMs comes from a change from just marking the creation of a patient to marking the creation of a state for some patient. The subject/causer remains responsible for the patient in both causally-grammaticized and non-grammaticized creation verbs. Creation verbs which assume creation from no prior state are quite rare. Because of this rarity, and because the folk notion of causation assumes a prior state, the only CMs we find derived from creation verbs derive from verbs which allow for a prior state.

4) Rather than deriving from verbs expressing creation of an entity, many CMs derive from verbs which denote *manipulation of an entity*. Since causation is commonly understood in terms of transfer of force, we find that most verbs of manipulation

which develop into CMs involve *transfer* of the patient. Most commonly, these verbs transfer the patient into the control of the agent. In English the verb *get* (meaning "receive" as in *I got the money*) came to be used causatively *I got him to go*. Compare this with the non-grammaticized synonym *receive* which did not become causal: **I received him to go*. Verbs like *get* mark the fact that the agent has control over the patient. When they grammaticize to CMs, they are extended by losing the implication of acquisition, but they retain an image-schematic notion of control or force over the patient. From this notion of control, we can expect the verbs which become CMs to not just refer to the *existence* of the patient, but to provide a notion of control over the resultant event or the state of the patient (causee). In other words, with transfer verbs we see the same grammaticization pattern as with creation verbs: both are extended from describing the force applied to the patient's existence to describing the force applied to the patient's state. What varies between these creation and transfer verbs which become CMs is the original physical domain of the lexeme's semantics: existence in general versus location.

Just as an agent's possession of a patient gives the agent control, an agent's control of the patient's location also gives the agent some control. Prototypically, if an agent places a patient in a particular location, it is for some particular purpose rather than an abandoning of control. Further, the ability to place something somewhere entails that the agent of this placing has complete control (in the domain of location) over the patient. Verbs like *store*, *set*, *place*, *fix*, etc. usually imply that the agent has a future purpose in mind for the patient. Further, the very ability of the agent to select the

location of the patient implies the agent has control over the patient. Again, the grammaticization to a CM comes from an extension from physical control (over location) to force dynamic control (over activity/state) of the patient. Thus in English, *setting the hounds to run* metaphorically means to *move* the dogs *from* the state of not running *to* the state of running. The causer has control (and full responsibility) over the occurrence of the resultant event.

The Tamil verb *vai* is an interesting example of an agent-patient verb indicating change of location which has grammaticized as a CM. Tamil had (and continues to have) two main verbs for "agent places patient somewhere": *vai* and *pōṭu*. *Vai* further implies that the agent is locating the patient in a particular location for (future) utility or purpose. *Pōṭu* has not such implication and only denotes the physical act of relocation. I would argue that it is not a coincidence that of the two verbs, only *vai* became grammaticized as a CM. We should not, for example, expect *pōṭu* to become the causative auxiliary verb, while *vai* does not become associated with causation. It remains an open question how statistically legitimate such observations may really be cross-linguistically.

4.42 Purposive constructions

Song (1990) proposes a common diachronic path of causative affixes arising from purposive-marking elements. The idea that a CM might have arisen from a purposive element (such as "in order that") is not entirely new – Song credits Wolfenden (1929) with the speculation that the Tibeto-Burman causative prefix may have derived from a directive element (1990:157). Still, this idea has been little explored and deserves some

mention here.³⁹

While allowing for other origins of affixal CMs, Song posits purposive to causative grammaticization as a major source of CM development. Song posits three potential prototype categories for CCs: compact (i.e. monoclausal CCs); coordinated clauses (as per §4.33); and two-clause structures, to which he applies the meta-term PURP. Roughly, PURP structures are those in which a subordinate clause provides the intention or goal of the main clause action. Compact CCs are familiar and the object of my study. These include morphologically marked causal verbs and other cases which involve clause union. PURP constructions must have an explicit marking and this marking is very resistant to loss because of its semantic load. Thus, Song claims that PURP markers are prime candidates for becoming CMs. On the other hand, coordinated clauses (AND constructions) have fixed order when they have a causative interpretation. There may be no explicit marker of AND when two clauses are coordinated and since such constructions are so generally used for many types of conjoined events. For this reason, Song considers AND constructions a poor source of CMs. (I return to this point further below.)

Song leaves open the question of whether or not coordinated clauses and PURP clauses can be reduced to variations of a single type. It should be noted, that Song is somewhat inconsistent in calling AND and PURP types prototypes for causative constructions. Unlike compact constructions, AND and PURP usually do not entail

³⁹ Related to this topic, cf. the section on the applicative functions of some CMs, §5.24.

(though they may imply) that the resultant event actually occurs. Song resists calling these constructions CCs, though he does occasionally casually refer to them as CCs. He basically tries to establish a distinction between what he calls implicative and non-implicative causatives. Implicative causatives imply that the resultant event actually occurred. PURP clauses may not imply that the purpose of the initial action was actually realized. So for English, *I woke him to leave* does not imply he left. But there are a number of languages which need not entail that the resultant event actually occurred even though the construction in question appears otherwise exactly like a prototypical CC. Further in such languages, there may be *no* basic construction which universally indicates both completion of the resultant event and existence of a causal event. So if we were to exclude such cases from being considered CCs, we would be forced to the conclusion that these languages have no causatives at all. Lacking other compelling reasons for claiming that a language has no causative, I prefer to not require CCs to be strictly implicative, in Song's sense – though they may be so prototypically.

Some of Song's PURP examples are clearly directional in function even though he calls them purposive. For example, early in his article, Song cites Wolfenden's (1929:46-48) note that the Tibetan causative affix may have arisen "from the general directive element" (154). Song uses this as a starting point to launch his thesis that CMs commonly derive from PURP markers. However, it is well established that directional markers are commonly extended to mark purposives. For example, Genetti (1986) documents the extension of allative and dative markers to markers of purpose clauses for Bodic languages (Tibeto-Burman).⁴⁰ But the reverse is not found: purposive

⁴⁰ The metaphors of this extension is discussed in Sweetser (1988). To simplify, the extension

143) Mikel-ek Jon Edurne-ri liburu-a eros-te-ra
M-Erg J-Abs E-Dat book-Sg.Abs buy-Nlz-All

behar-tu z-u-en
force-Prfv 3s.Erg-Aux-Ps

"Mikel forced Jon to buy a book for Edurne."
(Salterelli (1988:2), cited in Song 1990:165-166)

Examples like the Basque clearly support the analysis of allative case as also a PURP case. Most of the examples which Song cites are clear examples of an allative marker being used for PURP in a sentence with causative meaning. However, the bulk of these examples have a different explicit CM in the CC as well as an allative/PURP marker. So it is true that the PURP may be *associated* with use in CCs. However, Song's examples provide poor evidence that the allative/PURP marker in and of itself indicates causative semantics. The data with explicit CMs seems especially weak, when we consider that Song presumably would have sought to provide primarily examples of PURP markers which alone indicate causatives.

Song does give a few cases of PURP markers in causative sentences without any other CM. For example, he cites the Thai example

144) Sǎakhǎa hǎy dèk wīn
S PURP child run
"Saka had a child run." (Vichit-Vadakan 1976, cited in Song 1990:176)

There are two still problems with this example. 1) The PURP marker *hây* also occurs with an explicit analytic CM.

145) Sǎakhǎa tham hǎy nǐsaa tii chán
S cause PURP N hit 1s
"Saka made Nisa hit me."

We may suspect that the use of the PURP marker may evoke a full CC in the mind of

the speaker by association with the CM. The speaker may actually conceive of the CC as having separate PURP and CMs which denote purposive and causative respectively, but for convenience the CM may be omitted when there is no unacceptable ambiguity.⁴¹ 2) While Song glosses the marker *hây* as PURP, given the analytic serial-verb typology of the language, we can treat *hây* as essentially a verb and/or adverb in origin. Without knowing the actual lexical meaning of *hây*, we can't be certain that it is actually some notion PURP rather than the specific lexical meaning which is motivating its use in this construction.

Song gives many examples of PURP used with CMs, which I feel demonstrate only the appropriateness of PURP or directional marking for denoting part (usually the resultant event) of a total causal event. However, Song does give some examples of markers which are used to mark both causation and directional. For example, he cites Williamson (1965) for the following examples from Ijo. The first two use *mɔ* as a directional marker and the latter two use *mɔ* as a CM:

146) *tɔbɔɔ wɛnj-mɔ*
 child walk-Dir
 "Walk towards the child."
 (Ijo; citation unclear)

147) *átu-bj àki tɛn kak-mɔ*
 canoe-Art take tree tie-Dir
 "tie the canoe to a tree"
 (Ijo; cited in Givón 1975:76)

⁴¹ The glosses suggest that the sentence with the explicit CM is more causative in terms of direct coercion, which we would expect.

- 148) erĩ áry-bị bile-mọ-mi
 he canoe-Art sank-CM-Asp
 "He sank the canoe."
 (Ijo; cited in Givón 1975:95)

- 149) wónì uru akị-nị u-bọy-mọ-mi
 1p wine take-Asp 3sm-drink-CM-Asp
 "We made him drink the wine."
 (Ijo; Givón 1975:80)

In such cases, and with no other data to rely on, we can't say whether this is a PURP being used as a CM, a CM being used as a PURP, or even a directional being used for both CM and PURP. Song writes that Givón (1975) claims that -mọ can be traced back to a lexical CV and the affixation on the verb would seem to support this. However, Song rejects this claim (without argument) in favor of a PURP --> CM analysis.

I should note that in my reading of Givón (1975), the form -mọ (or mọ(mọ)) is treated not as an original CV at all, but rather as an "old *comitative* post-position" (77, emphasis his). As such, it is used as a case marker:

- 150) erĩ wo bina *one'wèri-mọ bó-mi
 3s s3.Poss relative man-with come-Asp
 "He came with his (male) relative." (77)

in a "subordinate-conjunction capacity" (77):

- 151) wó warị là-mọ
 1p.Poss house reach-with
 "as soon as we reached our house"

and "not unpredictably" (78) in conjunction of NPs:

- 152) iwĩri-mọ nbele-mọ-kpọ bó-dọy
 Tortoise-with lizard-with-with come-Asp
 "Tortoise and Lizard have come."

If -mọ was earlier used to mark comitative, it seems hardly surprising that this marker might be used in conjunction with CCs. After all, the comitative function is commonly

and crosslinguistically associated with marking for instruments and causees and instruments often can receive the same case marking. Givón does later refer to the suffix *-mɔ* as a causative suffix, but he does not seem to be arguing that this function predates the comitative function. Indeed, Givón adds "that suffix is not always a *replacement* of the deleted 'make', but in other instances exists with it" (95; emphasis his), as in the examples given above. So, Givón does not appear to be arguing for *mɔ* being traced back to a lexical causative verb at all.⁴² Indeed, his (implicit) analysis would seem fairly close to Song's – but with the crucial difference that the marker was not originally a PURP/directional marker, but rather a comitative. Remember that comitative markers are frequently used as case marking in CCs. Ijo, which may be on the path of losing the explicit CM (now optional), has a multi-functional comitative case marking. The Ijo comitative is accordingly prone to reanalysis as a new CM.

In short, Song might be correct in saying that CMs often derive from PURP markers. Unfortunately, synchronic polysemy in just a few languages does not constitute a convincing argument.

Recognizing this, Song provides preliminary historical evidence for the historical development of PURP markers into CMs. I believe that such a directional change may well have occurred in some language families. Unfortunately, I do not find the evidence he presents very compelling. For example, Song gives the example of Austrone-

⁴² Givón is only tangentially concerned with *-mɔ*. His article primarily concerns word order evolution.

sian *paka as a potential instance of a PURP marker becoming a CM. Some of the daughter languages do have directional functions for the morpheme descended from *paka. These functions are scattered and to some extent quite marginal (cf. the references in the appendix for Austronesian languages, especially the Oceanic languages). On the other hand, *paka's use as a marker of CCs is quite widespread and robust. Comparatively then, we hardly have a strong argument for the functional primacy of a directional function over causative in these languages. If we were to assume a directive (or, by extension: PURP) prototype of *paka, we would be unable to explain the universality of the causative functions the universality of the causative function unless we presuppose Song's hypothesis. Given this lack of hard evidence, the best arguments for PURP becoming a CM become somewhat circular. On the other hand, it seems quite reasonable to assume that *paka was *originally* a CM of some sort which became widely polyfunctional through time. We have ample evidence of this polyfunctionality. However, given that physical directionality is not an expected extension of a CM, how it may have subsequently extended to the occasional directional function remains unexplained.

A further possibility, in favor of Song's hypothesis, is that *paka may have been a PURP marker long before acquiring the causative function. It appears however to have been a CM at the time of Proto-Austronesian. We have insufficient evidence to assume it was a PURP marker at that stage. So, while it potentially was a PURP prior to developing into a CM, we have no evidence of this development. Accordingly, vaka is no more likely to have developed from a PURP than any other CM (for which we don't

have an adequate history) in any other language family. It is possible though that the scattered directional functions in the occasional daughter language are fossilized evidence of an ancient directional (or even PURP) function. Unfortunately, it would take much more extensive study to be even reasonably certain of this.

Similarly, Song gives the example of the CM -gär in many Turkic languages. The form -gä is used as a dative marker in Bashkir (a Turkic language, cf. Poppe 1964). Gär is probably made up of two suffixes: an unproductive -gä and a productive CM -r. This may be the historically true morphological make-up of -gär – and I suspect it is. Further, the unproductive verbal affix -gä may be related to an old dative marker – though we can't be certain. Even if this is all true, we still have no reason to assume a semantic derivation of causative from PURP. There is still a recently productive explicit CM -r in the CC which surely contributes the causative reading. Further, as in the case of Ijo, the presence of a dative (or directional) as part of a CC is not unusual. So again, we have no solid evidence that the directional element contributed to the origin of the CM.

The force dynamic values of *cause* are not, after all, generally present in an allative marker. For example, there is a long history of the use of the allative marker in English CCs. Historically, the allative marker *to* came to be used as the novel infinitive marker we see today. This is well motivated in terms of a basic metaphor for treating states or activities grammatically as though they were locations which one approaches or enters. But the use of the allative marker in force him *TO* go should not be seen as the source of the causative semantics. Rather the verb force is the causative verb.

Indeed, with the more completely grammaticized CM verbs *make* and *have* a *to*-less infinitive is used. Thus, in the most conventionalized productive CCs in English, there is actually removal of the historical directional marker.⁴³ This is quite at odds with Song's thesis – though it certainly doesn't disprove it as a possibility in some language families.

4.43 Exceptions to the norm

While the typical morphological CM historically derives from a verb of causation such as "*make*", "*impell*", "*put*", or "*get*", there are a number of affixal CMs which do not share this origin. I don't propose to extensively research the origins of CMs in this thesis. Accordingly, I only mention here a few common possible alternatives to the common historical development of the CM from a lexical causative verb.

First off, a great many morphological CMs have an uncertain origin. Perhaps the majority of languages' morphological CMs can be traced no further back than to a proto-form which was itself a causative marker of some type or other. However, even though we know the history of the CM for only a few languages, we still find exceptions to the tendency for the CM to derive historically from a lexical verb.

One of the more notable exceptions are the paradigmatically marked CCs as

⁴³ I am not claiming that the loss of the *to*-infinitive is *because* of the causative function in these constructions however. Rather, the old allative marker seems relatively incidental to the causative in English and, by analogy, may well be incidental in many of the languages cited by Song as well.

already discussed in §4.322. The Semitic paradigmatic CCs have been remarkably stable as a means of marking causation. Each language's binyanim patterning has changed from previous patterns. But as well as can be reconstructed, Proto-Semitic itself had some version of paradigmatic CCs as well. In other words, each Semitic language has developed its own paradigmatic CC out of a previous paradigmatic CC.⁴⁴ As far back as Proto-Afro-Asiatic, there may have been an affixal CM which ultimately fused into a paradigm system of CC marking. This affixal CM may have developed in turn from a lexical verb, but the historical time-depth for such a development makes any potential lexical origin impossible to ascertain. Further, many paradigmatic CCs can arise from analogy with other paradigmatic alternations which express voice or valence relations. The paradigm alternation after which the productive CC has been modeled may ultimately have a lexical source. But if so, we can scarcely speak of a lexical origin for this particular *causative* marking pattern.

Similarly, there are some cases of affixal CMs which have historically derived by reanalysis of two formerly separable affixes as a single affixal CM. The only cases of this derivation which I have seen involve at least one of the affixes being a CM "pre-fusionally". The Turkic languages provide a fairly clear example of this. We have already seen Poppe's (1964; as cited in Song 1990) account of the -gär suffix in Bashkir which derived from two affixes gā (with uncertain function) plus the old CM -r.

Other Turkic languages provide even clearer examples of a single CM which

⁴⁴ Thanks to Orin Gensler (p.c.) for this information.

developed out of the fusion of two other morphemes. For example, the origin of Turkish **-dir** was probably from the fusion of two distinct CMs **-t-** + **(i)r** which were probably recurrently combined in a double causative construction.

Hayward (1976, cited in Bliese 1981:128-29) gives a similar analysis for the 'Afar affixal CM:

153) 'usuk 'a duy'ye (a'kah) xab-sii's-e
 3sm this stuff (someone) release-CM-Prfverb
 "He caused this stuff to be released"
 or: "He caused someone to release this stuff."

Hayward argues that the CM **-siis** derives from two "transitivizers" **-is** and **-is**.⁴⁵ This looks quite similar to the etymology of the Turkish **dIr** from from the combination of two CMs.

Again, in such cases, the individual morphemes may ultimately derive from lexical sources. But the immediate source of the current CM is itself other CMs, the origins of which are unclear. Thus, it makes little sense to talk of a lexical source of the Turkic agglutinative CMs. Morphemes such as **-dir** are grammaticized from already fully grammaticized causative markers. In a sense, by virtue of already being explicit and non-metaphorical causative functors, CMs are perfectly natural candidates for

⁴⁵ Note that even some distant languages have a CM which looks remarkably similar. For example, Tsonga (a South East Bantu language) has the CM **-isis** with the form **-is** alone showing up in some constructions.

-nwa "drink"
 -nwis2 "let drink" (Baumbach 1987:202)

developing into new CMs. This is perhaps analogous to a verb like *cause* in English grammaticizing into an analytic causative verb on a par with *make* or *have*. The language needs to have CM-derived affixal CMs and a morphophononemic motivation for further development of the original CMs. Additionally, Turkic languages sanction the use of double CM marking.

Another class of non-lexical sources for CCs is variation of case marking. As discussed by Kemmer and Verhagen (ms.), case marking shifts often signal the presence of causal relations not seen as present in simple inchoatives. In the case of labile verbs (those which have one overt verbal marking difference between the causative and non-causative senses), only the number of arguments – and more specifically the case relations they exhibit – reveal whether or not the verb is in a CC or not. In such cases, we cannot speak of a lexical verb origin of the CC and there is no dedicated CM in the verbal morphology.

More interesting are the possible cases of case markers developing into explicit CMs through extension or reanalysis. In the last section, I discussed Song's hypothesized PURP origin for many CMs. This PURP, in turn, would typically be derived from a spatial pre-/post-position or case marker such as dative or allative. Further candidates for evolving into CMs would be comitative or instrumental markings which become causal by virtue of their association with instrument or causee marking. Comitative or instrumental marking often is used to mark "because" clauses which are used to describe causative situations. For example, the Tamil instrumental marker can affix to a noun which refers to the cause of a resultant event:

- 154) *malaiyāl nān vīṭṭil cumā iruntēn.*
rain-*Inst* 1s house-Loc simply be-Ps-1s
"I stayed home because of the rain."

By extension, the instrumental can be used with a nominalized causal sentence to serve as a "because" clause:

- 155) *nān vīṭṭil cumā iruntatāl,*
1s house-Loc simply be-Ps-Nml-*Inst*

avan ennai pārkkavillai.
3s.Nom 1s-Acc see-Inf-Neg

"Because I just stayed home, he didn't see me."
[More literal: "With my staying home, he didn't see me."]

Sentences like these are really only one small step from the semantics of "My staying home made him not see me." Already affixed to a verb and marking a causing event, the instrumental is thus a prime candidate to be utilized as a general CM.

F. Li (1991) argues that the instrumental markers in both Temne and Koho evolved into CMs. Unfortunately, his argument is based primarily on similarity of phonological shape for both the instrumental marker and the CM in these languages. Similarity of form does not give any indication of the direction of extension. That is, we can't know whether an instrumental developed into a CM or a CM developed into an instrumental. However, the development of an instrumental into a CM seems semantically more plausible given the general tendency for markers of physical relations to extend into (more abstract) markers of causation.

Like instrumentals, any other markers which mark "because" clauses may be candidates to become CMs. Thus explicit causal conjunctions (like *because*) would seem semantically probable antecedents for CMs. Song (1990) subsumes causal conjunctions

under his "metaterm" AND. He considers cases of AND "in comparison with the meta-term PURP [to be] extremely poor source[s] of causative affixes" (173). Song's reasons for this hinge on two main factors: 1) the greater semantic preference for PURP markers to become CMs and 2) the frequent minimal or zero marking of AND. The first of these reasons is only as strong as the demonstration of the primacy of PURP as a source of affixal CMs which has not yet, to my mind, been satisfactorily demonstrated. Concerning his second point, certainly it is true any zero marked AND would be a poor candidate for becoming a CM. On the other hand, this point rests on grouping all conjunctions together where the likelihood of some statistical average of the class becoming an affixal CM is quite low. In fact, an explicit "because" marker is quite unlikely to have minimal or zero marking and is quite semantically specialized for representing causal events. Despite this, I can offer no cases of "because" conjunctions grammaticizing to general affixal CMs. It would be interesting to see whether such cases can be found. If they cannot, or are quite rare, it remains to be explained why they seem prevented from grammaticizing into general CMs.

5. Polysemy of causative marking

In this section, I detail some of the more common and interesting extended functions recurrently expressed by the CC in unrelated and noncontiguous languages. The causative construction has interesting parallels with the reflexive construction as well as critical differences. Most immediately relevant for this chapter is that CMs are generally more restricted in function than RMs (not counting any non-causative lexical polysemy which the marker may have). However there is still a fairly large list of grammatical functions and I see my task to help organize and explain these functions as part of a coherent system. Like the discussion of RM polysemy in section 3, the work in the section characterizes each function as a natural extension (or extension of an extension) from a basic prototype of the CM use.

Accordingly, §5.1 discusses the central cases of CCs and immediate semantic extensions from these central cases. §5.11 focusses on the various prototypes of CMs and how they fit into Li's (1991) proposed continuum. I also discuss their potential dependence on the hypothesized pre-grammaticization metaphor. I further discuss the use of the same marker as both a CM and as a derivational verbalizing morpheme. §5.12 treats the class of immediate extensions from the particular prototype of the CM in terms of broadened application of the relevant force dynamic properties. These properties essentially motivate semantic extensions or broadenings from the original, narrower semantics. Not all CMs will have all these extensions, but most (at least affixal) CCs will have some of these functions. In §5.2, I examine extensions beyond immediate extensions of the prototype and look at extensions which modify the role or referent structure of the base verb. These need not be treated as purely syntactic processes and I

explore treatments which semantic motivate these extensions which have syntactic consequences. §5.3 exemplifies the various *expressive* functions of CMs – that is, the functions which do not modify the semantic structuring of a characterized event in ways characterizable by truth-conditional semantics. Rather, such functions as the indication of *intensification* and *politeness* must be treated in terms of more subtle semantic properties relevant to construal of events and discourse goals. §5.4 Summarizes the list of functions and proposes a fairly universal network along which the extended CC functions for a specific language may be mapped – in parallel with the summary of reflexive types in §3.4.

5.1 Basic causative semantics

5.11 Prototypes of the causative

In §4.1, we discussed the possible conceptual prototype of causal events. However, while many CCs or CMs are quite specific in function, few if any seem dedicated to representing just this conceptual prototype. The functions of one CM may not overlap with the functions of another CM, but all CMs which exhibit reasonable degree of polysemy seem to be centered around one of several possible force dynamic functions. I mention and organize these below. Keep in mind, during this discussion, that I interpret this range of central functions, which vary from CM to CM, to represent a basic range of prototypes available for constructions which we might choose to call causative. This analysis is in keeping with the observable phenomenon that there is a wide variety of lexical origins for CMs – as discussed in the previous section.

F. Li (1991) proposes a continuum of causal relations. I see his continuum as a

useful shorthand for a more explicitly force dynamic characterization and will discuss causation using both his and Talmy's terms. Li makes a distinction between "Type I" and "Type II causatives. Type I causatives are "causer-controlled" which imply that the antagonist directly applies force to the agonist to create a direct consequence of the resultant event. Examples of Type I causatives include verbs of direct (esp. physical) coercion, such as *force*, *make*, and the like. Type II causatives are "causee-controlled", whereby (to translate again into Talmy's (1988) terminology) the typically human agonist creates the resultant event less under the control of the antagonist but rather without the intervention of the antagonist. Examples of Type II causatives include verbs of permission, such as *allow*, *let*, etc.. Li postulates a continuum between Type I and Type II causative relations as follows (from pure Type I to pure Type II): *coercive* > *directive* > *imperative* > *assistive* > *permissive*. Coercive causative imply situations where the antagonist (perhaps physically) forces the agonist toward an action or state. Directive causatives imply situations such as the antagonist "ordering" or "compelling" the agonist. Imperative causatives imply the antagonist "telling" or "saying to" the agonist. Assistive causatives imply the antagonist is "helping" the agonist.

This ordering to the continuum seems essentially valid.¹ Physical coercion is more

¹ I do not wish to seem to endorse all of Li's ideas about the various origins of the CM however. For example, I remain skeptical of his discussion of the potential process of development of intensive markers into CMs which may develop in turn into reciprocal markers.

causer-controlled than verbal or authoritative compelling. Authoritative compelling is more strongly causer-controlled than non-authoritative "saying" to do something where the antagonist has no authority to require the agonist's obedience. Assistive causatives ("helping") imply that the causer has an active role in the resultant event. Permissive causatives do not imply an active role. Thus assistive causatives might seem more causer-controlled than permissive causatives by virtue of the causer's more active involvement. On the other hand, assistive causatives imply that the resultant event would have occurred without any involvement of the causer/antagonist at all. Permissive causatives strongly imply that the causer/antagonist is essential for the occurrence of the resultant event. The antagonist has complete power to prevent the resultant event despite the tendencies of the agonist. By this metric, I suggest that really assistive causatives are more *causee*-controlled than permissive causatives. Indeed, the very lack of necessity for the antagonist's actions in the case of assistive "causatives" suggests that they are not particularly representative of causal situations at all. The distributional evidence suggests that assistive causatives are less common and thus probably less "purely" causal as well. As will be discussed in §5.123-5.124, many CMs extend to include a permissive sense, but only rarely do CMs extend to include an assistive sense.

We also saw (in § 4.41) how the verbs which typically grammaticize into CMs can be grouped into various types. Not surprisingly, the type of verb which is the source of a CM will influence the exact nuance of causative meaning. Or conversely, the speakers select which type of verb to use causatively on the basis of the exact nuance of causative meaning they wish to convey. I take each of those verb types in the same

order: "dummy" verbs, force transfer verbs, creation verbs, and verbs of transfer of property or location.

1) "Dummy" verbs (of the "do", Pro-verb variety) are already grammaticized and fairly abstract in meaning. Accordingly, when they become used causatively, they do not convey a precise nuance of detail for the causative event. Rather, they can typically be used to indicate a causative event without regard to whether the force applied to the causee was direct physical force, coercion, a demand, or permission which enabled a desired effect, etc.

- 1) *avan ennai vāṅkac ceytāṇ.*
 3s.Nom 1s.Acc buy.Inf "do"-Ps-3sm
 "He made/had/let me buy it." (Tamil)

2) Verbs involving transfer of force may have more specific causative nuance than "dummy" verbs. This nuance can vary according to the lexical meaning of the original verb. Verbs which involve force with implied resultant motion do typically entail a resultant event. Resultant motion verbs, like move, are thus more likely to grammaticize as CMs. Verbs like push, put, move, etc., can also refer to property placement or transfer of location – as such they are treated below in paragraph (4).

In contrast to verbs which imply application of force with resultant motion, many verbs simply denote application of force with no particular implication of subsequent effect. In general, we don't find very many cases of CMs with a clear history of development from verbs of pure transfer of force such as push. This seems fairly understandable, when we consider that CCs usually imply the definite occurrence of the resultant event. Verbs like push involve force transfer, but are neutral with regard to

the status of the resultant event. For example, in English, I pushed him to go swimming does not entail that he went swimming at all. Because of this lack of implication of the occurrence of a resultant event, verbs like push are less than optimal candidates for grammaticization as CMs. On the other hand, we might expect them to develop frequently into admonitive markers and perhaps purposive markers as well.

3) Verbs of creation commonly grammaticize into CMs. Since creation involves total control over the patient (at least initially), creation verbs typically grammaticize into CMs which imply strong or forceful causation. Verbs like make in English usually imply that the causee has had little choice in the matter of the resultant event.

2) The pirates made the captain walk the plank.

3) Jean a fait chanter Marie.

J have.Pr make.PP sing M

"Jean made Marie sing."

not "Jean let Marie sing."

As a result, such verbs are quite unlikely to have – *among their central grammatical uses* – a meaning of, e.g., enabling or helping. On the other hand, affixal CMs which do not transparently derive from creation verbs – even those which can also imply direct forceful causing events – often readily allow an interpretation whereby the causer enables or allows the resultant event. For example, the Turkish CMs are historically ancient and do not derive back to a known lexical source. The most likely interpretation of the CM is that there is coercion involved, but this is not the necessary interpretation:

4) Adama müzik dinlettim

man music listen-CM-Ps-1s

"I made/let/enabled/ordered him to listen..."

Turkish

4) Verbs of transfer of possession or location also commonly grammaticize as CMs. These verbs imply a strong degree of control of the agent over the patient. As such, we expect them grammaticizing initially into CMs which may also imply forceful causation.²

5) I set/put him to work.

6) Nān avanaip pārkkavattēn.

1s 3sm-Ācc see.Inf-place-Ps-1s

"I made/had him look."

The control over the patient may not be as complete as with creation verbs. Transfer implies an agent's control over a patient with respect to the single domain of the patient's location. Creation verbs imply the agent's complete control over the whole existence – of which the domain of location is but a sub-part. Because of this greater control over the patient, if a language has grammaticized both a verb of creation and a verb of transfer as CMs and uses them contrastively, we should expect the creation verb

² Note that the English example does not imply that the resultant event (of his actually working) occurs. Or if it does occur, there is little implication that the work continued. In other words, while the CVs set and put are causal and imply causer authority, they are weakly causal in terms of their relation to the resultant event. It would be interesting to determine how many CMs which derive from similar verbs also have a weak implication of an actualized resultant event. (Thanks to Eve Sweetser for this point.)

to be more likely to be used for forceful creation than the transfer verb.

English *make* and *get* exemplify this contrast between CMs derived from creation and transfer verbs. *I made him do it* usually implies a more direct or forceful coercion than *I got him to do it*. We usually cannot determine (at least without extensive study) the lexical origins of most affixal CMs. So when we find a contrast between forceful and non-forceful coercion among affixal CMs, we can't know whether or not the contrast is inherited from the original lexical source.

This is not to say that creation verbs which grammaticize into CMs will only express forceful coercion. Korean uses a three periphrastic CMs. The CM which derives from a verb *mantul-* "create, make" is perhaps less forceful than the other two periphrastic CMs *sikhi-* "cause, order" and a dummy verb *ha-* "do" (Jeong-Woon Park, p.c.). The details need further examination, but in any event, there is no contrast between creation vs. transfer in the Korean data, so the relative strengths of creation and transfer verbs cannot be evaluated. According to Lee (1985), the verb "order" cannot be used with a permission sense while the "do" CM can be used with a permission sense. We should expect "order" to be more likely to be limited to the forceful end of the causal situation continuum.³

Many languages with periphrastic CCs do make a contrast between two (or more) CMs which can be traced back to the lexical meaning of the source verbs. It should be

³ As has been generally noted (cf. §4.2), the case marking on the causee can indicate the degree of autonomy for the causee as well.

noted that not all CMs which derive from verbs will derive from verbs of the four types outlined above. However, we can expect the prototypical degree of coercion to be commensurate with the degree of coercion expressed by the lexical verb.⁴

Miskitu (Hale 1989:190) apparently has two CMs: *yab*, derived from "give", which denotes *coercive* causal situations, and *swi*, derived from "leave", which denotes *permissive* situations:⁵

7) Yang mita tuktan ba *yab-ri* kauhw-an.
1s Ag child Def CM-NFC fall-Ps
"I made the child fall." (189)

8) Witin yang ra ai *swi-n* skul ra wa-ri
3sm 1s Acc 1s let-NFC3 school to go-Ps1
"He let me go to school." (203)

Another possible example is Logbara (Central Sudanic) which has three auxiliary verbs which express values on the causal situation continuum (given here with their meanings as full main verbs): (è)fè "to give"; ko ("seldom used alone") "to leave?"; 'bà "to put" (Crazzolara 1960:166-167). (è)fè used as an auxiliary functions as a permis-

⁴ As mentioned, many CMs derive from explicitly causal verbs like "cause". Many other CMs derive from verbs of "saying", "ordering", "telling", etc.

⁵ There is another CM "approximately synonymous" to *yab* which I do not include. Of interest, but not to our current discussion, Hale notes that unlike CCs in more familiar languages, the CV in Miskitu is tense dependent on the resultant event verb. Hale provides a syntactic analysis of the Miskitu CC, which has the CM "in subordinate" to the resultant event verb.

sive or meaning "to cause to". In other words, the auxiliary derived from "give" appears to function to express values on Li's causal situation continuum.⁶ *ko*, presumably derived from "leave", appears limited to examples of non-involvement on the part of the causer – if a non-involved participant can be called a causer at all.

9) *é ko mà ɔvö!*
 "Let it/him be"

ko then is minimally causative at best, because there is no clear resultant event expressed. The notion of "leave" certainly could motivate detaching of a (potential) causer.

As a final example, consider Lahu (Tibeto-Burman) which has multiple CMs (Matisoff 1973).⁷ *Te* appears to have a core lexical meaning of "make" in the sense of

⁶ By word of caution, while Crazzolara glosses (è)fè as "to give leave to; cause to" he gives no clear examples of (è)fè used causatively where a permissive interpretation is not preferred. He gives

é fè á li mĩnĩ`zá!

"Let me cut meat for you" (No interlinear glosses given.)

as an example of *fè*. Accordingly, we cannot be certain that "give" expresses such a wide range of causal situations.

⁷ Li also considers Matisoff's description of the Lahu CMs. My discussion is roughly in concert with Li's on this point. Li gives further examples of the meaning of the CM influenced by the lexical meaning of the verb from which it developed (like Lahu). Li's further examples are from languages which were not included in my sampling: Inuit,

creation. Accordingly it is commonly used with physical or forceful causation:

- 10)
 nà "be sore (Vint)",
 te nà "hurt someone";
 chu "fat (Adj)",
 te chu "fatten";
 tē "crush (Vtr)",
 te tē "make [someone] crush [something]".

In contrast to *te*, *ci* expresses either "the coercive or the permissive causative" (244). Its core lexical meaning appears to be "send [someone] on an errand" and not surprisingly *ci* is limited to CCs with human causees but is less limited in its range on the causal situation continuum. "Sending someone" clearly implies control of the patient, but there is less control than what is implied by a creation verb. Accordingly *ci*, rather than *te*, can be used in a permissive (reduced causer control) sense. Additionally, there are less general CMs: *pī*, derived from "give", conveys causation "of a more indirect sort than that conveyed by *ci*. Thus *šī ci* 'make someone die' implies that the death was a direct consequence of a *purposeful* action, whereas *šī pī*...may indicate merely that a chain of events had been set in motion which eventuated in the death" (247). Similarly, *yū*, derived from "take", "has been extended to situations where the manipulation is merely figurative" (246) and "shows signs of developing into a causitiver" (247); There may be other motivations at work during the grammaticizations of these verbs. Still, we see again that the verb whose origin implies less control ("give" implies little control over the affected human participant) is used for less direct, force-

Gugu-Yalanji, Island Carib.

ful coercion than the verb whose origin implies greater control ("send" implies relatively greater control over the affected human participant).

Over time, as the lexical origin of the CM becomes more remote, we might expect the range of situations to which the CM can apply to become less connected to the original lexical meaning. I have not conducted a diachronic study to test this expectation. However, it does appear that affixal CMs are more likely to express the full range of causal situations than periphrastic CMs. This correlates with the tendency for periphrastic markers to be more recently and clearly related to full lexical items. There may be other factors influencing the statistically greater range of applications of affixal CMs,⁸ but it seems likely that the distant or severed link between the affixal CM and its original lexical meaning is likely to be a strongly influential factor.

5.12 Verbalizing and adverbializing functions

Markers which function to mark causatives are often associated with the derivational function of creating verbs from non-verbal stems and (less commonly) adverbs from non-verbal stems. The use of the same marker for two such basic functions as creating verbs and creating causatives raises the issue of which function is the more basic. I briefly discuss this issue below.

5.121 Verbalizing function

The use of "dummy" verbs in CCs raises a further issue for a prototype account of the central meaning of CMs. A "dummy" verb is an already semantically abstracted

⁸ Iconicity and a greater degree of abstraction, to name but two.

grammaticized morpheme. Those "dummy" verbs which also function as CMs are typically "dummy" verbs which also function as verbalizing morphemes. That is, they are used to create new verbs (transitive or otherwise) from typically nominal arguments or loan words.

- 11) caikal ceyv̄ēn.
cycle(Noun) CM/do-fu-1s
"I ride bicycles."

Because of the frequent identity between verbalizing morphology and causative morphology, it is difficult to ascertain in these cases what is the core grammatical-function of the form – if indeed there is a single core function. I entertain three hypotheses: 1) The causative function is central and extends to a verbalizing function; 2) The verbalizing function is central and extends to a causative function; 3) Neither function is central – both derive independently from a lexical item. I consider these in turn.

1. If we assume that the causative function is central, we need an account of the extension to a verbalizing function. Such an account might proceed as follows: CMs are already associated with adjectives and nominals with the function "make the causee such that it is Adjective/Noun". This type of CC derives CVs from non-verbal material. Eventually, the CM becomes more associated with the derivational function of creating verbs than with the semantics of causation and the use of the CM is generalized to any derivation of (even non-causal) verbs. This account is essentially a "bleaching" account which suggests that a semantically rich marker extends to a new function by 1) simple loss of that semantic information and 2) concomitant reanalysis of the marker as a "meaningless" grammatical morpheme. This may be possible, but it seems to me a solution to settle on only after semantic accounts have failed.

2. Alternatively, if we assume the verbalizing function is central, we need an account of the extension to a causative marking function. By this account, the marker is a derivational marker functioning to derive verbs for whatever grammatical purposes with no particular semantic effect at all. Adjectives typically express states and the marker derives verbs from these adjectives. A causative reading would be common to many of these derived verbs. In other words, the verbalizing morphology would be commonly causative because of its inherent semantics. With time the semantics of causation would become associated with this marker and it becomes reinterpreted as a general CM. This account rests on the assumption that a verbalizer will typically derive causative semantic verbs. However, many, if not most, deadjectival and denominal verbalizers create inchoative (get red) and process verbs (do lunch, make love), not verbs with intrinsic causative semantics. While this criticism need not invalidate the potential for this sequence of a historical development of a CM, it certainly suggests that such an account will need substantial support to be considered certain.

3. The third possibility is that both functions independently trace back to the lexical semantics of the source verb, which grammaticized in (at least) two different ways. As desirable as such an account may be, it can only be demonstrated when there is access to the meaning of the original lexical items. When that is impossible – as it so often is with "dummy" verbs – a lexical semantics approach must remain an unprovable hypothesis.

5.122 Manner adverbials

While a number of languages use the same marker both for causatives and for a general verbalizer, some Austronesian (especially Oceanic) languages use the same marker both for causatives and – more specifically – for deadjectival manner-adverbials. Again, we see that it is difficult to decide a priori which function is the more basic. The causative function is widespread throughout Oceanic, so I assume that it was present in proto-Oceanic. The manner adverbial function combined with a causative function is only cited for a few languages in my survey. It is mentioned for Fijian (Oceanic), Rotuman (Oceanic) and Saisiyat (Formosan) – all Austronesian languages. Taking the example of Fijian, we see that *va'a* (or *vaka*) is a full fledged CM:⁹

- 12) *'asa* "run ashore"
va'a-. 'asa-va "make run ashore"

- 13) *e 'oto a gone (i+na loga)*
 "the child is lying (on the mat)"

- 14) *e va'a-. 'otora a gone a marama (i+na loga)*
 "the woman put the child lying down (on the mat)"
 Boumaa Fijian (Dixon 1988:185)

We see also how the same prefix derives adverbials:

⁹ Similar examples for Fijian can be found in Schütz 1985. Only sparse examples are given for Saisiyat (Starosta 1974:332) and Rotuman (Churchward 1940:23,40,42,102)

- 15) levu "big, a lot"
 va'a-levu "greatly, to a great extent"
- 16) bii.bii "heavy, serious"
 va'a-.bii.bii "seriously"
- 17) dodonu "correct"
 va'a-.dodonu "correctly"
- 18) vina'a "good"
 va'a-.vina'a "well, properly"
- 19) vitu.vitu "all seven"
 va'a-.vitu "seven times"
 Boumaa Fijian (Oceanic; Dixon 1988)

The limited distribution of this adverbial function might suggest that it is a relatively recent innovation. However, there is relative isolation of the Formosan and Oceanic branches of Austronesian and we find the function in languages of both groups. Furthermore, outside of Austronesian, I have not found a general tendency for CMs to develop into adverbial markers. (Though why this is so, I cannot say with any certainty.) It accordingly becomes more difficult to interpret these cases as coincidental innovations. Thus, it may be that this adverbial function is really quite archaic relative to the general tendencies of the language family as a whole.¹⁰ Under such an analysis, the manner adverbial might be distributionally likely to be closer to an original central meaning of the modern CM. On the other hand, examples of manner adverbials, such as these, may simply indicate that the original proto-forms for the CMs were based on lexical items which grammaticized to take various grammatical functions. We can

¹⁰ My data is too sketchy to be more than speculative here.

easily imagine that a lexical item such as "make" might well independently grammaticize into both a derivational morpheme for manner adverbials and a CM. This hypothesis would seem supported by examples of *va'a* prefixed to nouns:

- 20) *mavoa* "wound (N)"
 va'a-.mavoa "harmful (i.e. make wounds)"
- 21) *i-lavo* "money"
 va'a-.i-lavo "have money, make money, be rich"
 (Dixon 1988:182)

In these examples, the prefix is deriving an adjective/verb from a noun in a way suggestive of some original lexical semantics such as "make". We should hesitate then to call cases like this simply the effect of a "bleached" derivational morpheme.

5.13 Immediate extensions of the prototype

I assume that any single CM will most likely have initially become grammaticized (by metaphor) to represent a fairly narrow range on the continuum of causal situations. Under this assumption, CMs which represent a wide range of causal situations should be treated as exhibiting extension of the initial prototype. This prototype may no longer be conceptually active for speakers, who may have reinterpreted the CM as equally vaguely representing the entire range it expresses on the causal continuum. When there is no obvious metaphorical/lexical source for the CM, we are not in a position to determine at which point in the continuum the CM grammaticized. Still, even if we do not know which meaning is the extension of which core meaning, we can be fairly confident that there has been some immediate extension from the (lexically motivated) initial and narrow causative nuance to a wider range of causative force-dynamic situations.

Within this framework, we would predict that terms will come in at one point on Li's continuum of degrees of causal coercion and then extend to further causative situations. At whatever point a CM comes in, the most immediate extensions will be to adjacent points on the scale. This principle predicts that we will not find CMs which express discontinuous values of forcefulness of causation which do not express all intermediate values as well. In general, a morpheme which can express scalar values will only extend to contiguous points along that scale. For example, if a color term covers both "green" and "blue", it will predictably be usable for all color values between these two – though there may be other words which can be used to give a more specific value intermediate between green and blue as well.

So, if a CM can express physical force coercion and permission, it will be able to express all of the values in between these two extremes. We have already seen examples of Turkish CMs. Depending on context, Turkish CMs can imply direct forceful physical coercion, ordering, enabling, etc. The Quechua agglutinative CM *-tsi*, according to Swisshelm's (1974) grammar of Quechua de Huaraz, can denote "cause, have [someone] do, order, help, permit, let, invite, hire [someone] to do, and allow to" (498, translation mine):

- 22) Huk laduchoopis kasatsikuchaqmi.
"En otra parte también puedo arreglar para su matrimonio
(los haré casar)."
- 23) Kosa almorsatsirqonaq.
"Le dio un buen almuerzo (lo hizo almorzar)."
- 24) Tsee kondenaduta shuyaneekillanam kanan tsee
umpakiininta kutitsipuneekipaq.
"Debes esperar a ese condenado para devolverle hoy ese encargo suyo
(para hacerlo volver)."
- 25) Wamrataqa limpu yakaratsirkuma,
yeekuriyarqonaq kapillaman wamra ushatseqna.
"Vistiendo bonito al bebé,
entraron en la capilla para bautizarlo."
- 26) Cheekatsiyaamiillaqa.
"Entréguenmelo no más (háganlo leegar acá)."
Swisshelm 1974, vol. II:498
(No glosses provided)

This effectively covers the entire range of Li's (1991) proposed continuum of causative relations, except for the assistive sense, which I would not include on the continuum.

There is a corollary of this adjacency requirement. When we find CMs which represent only two or three adjacent values on the scale we will not find both endpoints

of the scale represented. For example, the English *get* appears to express only middle values of the continuum. *I got him to go* could mean that coercion, strong suggestion, or trickery was involved in creating the resultant event. It will not typically imply that "he" might have gone because of his own desire – i.e. it does not imply *permission*). At the other end of the continuum, *get* does it imply that "he went" as a result of direct physical force.

I have no examples of affixal CMs which can express both strongly coercive and permissive senses, but which cannot be given an interpretation intermediate on this continuum, such as directive or imperative. Of course, the initial lack of contradictory evidence does not prove that such cases cannot exist. If cases of CMs which do not follow a principle of expressing only adjacent values on the continuum are ever found, several modifications of the claim may be in order: 1) the continuum may need to be revised; 2) we may back down from the claim of universality of the continuum; or 3) we may explain the exceptional quality of the CM in terms of other grammatical factors – such as the presence of lexical items specific to a particular intermediate value on the scale, which pragmatically inhibit a general CM from being given that specific interpretation. But thus far, Li's continuum seems like a working typological tool.

I should note that this extension through different types of causation is independent of the expansion of the range of verbs with which the CM may co-occur. The typical initial pattern for a CM is that it initially only occurs with intransitive verbs – possibly only those with inanimate subjects. Later this may extend to the semi-transitive verbs like "eat".¹¹ Finally the CM may apply to transitive verbs and verbs which

require human subjects. Throughout this change in the types of verbs with which the CM may occur, the CM itself may undergo very little change in meaning or function. A CM which denoted coercion when only associated with intransitive verbs may still only denote coercion after the range of verbs it can occur with has broadened out to include transitive verbs. Generally though, when a CM broadens out to also attach to transitive verbs, it starts to be used with human causees. Because of this, there will be a strong incentive to extend the semantic range beyond pure physical coercion.

In the next few subsections, I examine some of the more common immediate semantic extensions. These semantic extensions may or may not coincide with substantial changes in the range of verbs which allow each CM. But there should always be some distributional effects when there is a significant shift in the range of semantic functioning of a marker. Pragmatically, certain verbs are unlikely to be associated with coercive causation, while the same verbs might readily be used, e.g., with permissive causation.

5.131 Permissive

Cases such as the extension from coercive to permissive have been well exemplified. Synchronically, it is not always clear whether the coercive sense or the permissive sense is the primary function. Indeed, especially with long grammaticized affixal CMs, there may be little intuition left that one is the more basic, rather the intuition of the speaker may just be that the CM is sufficiently vague to include both senses

¹¹ Cf. Masica (1976) for a discussion on this point.

– that is, to represent a wide range of values on the causal situation continuum.

Both directions of extension are possible. German *lassen* appears to have extended toward becoming a wide range CM from an original permissive (or at least, not fully coercive sense). On the other hand, the Old Tamil CM *cey* appears to have originally been limited to a strict causative sense where the cause(r) is fully responsible for the state of the the causee/patient.

27) ...vālac ceyta nalvinai...
 prosper.Inf CM-Ps-Adj good.karma
 "the good karma which has made one prosper"
 (puraṇāṁu 367:10-11)

In Modern Tamil, *cey* can be used with a permissive sense, but it may still not always be the preferred reading. The extension of forceful/coercive causatives to permissive functions is fairly straightforward. In Force Dynamic terms, with the coercive causative, the antagonist transfers force to create the agonist's resultant event. The agonist has no assumed tendency toward that resultant event. A permissive sense assumes that the agonist does have that tendency toward the change or action. An antagonist is mentioned by means of a CC in both coercive and permissive senses as responsible for the resultant event. If the agonist is assumed to have an intrinsic tendency toward the resultant event (the *permissive* reading) then the agonist must be responsible for removing an obstacle or potential obstacle to the resultant event – otherwise, the agonist would have simply created the resultant event without any relevance to the antagonist.

Perhaps the most typical permissive CCs imply the (potential) obstacle had been (or could have been) provided by the antagonist itself. The antagonist typically has greater control and certainly greater responsibility over the entire causal situation. The

agonist desires the resultant event, but it would not occur without the aid of the antagonist.

The notion that the antagonist/causer has primary control over the situation can be weakened for some extensions of CCs in some languages. In these extensions, the antagonist (the term *causer* is perhaps too strong here) is simply providing additional assistance at removing this obstacle in concert with the agonist/causee's desire and efforts. The CC is extended to indicate that the antagonist/causer *enables*, rather than *allows*, the resultant event by being the sole or primary remover of the obstacle to resultant event desired by the agonist. As with a narrow sense of *permissive*, the antagonist's action or state is still critical to the occurrence of the resultant event. In English, the CV let can have both readings: I let the boys go home is usually a permissive sense; The loose plug let the water flow from the tank is an enabling sense. The boundary between enabling and permission is not particularly distinct and many cases will seem intermediate to these best case examples.¹²

We should remember that even CCs which can imply this enabling sense still hold the antagonist as centrally responsible for the resultant event. Prototypically, the agonist exerts effort at overcoming some obstacle to the resultant event, the antagonist assists at removing this obstacle, and the obstacle is removed. Critically, without the

¹² Again, consult Talmy's (1988) discussion of "enabling" and "permitting" force dynamic event types. He gives the example of *The plug let the oil flow from the tank versus The plug's coming loose let the oil flow from the tank (62-64).

antagonist's force, the obstacle would not have been removed and the resultant event would not have occurred. Thus, with enabling CCs we can still speak of the antagonist as essentially *responsible* for the resultant event. So for example, in Turkish, the CM can imply that the antagonist coerces, enables, or permits the agonist. However, the CM may not imply that the antagonist is merely helping the agonist to do something.

28) Kitapları ona taşıttırdım.

book-Pl-Acc 3s-Dat carry-CM-Ps-1s

"I made/let/enabled him (to) carry the books."

Not: "I helped him carry the books."

In other words, the CM in Turkish still implies that the antagonist is essentially responsible for the occurrence of the event.

5.132 Assistive CMs

In cases of *assistive* CCs, the responsibility of the antagonist is weakened further. The typical assistive construction still implies that the antagonist is exerting force to remove an obstacle to the resultant event for which the agonist is also striving. However, the assistive sense now implies that the resultant event would have occurred even without the force of the antagonist. That is, the antagonist's role becomes relatively incidental to the causing of the resultant event. The antagonist is no longer primarily responsible. Because of the antagonist's reduced responsibility, this use of a causative construction is quite distinct from a coercive reading – even though the connections back through the extensions to this sense are quite clear. Considering how many semantic functions the enabling and coercive senses have in common, I have found relatively few examples of CMs which mark both – even among my sample of highly polysemous CMs. Clear examples of assistive semantics for CMs have been reported

for Haya and Tsonga:¹³

29) -karhala "become tired"
karharisa "make tired"

30) -vona "see"
vonisa "let see, i.e. show"

31) -aka "build"
-akisa "help to build"

32) -kukula "sweep"
-kukurisa "let sweep; help to sweep"

Tsonga (SE Bantu; Baumbach 1987:202-204)

and rGyarong:¹⁴

33) nga wu-yo ke-sA-rwas ko.
1s 3s Tns-CM-rise-1s Aux
"I will raise him." / "I will help him rise"
rGyarong (Tibeto-Burman; Nagano 1983:78)

¹³ Baumbach adds the following note for the Tsonga assistive:

It must, however, be pointed out that the semantic value of "assistive" needs not actually be of physically helping to build, sweep, etc...but it may also be in the sense of taking over of a chore which might have prevented the performer from executing another task. For example, looking after a baby while its mother is sweeping or cooking (202).

This notion of helping with a task to the point of actually allowing the "causee" to go perform some separate action seems to me a ready extension of the CM to a general notion of "helping".

¹⁴ The two different translations are given different underlying morphemes: sA for "raise" and syA for "help rise". However, he gives other examples of syA being used

Remember that I take the fundamental function of the prototype CC to be marking the subject as *responsible* for the resultant event. I predict then that CCs will not be a common source of assistive functions. In the assistive situation, the participant in the subject slot is no longer responsible for the resultant event and merely plays a supporting role. Indeed, the only reasons to put the assisting participant in the subject slot are for topic continuity or to grant special salience to the participation of that participant. In short, a construction which prototypically marks causing events is unlikely to extend to an assistive function unless the overall functional range of the CC is sufficiently broad that the use of the CC no longer strongly implies that the subject is responsible for the resultant event. This does indeed happen, but, as predicted, apparently uncommonly.

5.133 Abilitative

Another fairly immediate extension among the values along the causal situation continuum is the abilitative function found in Malagasy (Randriamasimanana 1986). Malagasy has five prefixes which each express various causal situations. The prefix *aha-* expresses a basic causal situation when used with an inanimate causer:

with non-assistive semantics, so his distinction seems somewhat speculative without further analysis and I treat both as CMs without further analysis. E.g. *pki* "hide.Intr" and *syA-pki* "hide.Trans"

34) N-aha-variana an'i Paoly ny raharaha.
Ps-CM-be.absorbed P the affair
"The affair absorbed Paul."

35) Ny rivotra no n-aha-vaky ny fitaratra.
the wind Part Ps-CM-broken the glass
"The glass got broken because of the wind."
(1986:16)

Aha- can also express a notion that the causer "managed" to create the resultant action.

This is most common with animate causers:¹⁵

36) N-aha-zaka an'i Jeanne i paoly.
Ps-CM-be.carried J P
"Paul managed to carry Jeanne." (14)

but also occurs with some inanimate subjects:

37) N-aha-zaka an'i Jeanne ny mozana.
Ps-CM-be.carried J the scale
"The scale was able to support Jeanne." (15)

We have been taking as one primary function of the CC the indication that the causer has sufficient force to effect the resultant event. The abilitative function denotes that the causer has sufficient force for the resultant event. The extension to abilitative is natural because it simply adds the notion that there may have been some difficulty or counter-expectation opposing the occurrence of the resultant event.¹⁶

¹⁵ I suspect this "managing" sense occurs most commonly with animate causers for pragmatic reasons.

¹⁶ For a related discussion of this type of process for the different senses of *manage* in English, consult Coleman (1975).

Even the English *make* is commonly used to imply a resultant event which was successful against some expectation. *I made it home!* (as opposed to the neutral *I went home*) implies something close to *I managed to get home*.

5.134 "Direct" causatives

As discussed in §4.14, the notion of "direct" causation which largely came out the generative semantics tradition, involves something close to Lakoff and Johnson's (1980)¹⁷ prototype of causation. MacCawley's pragmatic account of the correlation between indirect causatives and periphrastic or heavily marked CCs makes a prediction for the current discussion: A CM which is highly marked as an exceptional construction is more likely to be used with non-canonical causative situations. That is, a heavily marked CM is more likely to be associated with indirect causation. As a marker becomes less notably marked, (e.g., becomes affixal or phonologically reduced), it is more likely to be used for the more basic direct causation type.

Since new markers enter the language (or grammaticize as markers which are) relatively "heavily" marked, new CMs are most likely to initially be used for indirect causative situations.¹⁸ Accordingly, while many (quite reasonably) claim that the proto-

¹⁷ Or the notion of a central type of causation as discussed by Cole (1983), Slobin (1984), Croft (1991) Kemmer and Verhagen (1991), and others.

¹⁸ Verbs derived from "make" or "cause" certainly pattern first with indirect causative situations. Verbs derived from "force" seem more likely to initially indicate direct physical or authoratative coercion.

type of a causative event is direct physical manipulation, we actually expect CMs to initially be used for causative situations which do not involve direct physical manipulation. If we take the initial use of a marker to be its prototype, then we must conclude that the prototype of the use of a causative marker is typically for more unusual or marked situation types. In other words, the initial use of CMs is typically associated with "basic" causation. Instead, through time and progressive grammaticization, CMs extend to more direct causative functions.

Similarly, many CMs initially grammaticize from lexical verbs which inherently are restricted to human patients. We have already seen examples of this with "tell" in Tamil. These verbs, while no longer requiring that the lexical meaning of the verb be literally true (e.g. there need be no verbal communication), may also extend to include further causative situation types. As such CMs extend their range they are quite likely to lose the requirement that the causee be sentient or animate. Accordingly, these formerly human-to-human communication verbs may eventually be used to also indicate agent-patient causation. The example of Tamil *col*, given above (§4.31), was still restricted to human (volitional) causees.

5.2 Valence-modifying CMs

Most fundamentally, CCs contain a role which is not found in the argument structure of the corresponding non-causative construction. Adding a role to the description of a verb will typically entail adding a syntactic argument (although the section on clause union discusses a few exceptions to this). An approach which takes a CC to be fundamentally adding a syntactic argument does not necessarily predict what role this new argument will describe. I am most aligned with grammatical descriptions which treat the semantic addition of roles over accounts which treat CCs as fundamentally syntactic operations of "valence-addition".

While deletion of the causee (or any other argument) in the CC may result in an identical number of syntactic arguments in both of the corresponding CCs and non-CCs, the CC nonetheless has the "added" argument corresponding to the role of the causer. "Deletion" of other arguments does not affect this basic property of adding an additional semantic role to the depiction of the event.

Because of this augmentation of role structure and because RCs are fundamentally used to exclude an external causer/agent from the depiction of the event, many researchers refer to CCs as *anti-reflexives*. This is especially common among modern Soviet linguists, cf. especially Nedjalkov and Silnitsky (1973) and Nedjalkov (1980). They also have the parallel custom of referring to RCs as *anti-causatives*. Both terms are only commonly used with regard to highly polysemous constructions, where all the analyst can find in common between the semantically distinct sub-constructions is a shared valence description. Within the Western European and North American tradition, *transitivizing* and *detransitivizing* are terms used for polysemous CCs and RCs for

the similar goals of giving a non-semantic cover term to the various functions of these constructions. I believe that a notion of category extension such as sketched in this work allows us to unify these sub-constructions into cohesive, though complex, structures.

Although syntactic valence may not account for the functions of the CC and RC, we can see that the functions of these constructions often place them in valence opposition to one another. In some languages, certain verbs must take either a RM or a CM depending on the depiction desired. The verb stem is not used without one of these markers.

38) A kö megmozd-ul-t
the stone move-RM-Ps
"The stone (got) moved." (trans. mine)

39) János megmozdi-tot-ta a követ
J move-CM-Ps the stone-Acc
"Janos moved the stone." (trans. mine)
Hungarian (Korponay ms.:3)

For such verbs, the RM and CM are semantically in absolute complementary distribution. Of course, most verbs in most languages can occur without these markers. The normal case, then, is that the RM and CM are semantically polar in some senses, but the speaker is not compelled to make a binary choice between one even characterization or another.

We have already seen (in §3) how the RC creates various valence effects because of the semantics of the particular sub-constructural extension involved. As discussed, many languages have a basic RC extension (the *deagentive construction*) which has the effect of removing an agent argument. Many further extensions of RCs are derivative

from this deagentive extension. Likewise, there are some CC functional extensions which seem motivated by the CC's basic syntactic effect of adding an additional (causer-role) argument to the verb. It may be an effect of the bias of my sampling, but in general, languages seem to have a greater number of valence-increasing constructions than valence-decreasing constructions in their grammatical inventory. Typically they will have one or two reflexives, an impersonal or two. But quite commonly, we find languages with many alternative valence-increasing constructions constructed with CMs. Further, for a randomly chosen language, any single CC is less likely to have a significant number of valence-changing extensions than any single RC. That is, the average CC is less polysemous than the average RC (at least among affixal constructions, cf. appendix). In this section, I examine the effects that various extended CC functions can have on the role and reference structure of the verb.

5.21 Transitivity effects which are not semantically causative

A number of languages use CMs to convert intransitive verbs into transitive verbs in ways quite different from the typical CV which we have been discussing. Typically, a subject of an intransitive verb will become the object of the causative and the subject of the causative will have a role not expressed by an argument of the corresponding intransitive verb. But there are several ways in which the CMs in some languages change the argument structure of a base verb in a way which does not follow this basic causative pattern:

- 1) A verb marked with the CM may preserve the same subject as the base intransitive verb, but add a patient or other direct object. This referent may occur as an optional

oblique in the non-CM marked verb, but it is not in the basic frame of the verbal description. Examples of this are fairly common cross-linguistically and are presented in the balance of this subsection. E.g. "to come + CM" = "to come after someone, chase".

2) A verb marked with the CM may preserve the role structure of the non-CM-marked verb, but what would normally occur as an oblique in the basic frame of the non-CM-marked verb now occurs as a direct object with the CM-marked verb. E.g. "sell it *to-him*" becomes "sell-CM him it". Examples of this are perhaps less common cross-linguistically and are presented in the following section (§5.22).

3) A transitive verb without the CM may subcategorize for one particular semantic type of direct object, whereas the transitive verb with the CM may subcategorize for a different direct object. E.g. "I plug the canoe (with a plugging instrument)" becomes "I plug-CM the plugging instrument (into the canoe)". In my survey, I have found only some Oceanic languages to exhibit a clear construction of this type. I discuss this in §5.23.

4) The addition of a CM to the verb may sanction the addition of further arguments which are not semantically associated with direct objects; that is, the verb with the CM may imply further semantic roles such as beneficiary, etc. This is typically called an *applicative* construction. E.g. "I sewed the shirt" becomes "I sewed-CM him (i.e. for his sake)". There are a number of unrelated language families which use the same marker for the applicative and the causative construction. I discuss some examples of this (and some of the recent literature on the topic) in §5.24.

5) The CM may be used to indicate that the referent of the subject agreement in the causatively marked clause is distinct from the referent of subject agreement of the previous clause (i.e. *switch-reference*). E.g. "I gave the horse to ride-CM" = "I gave the horse for someone other than me to ride". I have no examples of any language which has entirely extended the use of a CM to a full-fledged switch-reference marker, but there are reports of several unrelated and geographically remote languages which frequently use the CM for this purpose. These are summarized in §5.25.

5.211 Transitivity

Let us first consider the most common of the various CM constructions which non-causatively change the role structure of the verb. All languages with affixal CMs use the CMs as transitivizers – in the sense that a transitive verb may be created by the affixation of a CM. A number of languages appear to lose the requirement that the CM only create transitive verbs which are causative in their semantics.

For example, in Shoshone, "when [the marker] -ngkūn is used on intransitive verbs, it transitivizes them, typically forming causatives of them" (Dayley 1989:112):

40) Tsao ü siingkütü tuttumpi.
 really you pee-CM-Hab ephedra
 "Ephedra really makes you pee."

41) Wa'ippü kottsappia ütuingkūnna.
 woman soup-O heat
 "The woman is heating the soup"
 Shoshone (Uto-Aztec; Dayley 1989:114)

However, "besides forming causatives from intransitive verbs, -ngkūn is also used to form other kinds of transitive verbs from intransitives, but in a much less regular and systematic way." (114)

- 42) kimma "come"
kimmangkün "come after, chase"

- 43) paitsü" "holler, yell"
paitsüngkün "holler at, yell at" (115)

We find similar examples in (the perhaps distantly related) Tzotzil, where -ta derives transitive stems from intransitives, transitives, and nouns. Some of those given in Cowan (1969) seem causative in origin, though they may have become somewhat frozen as lexical items:

- 44) kól "be freed"
kólta "help him"
Tzotzil (Quichéan Mayan; Cowan 1969:102)

But others seem exactly parallel to the derived non-causative transitive verbs in Shoshone:¹⁹

- 45) ?ávan "shout, holler"
?ávta "shout at him"

46) k'éš "exchange it"
k'éšta "replace it"
Tzotzil (Quichéan Mayan; Cowan 1969:102)

Again, there is no evidence that this is a productive process. This is what we would expect, because the examples are not semantically regular or motivated in the clear way that the basic CC was motivated.

¹⁹ Classical Nahuatl seems to exhibit this phenomenon as well. We may probably assume that Classical Nahuatl is fairly closely related to the Tzotzil language of an earlier period.

Further South, Weber (1989:164-166) lists a number of interesting examples of "idiomatic uses" of the widespread Quechua CM **-chi**:²⁰

47) qoya: "pass time"
qoya:-chi "persist"

48) Qoya:-chi-n kapas tamya
pass.time-CM-3 perhaps rain
"The rain will perhaps persist all day."

49) tinku "encounter"
tinku-chi "compare to"

50) Kay-man tinku-chi-sha
this-Goal encounter-CM 3Prfv
"He measured it against (compared it to this one)."

51) rispita "respect"
rispita-chi- "to acknowledge the authority of:"

I understand the non-causative transitivizing use of CMs as less central than causativizing uses of CMs for three reasons.

1) In general, I take clear semantic-syntactic pairings to be referred over purely syntactic notions in the grammar of a language (cf. §2.2 and 4.1). It is possible that a marker of a purely syntactic operation (such as transitivization) might be reanalyzed or extended as a marker of a semantic notion (such as causation). However, grammaticization studies generally indicate that the more plausible direction of extension is from a semantic function to a more abstract operator of syntactic argument relations. (Cf.

²⁰ Examples of **chi** as a general CM in Quechua can be found in §5.13.

²⁰ Leaving the New World, Comrie (1981) also mentions Wolof as having this function for its CM.

especially Traugott 1982 and Kemmer 1987.)

2) Cross-linguistic distribution: A transitivity function for a marker typically implies the co-existence of a causativizing function for the same marker. However, a marker's causative function does not imply that there is also a non-causative transitivity function.

3) Similarly (and perhaps most importantly), in all of these examples, where a single marker has both causative and non-causative transitivity functions, the causative function is the more productive function. The non-causative transitivity functions are more idiomatic and occur with specific lexical items.

5.22 Oblique NP promotion

The examples of the last section added a direct object to the valence of the verb (creating a transitive). A similar construction creates transitive verbs by "promoting" an NP (which would be an oblique in the non-causativized verb) to an object slot with the causativized verb. Hopper (1985) mentions an example of this briefly for Indonesian. The poly-functional suffix *-kan* is clearly a CM with adjective or intransitive roots:

- | | |
|-----------|----------------------|
| 52) besar | "big" |
| besarkan | "increase, make big" |
| 53) tidur | "sleep" |
| tidurkan | "put to sleep" |

When added to verbs which can take oblique arguments, *-kan* sanctions the use of object marking for what would otherwise be an oblique.²¹

²¹ This is much like the non-causative construction of "dative shift" in English which

54) Dia menjual permata itu kepada teman nya
3s sold jewel the to friend his
"He sold the jewel to his friend."

55) Dia menjual-kan teman nya permata itu
"He sold his friend the jewel."
Indonesian (Malay; Hopper 1985:81)

Hopper analyzes these examples as indicative of the basic notion of the causative which involves *affecting* the patient. Such an analysis is consistent with this extended use of the CM. In §4.1 and §4.2, I discussed how it is typical of causatives is to signal an affect on the patient or causee. Most researchers (like Hopper) place the semantic component of affectedness in the prototype for causatives. While Hopper's analysis seems consistent with extended uses of CCs, his analysis doesn't really explain why the CC has this oblique "promotion" function. If the addition of the CM functions to add an increased component of affectedness to the patient, we should expect the addition of -kan to "he sold the jewel to his friend" to produce the implication "he sold the jewel to his friend and the jewel was affected by this selling". Instead the CM has the effect of sanctioning promotion of the oblique. In other words, the CM implies that the affect is spread to another referent (his friend) besides the original patient (the jewel) and as such, the additional refferent should now be expressed as a direct object. I have not found examples of this oblique "promotion" construction marked with a CM in other

is represented by the accompanying translations. (Cf. Goldberg's (in press) discussion of the semantics of the ditransitive construction in English) What is noteworthy here is not that such constructions exist, but rather that they can occur as extensions of CCs.

languages. Accordingly, it remains unexplored what is specific to the Indonesian CM which motivates this grammatical extension. Future research should 1) focus on the details of the other CM functions in Indonesian; and 2) search for further similar examples in other languages.

5.23 Object-switching CCs

While Indonesian uses the CM as part of a construction to create a new or additional object argument for the verb, some Austronesian languages use a productive CM as part of a construction which creates a different subcategorization pattern for the verb.²² A transitive verb which takes a certain type of role in its object slot, has a different role substituted for its object slot when the verb root is affixed with the CM. Manam (Northeast New Guinea; cf. Lichtenberk 1983) and Rotuman (East Oceanic; cf. Churchward 1940) have both been reported as having this construction. The following examples are from Manam.

Manam has at least eight constructions which could be considered causative. Three of these constructions involve the suffix -aʔ. Each of these three can function as prototype causatives. The morphologically simplest of the three uses the suffix -aʔ as the sole derivational affix on the verb. This has a "transitivizing" function (230) which is clearly semantically causative:²³

²² Perhaps CM-triggered object-switching occurs in other language families as well.

At this point, the phenomenon is little reported.

- 56) mambu "be finished"
 mambu-a? "finish (transitive)"
- 57) ?aiboaŋ "be strong"
 ?aiboaŋ-a? "strengthen (transitive), encourage"
- 58) alale "walk"
 alale-a? "help someone to walk"

The third morphological construction creates a causative verb from certain state verbs, by the addition of the "transitivizing" prefix a?a- to the root, followed by the thematic consonant and then -a? (235):

- 59) rodo "be dark"
 a?a-rodo-ŋ-a? "darken (transitive)"

These examples are all garden-variety CCs. More interestingly, these constructions, in addition to creating a new CV with demotion of subject to object and the addition of a new causer, can create transitive verbs from intransitive verbs where the subject of both have the same role and the transitive verb has an additional patient not expressed by the single argument of the intransitive verb.

- 60) wanana "wait"
 wanan-a? "wait for, expect" (231)
- 61) moa?usu "shake (intransitive, agent-subject)"
 moa?usu-nŋ-a? "shake (transitive)" (234)

²³ Most commonly, -a? is added to the root with an intermediate "thematic consonant" (233-34). This appears to have essentially the same function as -a? occurring alone:

- ado "be straight"
 ado-r-a? "straighten"

Examples of this for other languages were discussed in §5.21.

In a less regular (but important) usage, -a? can be affixed to transitive verbs which have a thematic consonant (and for one example, the prefix a?a-). With most of these already-transitive verbs, the subject remains the same with or without the addition of the CM. However, the object referent is of a different class for the non-derived and derived verb.

62) ?áti u-rózoŋ-i
canoe 1s-plug-3s.Obj
"I plugged up the canoe"

63) ?áti u-rózoŋ-a?-i
canoe 1s-plug-CM-3s.Obj
"I plugged the stick in" (238)

In such examples, apparently the object of the "longer" (more derived) verb would normally be expressed as an oblique if it needed to be expressed with the non-CM derived verb.

64) ?áti ?ái-lo urózoŋ-i
canoe stick-with 1s-plug-3s.Obj
"I plugged up the canoe with a stick" (238)

Because the new object would have otherwise been expressed with an oblique, we see that this construction is really quite similar to the oblique-"promotion" examples, discussed above in §5.22. Note however, that the exact shift depends on the lexical semantics of the verb root. I include and reorder the list of verbs from Lichtenberk (1983:237-240). The translations should invoke the object's type of role.

- 65) rozo-ŋ "plug (up)"
 rozo-ŋ-a? "plug (in)"
- 66) moŋo-r "spit at"
 moŋo-r-a? "spit out"
- 67) ?ulena-r "vomit on"
 ?ulena-r-a? "vomit (out)"
- 68) suburawa "sweat on, soil with sweat"
 suburawaŋ-a? "sweat out"
- 69) tamimir "urinate on"
 tamimir-a? "urinate (out)"
- 70) tegi "ask someone"
 tegi-a? "ask about"
- 71) sinau "ask someone for something"
 sinau-t-a? "ask for"
- 72) o?o-r "put on (a loincloth)"
 o?o-r-a? "put a loincloth on someone (has an idiomatic reading)"
- 73) ra "talk to"
 ra-ŋ-a? "talk about"

Many of these examples seem exactly contrary to Hopper's account of transitive verbs in Indonesian which promote an oblique by affixing a CM to the verb. In both languages, an oblique may be promoted, but under Hopper's analysis, the CM is associated with an increase in affectedness which somehow sanctions the promotion of a (less affected) oblique object to a (more affected) direct object slot. However, with many verbs in Manam, the CM is affixed onto a verb when the desired referent in the object slot is actually less affected than the referent of that slot in the non-causatively marked verb. For example, asking a person or talking *to* a person surely directly affects that person (under normal circumstances) more than to asking or talking *about* a person

(ignoring cases of slander²⁴, etc.). Yet, Lichtenberk translates "asking" or "talking to" without a CM and "asking/talking about" with a CM. This implies that, at least for these verbs, the CM is *not* associated with an increase in affectivity of the object.

Most critical are the following examples:

- | | |
|------------|--|
| 74) rube-t | "untie (a rope)" |
| rube-t-a? | "untie (something that has been tied with a rope)" |

In this example, the object of "untie" is the physical thing directly manipulated by the action. The object of "untie-CM" is the entity more indirectly affected by the action.

- | | |
|-----------|--------------|
| 75) ana?o | "steal from" |
| ana?u-a? | "steal" |

In this example, the object of "steal" is the entity more indirectly affected by the action. The object of "steal-CM" is the physical thing directly manipulated by the action. Thus these two examples show that adding the CM can have exactly opposite effect – in terms of direct affectedness – depending on the specific verb root. Thus we can not say that the Manam CM denotes affectedness in these constructions.

While most of these CM/non-CM pairs have a more affected object occurring with the non-CM marked verb, the object of the CM-marked verb could be construed as more affected than the object of the non-CM marked verb with some roots. The examples of "untie" and "steal" demonstrate that we cannot give a unifying account of these

²⁴ It is certainly possible that there may be a cultural notion that talking "about" someone (who is not present) may affect that person. However, the cultural information is not available to validate such an analysis.

verbs in terms of a simply-applied notion of affectedness.

If there is anything in common with all of the CM-marked examples, I suspect they have an argument structure which represents the less-canonical profiling²⁵ of the event denoted by the basic verb root. By this hypothesis, a Manam speaker would most typically associate the use of verbs meaning "untie, plug, ask, talk, steal, etc." with the objects the non-CM marked verbs take: ropes, leaky canoes, addressees, and victims respectively. Ropes may be untied without involving the loosing of anything; leaky canoes may be plugged with anything – it probably matters less with what material. In other words, we might take the objects of the CM-marked transitive verbs as less central to the conceptual framing of the event. However, it is difficult to imagine that either the victim of a theft or the object stolen is particularly more central in the representation of a stealing-event. So, this hypothesis is at best a suggestion for further investigation.

The class of bodily-excretion verbs form a clearly coherent set – as Lichtenberk notes (239). The non-CM forms of these verbs refer to the surface affected by the activity. The CM forms take objects which refer to the substances excreted. Certainly, both the substance excreted and the location where the substance goes are affected by the event. However, the set makes sense indirectly in terms of a canonical vs. less canonical analysis. It is certainly central to the conceptual framing of excretion events that one sweats sweat and urinates urine. When these substances are expressed as

²⁵ I take the term *profiling* from Langacker (1987b).

explicit arguments they occur with the CM-marked form of the verb. This is seemingly at odds with the hypothesis that the CM-marked verbs sanction the use of the non-canonical object. However, the substance excreted is predictable from the lexical semantics of the verb root. That is, not only is the existence of an argument slot predictable, but the specific filler of that slot is predictable. To urinate virtually entails that the substance urinated is urine. Accordingly, it seems possible that the verbs normally are not used with any explicit object at all when the event is simply an event of excretion (i.e. an intransitive verb form could be used). When there is need to express an object associated with the excretion the physical recipient is perhaps the most canonical object since there is little need to actually represent the substance excreted. Thus, I suspect that the most canonical *use* of these verbs as *transitive* verbs is with affected locations or goals – despite the central conceptual nature of the excreted. In less canonical situations it becomes relevant to explicitly specify the substance excreted (which normally is simply implied by the verb semantics). So, at least for excretion verbs, it seems reasonable to say that the CM is used to signal the switch of objects from more to less canonical.

In general, I take the semantic functioning of a CM to be critical in motivating its extensions. However, this completely speculative hypothesis suggests that the very choice of adding additional morphology to the verb can critically motivate a CM to extend to marking that the reference is the less canonical reference. We have already seen the argument (of McCawley 1978) that the *more heavily marked* form of the causative will refer to the *less canonical* type of event for pragmatic reasons. Iconi-

cally, the less marked verb will typically refer to the most canonical type of the event. The more heavily marked verb will typically refer to some less canonical type of the event. The examples cited (cf. § 4.14) involve the contrast between lexical causatives and periphrastic causatives in English. The English periphrastic causatives typically express less canonical "indirect" causation. Manam may provide another example of this same principle at work: The more heavily marked examples in Manam may typically express less canonical object selection. For both languages, pragmatic factors governing the selection of a more heavily marked form predict that there be some deviation from the canonical representation of the event. Further, this pragmatically-motivated extension of the CM may be largely independent of the particular semantics of the marker.

5.24 Object addition and applicatives

Recent years have seen an upsurge of interest in the relation between applicative marking and causative marking. The term *applicative* is usually used as a broad cover term to include constructions in which the "subject does the process designated by the verb stem to (or for, or from, or against, etc.) a direct object" (Tuggy:1988 587). That is, the object in an applicative sentence can be a beneficiary, a location, or an instrument, depending on the particular language and the particular verb. The term *applied* is used with some languages in a roughly synonymous way. Other languages have more restricted constructions where only a benefactor or an instrumental can occur as the object of a non-causative construction (more on this below).

We are interested in those languages which mark the verbal morphology in an

applicative construction with the same morphology used in a causative construction. Cases of the same morpheme being used for both constructions are not particularly common, but can be found in many unrelated, and geographically remote, languages. The languages in the Niger-Congo (including Bantu) and Uto-Aztecan families are quite well-known for this phenomenon:

- 76) Di naa toog-al nenne bi
Fu 1s sit-CM/App child the
"I will make the child sit"
- 77) Mungi dyàng-al eleew yi tééw yi tééré-ém
he read-CM/App pupil the.Pl book-his
"He is reading his book to the pupils"
Wolof (Niger-Congo; Comrie 1981:176)
- 78) ni-k-kočī-tiya
1s-3s-sleep-CM/App
"I put him to sleep"
Náhuatl (Uto-Aztecan; Tuggy 1988:594)
- 79) ni-k-kwīka-tiya
1s-3s-sing-CM/App
"I sing to him"
Náhuatl (Uto-Aztecan; Tuggy 1988:601)

Notice that the applicative function in these languages is quite similar to the non-causative transitives created by CMs which were discussed in §5.211 above. In those languages, the CM functioned with specific verbs to create fairly idiosyncratic transitive verbs which retained the same subject referent as the intransitive verb. In these languages, the marker of the CM also functions fairly productively as a marker for the applicative construction.

Before discussing the applicative in terms of extensional patterns, several other points need to be presented. First, many languages have different markers for the

causative and the applicative constructions – even languages which are related to languages with a single marker for the two.²⁶ In some Bantu languages there is an associative suffix which can have beneficiary, comitative, instrumental, recipient, and source functions. For example, the Northwest Bantu language Londo has a CM suffix -ès and a distinct associative suffix -àn. That is, there is no ambiguity between the CC and the set of functions associated with the suffix -àn.

80) mósì-éséb`é

Sub-3-grind-CM-Pass-FV

"it was caused to be ground"

Londo (NW Bantu; Kuperus 1985:191)

I will exemplify just the beneficiary and instrumental functions:

81) òmá ò-Pùr+w-án-í Pé njongé bè-yùkù

then 2s-dig-Ass-Prfv too 1.Ag your mother 8-holes

"Then you will dig holes for your mother."

Londo (NW Bantu; Kuperus 1985:204)

²⁶ Impressionistically, it seems that the CM in languages with a distinct suffix for the associative (see text for associative uses) is more likely to be cognate with the combined causative/applicative markers of related languages. If true this is relevant to the arguments about which function is the more central. Unfortunately, to verify this would take more extensive surveys of languages in just these language families. On the other hand, the existence of non-causative applicative markers which are cognate with causative/applicative markers may imply that the applicative function is more likely to be retained by a marker while the causative function is more likely to be usurped by the continuing grammaticization of new CMs.

- 82) bù-án-á tókò è-néè
mix-Ass-FV 9-spoon 9-this
"Mix with this spoon."
Londo (NW Bantu; Kuperus 1985:205)

More interestingly, some languages have phonologically similar but not always identical markers for the applicative and causative functions. In my survey, the only languages with similar but distinguishable markers are related to languages which use exactly the same marker for both the applicative and the causative. For example, in Uto-Aztecan, Pipil (Campbell 1985) uses the allomorphs *-tia* and *-Itia* as the basic affixal CM.

- 83) *ahsi* "to arrive"
ahxitia "to place near"
- 84) *miki* "to die"
miktia "to kill"
- 85) *temu* "to descend"
temultia "to lower"
- 86) *tehku* "to climb"
tehkultia "to raise"
Pipil (Uto-Aztecan; Campbell 1985:85-86)

For the applicative construction, the forms *-lia/-iltia* and occasionally *-Itia* are used, though sometimes these seem very much like causatives (especially "to loan"):

- 87) *kuwa* "to buy"
kuwilia "to buy for"
- 88) *pa:ki* "to laugh"
pahpa:kilia "to laugh at"

- | | |
|---|---------------------------------|
| 89) takwi | "to borrow" |
| takwiltia | "to loan someone something" |
| 90) takwi:ka | "to sing" |
| takwi:kalwia | "to sing something for someone" |
| Pipil (Uto-Aztecan; Cambell 1985:90-91) | |

These applicative forms are almost always distinct from any corresponding causative forms. The cognate relationship between these forms and the Náhuatl combined CM and applicative marker is obvious.

Further, following Andrews (1975), Classical Náhuatl – which we can take as an approximate predecessor to the language of Tuggy's (1988) study – has the following CMs: -a/-tia/-lia/-huia. It also has these applicative markers: -lia/-huia and -ia. The applicative markers overlap in form with some CM allomorphs when the base root is an intransitive verb. This suggests that the similarity of markers in Náhuatl may be increasing with time.

A final point is that the use of a phonologically similar or identical marker for both the applicative and the causative appears to spread areally – as well as by genetic inheritance. For example, in addition to finding this identity of forms in Bantu languages, both functions use one verbal affix in some Nilo-Saharan, Chadic, and Niger-Congo languages. In Maasai, the CM -(j)ie seems equivalent to the applied form²⁷ (that is, the form which expressed that the object expresses instrumental, associative, locative, or purposive).

²⁷ At least we find this identity of forms for class II verbs. "As in nearly all Nilo-Hamitic languages, verbs fall into two morphological classes according to whether the stem begins with the prefix i- or not" (Tucker and Mipaayei 1955:52).

91) á-ńlépiè

"I raise it"

Maasai (Nilo-Saharan; Tucker and Mipaayei 1955:147).

92) á-ńpérriè (entólú)

"I split it with (an axe)"

Maasai (Nilo-Saharan; Tucker and Mipaayei 1955:142).

In Hausa, the suffix -s (realized below as [d] and [(a)r]) indicates both causative and benefactive (Frajzyngier 1985:23):

93) naa gana-d dà shii takàrdaa

"I made him see the letter."

Hausa (Chadic; Gouffé 1962:190, cited in Frajzyngier 1985:23)

94) yaa zaaD-ar wà'Audù dookii

"He has chosen a horse for Audu."

Hausa (Chadic; Gouffé 1962:192, cited in Frajzyngier 1985:23)

Shimizu's (1983) sketched account of the suffix sè in Mumuye suggests that it can have both a causative and an applicative-type function:

95) maa "be red"

masa-sè "make red"

96) yáá "leave (something)"

yaa-sè "leave (something) behind (for someone)"

Mumuye (Niger-Congo; Shimizu 1983:64)

The Mayan language Mam (which is not clearly related to the Uto-Aztecan languages given above) has a number of transitive, applicative, and causative suffixes with considerable overlap of functions with the various forms. Below is a list of relevant affixes (and vowel lengthening) from England (1983). England states that none of these affixes are productive, so the meanings are not surprisingly often quite lexicalized. I have tried to select examples which seem intuitively prototypical grammatical uses. Among the transitivizers/CMs are the following forms:

- 97) -b'aa "transitivizer" (I would call this a CM)
 mutz- "upside down"
 mutzb'aa "put upside down"
- 98) -maa / -muu "causative" (I would not call this clearly a CM)
 *taq
 taqmuu- "cut stick into many equal pieces"
- 99) -naa / -nee "causative" (I would not call this clearly a CM)
 *tz'iy-
 tz'iynaa- "line up"
- 100) -pii / -puu "causative" (I would not call this clearly a CM)
 jas "single blow"
 jaspuu "cut with one blow"
- 101) -b'aa / -b'ee "causative" (I would not call this clearly a CM)
 oq- "flee"
 oqb'ee- "abandon"
- 102) -chaa / -chii / -chuu "causative" (I would not call this clearly a CM)
 b'ow- "swollen part"
 b'owchaa- "cause to fall"
- 103) -k'uu "causative" (I would not call this clearly a CM)
 jas- "speech in a soft voice"
 jask'uu- "say softly"
- 104) -lee / -lii / -luu "causative" (I would not call this clearly a CM)
 q'ooj "anger (N)"
 q'ojlee- "fight"
- 105) -q'ii / -q'uu "causative"
 pich'- "be head down"
 pich'q'uu-
- 106) -sa / -saa "causative" (This is the only semi-productive CM)
 nooj "fill (intransitive)"
 nojsaa- "fill (transitive)"

Among the "applicatives" are -laa and -wa:

- 107) -laa "applicative" (I would call this an instrumental)
 aam- "skirt (N)"
 amlaa- "use a skirt"

- 108) -wa "applicative" (I would call this a "dummy" verb)
 si7 "firewood (N)"
 si7wa- "gather firewood"

Given the vowel harmonies and disharmonies and given that the patterns are no longer productive, we can not be certain that a number of the similar forms do not historically derive from the same source. For example, the form -laa "applicative" may be related to -lee/-lil/-luu "causative". The form -wa does not seem like an applicative given her single example for this form. In other words, languages like Mam suggest that the actual function of CMs and applicatives may not be held constructionally apart, but rather are extremely dependent on the semantics of verb root for their interpretation.

I see four basic possibilities which could account for the use of the same marker for both the applicative and the causative constructions: 1) There may have been a convergence of formerly distinct morphemes; 2) There may be a single underlying abstract function to both the applicative and the causative; 3) Both functions may be extended from a distinct single function; 4) One function may be an extension of the other. I consider each of these possibilities in turn.

5.241 Hypothesis 1: Convergence of disparate morphemes.

Newman (1983) suggests that for some Bantu languages the causative/applicative markers were formerly morphemes which were clearly distinct both phonologically and functionally. Clearly this suggestion is not tenable if we take him to mean that the collapse of the two forms to be simply the result of phonological accident. The recurrence of the same "homonymy" in language family after language family (Uto-Aztecan, Mayan, Bantu, Nilo-Hamitic, Northwest Austronesian, and Oceanic within my survey

alone) makes "chance" merger of forms seem quite unlikely. On the other hand, I have found in most of these language families languages which have only partial "homonymy" of the causative and the applicative markers. We could assume that the two markers were formerly a single marker which is gradually splitting into two markers. But this assumption still leaves us with the question of why there was a single marker for both functions. This is an especially troubling question under this assumption, because the two functions need to be perceived as sufficiently distinct to motivate a non-phonologically-based separation into two distinct morphemes. Further, the example of Classical Náhuatl's partial homonymy and Náhuatl's (purported) single marker, suggest that for one family at least the historical trend is towards merger, not separation of morphemes. Also note that different languages in the same family normally will have single markers for both the causative and the applicative, but each language's marker may be quite distinct from the other languages' marker.

So if there is a merger of two morphemes and it occurs too widely and systematically to be the result of happenstance, there must be at a minimum some functional similarity between the applicative and the causative which sanctions this (partial) collapse into a single form. If something is sanctioning this collapse, it may well be that both functions are united by a single (more abstract) underlying function. This leads to discussion of the second possibility would explain the single-form/multiple-function dilemma.

5.242 Hypothesis 2: A single underlying abstract function for both functions

From a historical perspective, Frajzyngier (1985) posits that

in [the] grammatical system of Proto-Chadic there existed a morpheme whose function was to indicate that the verb had one more argument than it was allowed to have in its unmarked form. The argument thus added could be any of the primary arguments of the sentence, viz. agent, patient or dative/benefactive. (24)

Because my approach gives primacy to semantic functioning – especially of markers which are early in their grammaticization history – I find Frajzyngier's account unsatisfying. It is unclear what sort of marker would simply add an additional argument of any kind to the valence description of the verb. Also, if Proto-Chadic had such a marker, why do we not find more of such completely general valence-augmenting markers in a variety of languages? Further, if such an account is the correct answer to the question of the causative/applicative marker in Chadic, should we assume that such is the account for the similar markers in the other language families which report this phenomenon? If so, then we must postulate the existence of such a semantically-neutral valence-augmenter for the Bantu, Nilo-Saharan, Uto-Aztecan, Oceanic and Northwest Austronesian language families as well. If this whole list of proto-languages had such a marker, there should be plenty of languages today with such a marker as well. I find little evidence of this.

Finally, Frajzyngier's hypothesis rests on a theoretical assumption which I find unwarranted:

To prove that a proto-language had a morpheme X with the function Y incorporating various sub-functions it is enough to show that in contemporary languages there is a morpheme which has several of the sub-functions of Y. Although it is possible that the same grammatical function emerged independently in several languages, occurrence of the same morpheme in several sub-functions in a number of languages constitutes an argument that it is a retention from a proto-language. (26)

In other words, Frajzyngier assumes that the marker in the proto-language will have had all of the functions which recur in the various markers which descended from the proto-marker. This certainly need not be the case as recent work in the methodology of historical reconstruction has argued. (E.g. Sweetser 1991, chapter 2.) As argued in section 4, a marker such as a reflexive marker will extend in very similar ways in language after language without any of those common extensions having been present in the earlier stages of the language. (Cf. Traugott 1982, 1989 and Kemmer 1987.) I take a view of grammaticization as a process of extensions from a prototype. These extensions will have a similar evolution, even in independent languages, precisely because of a common prototype. Thus, the presence of various sub-functions for the same marker in various Chadic languages is no guarantee that the parent construction had each of these functions.

Working with the Uto-Aztecan language of Náhuatl, Tuggy (1988) gives a more sophisticated analysis which treats the applicative and causative as related by a number of shared semantic properties. Unlike Frajzyngier, Tuggy does not explicitly claim that

there was a proto-form which expressed all the functions of the later form. However, he creates "one great schematic network" (614) which includes all causative and applicative functions as well as those functions which he sees as intermediate between the two. For Tuggy, the applicative and causative are naturally expressed by the same marker because the prototypes for these constructions share a good deal of common features.²⁸ By itself, this doesn't address the question of whether the applicative function predates the causative, the causative predates the applicative, or both functions were common to the marker from its inception as a grammatical marker. Tuggy's analysis in terms of a unified schema and his examples of "intermediate" cases between the two functions implies to me that he takes neither function as primary to the other.²⁹ For all its semantic sensitivity, Tuggy's account of a unified function for the single marker only examines a single language and thus doesn't address the issue of the cognate markers in related languages. This seems especially important to do, because in

²⁸ Although some of the features they share are so general as to be shared by many other constructions which are not expressed by the same marker: E.g. both typically express physical processes. His argument would be considerably stronger if he showed that they share significantly more properties than two functions which are not represented by the same marker.

²⁹ Song (1990) also criticizes Tuggy for addressing the origin of the marker. Song also points out (quite rightly, I believe) that Tuggy's account of the similarity between causative and applicative semantics is not quite as original to the Cognitive Grammar framework as Tuggy claims. (157-158)

many of these languages the causative and applicative functions are phonologically distinguishable from one another. One could also interpret Tuggy's account as supportive of the hypothesis (discussed below) that the causative marker extended to an applicative function. This too, does not seem supported by the various cognate forms. Despite not being a comparative study, Tuggy's analysis can provide some motivation for a hypothesis that the two forms were collapsed (1 above) – though he doesn't make this argument himself. Even so, if one sense is primary over the other cross-linguistically, Tuggy's analysis doesn't help explain the historical primacy of the one sense.

5.243 Hypothesis 3: A third function extends to both functions

Related to the idea that there is a single underlying function to both the causative and the applicative functions is a hypothesis which assumes that there was a common historical source to both functions, but that both are distinct extensions from this source. To demonstrate this hypothesis, we must assume that the semantic or functional source of the causative and applicative functions would be recoverable. This function would need to still be occasionally represented as at least one function of the polyfunctional applicative/causative marker in at least some of the languages. Of course, any marker which could become both a causative and an applicative would also be a general candidate for becoming a causative marker alone.

We may look for a common origin for the applicative and the causative by taking the intersection of the set of potential origins for CMs (as discussed in §4.4) and the set of functions still expressed by causative/applicative markers. Doing this, we find two potential candidates for this common origin hypothesis: a) an instrumental marker

developed into both a causative and applicative marker; b) a verbalizing morpheme developed into both a causative and applicative marker.

§4.43 discussed the possibility of instrumental markers becoming CMs. One of the main reasons this does not seem to occur is that the instrumental marking is typically an affix, case, or adposition associated with NPs, not with verb roots as with other likely candidates to become CMs. However, even within the limits of verbal morphology, we do find examples of affixes which express both the causative and the instrumental. For example, the Bantu language Haya (Trithart 1977) marks both the causative and the instrumental with the same pair of morphemes *-i-* and *-s-*. That is, in certain contexts, *-i-* will mark the instrumental and *-s-* will mark the causative. In other contexts, *-i-* will mark the causative and *-s-* will mark the instrumental. The meanings are "completely predictable" (75) from the sentence context and "the two...markers may never be freely substituted for each other" (76).³⁰

109) kat' à-ka-kóz' émilim' ómúhyo
K 3sm-P3-work.CM/App work knife
"Kato did the work with a knife"

³⁰ Trithart gives an analysis for the morpheme *-s-* actually being a compound morpheme *-s+i-*. *-s-* is by far the more productive of the morphemes as well. For these reasons, and others, Trithart suggests that *-i-* is the older form and *-s-* was later added as reinforcement as the *-i-* became more and more lexicalized. The morphophonemics of these examples are sufficiently complicated that I ask the reader to trust the glosses.

110) ŋ-ka-kó-z-aa kat' émilimo
 1s-P3-work.CM/App K work
 "I had Kato do the work"
 Haya (NE Bantu; Trithart 1977:82)

Given that applicatives commonly allow an instrumental interpretation, it is conceivable that an instrumental might well have extended to both a causative and an applicative function. Further, note that many languages (especially polysynthetic Amerindian) scarcely have dedicated CMs at all. Rather they have extensive affix sets describing the manner or instrument involved in the event. These typically also imply a causal sequence of events (cf. Atsugewi, etc. in §4.3). Even languages with single instrumental markers can have an inherent causative semantics associated with them (e.g. Kimaragang, cf. Kroeger 1988).

One can imagine an instrumental becoming extended to a general applicative marker via a route similar to instrumental > comitative > benefactive. On the other hand, there is as yet no particular argument in favor of this hypothesis. Any argument in favor of this hypothesis will need to explain the presence of a distinct instrumental marker in many of the languages which have a combined CM/applicative. For example, Grebo, a Kwa language of the Niger-Congo family, uses one marker -e for both the causative and the benefactive function. It even appears to use this polyfunctional marker for creating passive verbs. Yet, Grebo uses a distinct marker -di for the instrumental:

111) ne duièda Dò bla
 1s pound-CM/App-Ps D
 "I caused rice to be pounded for Do."

112) o dudida bla sũ
 3p pound-Inst-Ps
 "They pounded rice with a pestle."
 Grebo (Kwa in Niger-Congo; Innes 1966:57)

The other ready candidate from which both the applicative and the causative function derive is a verbalizing function. As has already been noted (§4.41), CMs commonly derive from "dummy verbs" and other forms which create verbs from non-verbal elements. Many CMs retain this function. Similarly, some markers which express both causative and applicative have verbalizing functions. Tuggy (1988) gives examples of this for Náhuatl:

113) ni-k-pantalōn-tiya
 1s-3sm-trousers-CM/App
 "I betrouser him." (610)
 (i.e. "dress him in trousers" -EP)

114) ni-k-atemi-liya
 1s-3sm-louse-CM/App
 "I de-louse him." (610)

Tuggy also provides examples of verbalized nouns which seem motivated by the applicative semantics of the suffix:

115) ni-k-mah-pil-wiya
 1s-3sm-hand-child-CM/App
 "I beckon to him (with my finger)." (612)

The real distributional test of the hypothesis that a verbalizing function underlies both the causative and applicative functions is to find applicative markers which can derive verbs from nominals or adjectives which cannot also be used as causative markers. Thus far I have not noticed any, but then my survey has been limited to CMs and RMs.

I have not included dedicated applicative markers.

5.244 Hypothesis 4: One function extends to the other.

Finally, I consider the possibility that either the causative derives from the applicative or the applicative derives from the causative. It is difficult to imagine that an applicative function (other than the instrumental sub-function) would naturally motivate an extension to a causative function. The basic prototypes of causal events all have an antagonist acting forcefully on an agonist to bring about an effect. An applicative marks a beneficiary or other role (which is typically represented with an oblique). How then might this applicative function extend to a causative? One possibility is that the applicative would extend to a more general purposive construction and that purposive construction would then extend to a causative construction. Yet, as discussed in §4.42, there is not enough evidence that purposives regularly develop into causatives.

Another possibility might be for a benefactive function to become an assistive and thus enter the causal situation type continuum at that end, gradually extending along to becoming a full fledged (even coercive) causative marker. However, I have not yet seen any cases of a CM/Applicative marker which marks only assistive, or assistive/permissive readings in its causative scale. Given the lack of any cases of intermediary extension thus far, I am inclined to doubt the likelihood of an applicative marker extending to a CM.

It seems more likely that there would be extension from causative marking to applicative marking. Reflexive markers readily extend to self-benefactive or self-affective constructions. There is typically an inverse relationship between RMs and

CMs. Since RMs extend to a self-benefactive function, I suspect that CMs may sometimes extend to an alter-benefactive function. That is, the use of the CM on the verb comes to mean that the action is not done such that it affect the subject, but rather that the action is done such that it will affect some other referent (the new object). Of course this is essentially the function of the applicative in many languages.

Further, this extensional hypothesis readily explains why some languages with single markers for applicatives and causatives use a distinct marker for instrumentals. There is no reason to assume that an alter-benefactive construction would be especially prone to extension to an instrumental function. The hypothesis generally explains why single markers of both causative and applicative have a total set of functions resembles the typical functional range for CCs in languages which don't have an applicative function. (Except, of course, that such languages' extensional network won't include an applicative function.) The overall network of functions for CM/Applicatives does not especially resemble the total range of (e.g.) dative marker extensions plus a causative function.

One could further explore the notion that the extensional history for markers of both causative and applicative may be quite different depending on whether the marker also encodes an instrumental function. Given that some Bantu languages use the CM/applicative to mark instrumentals and others do not, I suspect that we should continue the search for a single explanation for all cases of combined causative and applicative functions.

5.25 Switch-reference CMs

Switch-reference is the final topic of this discussion of CMs which are associated with role and reference changes. Switch-reference refers to a device used to signal to the hearer that the subject of the clause with the switch-reference marker (often a subordinate clause) has a referent distinct from the subject of the adjacent (often a main) clause.

Languages commonly have devices in the verbal morphology to efficiently indicate whether the subject of the verb has the same referent as the preceding clause (often the main clause) or whether the subject has a different referent. Same-subject markers are often called *logophoric* (they may be pronouns or verbal affixes). Different-subject markers are typically called switch-reference markers (SRs). For many languages, the use of logophoric and/or switch-reference markers is largely obligatory – even when context or other grammatical cues would disambiguate the referent of the second (or downstairs) clause.

As discussed in §3.2, RMs commonly exhibit a logophoric function – though not all markers of same-subject are derived from RMs. On the basis of the symmetry between the typical RM and the typical CM, we might expect CMs to commonly extend to switch-reference functions. The extensions of a CM are primarily based on the meanings and functions of uses closer to the causative prototype, not on the basis of an inverse valence relationship to the separate reflexive marker. Yet, it is interesting that some CMs do appear to have switch-reference functions and I investigate them in light of the discussion of logophoric RMs. Accordingly, these switch-reference CMs could perhaps be termed *anti-logophoric* CMs in parallel with the symmetric terms

anti-reflexive and *anti-causative*. As discussed below, we may expect a CM to extend to marking SR on the basis of the prototype causative type having a separation of the causer from the causer (subject of the resultant event).

The switch-reference function is quite distinct from the other role/reference functions discussed in this section (§5.2). We might expect then extensions to this function to be less common than other extensions. And indeed, this function is seldom reported for CMs. Thus far, I only know of instances of switch-reference function associated with the CM reported for three language clusters: Western Pomo (and other Pomo languages), Chechen and Ingush, and Hmong. Further, in none of these languages is there evidence that the CM has fully extended to a switch-reference function. As discussed below, the use of the CM for switch-reference is limited to certain types of verbs and clauses and is not generally obligatory in these languages to mark switch-reference – and such marking is often obligatory with switch-reference markers not derived from CMs.

Oswalt (1977) is the earliest paper I know of which discusses the use of the CM as a "reference switching mechanism". He gives examples from several closely related California languages of sentences in which the subordinate clause is interpreted as having the same subject reference with a simple verb and as having a different subject reference when the subordinate verb has an affixed CM. I give his Northern Pomo example, because this language is further discussed in O'Connor (1987).

116) mú· ʔa· duhú daʔdɪ
 there 1s off-go want
 "I want to go there."

117) mo·wal ʔa· duhuka daʔdɪ
 3s 1s off-go-CM want
 "I want him to leave."

Importantly, the matrix verb in these sentences is "want". This construction does occur with other verbs in Pomo languages, but again the downstairs/subordinate clause expresses a desire or is a purpose clause:

118) phik'a šibu khe man k'uhum xaʔa-ka
 basket make Fu 3sf root trim-CM
 "She trimmed some basket roots so she could make a c'ika"
 [Here the use of the causative on the main
 verb is as a transitivizer.]

119) phik'a šibu-ka khe man k'uhum xaʔa-ka
 basket make-CM Fu 3sf root trim-CM
 "She trimmed some basket roots so (somebody else) could make a c'ika"
 [Here the CM on "make" indicates SR function]
 Northern Pomo (O'Connor 1987:91)

Nichols gives similar examples for Chechen:

120) as kni:ga yecna jieša^ʔ
 1s.Erg book.Nom bought read-Inf
 "I bought a book to read"

121) as kni:ga yecna jieš-i:t-a^ʔ
 1s.Erg book.Nom bought read-CM-Inf
 "I bought a book for someone else to read" (194)

Again, these are examples of CMs used in purposive clauses.

Nichols points out that both the Chechen-Ingush CMs and the Pomo CMs used in this construction can express indirect causation. For example, from Chechen:

- 122) *cuo sy kuorta laz-i:t*
 3s.Erg my head-Nom hurt-CM
 "He's doing something to make my head ache."
 [Indirect causative using the same CM as the
 switch-reference construction]

- 123) *cuo sy kuorta laza-bu*
 3s.Erg my head-Nom hurt-CM
 "He's doing something to make my head ache."
 [Direct causative using a CM which cannot be
 used in the switch-reference construction]
 Chechen (Nichols 1985:194)

Nichols acknowledges that only having the two examples (Pomo and Chechen-Ingush) to draw on, makes any typological suggestions highly tentative. Because of this shared ability to represent the "indirect" causative, Nichols suggests there may be a correlation between "indirect" causatives and switch-reference functions. That is, she postulates that the "indirect" causative function is a necessary pre-condition for the rare extension of CM to a switch-reference function. For the third language (Hmong) whose CM exhibits a switch-reference function, the CM *kom* quite possibly derives from a verb meaning "tell". As such it certainly is not dedicated to indirect causation. Rather, it seems most prototypically used with verbally-based causation. For non-verbal causation, an additional CM may be used (with or without *kom*, depending on still uncertain factors):

- 124) *yawg kom tus dev zaum*
 3s CM Clf dog sit
 "He made the dog sit down (e.g. by command)"

- 125) *yawg ua kom tus dev zaum*
 3s "do" CM Clf dog sit
 "He made the dog sit down (e.g. manually)"

Accordingly, it is uncertain how relevant a notion of indirect causative is to the development of switch-reference systems.³¹

O'Connor (1987) and Jaisser (1984) describe the switch-reference CM (for Northern Pomo and Hmong, respectively) as a complementizer which is essentially bleached of any causative semantics. For O'Connor, a verb such as *daʔad* "want" as in "She wants to go" has a lexical entry which doesn't subcategorize for a direct object, but does require an (XCOMP) outcome clause. She treats *-ka* as a bleached transitivizer which introduces its own clause with a subject function. This subject function also can serve as an object of "want" (the different subject). At the same time, the clause introduced by the *-ka* subcategorizes for an outcome argument – which is needed by the "want" verb or purpose clause (95).

Jaisser (1984) similarly treats the switch-reference CM *korn* in Hmong as a complementizer without assuming any relic causative semantics in this function. She finds *korn* used as a complementizer when there is a different subject to the downstairs clause and either 1) it follows a main verb of volition and introduces the desired action, e.g.:

126) *Kuv thov kom koj ua*
 1s beg CM/Comp 2s do
 "I beg you to do it."

127) *Hais kom nws khiav mus*
 say CM/Comp 3s leave go
 "Tell her to go away." (Jaisser 1984:52)

or 2) it introduces a purpose clause:

³¹ Nichols also suggests that the presence of a cross-clause reflexive may motivate the use of the CM as an SR marker. Again, the data from Hmong leave this unclear.

128) Piav kom nws to taub
 explain CM/Comp 3s understand
 "To explain so that he understands"
 (Jaisser 1984:54)

129) Nws pab kom tus tsov txhob tom nws tus me nyuam
 3s help CM/Comp Clf tiger Neg bite his Clf child
 "He helped me so that the tiger wouldn't bite his child"
 (Jaisser 1984:53)

Instead of assuming that the CM has lost all causative function and has grammaticalized as a complementizer, I think we can give an account which provides semantic motivation for these constructions. Notice again that all examples for all three languages use the CM within a purpose or desire clause. When a causative is embedded within a clause expressing volition or purpose, the semantic effect is not appreciably different from the clause without the causative. The difference between I want you to go and I want to have you go is fairly slight. In the CM clause there is a greater implication of active agency on the part of the higher subject.

When the CMs which are used as SR markers are compared with the semantics of make or other strongly coercive causatives, there seems little semantic relationship between them. However, all of the above CMs sometimes appear to function as markers of causation at the permissive/enabling end of the causal situation continuum (cf. 5.11).³² The SR function in purposive clauses contrasts minimally with a permissive/enabling marker in the same clause:

³² The evidence is a little unclear exactly how readily each CM allows an enabling or permissive interpretation.

130) I gave him a book to read

131) I gave him a book to let him read

Accordingly, I postulate that the primary function of the CM in these SR examples is to indicate that the reason for the action or state of the matrix clause is to allow the action or state of the downstairs clause. Causative marking on the downstairs clause expresses that the downstairs event is the purpose or desire of the upstairs event. A natural consequence of this causative marking is that the subject of the downstairs verb will be a causee which is distinct from the upstairs subject. In other words, the effect of the causative construction will be that it implies switch-reference. This secondary function of SR marking may have become conventionalized in these few languages. But is no clear evidence that the CM has lost all implication of causative semantics (permissive or otherwise). Further, there is no evidence that the CM can be used in clauses other than purposive or desiring. So we cannot be certain that the CM marker here is a dedicated marker of switch-reference. Whatever the degree of development into becoming a SR marker the CM may have, the motivation in terms of extension of causal semantics within purpose and desire clauses seems well motivated.

5.3 Expressive CMs

In this section, I present a number of extended functions of CMs which are not characterized in terms of valence or role description. Rather, the CMs of this section preserve the roles of the non-CM-marked verb and provide additional semantic or pragmatic information to the verbal description of the event. The most common types of additional information implied by the CM (or a CM plus another CM), are various types of *intensification*. §5.31 looks at the more common types of intensifying functions. The remaining sub-sections examine some less common semantic or pragmatic extensions found for CMs. §5.32-5.33 examine two CMs which appear to mark *moderate* action, and *pretense*.

§5.34 discusses two miscellaneous (and unexplained) functions of CMs (reported for just two languages). Telegu uses its primary CM to pragmatically modify the speech act itself. Rao and Bashir (1985) have referred to the Telegu CM as a marker of *greater formality* or *pragmatic distance*. I expect that CMs are routinely used for pragmatic effect, but the conventionalization of CM into markers of speech act type is uncommonly reported. Finally, Poppe (1954) describes an unusual use of the Written Mongolian CM in a construction which indicates the subject's helplessness to prevent an action.

Throughout section §5.3, I focus only on affixal CMs. CMs which also function as full verbs are quite likely to also have a range of non-prototype causative uses. However, these uses may still be motivated by the lexical semantics of the verb from which the causative function derives. So, with full verb CMs, we cannot be easily certain that such semantic and pragmatic extensions are the ultimately the result of extension from

a causative prototype. Accordingly, I focus on the extensions of CMs which are no longer transparently derived from lexical roots.

Most strikingly, outside of intensification, there are very few CM functions reported which do not directly affect role and reference structure. Relative to RCs, CCs appear fairly limited in the range of semantic extension beyond the prototype.

5.31 Intensification

Just as I made him die can have an emphatic function (relative to a lexical causative I killed him), affixal CMs can have an emphatic function as well. Quite commonly, since a single CM may be literally necessary to create a causative verb, the addition of a second CM triggers an emphatic interpretation. (For many languages, this double CM can have a double causative meaning as well: e.g. I made him make her do something.)

131 General asker-e çocuğ-u döv-dür-t-tür-dü
 G soldier-Dat boy-Acc beat-CM-CM-Ps.3s
 "The general really forced the soldier to beat the child."
 Or: "The general had [someone] have the soldier beat the child."
 (Turkish)

The use of emphasis naturally implies that there is something about the described event which warrants emphasis. In this Turkish example, the emphasis could also imply that the soldier got carried away and beat the child especially badly.

There can be any number of things noteworthy of emphasis. The most common of these emphasized qualities are prone to become conventionally associated with the use of the emphatic CM (or double CM). Some notion of intensification seems to be the most common of these conventionalizations and CMs appear to have constructionally

extended to intensification functions in many languages. I categorize the intensification functions I have found into two basic types: *greater effort* on the part of the agent (§5.311); *greater affectedness* of the patient, which often corresponds to the *completeness* of the event (§5.312). These all share the property of emphasizing a quality inherent to a highly transitive or causative event (cf. §4.1). That is, a highly transitive and causative event will prototypically consist of an agent applying *notable effort* to have *significant affect* on the patient such that the agent's action is *completely* accomplished. Not surprisingly then, the use of an expressive CM may suggest all three qualities. Despite this, I have tried to select examples which were translated so as to suggest just one of these qualities was implied by the use of the CM.

5.311 Greater effort of the agent

One implication of the Turkish example above is that the general put particular effort into having the soldier beat the child. The force dynamics of a causative event has an antagonist/causer applying force to the agonist/causee. The marker of the causative event is naturally associated with this application of force and the very choice to mark a verb with the CM can signal that there is noteworthy agentive force involved. Not surprisingly, in some languages, the CM has become conventionalized to imply greater agentive effort. The CM is used with verbs which would not otherwise need a causative to depict the event. Thus the primary purpose of the CM in these constructions is to indicate special effort. For example, in Fijian (cf. Schütz 1985), the CM *vaka* (or *va'a*) can mark that the agent is putting particular effort into the action by either repeating the action (*frequentive* or *distributive* reading), or by being particularly

thorough (*intensive*):

132) e ceru "he sipped"
 e vaka-ceru "he sipped repeatedly/distributively"

133) e rai-c-a "he saw / looked at it"
 e vaka-rai-c-a "He searched for it"

134) e muri-a "he followed it"
 e vaka-muri-a "he followed it in detail, tracked it"
 [trans: "track" from Dixon 1988]
 Fijian (East Oceanic; Schütz 1985:194)

Oromo can imply particularly strong agentive-effort using a double causative construction. Here the verb is a derived causative / transitive, but the addition of the second CM implies that the antagonist is applying unusually strong force:

135) terfaa-n gurbaa raff-is-e.
 T-Nom boy sleep-CM-Agr
 "Terfa put the boy to sleep (e.g. by rocking him)."

136) terfaa-n gurbaa raff-is-iis-e.
 T-Nom boy sleep-CM-CM/Intens-Agr
 "Terfa made the boy sleep (e.g. by giving him a sleeping pill)."
 Oromo (Cushitic; Dubinsky, et al. 1988:487)

5.312 Greater affectedness of the patient – thoroughness of event

The receiving end of the force transfer is, of course, the patient. Not surprisingly, many examples of greater effort on the part of the agent will also imply that the patient is more greatly affected. I have only found one example of the CM marking patient affect without corresponding greater agent force. Hopper (1985:82) quotes the following example from John Wolff:³³

³³ The suffix *-kan* is the same one we saw used for oblique to object raising in §5.22).

- 137) Dia mencampur sayur-sayuran
 3s mix vegetable salad
 "He mixed the vegetable salad"

- 138) Dia mencampur-kan sayur-sayuran
 3s mix-CM vegetable salad
 "He mixed in the vegetable salad"

In this example, the sentence without the CM describes the creation of the patient. The sentence with the CM form describes the affecting of the patient. I have not (yet) found cases of CMs which can be added to (semantically causative) transitive verbs which *increase* the affectedness of the patient without also implying greater effort on the part of the agent. Since greater affect is typically also the result of greater force, we should not expect constructions using CMs to commonly separate the two implications.

However, many languages use CMs to indicate that the causal action was thoroughly carried out or carried out beyond a normal amount. This almost always implies that the patient(s) will be quite affected and probably implies that the agent has put special effort into the action as well. For example, in Tonga, the suffix -Ci can be used as a causative and as a non-causative applicative-like marker:

- 139) 'uli "be dirty"
 'uli'i "make dirty, soil"

- 140) katoanga "hold a festival"
 katoanga'i "hold a festival in honour of [someone]"
 Tongan (Polynesian; Churchward 1953:241)

But if the suffix is added to an already transitive verb, the "verb generally expresses more definitely, or more emphatically, the idea of carrying the action through to completion":

- | | |
|-----------|-----------------------|
| 141) toli | "pick, pluck" |
| toli'i | "pick off, pluck off" |
| 142) tufa | "allot" |
| tufaki | "to distribute" |
- Tongan (Polynesian; Churchward 1953:241)
(Translations modified)

In the related Kwaio, the transitive / causative / applicative suffixes -Ci and -(C)e'eni can have varied semantic effects. We also find similar examples with Tongan:

- | | |
|-------------|----------------|
| 143) filo-a | "squeeze (it)" |
| filo-si-a | "wring it out" |

Following Saad (1982), in Classical Arabic, the "Form II" (or FaMMaLa) morphological derivation gives causative verbs from non-causative verbs and nouns:

- | | |
|-------------|-------------------------|
| 144) qaṣura | "be short" |
| qaṣṣara | "shorten" |
| 145) jamada | "freeze (intransitive)" |
| jammada | "freeze (transitive)" |
- Classical Arabic (Semitic; Saad 1982:67)

When already semantically causative verbs (Form I) are derived using this Form II pattern, they become intensive in meaning:

- | | |
|------------------------|---------------------------------------|
| 146) qatalahum | "He killed them" |
| qattalahum | "He massacred them" |
| 147) kasara al-zujāja | "He broke the glass" |
| 148) kassara al-zujāja | "He broke the glass into many pieces" |
- Classical Arabic (Semitic; Saad 1982:75)

Like Oromo, Tsonga (South East Bantu) has an intensive-causative -isis³⁴ presumably based on a doubling of its CM -is-. Of note, however, the Tsonga intensive-causative

³⁴ We have already seen this marker in our discussion of assistive CMs (§5.132).

may attach to non-causative verbs and may not even derive causative meaning:

149) -vutisa	"ask"
-vutisisa	"cross-question"
150) -famba	"travel"
-fambisisa	"travel extensively"
151) -rhandza	"love"
-rhandzisisa	"love intensely"

Tsonga (SE Bantu; Baumbach 1987:211)

Because of such examples, we can be certain that the double CM which has developed an intensive function is no longer dependent on a causative interpretation.

5.32 Moderative CMs

In sharp contrast with the preceding intensive uses of CMs, I have two examples of CMs which mark that the action was done in moderation or even incompletely. In Lamang, the verbal extension `ŋ´ derives causatives from intransitive verbs as well as affixing onto transitive verbs without changing role structure. (The accents indicate the tone of the preceding and following vowels.) In both cases, "the meaning conveyed ... is that of the action being done 'a little'" (Wolff 1983:118):

152) ghwàlà	"dry"
ghwàlɛ́ŋtá	"drying something"
153) dra	"burn"
drɛ́ŋtɔ́	"scorch"
154) mbaza	"wash"
mbàzɛ́ŋtɔ́	"start washing someone (but then leave it)"
155) ŋga	"graze"
ŋgàntá	"graze a little"

Lamang (Chadic; Wolff 1983:115,118)

Notice however, this marker is not the only CM for the language. Indeed, among the

other causative marking extensions is -V́V́:

- 156) ɲgrà "(be) black"
ɲgràatá "blacken" (115)

Causatives derived from this marker imply that the action occurred "thoroughly" or having been "well done". This contrasts with the verbal extension `ɲ́:

- 157) ɲgùlmáatá "improving considerably" (with -V́V́)
ɲgùlmə̀ɲtá "improving slightly" (with `ɲ́)

Because of this contrast, we can suspect that other factors than extension from a causative function are at work in the semantics of these morphemes. Further, there is also a polyfunctional RM -'ɲ́ (with different tone marking than the CM) which indicates completely or well-done action as well. This suggests that the contrast between completely done and incompletely done is widely indicated in the verbal morphology of the language. Accordingly, this function is not particular to causatives.

Rotuman apparently has a similar moderative use with its CM -'aki. this suffix occurs as a regular CM with intransitive and some transitive verbs:

- 158) tole "to carry on the shoulder"
töl'aki "to cause to be carried on the shoulder,
to place (a burden) on another's shoulders"
(Churchward 1940:105-06)

But this suffix can also affix to "nearly all" adjectives and a few verbs with the sense of moderation:

- 159) lelei "good"
lelei'aki "moderately good"
- 160) 'inea "to know, understand"
'inea'aki "to know or understand to some extent"
(Churchward 1940:106)

I have no explanation of this function for Rotuman. I should add that the description of

the various functions of 'aki is not very complete, but does include other functions which suggest that the CM is polyfunctional in quite atypical ways. For example, when added to kinship nouns, it converts a term like "father" or "child" into "to be a nephew" or "to be an uncle/aunt" respectively.

- 161) o'honi "mother (noun)"
 ö'höni'aki "to have as an aunt"
- 162) lele'a "children"
 lelea'aki "to be an uncle or aunt to"
- (Churchward 1940:106)

If not homonyms, more study is needed to reconcile these various uses of the Rotuman CM.

5.33 CM of pretense

Fijian has a curious construction constructed by combining its polyfunctional causative prefix vaka- with a reduplicated form of the stem verb. The semantics of this construction are not causal, not intensive, but rather pretense. That is, they convey that the actor is "feigning" the action (Schütz 1985:230-31):

- 163) vaka-mate-mate-a "pretend to die"
- 164) vaka-leve-leve-a "pretend to hit him"

The construction can also indicate "aimlessness":

- 165) e vaka-belü-belü kava
 "he's pretending to bend metal"
 Or: "he's bending metal aimlessly"

The common semantic element to both interpretations is that the action is not, in some sense, a "serious" action. Schütz comments that "it is difficult to tell whether the meaning of pretense is conveyed by reduplication, by vaka-, or by both" (231). However,

the other functions of vaka- include causative, intensive / distributive / frequentive, and (ad)verbalizer. None of these seem related to non-seriousness of action. On the other hand, "a reduplicated verb can show that an action was performed aimlessly" (233):

166) e dabe "he sat"
e dā-dabe "he sat here and there"

167) e kaba "he climbed"
e kā-kaba "he climbed without purpose"

While these examples only have partial rather than full reduplication, they seem to indicate that reduplication is generally associated with aimless action. Accordingly we can treat the use of vaka- in the examples above as relatively incidental to the "aimless" semantics. The CM probably functions more as a dummy verb – something like "do the bending about" – than as a full causative with an association with aimless semantics.

5.34 Miscellaneous uses of CMs

I find fewer pragmatic extensions reported for CMs than for RMs, but this may be an artifact of the generally wider polyfunctionality reported for RMs. Or it may be that CMs are less suited for extension to pragmatic functions because they typically could be interpreted as adding an additional role to the depiction of the event, whereas the RMs often cannot be interpreted as changing the role structure of the verb and thus are perhaps freer to be pragmatically interpreted as adding some other nuance.

Telegu provides an interesting example of a CM being used for pragmatic purposes. Rao and Bashir (1985:232) report that the Telegu CM -incu "performs the pragmatic function of distancing", that is, it increases the formality and respect of the utter-

ance.

168) aayana daggira neercu-kun-ṭunnaa-nu
3sm.Obl with learn-Ben-Prog-1s
"I am studying with him."

169) aayana daggira neer-pincu-kun-ṭunnaa-nu
3sm.Obl with learn-CM-Ben-Prog-1s
"I am studying with him. (Respectful)"
Not: "I am causing him to teach me."

Rao and Bashir do not provide a motivation for this use. We might think that this formal politeness function comes from the sense of permission that CMs can often express. But in the cast of Telegu, the CM *-incu* is not normally used for a permission value on the causal continuum. (Instead a separate verb *iccu* "give" is used.) Without access to the history of the form, it is difficult to speculate on the origin of this pragmatic function.

Finally, we turn to Mongolian which Poppe (1954:170-71) reports as having the following CC. The general CM *-UI* can attach to transitive verbs. If the causee is marked with the accusative *-I*, there is a sense of permission or ordering:

170) ungṣi "to read"
ungṣiyul- "to order to / let read"

171) bi tegün-i nom ungṣiyulba
"I let him read a book"

172) biči- "to write"
bičigül- "to let write"

However, if the causee is marked with the dative-locative *-dUr*, the relationship between the antagonist and the agonist changes completely. The sentence with the causee in the dative-locative implies that rather than causing or allowing the resultant

event, the subject was *helpless* to prevent the resultant event. (There is no explicit negative marker in this construction.)

173) bi noqai-yi miqa idegölbe
 1s dog-Acc meat eat-CM-Ps
 "I let the dog eat meat"
 (i.e., I purposely gave the dog meat)

174) bi miqan-i noqai-dur idegölbe
 1s meat-Acc dog-Dat/Loc eat-CM-Ps
 "I could not help letting the dog eat the meat"
 (i.e., I did not give it to the dog, but the dog itself took it
 and I was unable to prevent it from doing so.)

Two points about this construction:

- 1) The case marking is consistent with the discussion of case marking for the causee presented in section 4.2. An agonist in the accusative is assumed to have more patient properties and an agonist in an oblique or indirect object case is assumed to have more independent ability to act out the resultant event.
- 2) The construction represents the extreme extended end of the causal continuum discussed in §5.1. One end of the causal continuum has the antagonist with full responsibility and control over the resultant event. At the other end, the antagonist has relatively less responsibility and control and the agonist has more. In the case of antagonist *helplessness*, the antagonist has exactly no control and the agonist has full control.

If the antagonist has no responsibility over the resultant event, then it might seem odd to refer to the event with a CC. However, these events are a specific type of event in which the antagonist has no control: the antagonist (while helpless to prevent the event) desires control over the event (but has none). The CC which normally marks the party *possessing* responsibility, now marks the party *desiring* responsibility and the

shift in case marking now reveals the actual agent of the situation.

While this construction is exceptional, it does demonstrate the full range of extended semantics which the CM can at least potentially extend to cover: from complete physical force and control over a situation to the mere desire to control a situation.

5.4 Summary of extensions of CCs

In general, CCs extend to a smaller overall range of functions than do RCs. On the other hand, much more commonly, there are multiple CMs in a language – whereas languages with more than two RMs are relatively rare. We have seen recurrent examples of CMs which have varying core meanings all along the same causal situation continuum (as discussed in §5.1). In order of decreasing responsibility, CMs can imply direct force over the agonist, coercion, orders or direction, instruction, permission, or enabling for the resultant event. Since each of these may be the prototype for a CM, I include them all in the central prototype box in diagram 2. Each CM may readily extend to further functions within this box of central causative functions – if not inhibited by other morphemes which readily express those semantics.

From these core uses, a CC can have a small number of extensions. Since the central box expresses a range of prototypes often without clear semantic boundaries between each type, I show hypothesized extensions from various points along the box – rather than from values within the box. This is because I do not want to suggest that an exact semantic value is necessary to sanction any particular extension. However, I do place the extension segments at selected, approximate points along the continuum. The semantic range of the CM will certainly affect the allowable range of extensions it may have. For example, a CM which only expresses values towards the less-responsible-antagonist end of the scale (*permissive, enabling*) is unlikely to extend to an *intensive* function.

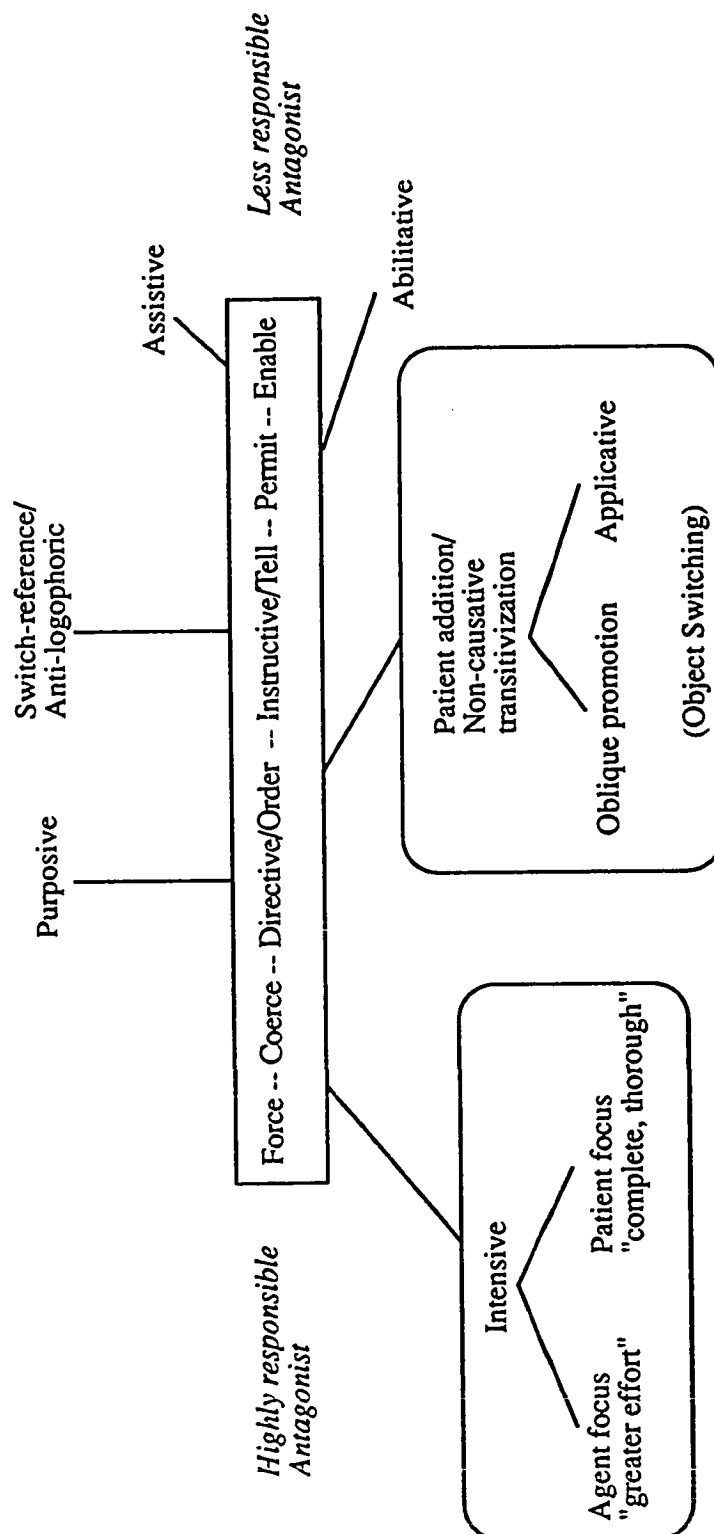
Extensions from the range of prototypes can vary according to two basic qualities:

- 1) The semantics of the extended construction may or may not imply significant

responsibility of the antagonist / subject. 2) The relationship between the events of the two clauses may be linked relatively directly (e.g. with *intensives* or *applicative*) or relatively indirectly (e.g. with *switch-reference*).

This diagram is meant to suggest how the various functions might be organized into a semantic extension network. I cannot yet prove its validity with clear implicational hierarchies emerging from the data. This is because there are too few languages with large enough subsets of these constructions to allow definitive conclusions. Since the diagram is drawn subjectively, it is my hope that future research will more rigorously test this hypothesized network – and to improve upon it further.

More indirect relationship between causal and resultant events



More direct relationship between causal and resultant events

Diagram 2: Hypothesized relations of causative construction functions

6. Theoretical status of extensional structures

This section examine two topics relevant to the extensional structures I suggest for CCs and RCs. First, I question what the existence of a range of prototypes for CMs implies for a theory of radial categories. The second topic is how cognitively real can we take these complex extensional structures to be? I exemplify this discussion with languages which have multiple RMs.

6.1 Multiple prototypes for CMs

Let us first review the most commonly assumed characteristics of polysemous category structures. Most critical to this notion is the central prototype for the form or construction. Beyond this there are various subtypes or extended functions which are less central than the prototype and "are understood as variants of more central categories...comprehended via their relationship to the central model" (Lakoff 1987:91). By virtue of the links between the more and less central subcategories, the entire network, or radial category, is assumed to have a sort of conceptual unity. The unity need not be the result of any properties common to all of the subcategories, i.e. there may be no abstraction possible over the class as a whole.

As discussed in §5.1, CCs can have any of a number of basic or prototypical functions. They can extend out from a center which has a coercive meaning, a permissive meaning, an enabling meaning, etc.. The extended meanings will naturally radiate out from whichever prototype is formed at the time of the initial grammaticization. Despite the different original prototype, the extensional structures are fairly similar. In other words, the exact nuance of the prototype does not greatly affect the extensions beyond the immediate ones on the causal continuum.

For example, knowing that a CM has (or had) a central use of permissive versus coercive does not appear to appreciably influence whether or not the CM will extend to an oblique raising function or an intensifier. The potential extensional structure can be basically the same for any CM.

Of course, in order for a marker to be causative, it must have a prototype function along the basic range of the causal continuum and it must have basic force dynamic properties. However, the radial category for causative constructions is not strictly centered on a single prototype. Rather, the causative structure can have a range of prototypes – typically determined by the original lexical semantics. This suggests that we must have a prototype-category theory which allows categories to have a definable continuum of prototypes rather than a single discrete prototype. Since this prototype continuum is unified by a shared metaphor of force, when hypothesizing a universal extensional structure common to all CCs, we should posit a central core which is defined according to the shared force metaphor. This force dynamic definition is somewhat more abstract than the usual characterization of the causative prototype. The most universal prototype of causative may not be very rich in specific details, since only a few characteristics are shared by all of the common CC prototypes.

6.2 Homonymy vs. polysemy in two-RM languages

Turning to the second theoretical topic for radial categories, note that the links back toward the prototype are assumed to conceptually unify the extended functions.¹

¹ Many of the ideas in this section have come about from discussion with Jeff Turley who thus deserves much of the credit (and of course none of the blame) for this work.

These links are variously described as representing shared properties, metaphorical extensions, transfers to other domains, and image-schema transformations.

For example, following Nikiforidou's Indo-European study (in press), the genitive construction most centrally marks a possessor to possessions relation. We expect and find that genitives lose peripheral functions such as marking the relation between the standard of comparison and the thing compared far more readily than losing the possessor/possession prototype.

Taking diagram 1 in §3.4 to be roughly accurate, we must wonder whether it is really possible that a speaker will conceptualize each distant function as related to the others. An "abstractionist" analysis where all functions share some single abstract property, e.g. detransitivizing, would allow for a conceptual unity for all the functions. However, all abstractionist analyses have failed to account for the recurrent full range of functions. Solutions which claim homonymy among the different functions are equally unsatisfying. By some counts, there may be as many as 22 distinct functions for a single RM in a language and such massive homonymy is an aesthetic disaster. More importantly though, homonymy explanations fail to explain the universal patterns of well-motivated extensions of RM functions. However, we have seen how a radial category model can quite powerfully account for both the universal and the language particular facts of RM extensions.

As mentioned, no one language will extend its RM to all of these functions, but every language will have extended its RM to a coherent subset of these subcategories. That is, all languages will have (or will have had) a prototype semantic reflexive where

the RM "fills in for" an expectedly distinct referent patient or other object role. If a language has the RM mark any other function on this network, (and it may also mark functions not on this network), it will also use or will have used the RM to mark functions intermediate between that function and the prototype. Each language will have a particular range of functions for its RM. This range simply results from the RM extending along a subset of the potential pathways. For an example, Tamil has thus far extended its RM as in diagram 3. Cross-clause coreference is not marked with the RM; the deagentive function of the Tamil RM appears to be emerging just now and no less central functions are possible today.

Depending on how fine-grained a distinction one makes between functions, different analyses yield different numbers of intermediate extended functions. Despite differences in the various representations of this polysemy, we can conclude that the RM has some universal network of potential functions and all analyses allow for the same overall range.

As interesting as acquisition of functions may be as a topic, polyfunctional RM categories are especially interesting in terms of their loss of functions. Unlike the radial category decay described thus far – where nodes are "pruned" off leaving only more central subcategories – typically the first function lost by an aging RM is its most central prototype of semantic reflexive. This fact was first mentioned (in terms of *reflexive* versus *middle* markers) by Croft, Shyldkrot, and Kemmer (1987). This function comes to be expressed by a new RM which may or may not be morphologically related to the older form. The new RM in turn is free to extend along exactly the same network as the

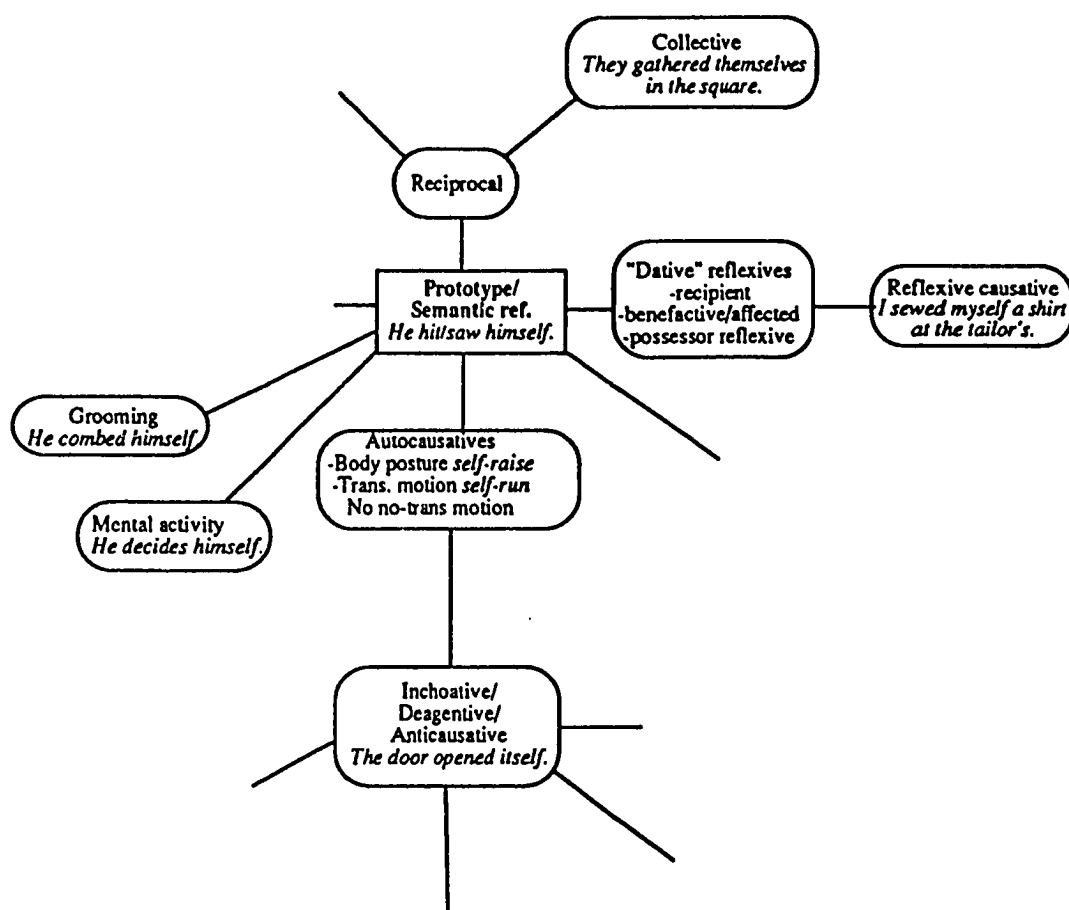


Diagram 3: Network of functional extensions of Tamil reflexive koL

older RM – though it may choose different paths. Thus the older RM typically loses functions not by "pruning" but more of a "dry rot" from the core – if I may extend the analogy. Note that the birth and extension of a new RM does not preclude continued extension of the older form yet further from the central prototype. In Icelandic, the newer nominal RM sig (diagram 4) marks: semantic reflexive, partitive reflexive, some autocausative (own body-movement), and self-benefactive constructions. The older bound form -st (diagram 5) marks: autocausative, reciprocal, deagentive, converse, passive, and impersonal constructions – as well as a few non-productive uses of semantic

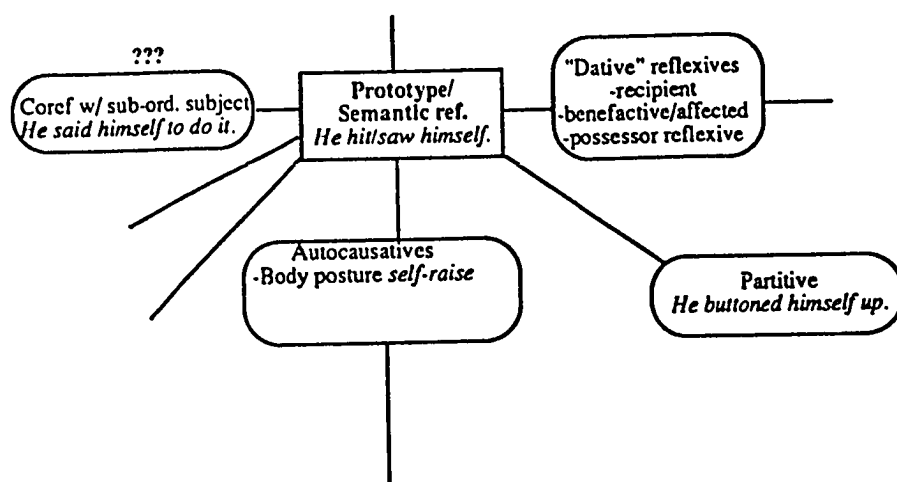


Diagram 4: Approximate network of functional extensions of the Icelandic reflexive sig

and partitive reflexive.

The diachronic changes in Romance are particularly instructive. Latin was a two-form language; the form *sē* was found almost exclusively in semantic reflexive contexts:

1) *suspendant omnēs nunc iam sē haruspices!*

"let all the soothsayers hang themselves right now!" Plautus

The /-r/-phoneme-final form was polyfunctional and used for deagentive, quasi-passive, and passive functions (cf. Flobert 1975, cited in Kemmer 1988). As Latin gave way to the Romance vernaculars, *se* gradually took over the functions of the polyfunctional older form.²

² This gradual and well-documented process would only really be diagrammable using flip-card animation.

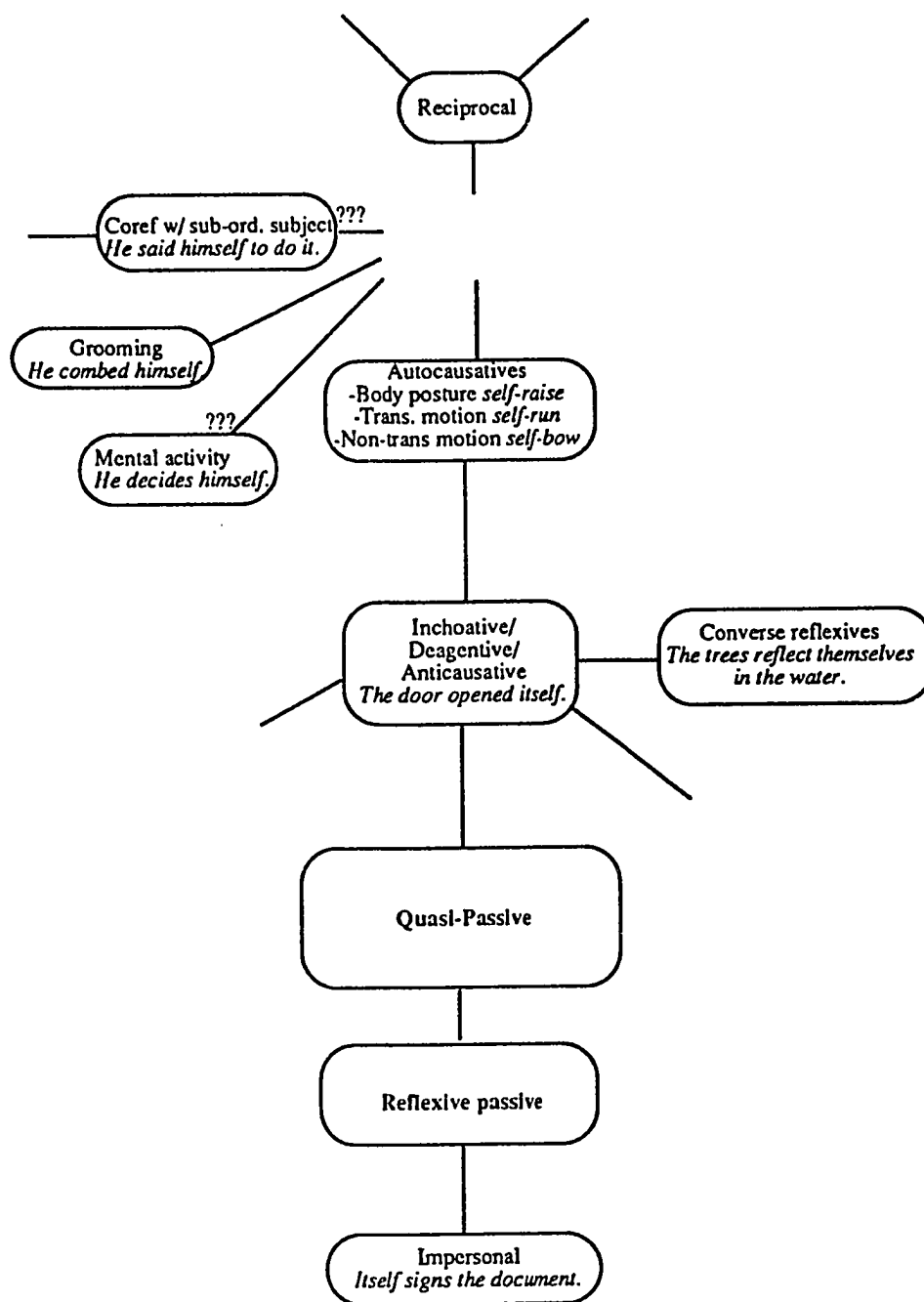


Diagram 5: Network of functional extensions of the Icelandic reflexive -st

Presumably, as a form becomes more polyfunctional, and thus wide-spread in use, the state of unexpected coreference between subject and object – the semantic reflexive – requires a new more heavily marked form. The various Romance languages have recently introduced reinforced reflexive phrases (Sp: *a sí mismo*; Fr: *lui-même*; It: *sè stesso*) which display a statistically significant tendency to cluster around semantic reflexives (Jeff Turley, p.c., also cf. Kemmer 1988 and Hatcher 1942). This cycle of renovation has been completed within documentable history in the Rheto-Romance dialect of Surselvan, in which the new RM (a reinforced reflexive phrase *sesez*) has completely ousted *se* from the central prototype:

- 2) a. *Jeu vesel memez el spieghel.*
b. * *Jeu sevesel el spieghel.*
"I see myself in the mirror."
(cf. Stimm 1973 and Kemmer 1988)

Se, in turn, is now only used for extended functions (such as *grooming* and the *impersonal*):

- 3) a. **Jeu lavel memez on cuschina.*
b. *Jeu selavel on cuschina.*
"I wash in the kitchen."
- 4) *Sco sch'ei fuss stau secumvegniu, cala la musica.*
"As if one had come to an agreement on it, the music stopped."
(cf. Stimm 1973 and Kemmer 1988)

Consider now the implications of such behavior for a theory of radial categories. We must assume a one-to-one relationship between forms and/or grammatical constructions and their radial categories. If we do not we are back at a homonymic solution. Thus, in a language with two RMs, there must be two radial categories.

After all, how can the older – now exclusively peripheral form – be motivated by

and structured around a prototype when the prototype is a different form? (Remember that the newer form is often completely unrelated to the older form.) I know of no linguistic evidence that the central prototype of one form can motivate the extensions of a morphologically separate form which no longer shares that prototype function or semantics. Examples of such in lexical semantics would be absurd. Any conceptual unity of the Modern English word *knight* does not depend on the prototype of the English word *boy* which was the meaning of the Old English *cniht* from which the meaning "servant of royalty" is a former extension.

If we are to retain the notion of category unity for the still polyfunctional older form, we must then invoke the notion of separate radial categories: one for the new form and one for the old form. The radial category for the new form is trivial: it is simply the prototype plus any immediate extensions, just like a somewhat extended RM in a one-form language. However, to determine a radial category structure for the older form is not trivial. The older RM is no longer organized around a central prototype and the links to that prototype have been lost – stranding different classes of functions from one another. For example, the reciprocal function of the older Icelandic RM is stranded from all other functions, yet it remains a viable construction. We reject the hope of a single abstract meaning for all of the functions: it proves impossible to construe any such meaning which does not also apply to the former prototype as well. So, to retain conceptual integrity (versus disintegration into separate homonyms), the various functions would need to be reorganized with new links and perhaps a new central member. But there appears to be no evidence for such reorganization. The older form of a two-

form language functions like the outer extensions of a one form language's RM. For example, the older Icelandic RM, for all relevant parameters, functions basically like the extended functions of the Spanish *se* (Spanish being essentially a one form RM language). The *se* of Surselvan behaves no differently since it lost its semantic reflexive function – other than no longer expressing that prototype function. Given this lack of evidence, the only reason to assume conceptual reorganization is because of a theoretical predisposition that it simply must happen.

Thus it is more prudent to assume that there is no conceptual reorganization of the older RM's functions. This need not mean that all of its functions must be treated as isolated functions. There can still be local coherence between functions whose links are not detached from one another by the "dry-rotting" of the new RM. However, distal functions, relatable only via now lost central functions, are no longer conceptually linked. To wit, these severed distal functions are synchronically homonymous, despite the clear diachronic motivation for their expression by the same form.

Why then are RM structures different from previously described category structures? I see three possibilities:

- 1) There is something unique about reflexives that inspires deviant category behavior.

This is possible, though I doubt that reflexives are particularly special. This case seems to be a grammatical example of Kurylowicz's (1947) fourth "law" of analogy: in new morphological differentiation, the newer form will take on the more basic meaning leaving extended meanings expressed by the older form.

- 2) To date, there has simply been too limited a survey of polysemous morphemes. This

is probably true. Most studies have been principally concerned with the semantics of lexical items and too little attention has been given especially to bound grammatical morphemes.

- 3) The current account of radial category structures is too impoverished. This is definitely the case. There is much of value to the radial network model, but it needs further refinement, allowing for different types of structures, presumably dependent on the functional and grammatical type of the morphemes concerned.

Importantly, two-form language decay suggests that the radial category, as currently described, is inadequate for one-form language's RMs as well. That a one-form language would lose functions in this way at all, suggests a lack of conceptual unity for all polysemous reflexive constructions. Certainly there is local coherence between "adjacent" functions. After all, it is well-argued that the development of new functions is basically by lexical diffusion through new verb classes; not via quantum leaps from function to function.

Local, though not global, coherence suggests that conceptual relationships between nodes of an extensional network are not mathematically transitive. That is, function A being related to B which is related to C which is related to D does not entail that A is related to D – though perhaps A will be weakly related to C. The appearance of unity – at least for one-form languages – is only due to contiguous local coherence.

This only partial transitivity of relations is reminiscent of dialect continua where distal dialects cannot be properly considered variants of the same language. A series of adjacency or similarity relationships between sub-classes cannot be sufficient evidence

that all members of the network are thereby in the same category.

7. The ecology of the causative and reflexive semantic space

In sections 3 and 5, we combined the various paths of extension for RCs and CCs into networks extending out from both prototype constructions.¹ While we can accurately *describe* the diachronic (and possibly synchronic) extensions of a grammatical marker in this way, we have no means to *motivate* the particular subset of all possible extensions that one language selects. In other words, we still need to ask why does a construction extend one way in one language and another way in another language? Why, for example, is the English reflexive construction relatively limited in its functions while the Spanish reflexive marker has extended to middle, passive, and even impersonal constructions? I see four likely factors affecting each language's particular pattern of extensions:

1. Idiosyncrasy. Any language may have a particular set of extensions because it is a unique language and not all changes are strictly determinable. However, we should always attempt to determine a richer causal explanation for change in a language. If we cannot explain something, it should not be for lack of trying.
2. Type of marking. We may notice that, e.g., affixed reflexive markers seem to be more richly polyfunctional than reflexive pronouns. Theories of iconicity (cf. especially Haiman 1980, 1983) might be invoked to explain this – as discussed in §3.6 for RCs. On the other hand, polyfunctionality can also be a simple function of age of the

¹ This section was originally published (in a somewhat different form) as "The ecology of a semantic space." in *The Proceedings of 17th Annual Meeting of the Berkeley Linguistics Society* (1991).

marker. Older markers will have had more time to become affixal (assuming that to be the most general morphological drift) and more functions may be acquired largely as a function of time. Such an account would still fail to fully motivate cross-linguistic differences and similarities.

3. Areal influence. A language may extend grammatical constructions by borrowing a use of a similar construction or it may calque a neighboring language's construction which uses a similar morpheme. Many examples of this can be found (e.g. the Dutch reflexive and its origin and divergence from the Standard German reflexive, cf. van der Leek 1991). While interesting, I will not consider such cases here.

4. Influence from other constructions in the same language. This chapter considers the systemic influence of various constructions, "neighboring" in the same general area of type of expression, on the functional range of individual constructions.

I must provide a few important disclaimers for this discussion of factor number four:

1) This analysis is deliberately simplified. Space is limited, and I am trying to present a somewhat complicated theoretical mechanism rather than apply that mechanism to all possible data. Further complications must be considered under separate work.

2) I have thus far only tested "accusative" languages with my approach – and I have not tested enough of those to make any strong universal claims.

3) For space limitations, I don't provide example sentences for all of what I diagram. While you will need to take much on faith, greater exemplification would prove little since any invalidity to my approach would only be demonstrated by counter-examples,

which I urge the readers to provide for themselves. None of the data I am drawing on is particularly controversial.

4) The diagrams represent thumbnail sketches of phenomena plotted somewhat impressionistically. It should be possible, though difficult, to draw such diagrams to represent exact results of statistical analysis. In short, this chapter focuses less on particulars and more on the systemic principles I wish to present.

In this chapter, I will restrict my discussion to the semantics of several valence-affecting constructions in a small range of typologically contrastive languages. The model I am proposing can just as easily be applied to any other languages as well. Each valence-affecting construction can be used to describe the same event which we might characterize as highly transitive (cf. Hopper and Thompson 1980, Rice 1987). That is, an agent does something to a patient, and the patient undergoes some change of state. For example, an event where someone acts upon a branch, which breaks in the process (cf. §4.1 and Talmy 1976, 1985 for detailed discussions of the subparts of a causative event).

Each of these constructions, by denoting the same real-world event, may have the same truth-value. A speaker chooses from the set of constructions to construe the event or scene as having a particular structure. The structure ascribed by the speaker may, of course, be different from reality or it may emphasize just select aspects of the event. Though the constructions may have considerable functional overlap, each construction asserts a specific nuance for which the substitution of another construction would be less appropriate.

Consider Modern Hebrew, which, in addition to intransitives, has a three-way distinction among those constructions which do not specify agent. (For a summary of the *binyan* system, cf. Berman 1979a. The following Hebrew examples and semantic analysis are from Berman 1979a:1-2,11 and 1979b:3.) Functionally, these constructions vary according to the construal of agency. The active impersonal marks the existence of an agent (+human) but declines to specify that agent:

- 1) ye'argenu šney cvatim bekarov
 (they)-will-organize two teams soon

The agentless passive "[focusses] on the patient, which [it serves] to foreground – and although passives imply the logical existence of an agent, the latter's role is deliberately ignored" (Berman 1979b:19):

- 2) šney cvatim ye'urgenu bekarov
 two teams will-be-organized soon

Contrastively, the reflexive or middle paradigm characterizes the event as occurring autonomously – that is, with only internal causation and no external agent:

- 3) šney cvatim yit'argenu bekarov
 two teams will-get-Ref-organized soon

Semantically and structurally, middle paradigm constructions are quite similar to the simple intransitive constructions:

- 4) hacvatim yit'argenu lahem
 the-teams will-organize(Intr) to-them

Similarly, for explicit agent constructions, Modern Hebrew may choose between periphrastic causative constructions, agent-patient causative/transitive verbs, and oblique-agent passives:

- 5) hama'ase asa oti xole
the-deed made me sick (periphrastic CC)
- 6) hama'ase hexli oti
the-deed sickened me (causative/transitive paradigm)
- 7) hakad nišvar al ydey haxatul
the-vase was-broken by the-cat (oblique-agent passive)

Causative constructions highlight an agent external to the event. Transitive verbs express the agent without any special emphasis. "Demoted" agent passives mention an agent, but downplay its importance to the event.

We can organize the relationships between these constructions by plotting them on a two dimensional space where their location indicates the construals they best represent. This space represents the range of expressions dedicated to causal/inchoative events. The horizontal dimension of this space is the core argument expression of the number of participants (or *transitivity* in short) – that is, how many participants are construed as relevant. Prototype causatives are quite highly transitive. Similarly, prototype simple-transitive verbs are highly transitive.

On the other end of this scale, prototype reflexives are low transitivity: they are used to explicitly deny a second participant to the scene (*It was myself that I hit*) or to assert that one participant fills two roles. Prototype passives are fairly low in this sense of transitivity (cf. Shibatani 1985): they delete (or in some languages may demote) agents from reference. However, passives do not deny the existence of an outside agent, as do prototype reflexives, so I place them not as far towards the low end of the transitivity scale. Prototypical impersonal constructions are middling transitive in that they express an agent, but so generically as to not reflect a fully salient participant.

Finally, simple intransitives are definitionally low in transitivity. This horizontal dimension seems critically important for distinguishing the functions of these constructions since speakers appear particularly keen to express the number of relevant participants in an event.

The vertical dimension of this space represents the degree to which the construction construes the grammatical subject of the construction as *responsible* for the event. Does the construction answer the question "Whose fault is it?" (or alternatively "Who gets the credit?")? Did the branch break because the subject was leaning on it (*I made the branch break*)? Did it break because it was flimsy (*The branch just broke itself in my hands*)? Or is it irrelevant what caused it; the speaker is only concerned with the result (*The branch broke*)? The notion of responsibility appears conceptually central to any discussion of change of state and causation.²

² For another discussion of the centrality of the notion of responsibility in common sense reasoning about causal events, cf. chap. 3 of Hart and Honoré 1985. (My thanks to Ceil Toupin for this reference.)

The notion of responsibility should not be confused with volitionality. One can non-volitionally be responsible for an event, and inanimate objects may by their nature be construed as responsible for an event's occurrence. In general, speakers tend to seek out a volitional (or at least human) agent from among the set of factors necessary for an event onto which to ascribe responsibility. This need not be the case, especially when there is something unusual about an inanimate's characteristics.

Thus causatives prototypically mark exact ultimate responsibility on the subject. With reflexive constructions as well, the subject is construed as responsible, or at least the reflexive marks that there is no other agent or actor responsible for the event (*I hit myself, no one else did*). Conversely, passives usually assume the subject is the patient of actions of a distinct responsible party (which may sometimes be expressed in a grammatically demoted form). Simple transitives and intransitives are relatively neutral for this parameter. Impersonal constructions may attribute responsibility to an agent which is not a distinct and explicit referent, but they often seem used to avoid the question of who is responsible.

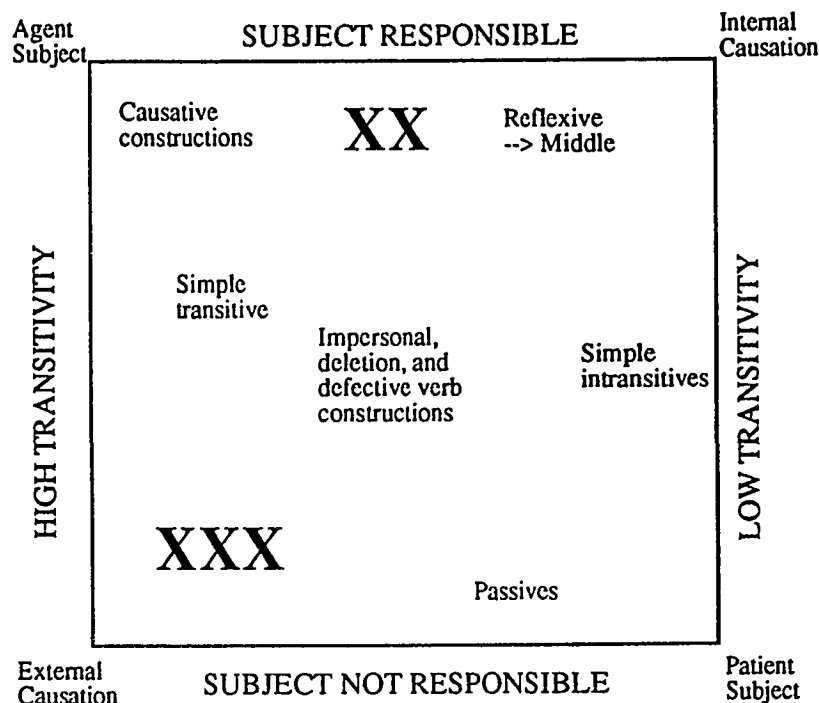


Diagram 6: The semantic space of change of event constructions
With prototypes for each construction in place
 (X indicates little expressed regions.)

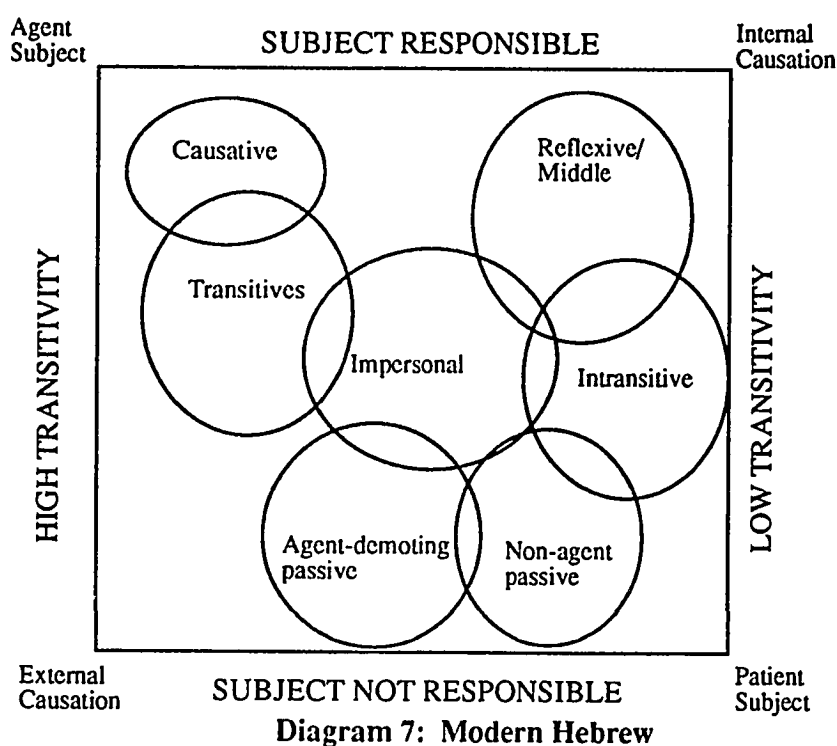
So in diagram 6, I plot each of these constructions according to the values on these

two dimensions of their prototypes. Note that there can be any number of other dimensions with which to differentiate the uses of these constructions. A useful third dimension could represent the constructions' use for switching or maintaining topic. However, a third dimension would complicate the diagram immensely and these two dimensions are the most critical for characterizing the contrasts of the prototypes of these constructions. Note that these common constructions almost entirely fill the semantic space except for the spots marked with X's. There appears to be a universal need to have basic constructions to express construals for all regions in this space not marked with X's.³ Note that two diagonal dimensions naturally follow from the horizontal and vertical values: Highly transitive constructions with responsible subjects have agent subjects; whereas passives have patient subjects. Reflexives/middles are associated with internal causation. Causatives, many transitives, and agentive passives suggest external causation.

In diagram 7, I plot the approximate range of expressive construal for the various

³ One can see that we seldom both express two or more relevant participants of a causative event and have the non-responsible one be subject (the XXX area). The agentive passive is closest to this but the agent is seldom expressed as a core argument. Additionally, the XX area of medium transitivity (one explicit participant and one less-than-explicit participant implied) seldom is expressed with constructions which imply a responsible subject. A causative with a deleted or backgrounded patient or causee would approximate such a construction.

Hebrew constructions. The space is tidily divided among the constructions in a way closely resembling the array of presumed universal prototypes of diagram 6. To wit, all primary regions are expressable by one construction or another. The overlap areas represent areas where a speaker might vacilate between two constructions to represent that particular degree of construal. Thus, each construction has its own core and extended region in the space and slight overlap is tolerated.



This introduces an analytically useful metaphor:

A semantic space is populated by various constructions which stand in an ecological relationship to one another.

We can best apply this ecology metaphor by examining languages which do not regu-

larly use all of these basic grammatical constructions to represent each prototype area in the space. English (diagram 8), with its relatively impoverished range of reflexive functions and its flexibility to use simple verbs transitively and intransitively, uses simple intransitives for the "middle" functions typically marked in other European languages with the reflexive. In ecological terms, the simple predicate construction claims a large percentage of the semantic space, inhibiting the presence of other constructions around that space. Conversely, we could say that the absence of a reflexive-derived middle motivates the use of the simple intransitive for this function.

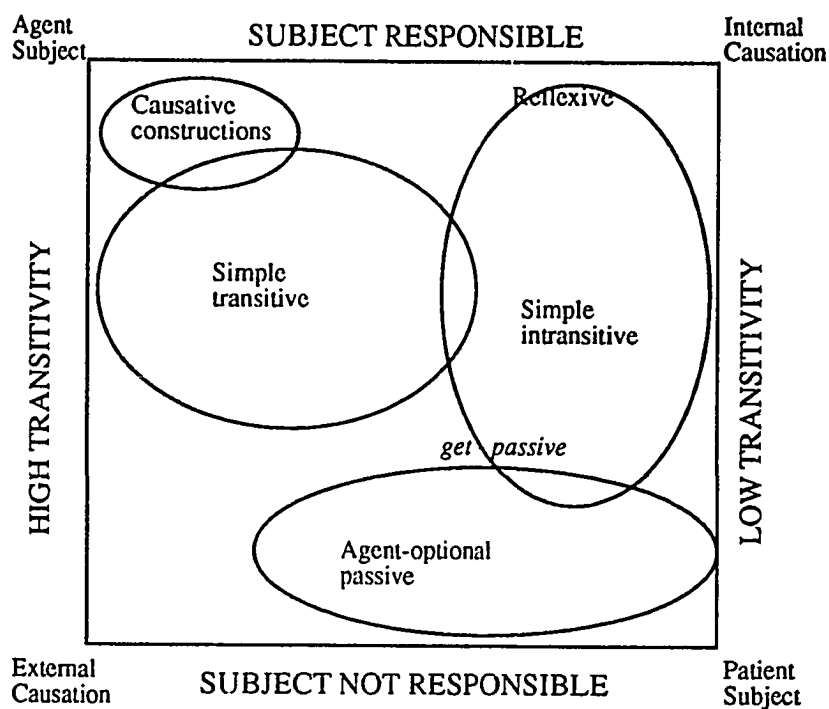


Diagram 8: English

I don't circle relatively minor constructions in these diagrams, but include them to suggest new or less prevalent constructional "species" which may eventually vie for more wide-spread use.⁴ For example, the *get-passive* often combines the qualities of

passive with a notion of partial responsibility of the subject (cf. R. Lakoff 1971, Chapell 1980).

These synchronic examples represent ecological systems in a fairly stable state: there are no important unexpressed regions, and there is minimal overlap or synonymy between constructions. Effectively, there is little strong competition. As such, this space looks similar to Anderson's "maps" of the semantic spaces of evidentials (1986) and perfects (1982). As with his diagrams, diachronic change can be represented by redrawing the regions expressed by each construction to reflect changes in function. This ecological model goes beyond descriptive mapping however. Since much of this causative / inchoative space is necessarily filled, we can actually determine *competition* between constructions to express various regions and see how the ecology of the space helps *effect* the extensional shifts of the constructions.

Consider diagrams 9 and 10 (on the next few pages) for Tamil. Over the last 2,000 years there has been a noteworthy decline in the frequency and functional range of simple intransitive Tamil verbs. Along with this, there has been a rise in the frequency and range of transitive verbs.⁵ This can be explained in terms of the overall shifts in the ecologically-governed causative/inchoative space. In oldest Classical

⁴ I leave out the various English impersonal constructions. No one of them is used with great frequency and each has a different nuance beyond the scope of this study.

⁵ The language could be said to be shifting over from a fundamentally intransitive language (in the sense of Nichols 1982) toward being a more transitive language.

Tamil (diagram 9 circa 200 AD), if an event was represented as dyadic, a morphological causative was typically suffixed to one of the many intransitive verbs. For example, *kāṇpi* "show" from *kāṇ* "see". Further, the language had effectively no reflexive construction – though it had a logophoric pronoun. It occasionally used passive-like constructions through the regularized use of verbs such as *paṭu* "to suffer" and *peru* "to experience, beget", but patient-subject functions were by-and-large expressed by simple bare stem intransitives. Thus events of *washing, breaking, and finding (be found)* were all expressed as basically intransitive. (Classical Tamil also had a few "defective" verbs, which, like impersonals, could only inflect for a generic third person neuter singular subject.)

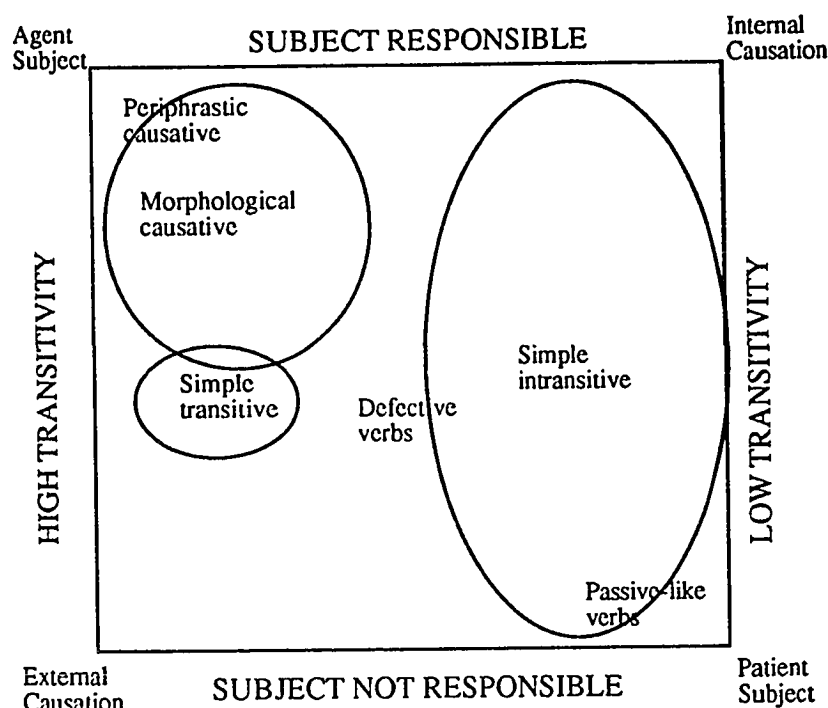


Diagram 9: Classical Tamil

Morphological causatives, though common and productive, were complex morphophonemically, and one morpheme had been phonologically reduced in many verbs to simple gemination or devoicing of the root-final consonant or the following tense morpheme.⁶ For example, *mēy-nt-* "graze-Past-, X grazed" becomes *mēy-tt-* "graze-Past-, Y put X to pasture". Thus the common causative construction had very little ability to markedly emphasize that an event should be construed as highly causative. Serial verbs (*vai*, "to place purposefully" or *paṇṇu* / *cey* "to do") were suitably grammaticized by metaphor to create an emphatic causative construction highly marking that the grammatical subject and no other participant was responsible (perhaps contrary to expectations) for the event.

8) ... *vēntarai aṇaṇkarum paṇtalai uṇaṇkap paṇṇi* ...
 kings-Acc frightening battle.ground wither-Inf do-AvP
 "and (he) made the kings suffer on that terrible battle field"
 (*Puraṇānuru* 25:5-6, c. 200-300AD)

This paraphrastic causative came into competition with the morphological causative. This competition and the phonological inelegance of the various causative allomorphs eventually created a situation where the old morphological causative verbs ceased to be productive (one could no longer causativize any intransitive). The various morphological CVs eventually were lost or became reanalysed as monomorphemic transitive verbs.

⁶ Readers who have some knowledge of Classical Tamil will, I hope, excuse the simplified discussion of the causatives. Both *-pi/-vi* and *-tt-* can be treated as causative morphemes, *-tt-* (both suffix and alternate inflectional paradigm) being older and minimally productive by the time of the earliest records.

During the latter part of this gradual transition,⁷ the serial verb *koḷ* "to take and retain" (cf. Pederson 1990) came to be associated with reflexive contexts (*action done for/to oneself*). This grammaticized as a full-fledged reflexive marker and has, over the centuries extended inexorably along some of the paths of extension which reflexive markers typically take (as per §3.4), further restricting the range of the simple intransitive verb. Recently, the reflexive construction has begun to acquire a deagentive function which construes an event as having internal causation or at least no animate responsible agent:

9) *nān kaṭavait tirantēn*. "I opened the door."
I door-Acc open-Ps-1s

10) *kaṭavu tirantukoṇṭatu*. "The door opened by itself [or wind]."
door(Nom) open.Avp-Ref-Ps-3sn (Deagentive/Anti-causative)
(from Pederson 1990)

This is in contrast to the still-used simple intransitive which is more neutral with respect to responsibility:

11) *kaṭavu tirantatu*. "The door opened. [Cause unspecified]"
door(Nom) open-Ps-3sn

Since a crowded region of semantic space will not maintain multiple expression

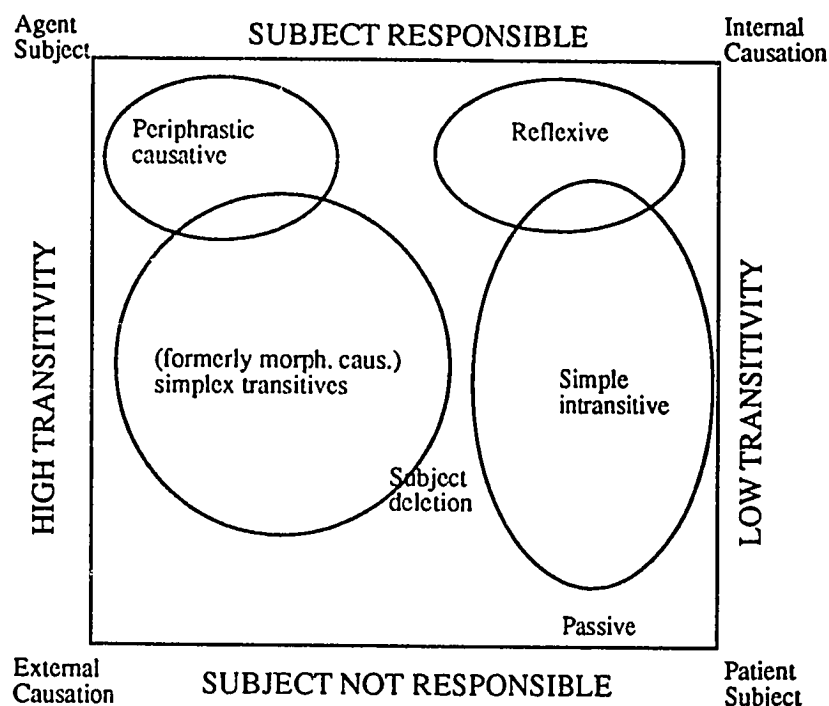
⁷ Exact dating of the use of *koḷ* as a reflexive marker is difficult. Karthikeyani (1980) claims tenth century inscriptions have *koḷ* used reflexively. However, such inscriptions as I have been able to examine do not unimpeachably use *koḷ* as a reflexive, but only as a less than fully grammaticized metaphorical "taking" or as an aspectual auxiliary. I urge caution ascribing reflexive function to such an early period.

for long, the range of the simple intransitive has been reduced to some simple inchoatives (agent-neutral) and patient subjects

Most recently, after continual contact with European languages developed (and passive-laden prose needed translation), Tamil has renovated the old passive-like verb *paṭu* to use as a passive construction.⁸ Its use is still restricted to specific genres, such as academic discourse, but its entry into that region of the semantic space may well contribute to a further reduction of the functional range for intransitives. All these developments give us a state of the system something like diagram 10.

While the *potential* range of a construction in a language depends upon the type of the construction and its particular history, we have seen how the *actual* range of usage is determined in large part by the ecology of the overall system of expressively related constructions. To borrow a term from evolutionary theory, relatively stable systems can have "punctured equilibrium". We have seen this come from:

⁸ Interestingly, the other passive-like verbs which were common in Classical Tamil have not been renovated. One was apparently sufficient to emulate the European model.



- | | |
|-------------------------------------|-------------------|
| 1. reanalysis of morphemes, | (Tamil causative) |
| 2. loss of productivity, | (Tamil causative) |
| 3. innovation of new constructions, | (Tamil reflexive) |
| 4. language contact | (Tamil passive) |

This punctured equilibrium often precipitates fundamental changes among the sets of competing constructions.

While I have focussed on the semantic space of causative / inchoative events, a similar ecological perspective (where changes are seen as the result of competition in an often changing semantic environment) could apply to the study of other interactive sets of grammatical constructions. I suggest modals, tense and aspect systems, case marking, and spatial markers as promising candidates.

8. Conclusion

8.1 Summary

Because this work is in many ways only preliminary, I have only hoped to partially achieve my overarching research goals in this one presentation. Far more, of course, can be done just within the topic of reflexives and causatives, but I tried to clarify and elaborate the basic framework for the investigation of grammatical polysemy. In my presentation, I have sought to do the following:

- To describe the cross-linguistic variation of function and meaning for reflexive and causative constructions.
- To demonstrate how we can best account for this variation by using often subtle semantic (and pragmatic) principles rather than syntactic abstraction.
- To exemplify the use of implicational hierarchies for determining the structure of grammatical polysemy.
- To account for this variation in terms of radial categories with prototypes and extensions from these prototypes and to explain the motivations for the various links in these extensional categories.
- To hypothesize universal extensional structures showing allowable extensions of these constructions. The functions of the RC and CCs in each language will extend along some coherent subset of pathways on this extensional structure. This provides a typological tool for mapping out commonalities and differences between polysemy structures of different languages.
- To show how the extensional structures for RCs and CCs can further inform a theory

of radial categories. The decay of an RC's extensional structure suggests that distal nodes in a structure may not be perceived as parts of a single coherent whole – despite the local coherence between all intermediate nodes. As another point, even when different CCs center on different prototypes, the extensional structures can be roughly similar. This suggests that the prototype of a radial category can include a range of prototypes as long as the entire range shares certain (in this case, Force Dynamic) features.

- To provide an *ecological* model which can help to explain cross-linguistic variation and diachronic change in extensional structures by looking at entire systems of grammatical constructions.

8.2 Future research

A study similar to this one could be very profitably carried out on the polysemy structure of *passive* and *noun incorporation* constructions. Even a brief examination of passive and noun incorporation use reveals an often surprising polysemy structure for which we can find universal tendencies.

By conducting a cross-linguistic survey of the polysemy structures of the passive and noun incorporation constructions, and co-ordinating it with this work on the causative and the reflexive, we could group together closely related constructions which are not commonly grouped under a single rubric. The resultant understanding of their polysemy structures should further our general understanding of how grammatical (and conceptual) categories are organized. We can then better understand how these categories are in turn organized into entire systems.

8.21 The passive construction

The passive construction is one of the more widely attested and studied constructions. Despite considerable debate, linguists still do not even have an agreed upon universal definition of the passive. Early syntactic accounts treated the passive as a meaningless mechanical transformation. Other attempts have characterized the passive as marking a purely semantic contrast. More recent work strives to explain the passive in terms of information flow and the structure of discourse. Only with a large scale survey and recently developed methods of semantic analysis can we accurately determine the range of passive functions – as well as the universal functions common to all languages.

Scholarship on the passive generally falls into two categories: 1) language-particular studies of the passive; 2) cross-linguistic surveys. The first of these typically accounts for passive phenomena in a single language, within a particular theory-bound framework. While providing rich detail, they attempt an explanation of the passive's syntactic behavior in isolation from its functional and semantic properties. This approach dates to the assumption of early Transformational Grammar (cf. Chomsky 1957) that the passive was a purely syntactic operation (*transformation*) which had no semantic contrast with the non-passive (*active*) sentence. The discovery of active sentences which cannot be passivized (e.g. "This soil grows good tomatoes" vs. ?? "Good tomatoes are grown by this soil") and in many languages, passive sentences which have no active counterpart discredited this view. Further, until recently, most single language studies have focused on English and other "familiar" languages, resulting in a misleading European bias.

The second type of study, the cross-linguistic surveys, are more akin to this project. Such studies are often still written from the vantage point of competing theoretical frameworks, but are generally more empirically based and wider in scope. Many such approaches, while seeking a cross-linguistic or universal account of the passive, also continue to assume it is fundamentally a syntactic operation. For example, Perlmutter and Postal (1977) argue that the universal characteristic of the passive is as an operator of grammatical relations. Word order, case, and morphology are not relevant to the universal property of the passive. Similarly, Keenan (1982) asserts that the passive has the primary function of reducing the number of syntactic arguments of a predicate by

one. By his own admission, such a characterization of the universal passive precludes a clear contrast with other (non-passive) valence-reducing mechanisms such as the RC. Approaches like these will always fail in this way if they overlook the centrally important semantic and discourse functions of the passive.

Even a brief examination of passive use indicates that it is more polyfunctional than is usually assumed. For example, the English "get-passive" (cf. R. Lakoff 1971, Chapell 1980) marks speaker's attitude (My concert tape got erased!), responsibility of an agent (How did this window get opened?), and deliberateness on the part of the subject (Mary got herself shot!). Such range of functions of passive marking in languages around the world remains insufficiently examined.

Sierwierska (1984) surveys constructions labeled "passive" by various single language researchers. She categorizes these into different types according to syntactic and functional characteristics. Each of these passives is found to have some property in common with the canonical passive (the typical *Harry was hit by Bill*). However, "as a group the whole body of so called passives does not have a single property in common" (255). Thus, Sierwierska despairs of finding any possible characterization of the passive which is both universal and "particularly illuminating" (256).

Wierzbicka (1988) makes a detailed survey of passive (and causative) constructions in several languages. She concludes that, while comparisons can be made, each language has a unique construction and accordingly says less about universal characteristics.

More recent work has resumed the quest of finding a universal characterization by

abandoning the strictly syntactic or grammatical/relational approach. Current developments in semantic theory, especially in the area of prototype analysis, (e.g. G. Lakoff 1987 and this dissertation) give us means to explain how a wide class can have no properties in common and still be explained as a single reasonably-consistent category – both linguistically and conceptually.

Shibatani (1985) postulates a universal prototype for passive constructions: the party performing the action upon the other party is not encoded (*agent defocussing*), the affected party (*patient*) is subject, reduced valence, and morphologically marked. All non-canonical passives are supposedly related to this prototype by the shared property of agent defocussing. For all the strength of this work, it still has some inadequacies: 1) Shibatani claims that less canonical passive constructions are somehow "less passive". This notion needs to be made clearer. In conventional prototype theory, a penguin is no less of a bird for being a non-canonical instantiation of the category "bird". Shibatani's claim that a non-canonical passive is less of a passive underattends to the naturalness and recurring nature of these constructions. We must conduct a more thorough language survey to ascertain to what extent non-canonical passives consistently vary from the prototype and to what extent each language has an idiosyncratic type of passive (as Wierzbicka 1988 would claim). Finding the universal patterns of extension of passives to less canonical functions, we will provide a universal characterization of the passive as a universal network built around a prototype. It need not be a simple collection of shared features. 2) As persuasive as his argument may be, Shibatani's language sample is simply too small to be certain that his passive prototype is cross-linguistically

valid. 3) Similarly, his assumptions regarding the development of marking the spontaneous and potential with the passive marker are conjectural. A suitably broad survey and methodology could test to see if this is indeed a universal or near-universal development. 4) Not all uses of the passive marker clearly share the property of defocussing the agent. These uses must also be linked to the prototype.

Klaiman (1988), influenced by the Actor/Undergoer hierarchy of Foley and Van Valin (1984), has made an important early step in accounting for cross-linguistic variation of passive constructions by suggesting a typology of voice systems. Each language may have a different type of passive, but this can be accounted for by positing a universal Actor/Undergoer scale. Each language may represent the "affected entity" more or less consistently at one end or the other of this scale. Unfortunately, Klaiman's survey of languages is too limited to conclusively decide whether his parameter is a genuine candidate for this range. For instance, based on my own research on Tamil, I characterize some of his data as controversial. The passive construction is rarely used in Tamil and yet it serves as the prime example of one pure type of voice system. Further, many of the non-canonical functions of passive marking – even those acknowledged as common by Shibatani – fail to fit into Klaiman's system. Any study taking a cross-linguistic approach, will need to account for *all* recurrent types of passives and have many exemplar languages.

Comrie (1988) also takes a typological perspective like Klaiman, and uses a prototype analysis like Shibatani. Unfortunately, his work is too restricted in scope and is primarily concerned with the separate task of determining a clear contrast between

ergative and passive marking. This is not as trivial a task as it might seem, since passives have not been characterized such that a field linguist can readily determine whether or not a construction is a passive in the first place. For example, Lawler (1977) analyses the Acehnese *lé* as the marker of the underlying subject of a passive construction. Durie (1988) reanalyses this marker as actually an ergative case marker for an active sentence and decides that the language does not actually have a passive construction. That such a confusion can occur with two highly competent linguists indicates the need for a much clearer understanding of the universal characterization of the passive.

8.22 Noun incorporation

Noun incorporation is a term covering the varieties of grammatical strategies which take a non-subject argument of the verb, such as an object or an instrument, and fuse it with the verb in a compound of sorts (e.g. English: *berry-picking*).

There has been far less research on noun incorporation to date than with passive constructions. The cross-linguistic surveys of noun incorporation are still somewhat preliminary. Some important work has been done recently with individual languages. For example, Evans (1991) examines Mayali with a sensitive eye toward the semantic and discourse functions of Mayali's various types of incorporation. Sadly, such studies are rare and usually limited to a few isolated languages. Accordingly, we need far more cross-linguistic research before being certain of any universal or typological conclusions.

One of two main exceptions to the lack of cross-linguistic surveys is the work by Baker (1988). The strengths of this work are its thoroughness and the unified account it

gives to all types of incorporation (not just to noun into verb incorporation, like *berry-picking*). He also treats passives as a type of incorporation in his technical sense of the word. Because it is concerned with providing a syntactic account of incorporation behavior, it downplays the importance of the semantic/functional types. Further, its interests are rather framework determined (*Government and Binding*).

The other significant survey of noun incorporation is Mithun (1984 and 1986). She does an excellent job at a semantic/functional typology of noun incorporation – finding four main types and ranking them implicationaly: if a language has the third type it will also have the first and second, etc.. Taking her work as a launching point, it remains to: 1) provide greater breadth to her survey by examining languages from other language families and areas; 2) determine any further functions of types which recur in my broader study; 3) analyze any further functions to determine in what way her original classification must be altered; 4) relate the phenomenon of noun incorporation to other construction types which involve altering the argument structure of the verb (esp. the passive, reflexive and causative).

Beyond the passive and noun incorporation, one could profitably study impersonal constructions and other constructions which affect the argument structure of the verb. I feel as though the study of grammatical polysemy is in its infancy today, but with further research nourishing it, the field may be quite mature before long.

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Appendix – Languages surveyed

Table of surveyed languages

Not including languages referenced entirely by Geniusiene (1988)

Following the classification of Voegelin and Voegelin (1977).

Language	Sub-family	Principal references
INDO-EUROPEAN		
English	Germanic	Informants
French	Romance	Informants
Italian	Romance	Informant; Zubizarretta 1985; Burzio 1986
Russian	Slavic	various
Czech	Slavic	Informant
Lithuanian	Baltic	Informant
Hindi	Indo-Aryan	Bahl 1967; Masica 1976; Saksena 1980, 1982;
DRAVIDIAN		
Tamil	South Dravidian	Informants
Telegu	Central Dravidian	Rao and Bashir 1985
Brahui	North Dravidian	Masica 1976;

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ALTAIC

Turkish	Turkic	informants
Lamut	Tungic	Benzing 1955
Korean	questionable	Lee 1985, informant
Khalkha Mongolian	Mongol	Poppe 1951, Street 1963
Dagur Mongolian	Mongol	Martin 1961

URALIC

Hungarian	Ugric	Korponay ms.; Hetzron 1976
Finnish	Finnic	Informant

AFROASIATIC

Modern Hebrew	Semitic	Berman 1979b; various
Classical Arabic	Semitic	Saad 1982
Oromo	Cushitic	Dubinsky, et al. 1988
'Afar	Cushitic	Bliese 1981
Lamang	Chadic	Wolff 1983

NILO-SAHARAN

Logbara	Central Sudanic	Crazzolaro 1960
Maasai	Nilo-Hamitic	Tucker and Mipaayei 1955

KHOISAN

Nama	Hottentot	Hagman 1977
!Kung	Northern Khoisan	Snyman 1970
NIGER-CONGO		
Chichewa	Bantu	Informant
Tsonga	SE Bantu	Baurnback 1987
Londo	Lundu-Mbo, NW Bantu	Kuperus 1985
Luganda	NE Bantu	Hyman p.c.
Kongo	Central West Bantu	Bentley 1895
Mumuye	Adamawa	Shimizu 1983
Grebo	Kwa	Innes 1966
AUSTRO-ASIATIC		
Vietnamese	Mon-Khmer	Thompson 1965(1984)
SINO-TIBETAN		
Mandarin	Chinese	Informant
Hmong	Miao-Yao	Informant; Jaisser 1984
Lahu	Burmese-Lolo in Tibeto-Burman	Matisoff 1973
rGyarong	Kamarupan in Tibeto-Burman	Nagano 1983
AUSTRONESIAN		
Seediq	Formosan	Starosta 1974

Tsou	Formosan	Starosta 1974
Kimaragang	Northwest Austronesian	Kroeger 1988
Tagalog	Northwest Austronesian	Schachter and Otones 1972
Da'a	Central Celebes	Barr 1988
Fiji	East Oceanic	Schütz 1985 Dixon 1988
Rotuman	East Oceanic	Churchward 1940
Tongan	East Oceanic	Churchward 1953
Kwaio	East Oceanic	Keesing 1985
Mon-Alu	Solomon Oceanic	Fagan 1986
West Futuna-Aniwa	Polynesian Outlier	Dougherty 1983
Malagasy	West Indonesian	Randriamasimanana 1986
Malay (Indonesian dialect)	West Indonesian	Hopper 1985
W. Bukidnon Manobo	Philippine	Elkins 1970
Manam	NE New Guinea	Lichtenberk 1983
Tolai	"AN-1" New Guinea	Mosel 1984
CENTRAL NEW GUINEAN		
Hua	E.N.G. Highlands	Haiman 1980
AUSTRALIAN		
Nunggubuyu	Relative isolate	Heath 1984
Djirbal	Pama-Nyngan	Dixon 1972
PENUTIAN		

Mam	Mamean Mayan	England 1983
Tsotzil	Quichéan Mayan	Cowan 1969
Nez Perce	Sahaptin-Nez Perce	Aoki 1970
UTO-AZTECAN		
Shoshoni	Numic	Dayley 1989
Classical Nahuatl	Aztecan	Andrews 1975
Pipil	Aztecan	Cambell 1985
YUMAN		
Hualapai	Pai	Watahomigie, et al. 1982
Maricopa	Delta California	Gordon 1986
HOKAN		
Northern Pomo	Pomo	O'Connor 1987
Atsugewi	Palaihnihan	Talmy 1972
MACRO-ALGONQIAN		
Maliseet	Algonquian	Sherwood 1986
Ojibwa	Algonquian	Rich Rhodes, pc.
Blackfoot	Algonquian	Frantz 1971
Kickapoo	Algonquian	Voorhis 1974
OTO-MANGUEAN		
Mixtec	Mixtecan	Hinton 1982
ANDEAN-EQUATORIAL		
Nomatsiquenga	Preandine Arawakan	Wise 1986

Guaraní	Tupí	Gregores & Suárez 1967
Urubu-Kaapor	Tupí	Kakamasu 1986
Quechua	Quechumaran	Tschündi 1853
Quechua de Huaraz	Swisshelm 1974	
Cochabamba Quechua	Salomao 1980	
Huallaga Quechua	Weber 1989	

MACRO-CHIBCHAN

Miskitu	Misumalpan, Central Am.	Hale 1990##?
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GE-PANO-CARIB

Apalai	Northern Carib	Koehn 1986
Canela-Krahô	NW Ge	Popjes 1986

ISOLATES

Ainu	In Japan	Refsing 1986; Shibatani 1990
Burushaski	In South Asia	Lorimer 1935
Japanese	In Japan	Informants
