

APPLICATION OF A COGNITIVE MODEL OF LINGUISTIC STRUCTURE TO THE  
ANALYSIS OF SELECTED PROBLEMS IN TZELTAL (MAYAN) GRAMMAR

by

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Dedicated to my Tzeltal friends  
who patiently shared their lives  
and their language with me.

## PREFACE

Tzeltal is a Mayan language spoken by approximately 125,000 people. These people occupy a major portion of the eastern half of the Mexican state of Chiapas. The western boundary of the Tzeltal population area is the city of San Cristobal de Las Casas situated in a bowl in the Central Highlands. The highlands stretch eastward for approximately fifty miles where they end quite abruptly.

A municipio center known as Ocosingo is located at the foot of this highland area. From Ocosingo (c.a. 1000m in elevation) eastward, for approximately 125 miles, the elevation falls off to less than 100 meters as one nears the Usumacinta River. The entire area is a tropical rain forest. Topographically, this lowland area resembles a washboard. Numerous chains of mountains of 1000-2000 meters separate valleys which are the major population centers.

The Tzeltal area is bordered on the east and southeast by the Tojolobals, on the north and northeast by the Chols, and on the west by various dialects of Tzotzil. Located within the Tzeltal area are two small groups of Lacandon Maya who, linguistically, are closely related to the Yucatecan Maya of Belize and Guatemala. All of these groups except the Lacandon Maya appear to make up one of the major Mayan subgroupings (Robertson 1977:120) known as the Cholan-Tzeltalan subgroup.

Within Tzeltal, at least three, and perhaps four, subdialects may be distinguished. These subgroups are distinguished by both cultural and lin-



guistic differences. They are (1) Oxchuc Tzeltal, (2) Bachajon Tzeltal, (3) Tenejapa Tzeltal and (4) Ocosingo Tzeltal. The Oxchuc Tzeltals live in the Central Highlands around and to the east of San Cristobal de Las Casas. The Bachajon Tzeltals live in the northcentral part of the Tzeltal area. The Tenejapa Tzeltals live in the southwestern portion of the Tzeltal area along the Pan American Highway between San Cristobal de Las Casas and Comitán. The Ocosingo Tzeltals live in the lowland rain-forest east of Ocosingo.

To my knowledge the analyses presented in this thesis represents the first formal study ever reported on the Ocosingo dialect of Tzeltal. Kaufman's work was done on Tenejapa Tzeltal. Slocum's work was on both Oxchuc and Bachajon Tzeltal. The Ocosingo dialect of Tzeltal is not one with a long history. The vast majority of people living in this area are less than three generations removed from one of the other Tzeltal areas. In this sense, the Ocosingo dialect is something of a melting pot for all other Tzeltal dialects. It is not, however, a homogeneous dialect. The character of the dialect spoken in a given area is determined by the origin of the people who settled that area and how long these people have lived there.

My contact with the Ocosingo dialect extended over a large part of the area where the dialect is spoken. During the time I spent in this area I had contact with over 50 different Tzeltal communities. These communities were scattered over an area spanning perhaps a hundred miles. The area where I did my primary research is known as the Santa Cruz Valley, a large valley approximately thirty-five miles east of Ocosingo. My primary language helper was born and raised in the lowland area as were his parents. For this reason, his idiolect would probably be considered as representative of the Ocosingo dialect as any that could be found.

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Secondly, I wish to thank my language helpers for their time and patience in sharing their language with me. Although hundreds of Tzeltal speakers contributed informally to my understanding of the language, three men served especially as language helpers while I was engaged in formal research. These were Fidelino Sanchez Ruiz of San Martin, Tiburcio Feliciano Gomez of Santo Domingo and Joaquin Maldonado Trujillo of Yaxoquintela'. Of these, Fidelino Sanchez Ruiz was my primary language helper working with me daily over a period of four months. His patience, concentration and good humor never failed as we worked together.

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she faced and solved many technical problems which saved me a lot of time and frustration.

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ABSTRACT

APPLICATION OF A COGNITIVE MODEL OF LINGUISTIC STRUCTURE TO THE  
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Underlying the dominant theory of language today is the assumption that language is innate to homo sapiens. Theoretical and analytic work at all levels of linguistic inquiry are predicated upon this assumption.

The present study questions this assumption arguing instead that what is innate is a limited set of cognitive structures which interface man and his environment. It is suggested that man is heavily dependent upon these cognitive structures for knowledge about the external world. Further, it is assumed that language is a behavior by which man communicates to others a portion of what he has learned about his world including himself. For this reason, it is argued, language must be viewed as an admixture of informational components each of which is uniquely derived from a specific cognitive structure.

Building on these assumptions, a model of language organization is developed which I have characterized as a cognitive model of linguistic

structure. The model posits the existence of four major informational components or grammars which underlie and determine the organization of language. These are (1) the External Grammar, (2) the Internal Grammar, (3) the Intentional Grammar and (4) the Referential Grammar. After investigating some of the features of each of these component grammars, I apply the overall model to the analysis of selected problems in Tzeltal (Mayan) grammar for which established models have not provided insightful analyses.

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## LIST OF ABBREVIATIONS

ana	anaphoric particle
art	article
class	classifier
compl	completive aspect
conj	conjunction
dur	durative aspect
emph	emphatic
ex	exclusive
excl	exclamatory
gen	generalizer
imp	imperative
incompl	incompletive aspect
neg	negative
nom	nominalizer
pass	passive
past	past tense
p pass	perfect passive
perf	perfect aspect
phr	phrase marker
pl	plural
poss	possessive
prep	preposition
ques/?	question word
ref	reference
Sp	Spanish
subj	subjunctive

## INTRODUCTION

In the 1950's the field of linguistics experienced a paradigm shift of decidedly Kuhnian (1962) proportions. This shift was presaged in the work of Zellig Harris (1957) and formalized in Chomsky's Syntactic Structures (1957). The linguistic revolution thus set in motion spread rapidly. Within ten years, transformational grammar--the creation of this revolution--had the pre-eminent linguistic theory in North America.

This early ten year period was marked by vigor and enthusiasm as theorists applied themselves to investigating and developing the theory itself as well as the implications of the theory for such areas as psychology, sociology, education, anthropology and artificial intelligence. During this period, attention was focused primarily on an enlargement and refinement of the theory rather than a critical assessment of its underlying assumptions (see Chomsky 1965, Katz and Postal 1964, Rosenbaum 1967).

In the late sixties and early seventies, this situation began to change as theorists began to question some features of the model and began to propose alternatives. The reasons for this shift were numerous.

"As codified in the early sixties, the standard theory was incomplete on several important points; the philosophical ideas and assumptions it embodied were not fully digested nor generally embraced; the philosophical and logical argumentation Chomsky introduced into linguistics was not well understood; the relations of grammar to the various disciplines that it now touched were unclear; and finally, describing natural languages using the apparatus of generative grammar was difficult."(Bever, Katz and Langendoen 1976:3)

The development of alternatives to the standard theory moved in two directions. On the one hand, the generative semanticists (McCawley 1968,

Lakoff and Ross 1967, Lakoff 1971) objected to the notion of a syntactically based grammar, arguing, instead, that a semantically based grammar was more powerful and better able to handle some of the phenomena which were proving troublesome to the standard theory (quantifier relations, topic-comment relations, presupposition, etc.).

Chomsky and his followers, on the other hand, sought to solve these problems by proposing the "extended standard theory" (Chomsky 1971, Jackendoff 1972). The crucial modification of the extended standard theory is the inclusion of surface interpretive rules into the grammar. The inclusion of such rules constitutes an admission that at least some semantic rules appear to apply after all transformations have applied. Furthermore, the existence of surface interpretive rules is an admission that a clear dichotomy between syntax and semantics is difficult to maintain.

Generative semanticists (Hankamer 1973, Lakoff 1973) responded to the extended standard theory by proposing an even more powerful version of generative semantics. In this version a relatively simple set of phrase structure rules defined well-formed semantic structure and an all-embracing set of derivational constraints operate to specify the final surface structure. The major effect of this change is an increase in the homogeneity of syntactic and semantic rules.

Chomsky and his followers (Chomsky 1975, Fiengo 1974) responded to this new version of generative semantics with a proposal which has come to be referred to as the revised extended standard theory. The major innovation is the proposal that all semantic interpretation occurs at the level of the surface structure. To allow for this, significant additional grammatical information has to be treated at the surface grammatical level rather than as a part of the underlying phrase marker.

This series of theoretical adjustments between the standard theory and the generative semanticists has left each in a theoretical corner. The generative semanticists, seeing these proposals being incorporated into the standard theory, have been left with less and less scope for their theoretical innovations. This perhaps accounts for the reason that work within generative semantics has dropped dramatically.

Practitioners of the standard theory are faced with an equally troublesome dilemma. If they continue to move in the direction in which they have been moving, it will not be long before they find themselves espousing a modern form of structuralism. If they retreat back to the standard theory of the Aspects period, then they will, in effect, be re-embracing a model which they already realize cannot handle the linguistic problems which motivated the revisions of the Aspects model. It is this dilemma which has prompted and will continue to prompt a great deal of philosophical soul-searching within American linguistics.

As this point two obvious questions suggest themselves. (1) How did linguistics arrive at such a state of affairs? and (2) Where is linguistics apt to go from here? These are difficult questions, but ones which must be faced if linguistics, as a unique and distinct discipline, is to regroup and to chart a well defined course for itself into the future.

#### Empiricism versus Rationalism

In a very lucid account of this present state of affairs Katz and Bever (1976) suggest that what we are faced with is not a linguistic problem but a philosophical problem. To fully understand the nature of this problem, it is necessary to understand and appreciate the magnitude of the philosophical

differences between transformational grammar and the earlier structuralist tradition.

As Katz and Bever have indicated, the history of linguistic thought in the past 75 years has described a complete cycle from rationalism to empiricism and back to rationalism (1975:14). The early linguistic work of de Saussure (1916) and Bloomfield (1914) was decidedly rationalistic. Bloomfield's analysis of the views of Wundt clearly reflects the rationalist orientation identified with the linguistic thought of Humboldt and the Port Royal grammarians.

Subsequently, however, Bloomfield came under the influence of the empiricists, positivistic thinking of Watson and Hume, and forsook his earlier rationalistic views. As a result, most of Bloomfield's work and that of his students was accomplished using the methodological assumptions of positivism. This is why, for example, we find a deliberate eschewing of semantics as well as a structural, taxonomic approach to the analysis and description of language. The central assumption of the structuralists (empiricist) philosophy was the notion that, as far as its grammar is concerned, a linguistic utterance contains no structural characteristics which are not forthrightly manifested in the surface structure of that utterance. For this reason, descriptive adequacy could only be guaranteed by compiling an exhaustive taxonomy of the forms of a language.

This empiricist view of language held sway for some thirty years. In the late forties and early fifties linguists began to seriously muse over the problem of how and why two sentences could appear to be nearly or totally synonymous while at the same time having a very different structure. A typical problem of this sort is that of the difference between sentences 1 and 2.

1. The boy throws the ball.
2. The ball is thrown by the boy.

It was Harris (1957:444) who proposed a solution to this problem by positing the structural levels of kernel sentences and transformations. Harris suggested that a given language had a small, well-defined set of sentence forms from which all other sentences are derived by means of transformations. Because of his empiricist orientation, however, Harris did not pursue the philosophical implications of his proposal.

It was Chomsky who recognized the philosophical portent of Harris' work. The Chomskyan revolution consisted in developing a rationalist explanation of language structure utilizing the insights that Harris had developed but which were not genuinely congruent with the empiricist assumptions he held. It was Chomsky's special contribution that he did not simply devise a rationalist theory of grammar, but a whole philosophy of language in all its various manifestations. He anchored transformational grammar solidly within a broader rationalism that included many non-linguistic as well as linguistic aspects of human behavior. This is probably one of the reasons that Chomsky's thought has been so influential within as well as outside of linguistics proper. Scholars were strongly attracted to the theory because it was novel, it was formal, it had great explanatory power and it allowed the theorist to propose a great many hypotheses about language which could be subjected to empirical verification.

It is the strongly rationalistic flavor of transformational grammar which has turned out to be the Achilles heel of the theory. This is true for

a number of reasons. (1) A rationalist model requires explicit formulation. In this sense, it sets itself up as a very visible and inviting target. In the case of language in which the subject matter is so vast and pervasive, it has not been difficult for researchers to find data questioning some feature of the model. This is what the generative semanticists have done.

(2) Rationalist models can not be proven; they must be accepted as an article of faith. Many scholars are reluctant to do this. They either try to recast the model in more positivistic terms, or they avoid depending upon the model.

(3) Rationalist models tend to be fully understood only by those most intimately involved in their creation. This stymies the development of the model and tends to make it inaccessible to those who could otherwise make use of the model.

(4) Rationalist models tend to be absolutive (absolutistic). That is, the model makes, either implicitly or explicitly, a claim that it is the only possible model (because it represents the truth). Almost by definition, the work of a theorist who does not embrace the model is perceived as being misguided.

(5) Rationalist models tend to be methodologically weak. As a result such models are strongest at motivating the making and testing of hypotheses and weakest at guiding the researcher in the performance of empirical research.

What, then, are our options? There are three major possibilities; but, in terms of what we have learned from Kuhn about the nature of scientific revolutions, only one of these is seen in this discussion as a valid option. The three are (1) re-affirm the original rationalist model, (2) return to

pure empiricism and (3) develop and pursue a variety of functional models. Let me comment on the first two briefly before discussing the third.

Re-affirming the original rationalist model (here seen as approximately equivalent to the Aspects model) seems to me to be the least useful of the three alternatives. The model has been thoroughly tested and found to have deficiencies. If, however, it can be demonstrated that the model did not receive a fair test then such a return would be justified. This in fact is the substance of an extended treatment of this problem by Bever, Katz and Langendoen (1976). It is their claim that the standard theory was not fairly served in undergoing the revisions it did in an attempt to handle the sorts of problems posed by the generative semanticists. They suggest that the sorts of problems characteristically raised by the generative semanticists were not truly problems of grammar. If this can be demonstrated, they argue, then many of the objections raised to the standard theory disappear. A series of studies are presented suggesting that many such problems have their bases in psychology, philosophy, logic, rhetoric, pragmatics, sociology, etc., rather than formal grammar. To the extent that the standard theory did not receive a fair hearing, this may be a profitable exercise. It seems to me, however, that this requires too great a sacrifice in terms of what is truly interesting in language for the sake of a formal and abstract grammar. Rather, I suggest, we should take the position that the rationalist model has served us well and should now be viewed as an outpost from which we can take up again our inquiry into the nature of language.

This is not, however, a plea that we return to the pure empiricism of the structuralist period. We know too much to do this. Chomsky (and a host of others) have convinced us that language does, indeed, have non-observable



qualities. It behooves us to take what we have learned and to return to a study of the raw data of language. It will not be until we have amassed a new wealth of knowledge that we (someone) will be in a position to construct a new model of language. We, collectively, are obligated to engage in the onerous (but honorable) task of laying the foundation upon which a new model will be erected at some future date. Such a model, may, in fact, be related to the Chomskyan model, but we should not assume that this will be the case.

#### Laying New Foundations

I suggest that we have reached a point in the development of linguistic theory at which it is necessary to embark on an extended period of renewed research into the raw data of language. Further, I suggest that this research effort will best be served by making use of a variety of functional models. Such models will be like throw-away plastic containers: they will be inexpensive, useful and disposable. In this way, we should ultimately be rewarded with additional knowledge about language which will eventually be integrated into a better theory of human language.

A functional model has two primary and distinguishing features: (1) it is oriented towards semantics and (2) it makes some mentalistic assumptions about the ultimate nature of language. In this way we build on what we have learned and we have a well-motivated scheme for directing our empirical research.

In many respects this movement has already begun. I will mention just briefly some of the disparate threads which comprise the fabric of this movement.

### Functional Sentence Perspective

Functional sentence perspective (FSP) refers loosely to a sizeable group of researchers who have taken as their starting point the assumption that a very significant number of syntactic facts have their roots in a variety of semantic and informational functions. The further assumption is that such syntactic facts are best described in terms of their semantic motivations and not in terms of an autonomous syntax (Halliday 1974). Bever (1975) makes this point quite emphatically in his discussion of the varying goals of linguistic theories.

Typical topics of interest to those working in FSP include the notion of subject (Keenan 1976, Anderson 1976, Timberlake 1976), the relationship between subject and topic (Schachter 1976, Li and Thompson 1974), the significance of word order (Li 1975, Cooper and Ross 1975) and various accessibility and implicational hierarchies (Keenan and Comrie 1977, Moravcsik 1974, Givón 1976, Silverstein 1976).

### Discourse Grammar (Text Linguistics)

The central thesis of text grammars (Van Dijk 1972:2) is that, empirically, the characteristic verbal utterances of a language are larger than a single sentence. Therefore, a sentence based grammar is not adequate to account for many features of the structure of the utterances of a language. Accordingly, many scholars are developing discourse or text grammars to bridge the gap between formal sentence grammars and the broader linguistic utterances (discourses) of language. (Van Dijk 1972, Longacre 1971 and 1972, Petöfi 1972, Grimes 1972, Jones 1979)

### Functional Theories

Formally speaking, functional theories choose to define language as an instrument of social interaction between human beings (Dik 1978:1). In this sense, the primary aim of language is that of accomplishing communications between the users of the language. Functional theories have been far more widely pursued and developed in Europe than they have in the United States. Perhaps the best known advocate of functionalism so defined is Halliday (Kress 1976, Halliday 1973, 1974). Another recent attempt to develop a functional model of this sort is that of Simon Dik (1978).

There has also been a certain amount of interest in American linguistic circles in functionalism. Witness the 1975 Chicago Parasession on Functionalism (Grossman, San and Vance 1975).

### Cognitive Psychology

While cognitive psychology, as such does not refer to a specific theory of linguistic structure, it is nonetheless the case that the field's interest in mental structures and processes includes a deep interest in the nature of language. This is reflected in the following general characterization of the field of cognitive psychology.

"We believe in

1. The importance of the selection of stimulus information. Most of the time more information impinges on us than our limited capacities can handle.
2. The importance of selecting appropriate processing strategies (largely under voluntary control) to meet the demands of the task.
3. The development of cognitive structures. After repeated applications of processing strategies, stable cognitive structures emerge.
4. The interrelated functions of the parts of the human mind as a coherent system.
5. The constantly active nature of cognitive processes. The system is always active and at work." (Reynolds and Flagg 1977:12)

The similarity of the goals and the methodologies of cognitive psychology to those of functional movement in linguistics described above can be seen in the following statement taken from the introduction of a book on cognitive psychology.

"What is the look of the new cognitive psychology...? It is empirical. It takes its laboratory methods and its reliance on operationalism from behaviorism and neo-behaviorism (as well as borrowing modeling and simulating techniques from computer science and information theory). The content is mentalistic. From structuralism comes an interest in mental structures and processes. In addition, there remains the residue of the centuries-old fascination with representation, overlaid with the new interest in language. The new cognitive psychology is an empirical mentalism." (Reynolds and Flagg 1977:10-11)

The interests of cognitive psychology which pertain most directly to linguistics include (1) the perception and comprehension of linguistic utterances, (2) the structure of information in memory and (3) language acquisition. In some respects cognitive psychologists are equipped to gain insights into the nature of language which we linguists can only envy. Linguistics would do well to pay attention to what cognitive psychologists are doing. I would be sorely surprised if it does not turn out to be the case that cognitive psychology makes a very substantial contribution to our knowledge about language.

#### Grammars of Case, Space and Role

From ancient times it has been recognized that languages make use of a variety of devices to distinguish the various participants included in a linguistic utterance about these participants. This discrimination is based on some semantic or psychological notion that each actor is not participating in a given action in the same way. Case grammars, first popularized by Fillmore (1968), provide linguists with a means of relating surface grammati-

cal relations with the semantic relation or role occupied by a given participant. Many others have contributed to the development of such grammars (Grimes 1972, Cook 1971, Longacre 1976).

Another way to look at a linguistic utterance is to view it as taking place in a "space" which surrounds the perceptor of the event (who is therefore located at the center of this space). Langacker (1975, 1978) has proposed such a theory to explain the form and the meaning of the English auxiliary. According to this view, the English auxiliary is seen as being determined by the location of the event in the conceptual and psychological space which surrounds the speaker.

A somewhat similar concept has been applied by Anderson (1971) to the grammar of case. In his analysis, Anderson suggests that at least a part of the concept of a case must include (1) movement toward or (2) location relative to the speaker. Anderson refers to this conceptualization of case as a localistic theory of case.

Finally, I wish to comment on developments in relational grammar (see Johnson 1979, Perlmutter and Postal 1977). The theory of relational grammar is predicated upon the belief that many syntactic phenomena are best described in terms of the relations which exist between a predicate and its arguments. While this is not stated explicitly by relational grammarians, it seems to me that this implies a tacit acceptance of the view that there is something especially salient about the nature of actors and actions which lies outside the domain of a formal, abstract grammar. It is this tacit assumption which provides a point of commonality between relational grammar and the other functional views of language discussed above.

### Semantic Grammars

This summary discussion of functional views of language would not be complete without a note on the work of Chafe (1970). Chafe argues that since the purpose of language is to communicate semantic content, the best way to view language is to view it in terms of the direct relationship between semantic content and surface structures.

"...I believe...that a commitment to semantic structure as the place where well-formedness is established is now unavoidable. The difference between the semanticist and syntacticist positions, then, is this very difference--as to where the well-formedness of linguistic utterances is determined--whether it is in semantic structure or in a fancied deep structure lying somewhere between semantic structure and surface structure."  
(Chafe 1970:65)

The bulk of the remainder of the book is then devoted to a preliminary proposal of the sort he was calling for. This was a pioneering effort and has inspired more work by others than is first apparent. A lot of work in the development of computer models of languages reflects the tenor of Chafe's pioneering work (Schank 1972, Winograd 1972, Norman and Rumelhart 1975).

#### A Cognitive Model of Linguistic Structure

The previous discussion provides much of the historical and conceptual background which underlies this thesis. Specifically I wish to see the model I will be developing in the coming pages as another in the class of functional models. Recall that I suggested that such models are best seen as temporary "throw-away" models. Such models serve to guide empirical research with the ultimate belief that they will eventually lead to and be supplanted by a superior model of linguistic behavior and structure.

Why would I wish to suggest another model when we are already surrounded by a plethora of similar models? There are two reasons. First of all, if

our goal is to learn as much as possible about the nature of language through empirical research, then it seems reasonable to argue that we will maximize our likelihood of being successful in this venture by developing and exploring a large number of models. In a sense, the sort of models we are speaking of here, actually amount to little more than a sophisticated hypothesis about the nature of some aspect of language. In this light, it follows that the more hypotheses we posit and investigate, the more we will learn.

The second reason for developing another model has to do with the nature of the model itself. That is, the model consolidates a number of assumptions about language in a total model in a manner which has not been done before. It is true that many of the features of the model have been explored in part in other models. It is my belief, however, that a larger and more integrated model is necessary to the accomplishment of the sort of empirical research indicated earlier.

The model which I am developing emerged in bits and pieces as I attempted to find solutions to particular problems. At first, I had no idea that the various ideas which suggested themselves could possibly be relatable and integrated. After a number of ideas had emerged, I began to wonder if they could be drawn together into a coherent model. To find out I began to manipulate these ideas along a number of lines. When a promising model began to suggest itself, I decided to plunge in a little deeper to see if this nascent model would or could demonstrate compatibility with a number of theoretical intuitions about language which I had accumulated in my graduate career but which I had never been able to integrate into a single theory. I quickly discovered a relatedness which encouraged me to look further at some

of the implications of the model--particularly the assumptions which appeared to underlie the model. This preliminary investigation yielded some rather radical notions, but the model continued to look promising. Therefore, I proceeded to develop it further.

I must emphasize the tentative and preliminary nature of the model. Although it has proven useful in the analysis of certain aspects of Tzeltal, it does not necessarily follow that the model will be equally useful in the analysis of other languages (although this is hoped.) As with any model or theory, the viability of this model will depend upon its utility in accounting for the grammatical features of a broad spectrum of languages as well as the acceptability of the presuppositions which underlie the model.

#### Organization of the Thesis

The structure of the thesis falls quite naturally into two parts. Part I is a statement of the theoretical basis of a cognitive model of linguistic organization. Part II consists of an application of this cognitive model to the analysis of certain problems in Tzeltal grammar.

#### Part I

Part I consists of two chapters. In the first chapter, I make explicit a set of five assumptions about the nature of language. The majority of the chapter is concerned with an analysis of these assumptions in terms of their implications for a theory of language.

In Chapter Two, I proceed to develop and elaborate a model of language organization based upon the set of assumptions set forth in Chapter One. The resultant model, which I refer to as a cognitive model of language organization, proposes that language can be seen as the intersection of four types



of information. These I refer to as (1) the External Grammar, (2) the Internal Grammar (3) the Intentional Grammar and (4) the Referential Grammar. Because this information is complexly integrated into a linguistic string, a major part of the linguist's task is that of sorting out this information in order to fully understand how the system (language) works.

## Part II

In Part II, I present four separate studies which involve the application of the cognitive model to the analysis of selected problems in Tzeltal grammar. These studies are (1) an analysis of the particle YAC, (2) an analysis of tense and aspect, (3) analysis of the morpheme **-uc** and (4) analysis of the morpheme **-BE**. The goal in each of these studies is to show that an analysis using the cognitive model can yield insights into linguistic structure which might otherwise be missed or glossed over.

Each of the studies in Part II involves the analysis of a grammatical problem which has proved troublesome using established models. It is hoped that these studies will illustrate something of the utility of the model in providing solutions to difficult problems. It is unfortunate that it is not possible to provide a sample study illustrating every facet of the total model. That, obviously, is beyond the scope of a single dissertation.

Appended after Part II is a small sample of Tzeltal text data. For those interested in the language itself, these texts may serve as a data base for further analysis. Anyone interested in testing the solutions to the problems handled in Part II can do so using this text material.

PART I

THE THEORETICAL MODEL

## CHAPTER ONE

### ASSUMPTIONS UNDERLYING A COGNITIVE THEORY OF LINGUISTIC STRUCTURE

Any theory or model of language is established upon some set of basic assumptions about the nature of language. In some cases these have never been made very explicit. Accepting and working with a particular model implies that one is accepting the assumptions which underlie that model. Whenever a theorist begins to question one or more of the assumptions which underlie his model, he is, in reality, questioning the model itself. A tension is established which must be worked out before the theorist can continue to work with the model. Either he must alter the model to accommodate the change in assumptions or he must re-affirm the original assumptions.

My task in the first part of this thesis is that of outlining a cognitive model of language organization. I wish to approach this task by making explicit a set of basic assumptions which I believe underlie such a model.

In presenting and discussing these basic assumptions, I have proceeded on the supposition that the total set demonstrates a reasonable degree of mutual internal consistency. This is not to say that every assumption is, at all points, totally defensible. Some points may be too strongly stated. My primary goal in this first chapter is to build a philosophical foundation for the linguistic model to be elaborated in Chapter Two.

### 1.1. Central Hypothesis.

In principle, language is a device constructed in a manner designed to facilitate the reconstruction of a slice of reality (defined as a space-time event). In this sense, it is useful to think of language as being made up of information along a limited number of dimensions relevant to this reconstructive process. "Comprehending" the sense of an utterance is accomplished by identifying and integrating the information contained in the utterance along each of its constituent dimensions, and using this information to reconstruct a mental approximation of the original space-time event.

These constituent dimensions may be understood as a set of cognitive structures, common to all humans, which interface man and his environment. The constituent dimensions which are being proposed in this discussion may be informally identified as: space-time, participant-action, causality, and reference.

It is further argued that linguistic analyses making use of this framework will generate insights into the structure of language which would otherwise remain obscure.

These arguments will be developed by positing a set of assumptions about man and language consistent with these arguments and then investigating these assumptions in some detail in terms of their viability and their implications for a model of language.

### 1.2. The Basic Assumptions Listed and Defined.

#### 1.2.1. Assumption I. The Adaptation Principle.

Human language-using capabilities are defined and constrained as a subset of the more general functional capabilities shared, in principle, by all

members of the species. The expressive devices and organizational features of language are derived within the bounds of these capabilities.

#### 1.2.2. Assumption II. The Stimulus Principle.

The Stimulus Principle states that "the semantic force of a linguistic expression is a function of its efficacy in evoking a para-real reconstruction of the focal event or relation in the listener." Accuracy of communication may be defined as the degree of correlation between the "real" event or relation and the para-real reconstruction of that event/relation by and between the speaker and the listener.

#### 1.2.3. Assumption III. Grammaticality is a Convention Rather Than a Formality.

The structural patterns and characteristics we observe in language reflect explicit functional or cognitive information. In this sense such structural characteristics are a part of the semantic force of the utterance, not prior to it. The marriage of a structure and a function is at least partially arbitrary. Once accomplished, however, the marriage resists dissolution. This resistance resides in the fact of the marriage, not in a special intuition regarding the structure itself.

#### 1.2.4. Assumption IV. Unique and Distinct Cognitive Systems.

Human interaction with the environment is accomplished by means of a set of cognitive structures which organize and process the details of the interaction. Consequently, the organization of language may be defined in terms of a limited set of cognitive functions which structure this interaction. Each cognitive function--including the grammatical domain it entails--is characterized by a unique set of internal processes, relations and principles of organization.

### 1.2.5. Assumption V. The Basic Linguistic Unit.

The Basic Linguistic Unit is a compilation of information about an event or relation with this information being contributed by the set of cognitive functions which interface the person with his environment. The information contributed by each cognitive function is made fully explicit along with a set of procedures for integrating this information into a potential string.

This is the basic set of assumptions which I have posited as the foundation of a cognitive model of language structure and organization. The significance of each assumption will become clearer as we examine each more closely. The discussion of these assumptions, even in detail, may seem a little vague until the overall model has been presented. For this reason I must beg the reader's indulgence until we reach Chapter Two.

## 1.3. Discussion of the Basic Assumptions.

### 1.3.1. Assumption I. The Adaptation Principle.

The Adaptation Principle states that "human language-using capabilities are defined and constrained as a subset of the more general cognitive capabilities shared, in principle, by all members of the species. The expressive devices and organizational structures of a given language are derived within the bounds of these capabilities."

The primary thrust of the Adaptation principle can be expressed in three parts: (1) the mechanisms which underlie human language represent a specialized subset of operative mental structures; (2) at some level of definition, such structures are innate and (3) these structures are shared by all human beings. This is obviously a very broad and general definition of this principle. This is intentionally the case as per our earlier

discussion. Such a general definition allows us plenty of latitude in developing alternative models of language.

One obvious approach to testing the validity of this assumption is that of developmental psychology. One man's name comes immediately to mind in this context--Jean Piaget. For over forty years, Piaget has devoted himself to the study of the intellectual development of both children and adults. Simply put, Piaget's basic thesis is that all organisms are born with a tendency to adapt themselves to their environment. Furthermore, within species, the nature and the direction of the adaptation tends to be invariant. This process of adaptation is biologically based. In the case of humans, this process of adaptation includes language using behavior.

In this study of the development of intelligence in children, Piaget has found that all humans go through a series of stages of cognitive development which both underlie and facilitate the acquisition of language. Piaget's research constitutes an impressive argument that humans go through definite stages of cognitive development. This cognitive development is both biologically based and reflected in the way in which language is acquired. For additional discussion see Ginsburg and Opper (1969) and Piaget (1964, 1954).

There are a variety of research strategies which have been devised and pursued in an effort to learn more about the structures presumed to underlie the development of language. I'll indicate a few of these briefly.

#### Child Language Acquisition.

One motivation which underlies the study of child language acquisition is that of attempting to deduce knowledge about the language mechanism itself by looking at, e.g. the order in which language is acquired, the functions

of early speech, the interaction between the child's speech and that of an adult model, etc. For more detailed discussion see Turner (1975), Brown (1973) and Clark and Clark (1977).

#### The Structure of Information in Memory.

The assumption in the study of memory structures is that we can learn something about the structure of mechanism itself by studying its operation and performance characteristics. To date such studies have yielded an abundance of information and a number of theories, but not as much as we would have liked to have learned about the memory mechanism itself. For sampling of studies of human memory see Horton and Turnage (1976), Kintsch (1976) and Norman (1976).

#### Cross-cultural Studies of Semantic Systems.

The fundamental question of interest to those pursuing the comparative study of semantic systems across cultures is that of whether or not such systems reflect universal similarities or differences. The general tenor of findings so far seems to indicate a surprising degree of universal similarity in semantic systems despite significant cultural differences among the groups of the world. See Cole and Scribner (1974), Osgood, May and Miron (1975) and Rosch and Lloyd (1978).

At this point, the weight of the evidence seems to point towards the view that the observable product of human mental operations shows a surprising degree of universal similarity. Most scholars are reluctant to make such a forthright statement in that our knowledge is presently very limited. However, it does seem to be the case that there is very little evidence which would contradict this assumption. Following is a brief discussion of two



more specific studies which seem to illustrate this point quite well.

The first study to be reported is based on research done by psychologists and anthropologists on the relationship between color perception and the nature of color vocabulary existing in a language to describe color.

At one time it was believed, on the basis of the Sapir/Whorf Hypothesis, that the way in which the speakers of a language perceived the colors of their experience was determined by the color vocabulary which existed in that language. This was the language relativity hypothesis. This hypothesis has been challenged in recent years by the work of Berlin and Kay (1969). They found that although languages exhibited a wide variety of color terms, when the speakers of a language were asked to identify the color (from an inventory of color chips) which best represented the vocabulary they had in their language, their choices clustered quite tightly around a small group of basic colors. These colors were the eight chromatic colors whose English names are red, yellow, green, blue, brown, orange, pink, and purple and three achromatic colors whose English names are white, black and gray. On the basis of these results Berlin and Kay have suggested that the illusion of cross-cultural differences in color perception stemmed from research designs which focused on color boundaries rather than on focal color categories.

Research by Heider and Olivier (1972) suggests that an even stronger claim can be made. Heider suggests that in identifying colors, there may be a visual rehearsal process involved which is separate from the verbal rehearsal process involved in recognizing colors. That is, there may be visual memory images which are isomorphic to the visual images of the colors physically present in the environment. On the basis of her own research as well as that of others in the field, Heider has taken a position very close to the

one I am arguing for in this study. She states, "In short, far from being a domain well suited to the study of the effects of language on thought, the color space would seem to be a prime example of the influence of underlying perceptual cognitive factors on the formation and reference of linguistic categories" (1972:20).

A second bit of supporting evidence comes from the work of Charles Osgood. Osgood has focused on what he identifies as the affective aspect of meaning. Affective meaning focuses on the emotive versus the denotative features of the meaning of a word or expression. In doing his research, Osgood makes use of a research device called the semantic differential. Simply put, the semantic differential requires the subject to respond to a word or expression in terms of a series of scales such as good-bad, strong-weak, big-small, etc. On the basis of considerable research, Osgood found that he could reduce the responses to differential weightings along three dimensions. These were evaluation, potency and activity. While his earlier research was primarily with English, Osgood hypothesized that these three response dimensions might be universal. Subsequent research across a fairly broad spectrum of cultures and languages seems to confirm this hypothesis (Osgood, et al. 1975).

It is on the basis of this sort of evidence that I am proposing that the features of language which demonstrate universal commonality among the languages of the world are due primarily to the perceptual and cognitive structures which interface the human brain and the external world and, secondly, to the tectonic (hardwired) structure and organization of the brain. Rather than claiming that the brain is programmed with an innate linguistic grammar, I am claiming that humans share a set of perceptual and cognitive structures

which vary little from group to group or region to region. It is this shared set of cognitive structures (I claim) which accounts for the basic similarity of linguistic structures as observed world-wide. A very similar position has been taken by Morton when he says, "I am suggesting that what is innate is not language specific and that the universals (of language) are universals of cognition." (1970:95)

This claim is an integral feature of the model which I am presenting in this paper and, as such, the two really stand or fall together. If the model is viable and allows us to gain significant new insight into the structure of language, this viability will itself constitute evidence in support of the theoretical claims which underlie the model. If the model is not viable, the assumptions which underlie the model are weakened although not necessarily demonstrated to be false. In this sense, the analysis of Tzeltal which makes up the second half of this study is something of an empirical (forthright) test of the model which is being proposed.

Obviously even if it is the case that the analysis of this one language provides strong support for the model, I will not have established that the model is fully viable. This will depend upon the model's application, as a theoretical tool, to the analysis of numerous languages with the attendant result that the model provides us with both practical and theoretically significant insights into the structure of the language being analyzed. Nevertheless, the analysis of Tzeltal will stand as the first test of this model.

### 1.3.2. Assumption II. The Stimulus Principle.

The Stimulus Principle states that "the semantic force of a linguistic expression is a function of its efficacy in evoking a para-real reconstruc-

tion of the focal event or relation in the listener." Accuracy of communication may be defined as the degree of correlation between the "real" event or relation and the para-real reconstruction of that event/relation by and between the speaker and the listener.

The stimulus principle obviously reflects an orientation towards a functional view of language. According to this view the necessary starting point in the study of language is the level of meaning (Chafe 1970). A variety of further emphases are possible. These range from a semantically based grammar which is fairly formal (Chafe) to a social use position (Halliday 1974) to so-called procedural models (Miller and Johnson-Laird 1976). In the analysis which follows, I will be taking a position which has much in common with all three but which is philosophically closest to that of Chafe.

The central thesis of the argument which I will be developing in some detail is as follows: (1) The fit between language and the meaning which language attempts to communicate is less precise than what linguists assume or imply; (2) In the main, language communicates only what is known about or can be readily deduced from one's knowledge of the external, objective world. This does not constitute a direct denial of the possibility that there can or might be forms of supernatural communication. Such phenomena, however, lie outside the domain of normal language.

In the following analysis I wish to examine and compare two contrasting conceptualizations of the relationship between a public linguistic utterance and what a listener comes to "know" as a result of experiencing (hearing and processing) that utterance. A necessary part of this investigation will be a discussion of how the listener extracts information from an expression.

Specifically I will present a fairly extended argument suggesting certain significant deficiencies in what I have identified as the Encoding Hypothesis. This will be followed by a discussion of an alternative hypothesis--the Stimulus Principle. Finally, I will attempt to demonstrate the consistency of this principle with the overall model.

#### 1.3.2.1. Preliminary Considerations

Theories regarding the relationship between symbols and significates have been well investigated by philosophers and it is not my intention to attempt to add anything new to that debate. However, I do wish to comment on the symbol-significate conceptualization(s) which prevail in general linguistic theory today, especially as they bear on the present discussion.

A comparison of the underlying assumptions in prominent linguistic theories reveals what looks like a significant range of notions regarding the relationship between symbol and significate. For example, we find that tagmemicists such as Pike and Longacre hold to the position that form and meaning are tightly wed with Pike taking the very strong position that meaning does not exist apart from form (per.con.). In apparent contrast to this position we find transformationalists taking the position that syntax is prior to meaning. Whether this is to be taken as a claim that meaning can be separated from form is not clear although this seems to be implied in the general structure of the theory. In Chomsky's standard theory (1965) an underlying phrase marker is generated by context-free phrase structure rules. Lexical insertion rules add semantic units which are interpreted by a semantic component. The surface structure is obtained by the operation of appropriate transformational rules. No further semantic interpretation is allowed after the transformations have applied. The nature of the bond between the

form of a sentence and its reading is vague although there is the general implication that the meaning has something of a piggyback relation to the grammatical structure of the sentence.

Post Aspects thinkers within the generative tradition, most notably generative semanticists such as Lakoff (1971) and McCawley (1971) have argued that the syntactic component is (must be) influenced very early in its derivational history by the semantic component. The theoretical result of this claim is a tighter bonding between syntax and semantics or form and meaning. At present there is a diversity of opinion regarding the relationship between form and meaning.

#### 1.3.2.2. The Encoding Hypothesis.

Despite their apparent diversity, I would suggest that each of the positions discussed above really reflects a general acceptance of what I will term an Encoding Hypothesis. The Encoding Hypothesis refers to a general acceptance of the assumption that "an intrinsic part of the content of a linguistic utterance is its semantic force--its meaning." That is, language is frequently characterized as "encoding meaning." The meaning of a sentence (or any utterance) is somehow seen as being intertwined with the lexical elements of the utterance and the syntactic relations between these lexical elements. Sentence A means y because it is composed of certain lexical components ordered by certain syntactic relations, the combination of which has the force of y. We might say that a sentence has meaning because meaning is a function (in a formal sense) of the lexical and syntactic structure of the sentence. In this manner, the meaning is "encoded" in the sentence.

The Encoding Hypothesis regarding linguistic utterances and meaning seems so compelling that it is generally accepted without question. The

general acceptance of this notion regarding language is reinforced by a number of factors. I will briefly consider five factors which seem to underlie the plausibility of the Encoding Hypothesis. These are (1) Association, (2) Universality, (3) The Reification of Thought, (4) The Scientization of Language and (5) Synthesis.

1.3.2.2.1. Association. The more frequently a symbol is associated with a significate, the tighter the associative bond becomes between the two. In the case of language, the practical outworking of this principle is that we come to think of a linguistic utterance, particularly a word or phrase, as having intrinsic meaning. The symbol is said to encode the meaning in such a way that it becomes indivisible from that meaning. Even though we may not think of a sentence as encoding meaning in the same way that a word does, we still use the encoding metaphor to characterize the relationship between a sentence and its meaning or reading.

1.3.2.2.2. Universality. If a symbol bears the same significate over a widely distributed area, there is a reinforcing of the perceived bond between that symbol and its significate. This ability of a symbol to have the same significate among a large population strengthens the intuition that the significate is wedded to the symbol. Hence, the notion of encoding.

1.3.2.2.3. The Reification of Thought.

Specialized Knowledge. The development of a highly technological world along with the accumulation of a vast body of knowledge about all aspects of the world has had a powerful impact on language and, it would seem, on our thinking about language. The development of a specialized body of knowledge leads to the development of an equally specialized language to express and

manipulate this knowledge. Perhaps, most important of all, it takes specialized training to learn this specialized language in order to control this specialized knowledge. Increasingly, we find that the "raw material," the subject matter, which underlies a body of knowledge and which occupies the attention of those interested in the body of knowledge is accessible only very indirectly. Consequently, in order to work creatively within the field, the specialist finds that he must resort to manipulating language rather than that which the language stands for.

Because the manipulation of languages is a mental (thought) process rather than a tactile process, thought activity assumes a more and more central role in the "doing" of one's science. The heightened importance of language, because of the increased need to work in the "thought" domain, has led us to accept the idea that thought may not, or, even stronger, cannot exist apart from language. Having accepted this doctrine, it is not difficult to see how an encoding theory of language has emerged and come to dominate our theories about the organization and structure of language. This is what I mean by the reification of thought.

Lateralization.<sup>1</sup> Acceptance of the view that language and thought are inseparable has been so pervasive that proposals to the contrary, i.e., that there is or may be thought apart from language, are regarded as being rather radical and untenable. But recent research in a number of areas has begun to provide some evidence that there is nonverbal thought. Research in the areas of learning theory (Paivio 1969, Bower 1970b), cognition (Cohen 1969, Cole and Gay 1972); psychology (Ornstein 1972) and brain lateralization (Gazzaniga and Sperry 1967) is beginning to provide evidence that non-verbal thought exists and plays a significant role in human mentation. Furthermore, there



is even some evidence (Cole, et al. 1971) to suggest the existence of qualitative differences in verbal thought depending upon the character of one's cultural and educational experience.

The evidence of preliminary research in this area seems to suggest the existence of what we might term a dominance or a fixing principle. This principle holds that as language-thought skills are acquired and developed through the learning and manipulation of formal symbols, verbal thought (originating in the left hemisphere of the brain) comes to dominate non-verbal thought and to create an additional and powerful interface with the outside world. The ultimate result is that one becomes, in a sense, a prisoner of his symbol-using capabilities.

Several intriguing questions are raised by this putative principle (the fixing principle). Does non-verbal thought cease to exist for those who have mastered the use of formal symbols or is it merely camouflaged by the more dominant verbal thought? Is the pervasive efficacy of formal symbols real or illusory? The position being taken here is the latter. That is, it is the apparent but illusory pervasiveness of formal symbols in our Western experience which inclines us toward the view that language encodes meaning.

#### 1.3.2.2.4. The Scientization of Language.

The scientific investigation of language is quite recent relative to most of the other disciplines, e.g., mathematics, chemistry, astronomy, etc. Lacking their own paradigms, early investigators tended to utilize notions drawn from the paradigms of the harder sciences such as mathematics and physics. Hence, it is not surprising that methodologies, goals, expectations, assumptions, etc., were borrowed from the older disciplines as initial guides to research in the new discipline.

At least two theoretical concepts can be distinguished which significantly influenced the directions taken in the development of the new discipline. These two concepts were the empirical method and the notion of a symbol.

The Empirical Method and the Development of Linguistic Theory. The empirical method is an approach to the doing of science. It involves the objective collection of data, analysis of this data looking for patterns, regularities, tendencies, etc., the formation of hypotheses (rules) regarding the observed patterns and the testing of these hypotheses for accuracy and veracity. Not too surprisingly, the application of the empirical method to the study of language led to what we now refer to somewhat perjoratively as structural linguistics.

The new discipline experienced its first major paradigmatic shift when Chomsky (1957) proposed that instead of searching the data for the patterns which (must) underlie it--its grammar--we ought, rather, to assume, a priori, that this structure exists. Having made this assumption we can investigate the process by which utterances are generated using the structural rules which are known to exist in the minds of the speaker of the language. Because this approach to the study of language could be expressed very precisely and formally, it quickly came to dominate research activity in the discipline.

Among the various side effects of this paradigmatic shift is a very subtle conceptual change which went largely unnoticed. I will term this conceptual shift the "homogenization and sterilization" of grammar. By "sterilization" I refer to the tendency to assume that grammatical rules are abstract and formal; that is, divorced from cognitive reality. "Homogeni-

zation" refers to the tendency to assume that all rules, within their class, are qualitatively similar. For example, a phrase structure rule is a phrase structure rule. There is no "real" difference other than the fact that there is a difference in membership or constituents.

These tendencies reflect a basic conceptualization of language in which there is a structural component which has little or no relationship to external reality. This autonomy of syntactic structure requires that potential utterances reach a certain level of structural completeness before they bear any meaning at all. At some point  $x$ , the potential utterance has a meaning "impressed" upon it (it is interpreted). In this sense, an utterance is said to encode a meaning which can be extracted by the decoder.

The Symbol Concept. The concept of a symbol as borrowed from mathematics had a very significant impact on early conceptualizations of language. Because mathematical symbols were strongly imbued with the traits mentioned earlier (invariance, universality), the borrowing of this concept and its attendant application to language supported the Encoding Hypothesis. Because of the desire to emulate the "scientificness" of some of the other disciplines, linguistics readily adopted the Encoding Hypothesis because of its similarity to the use of symbols in the other disciplines.

1.3.2.2.5. Synthesis. Perhaps the most compelling argument in favor of the Encoding Hypothesis is a complex of capabilities which I will identify simply as Synthesis. Synthesis has to do with the use of language to construct and convey arguments, ideas and experiences which are new to the listener. The argument is that if it were not the case that a linguistic utterance encoded meaning, then it would not be possible to convey anything new to another person. If utterances don't encode meaning, then how do longer discourses

hold together and how are they comprehended? Since it is inescapable that longer discourses and narrations are easily understood, it is accepted as self-evident that linguistic utterances must encode meaning. This seems to be supported by the ability of language to incorporate and communicate to a listener concepts and ideas which are both new and abstract.

Despite the apparently compelling nature of several of these arguments, I am proposing that they are based upon untested suppositions regarding the nature of the cognitive structures and processes which interface the person and his environment. If these suppositions are invalid, then these arguments become suspect.

The set of assumptions which I have posited do not mesh well with the Encoding Hypothesis. Therefore, an alternative theory must be proposed to account for the relationship between a symbol and its significate. To this end, I have proposed the Stimulus Hypothesis.

#### 1.3.2.3. The Stimulus Hypothesis.

In proposing an alternative to the Encoding Hypothesis, I am setting forth a model whose differences are partly philosophical and partly substantive. By philosophical differences I mean that I am proposing a different perspective on some of the issues involved rather than making a direct claim that another conceptualization (the Encoding Hypothesis) is incorrect in some absolute sense. By substantive differences I am making the claim that the proposed model involves an approximation of psychological reality beyond that claimed for the Encoding Hypothesis. I realize that this is a strong claim and that it will be difficult at this point to defend it. At this preliminary stage, however, I am more interested in pursuing and developing the theoretical implications of the model which I am attempting to develop.

I will begin the discussion by proffering a definition of the Stimulus Hypothesis. This hypothesis states that "a linguistic utterance is a specialized stimulus designed to guide the construction of a para-real awareness in the listener approximating some intentional design held by the speaker." Underlined are some key phrases which need to be discussed and explicated in order to make this definition more comprehensible.

#### 1.3.2.3.1. Specialized Stimulus.

A stimulus is commonly understood as a unitary, monolithic event (quality, dimension, etc.). When one wishes to speak of a complex stimulus, he does so in terms of multiple dimensions with each dimension being roughly equivalent to a single stimulus.

There are some obvious difficulties involved in attempting to characterize a linguistic utterance as a stimulus. In terms of the normal usage of the concept of a stimulus, it would seem that it is not feasible to characterize a linguistic utterance as a stimulus. Probably the primary objection to conceptualizing a linguistic utterance as a stimulus is its dimensional complexity. A linguistic utterance has phonological (acoustic) complexity, grammatical (structural) complexity and semantic (significance) complexity. This is to say nothing of the complexity stemming from social and situational contexts.

For these reasons and others, it seemed more plausible, historically, to conceptualize a linguistic utterance as a complex code(s) rather than as a stimulus. If a linguistic utterance is conceived of as a code then it follows that explanations of how such utterances are understood assume quite specific and involved decoding strategies. These strategies analyze the utterance along the various relevant dimensions and provide a reading or

interpretation of the utterance after a complete analysis of that utterance in terms of the various codes which comprise it. The result is a rather mechanistic account of how utterances are understood.

By arguing that a linguistic utterance may be understood as a specialized stimulus, I am not making the claim that it is necessarily the case that a particular utterance, as a stimulus, elicits, directly and without mediation, a fixed response which has come to be associated with that exact stimulus. Such a position would be too behavioristic. Rather, I am taking the position that it is possible and profitable to regard the relationship between the linguistic utterance and that which it evokes in the listener as parallel to the relationship between a stimulus and a response as understood in the classical sense. Note that I am not invoking the classical S-R mechanism as a means of explaining how an utterance is understood. Instead, I am saying that there are significant conceptual similarities between the classical S-R model and the way in which listeners obtain meanings from utterances.

I will be examining these similarities below in an attempt to more fully explain what I mean by the Stimulus Hypothesis.

...Guide the construction....

A crucial element in the definition of a stimulus theory of language function is a mediating stage which interprets and links the stimulus to its response. To help explain this concept I am proposing the following model of the link between a linguistic stimulus and its evoked response. This model must be considered an "in principle" model in that it reflects something of what is known about cognitive processes but is not directly based on experimental, empirical evidence.

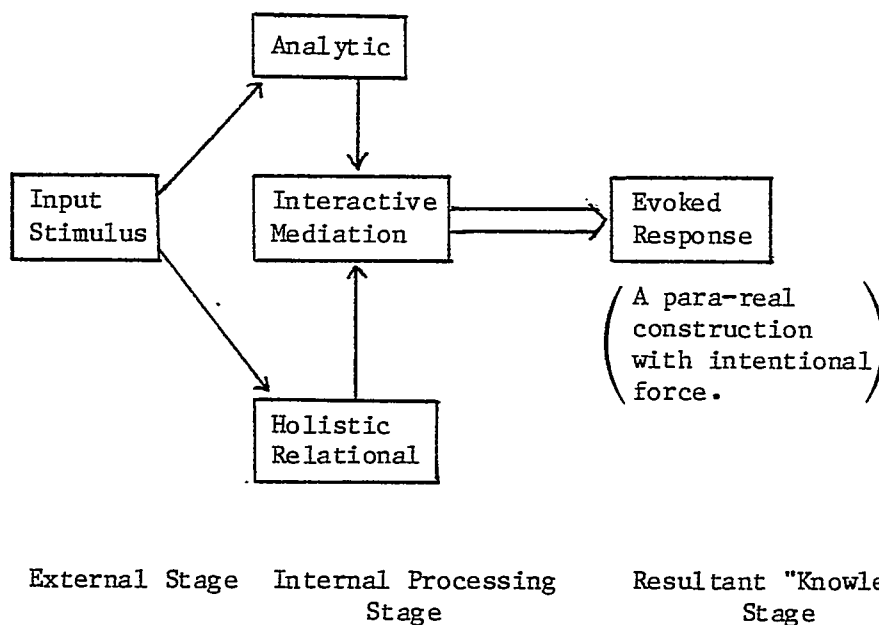


Figure 1.1. A generalized model demonstrating a cognitive mediation between an input stimulus and the response it evokes.

The input stimulus is essentially a linguistic utterance. Because it is quite well established that there are significant aspects of a linguistic message which are non-verbal (gestures, facial expressions, intonation, kinetics), I'm considering these to be a part of the input stimulus. (I'm not prepared, however, to make the claim that these features of the input stimulus are processed in the same manner as are the linguistic features. It is possible that this is the case but I would not want to take that position at this time.) I am requiring that the input stimulus (for a given language) fall within the general class of those linguistic utterances which may be appropriately constructed for that language.

The input stimulus constitutes an external stage of the processing model in the sense that it is available to multiple listeners. It is a real-world

physical (acoustic) event. The other two stages of the model are internal to the listener. The model suggests that processing of the input stimulus (may) does proceed along somewhat parallel and interactive channels.

The Holistic-Relational Channel. The holistic-relational channel of the model is involved in the transmission and processing of several different types of information. I will look at several of these briefly.

It is now quite widely accepted that linguistic messages are accompanied by significant non-verbal cues some of which may significantly affect the meaning of the verbal component of a given message (Hall 1959). Except in the case of sign language, it is frequently the case that such non-verbal cues resist precise translation into verbal form. This type of information is processed by the holistic channel and later integrated with the verbal component in order to derive a complete message.

Situational information constitutes a second type of information processed by the holistic-relational channel. Involved here is information about the setting, the historical context, the atmosphere, the audience, etc. The listener assimilates this type of information as an accompanying component of the linguistic message. I believe that this type of information is also processed non-verbally even though it may be true that the listener is capable of verbalizing some of what he knows about the context surrounding any given linguistic message.

The third type of involvement of the holistic channel has to do with what I am terming automatic or semi-automatic processing. This refers to a definite intuition that a certain amount of verbal, linguistic information is also processed by the holistic channel. Let's examine this idea a little more closely.



Common sense tells us that the majority of the linguistic situations we experience in everyday life are totally familiar. That is, the participants and the activities that those participants engage in are so well understood and predictable that the linguistic utterance referring to such a situation does not have to be "fully analyzed" in a formal sense in order for there to be comprehension. I am suggesting that in such situations, the listener responds "holistically" to the stimulus as a unitary stimulus rather than as a complex stimulus which must be analyzed into its component stimuli in order to be understood. In such situations, the complex linguistic stimulus may actually be functioning more like a unitary stimulus.

The Analytic Channel. In opposition to the holistic channel is the analytic channel. Besides its possible participation in the processing of linguistic information structured in very familiar situations, the analytic channel is certainly concerned with the processing of linguistic information in new and unfamiliar situations (or utterances). The analytic channel can be considered to be comprised of at least two somewhat overlapping processes.

The first process is what we might term basic linguistic processing. By this I mean that the analytic channel proceeds by making use of explicit structural information in performing preliminary linguistic analyses of a given linguistic utterance.

The analytic channel is also involved in the sorting and compiling of information in the utterance which is there because of the utterance's organization along cognitive lines. This information is then used by the mediating component of the model to complete the reconstructive interpretation of the utterance.

Interactive Mediation. In the model being proposed here, there is an interactive function which mediates the analytic and the holistic channels. The nature and the degree of the mediation is, of course, quite obscure in terms of present knowledge. My argument is that, conceptually, this is a major component of our language processing systems because it serves as the interface between formal structural constructs and sensory knowledge (including undefined experience) of the external, real world. The mediation channel also serves to integrate verbal and non-verbal information into the final message.

Resultant Knowledge. The third stage in this model has been labelled as the Resultant Knowledge Stage. In the model presented earlier, the content of this stage was identified as the evoked response.

There are a lot of theories about what form the content of this stage takes but no one knows with any degree of certainty. In keeping with the general tenets of the model being developed, I am proposing that the content of the evoked response can be considered to be made up of two distinguishable but intertwined components. These are: (1) a para-sensory representation of the referential structure (participants, events, relations) of the linguistic utterance, and (2) an awareness of the intentional force of the linguistic utterance as perceived by the listener. I will discuss what is meant by (1) in the next section. Therefore, let's look at (2).

I am taking the position that linguistic utterances probably do not evoke a response apart from an intentional force. Now it may be the case that the intentional force of a given utterance is difficult to determine due either to faulty processing or a deliberate effort on the part of the speaker to obscure his intent. But intentional force is nonetheless present. It is

also true that under certain conditions such as casual or idle conversation, the intensity of the intentional force is quite low.

The concept of intentionality has not been well developed in the context of linguistics and linguistic meaning. Philosophers of language such as Grice (1971) have indicated a belief that a theory of intentionality is important to the development of a more general theory of meaning. Husserl (1900-01) and, more recently, Langsdorf (forthcoming) have taken the stronger position that for a linguistic utterance to mean something is to make a statement as to what the speaker of that statement intended in making the statement. Such a position, of course, requires that the concept of intention be very broad so as to include referential and propositional content.

To avoid this problem, I am taking the position that the evoked response must be considered to be composed of both intentional force and referential content (in the form of para-sensory representations). Obviously, there are many other aspects of meaning which have not been explicitly accounted for in this discussion of resultant knowledge. For the present, I am assuming that such additional features of meaning as lexical content, sociolinguistic context, emotive content, propositional structure, etc., will otherwise be accounted for by the overall model.

### ...Semantic Awareness...

I have suggested that the content of the evoked response comes from two sources--an intentional source and a referential (para-sensory) source. Attempting to define the modality of this semantic awareness is difficult. I have suggested that the modality of the referential aspect of this semantic awareness is para-sensory (or para-real). By para-sensory awareness, I am referring to a putative modality somewhere between an abstract, logical

modality and the modality of reality or, perhaps better, sensory reality. Recall that Heider (1972) suggested in her work on color research that there appeared to be some sort of visual memory rehearsal which is separable from a verbal memory rehearsal. This implies that visual memory images may be isomorphic to the physical properties of the stimulus as processed by the relevant perceptual mechanisms. This sort of evidence suggests that it might be useful to posit at least three levels of modality which participate in language processing. The model includes only those senses which participate most directly in language processing.

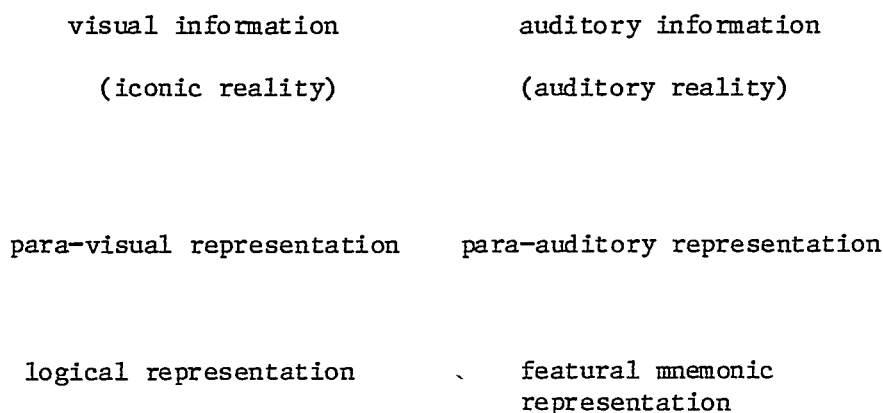


Figure 1.2. Three levels of modality mediating environmental reality and human knowledge.

The highest level involves a representation which is essentially "the same" along all appropriate dimensions as the actual referent (including relations and events). The bottom level is a representation which is maximally abstract relative to the referent. In between is what I refer to as the para-sensory or para-real level. A para-real representation may be defined as a "structural-relational representation abstracted from but paralleling the featural dimensions of the referential object-relation." In this modality semantic awareness-meaning can readily be accessed from above (visual,

auditory) for purposes of comprehension or from below for purposes of verbal manipulation. Clearly implied in the last statement is a belief that it is primarily through a process of "imaging" that comprehension takes place. (For further discussion of the role of imagery in memory see Kosslyn 1978, Begg and Paivio 1969, Palmer 1975).

The multi-level view of representation suggests one possible resolution to the old problem about thought and language. Some have argued that there can be no thought apart from language because all thought is verbal (subvocal verbalization) and therefore impossible apart from language. Others have taken the position that there is non-verbal thought and that people can think by manipulating images, relations and abstract events. Bower (1970) takes the position that both types of thought exist and both are important to human information processing. Similarly, the multi-level model presented here suggests that it is more useful to posit different types of thinking depending upon the modality in which that thinking takes place. When the thinking is in the higher-level modality, we have referential thinking--a type of thought which is non-verbal. This type of thinking depends upon the manipulation of images or memories of images, relations, abstract constructs, etc. When thinking is in the lower modality, we have verbal thinking--a type of thought which we frequently characterize as "talking to ourselves." The multi-level model suggests, in fact, requires that there be thinking in both modalities. It is a fact that Western cultural and educational experience is dominated by verbal experience. We encourage and reward the development of expertise in verbal thought. Therefore, it is not surprising that we tend to accept the view that conscious thought must be heavily dependent upon language. Because this is the Western experience, we tend to impute this conceptualization universally to all language users.

...Approximating...

It is a well established feature of communication theories that the message which is received and decoded is never quite identical to the message which was originally encoded and transmitted. This disparity is accounted for by the incorporation of such notions as noise and interference. Communication in the human context is probably more vulnerable to noise and interference than most communication situations involving mechanical transmitters and receivers. We know from practical experience how often communication fails to approach an acceptable degree of adequacy.

Apart from practical experience, we know from mechanics and engineering theory that the greater the number of systems involved in the processing of a given datum, the greater the likelihood that that datum, in its final form, will differ from its initial form. We know (are quite convinced) that a large number of complex systems participate in the process of human communication involving language. Therefore, it follows that there must be considerable difference between the original message and the final message. (This, of course, ignores the principle of redundancy. Language is known to incorporate a high degree of redundancy and it is this redundancy which overcomes much of the interference attendant in complex communication systems.)

Apart from the most obvious physical systems in the communication process, there are a number of other factors which affect message fidelity. Such factors include variation in experience between the speaker and the listener, varying nuances of meaning and usage of the constituents of the linguistic utterance, emotional states which affect receptivity,

decision-making processes which affect openness to the message and attentional mechanisms which affect sensitivity to message reception. Whatever we call these systems we must be aware that their involvement in the reception and interpretation of linguistic utterances introduces an additional probability that the received message will differ from the original message.

For these reasons I have used the term, "approximating," in my basic definition to account for the variation which necessarily exists between the original message and the received message. In principle, the fewer the number of systems involved in the communication and/or the greater the harmony existing between the mental/emotional states mentioned above, the greater will be the fidelity between the original and the final messages. Informal supporting evidence for this principle comes from studies of behavior--including both verbal and non-verbal communication--of identical twins and other people who have lived together for long periods of time such as elderly married couples.

If we pursue this notion to its logical conclusion we would have to say that if it were possible to bypass all of the systems normally involved in linguistic communication, then complete fidelity would be achieved between the original and the final messages. Being able to do this would require something like reading the mind of another person directly by some type of mental telepathy. This is a popular topic in science fiction and an area of research among parapsychologists, but it doesn't appear to be a commonly existing skill among human users of language.

...Some Intentional Design...

I have already discussed the character and the components of an original message in some detail. I will briefly reiterate my view that the original

message has two major components: the intentional component and the referential component. The referential component is itself composed of information from at least three dimensions. These are (1) information about time and space (the external grammar), (2) information about the participants and the actions being engaged in by those participants (the internal grammar) and (3) the specification of (1) and (2) by actual lexical entries (the referential grammar). With these inputs and the utilization of the appropriate conventions of structural integration, a linguistic utterance is constructed, uttered and (presumably) comprehended.

### 1.3.3. Assumption III. Grammaticality is a Convention Rather than a Formality.

The structural patterns and characteristics we observe in language reflect explicit functional or cognitive information. In this sense such structural characteristics are a part of the semantic force of the utterance, not prior to it. The marriage of a structure and a function is at least partially arbitrary. Once accomplished, however, the marriage resists dissolution. This resistance resides in the fact of the marriage, not in a special intuition regarding the structure itself.

#### 1.3.3.1. Grammaticality as a Formal Construct.

Grammaticality is a theoretical concept which is used widely in linguistic theory. In the transformational paradigm grammaticality is a formal property of language in that the speakers of that language have internalized (in a formal, programmed manner) a set of rules and transformations which provide him with a highly specific intuition regarding the correctness or incorrectness of a given trial construction.



Another feature of this formality in transformational theory may be found in the statement of the goals of the theory regarding the analysis of a given language. That is, an adequate analysis of a language is said to be one which will generate all and only those sentences which are grammatical (Chomsky 1965). According to such a definition grammaticality is a crucial and inescapable feature of language. An obvious extension of this position, but one which is difficult to defend, is that non-grammatical sentences are non-sensical and, therefore, unintelligible.

There seem to be a number of problems when we attempt to apply this notion of grammaticality strictly. One of the biggest is that "ungrammatical sentences" are frequently uttered in a given language. Furthermore, it does not appear that speakers of that language have a great deal of difficulty in understanding these constructions. While such sentences may be characterized as being deviant, there would be general agreement among a group of listeners as to the meaning of the sentence. Such deviance is commonly encountered in children, members of minority groups, those who have learned the language as a second language and those with language deficiencies. Listeners who speak the "standard" form of the language understand these utterances in the majority of cases. According to a viewpoint which employs a formal notion of grammaticality in its theory, such sentences should not be understood.

A second problem with this position is that of accounting for grammatical variation among or between subsets of the total population. The standard explanation is that one group has incorporated (or eliminated) a rule which is different from the set of rules held by the other group(s). This explanation raises some interesting philosophical questions. (1) In such situations, what is it that really varies—the character and weight of a rule or

some specific grammatical form or process? (2) Do rules really exist in any real sense or are they merely useful shorthand devices for describing observed phenomena and relationships? (3) What kind and degree of flexibility is there in humans which allows the speakers of a given language to tolerate variation in grammatical form (rule variation)?

Several additional problems exist which are somewhat related to the first two problems just mentioned. There is the problem of grammatical change through time. There is the problem of the usage of non-grammatical forms in casual speech and in informal settings. There is the problem of uttering constructions which are unwittingly ungrammatical.

These problems and the additional questions which stem from them have been posed as a platform from which to challenge the view that grammatical rules are a formal property of linguistic structure. By arguing that rules are a formal property of language, we take the position that rules have some real, intrinsic status apart from specific utterances of the language. Further, we claim that potential utterances are not constructed and uttered apart from the requisite rules. If we maintain that a rule has a formal existence, then we are implying that that rule is stated in fixed and specific terms which are not amenable to change. That is, rules cannot be changed, they must be replaced by other rules.

If rules have formal status, it would seem to follow that the set of rules shared by both the speaker and the listener must be essentially the same. Furthermore, if a set of formal rules is necessary to the construction of a given utterance, the same set of rules must be necessary to the analysis and comprehension of that utterance. If we hold strictly to this model, we would be forced to conclude that in those cases in which the listener and the

speaker did not share the same set of rules, communication would fail at those points where the rules differ. Is this a tenable position? I propose that it is not, especially in its strong form.

#### 1.3.3.2. Grammaticality as a Convention.

The variability and flexibility which seems to characterize common language usage argues for a weaker notion of rule structure and involvement in language usage. If a rule is not a formal rule, yet the statement which the rule makes is still an essentially true statement, then what kind of rule are we talking about? I am proposing that we refer to this weakened concept of a rule as a convention. A convention may be defined as "a characteristic structural tendency describing morphological, syntactic, and other manifestational aspects of a language's grammar." We can further explicate this definition by drawing some contrasts between rules and conventions.

First of all, conventions are learned by observation and generalized by trial and error whereas rules are inherited in abstract form and become specified for a particular language in a manner somewhat analogous to the biological process of imprinting.

Secondly, conventions are defined probabilistically. A grammatical convention, e.g., a syntactic relation, may be stated as a characteristic or commonly occurring construction or relation. If a convention can be said to be true 100 percent of the time we are saying nothing more than that it is the case that all speakers of the language adhere strongly to this convention. Rules are defined as fixed and formal statements which carefully specify the proper realization of some grammatical fact in an absolute sense.

Thirdly, conventions are not violated. Rather, they are just not universally shared. For example, if one speaker says, "They is hungry." and

another speaker says, "They are hungry.", then it is the case that the two speakers don't share the same convention regarding subject-predicate concord. Rules are violated because they are held to be true in some formal, absolute sense. In the example quoted above, we would say that one speaker adhered to the appropriate rule and the other speaker violated this rule.

Fourthly, the term, "structural," as used in the definition of a convention is used in the broadest possible sense. It refers to all relevant contributing aspects of organization. The notion of structure being used in this study is multi-dimensional as we shall see in Chapter Two. The concept of a rule is generally used in the context of a more formal and stylized view of structure.

Another way to illustrate the difference between a rule and a convention is to describe the generation of a potential utterance using the concept of a convention described above. This generation is described as a series of simplified steps. These don't necessarily represent conscious stages experienced by the native speaker.

- Stage 1 Some real world event takes place which is observed by someone.
- Stage 2 To communicate his experience to B, A realizes that certain features of the total experience must be extracted and symbolized.
- Stage 3 The speaker (A) assigns a form to each of the significant features of the event he must include in his communication. (When such forms become accepted as representing a particular feature, a convention results.)
- Stage 4 The functions (a combination of a form and a feature of the event) are arranged according to some agreed upon order (another convention).
- Stage 5 An utterance is made and B performs a reverse operation to reconstruct the real world event experienced by A.

The crucial concept is that various important features of the real world event come to be represented by an agreed upon form. The resulting function is equivalent to a grammatical convention. Such conventions must be learned. There is nothing inherited about them. Grammatical conventions are agreed upon habits of speech, not formal rules which must be obeyed lest an utterance become nonsensical.

Throughout the course of this study, I shall be using the conceptualization of a rule as defined under the rubric of a convention. I will also be exploring differing types or classes of conventions as they apply to various aspects of overall structure.

#### 1.3.4 Assumption IV. Unique and Distinct Functional Systems.

Human interaction with the environment is accomplished by means of a set of cognitive structures which organize and process the details of the interaction. Consequently, the organization of language may be defined in terms of a limited set of cognitive functions which structure this interaction. Each cognitive function--including the grammatical domain it entails--is characterized by a unique set of internal processes, relations and principles of organization.

This fourth assumption suggests that we can look at an utterance as if it were really the intersection of several different types of information in a single string. A helpful analogy might be the case of light. White light appears to be a basic unitary phenomenon. However, this is not really the case. White light is actually a combination of many different colors of light along the full spectrum. With a proper device such as a prism, this white light can be made to reveal its constituent colors.

Similarly, I am proposing that a speech utterance is composed of several different types of information. If this is true, then it should prove very useful to identify these constituent types of information. Having identified the constituent classes of information, we can analyze utterances in terms of these types of information. The resulting analysis should tell us many things about the structure of language which are glossed over in other approaches to this analysis.

Earlier, I suggested that there were essentially four dimensions (types of information) involved in the construction of a typical utterance. These are (1) space-time information, (2) a participant-action complex, (3) purpose-causality and, (4) referential content. In the actual description of the model which comes in the next chapter, I refer to these respectively as the External grammar, the Internal grammar, the Intentional grammar and the Referential grammar. Each of these grammars will be discussed in greater detail in the context of the complete model.

Having proposed that each of these grammars is a distinct functional system, I further propose that each has its own defining principles and internal processes. For a given language, each grammar needs to be analyzed as a distinct system before the analyst is able to propose an analysis of a particular utterance. In fact, the theory implies that a full understanding of the structure of an utterance cannot be realized until the individual component grammars have been separately and fully analyzed. When this has been accomplished, the analyst will have a thorough grasp of the internal structure of characteristic utterances.

In my analysis of selected aspects of Tzeltal grammar which will be presented in Part II, I focus primarily on two (of the four) functional systems--the Internal grammar and the External grammar. A comparison of the two grammars reveals that entirely distinct principles characterize each grammar. The model being proposed here suggests a principled basis for these differences.

#### 1.3.5. Assumption V. The Basic Linguistic Unit.

The Basic Linguistic Unit is a compilation of information about an event or relation, with this information being contributed by the set of cognitive functions which interface the person with his environment. The information contributed by each cognitive structure is compiled and integrated into a potential linguistic string.

The goal of the analyst is to make explicit the information which has been contributed by each cognitive structure and to specify the integration rules which have functioned to combine this information into a coherent linguistic string. In this sense, the explicit structure of a BLU is probably known only to the analyst. One of the claims of the present model is that this conceptualization of the BLU has a definite basis in psychological reality.

##### 1.3.5.1. The units of analysis in linguistic theory.

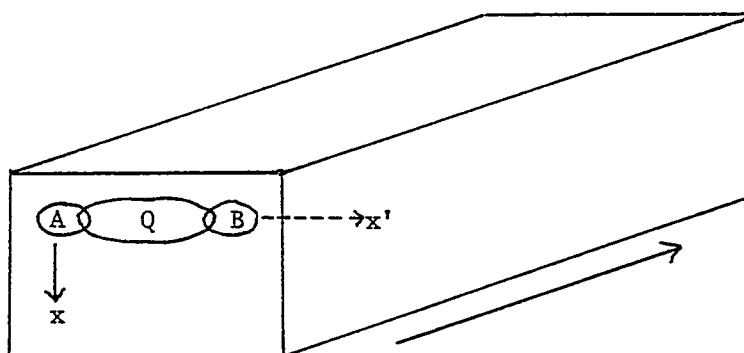
The selection and adoption of a basic unit of analysis for a given model is not a well documented process. The criteria by which such decisions are made are vague, perhaps necessarily so. I would suspect that conventional wisdom and intuition have played just as vital a role as "scientific or logical" principles in the identification of a basic unit of analysis.

For any given model, the basic unit of analysis is usually an integral feature of the overall model. Once the unit of analysis has been defined for a particular theory, that unit becomes intertwined with the further development of the total model. For example, transformational-generative grammar uses the sentence as the basic unit of analysis. The notion of a sentence, as defined by the theory, is absolutely crucial to the application of the theory to the analysis of a particular language. Relational Grammar posits syntactic primitives which it calls terms (see Johnson 1979). The relationship between these terms and the verbs which dominate them constitutes the primary focus of attention for those doing Relational Grammar. In Tagmemics, the crucial unit is the tagmeme (see Pike 1967). A tagmeme is defined as a slot-class correlation with such correlations existing at all levels of linguistic structure. In each case, it is possible to demonstrate a fundamental inter-relationship between the basic unit of analysis and many of the other fundamental theoretical assumptions of each of these theories.

#### 1.3.5.2. The Basic Linguistic Unit in a Cognitive Model.

In the model being developed here, the basic unit of analysis is also, not unexpectedly, intimately related to other aspects of the model. To understand the nature of the unit I'm proposing, we must begin by considering Figure 1.3.





### Time and Space

Figure 1.3. A model of the context in which speech takes place. It is argued that the structure of the speech utterance is designed to include information about time and space as a direct result of the fact that both the speaker and the listener are necessarily located in time and space.

#### 1.3.5.2.1. Participants (A and B).

A and B represent speakers of some language. They are linked by the relation Q which can be defined as everything which A and B have in common. This commonness includes a shared set of conventions for structuring and communicating linguistic information. A and B are both positioned in time and space and interact within that context.

Some event  $x$  takes place in proximity to A. A wishes to communicate something of this event to B. What B comes to know about  $x$  as a result of this communication is represented as  $x'$ . Because both the event  $x$  and the speech utterance about  $x$  take place within a space-time context, I am proposing that spatial and temporal information is a necessary component of the

resulting speech utterance. This type of information makes up what I am calling the External Grammar.

#### 1.3.5.2.2. The Nature of x.

The second component of the utterance (and ultimately of the basic linguistic unit) is information about the nature of x. This information has primarily to do with the participants involved and the type of action (including states and relations) in which these participants are engaged. This type of information comprises the component which I have identified as the Internal Grammar.

#### 1.3.5.2.3. Motivation and Causality.

The third major component--one which is difficult to represent in this type of diagram--is that of the motivating dynamics of the interaction between A and B. What motivates A to say x to B? This is obviously a very difficult and very involved question. Philosophers, psychologists, historians, theologians, anthropologists and others all have their own theories as to what motivates human action and interaction. For the sake of a workable linguistic model, I am suggesting that this question can be divided--perhaps arbitrarily--into two parts. I will distinguish these two parts as overt motivation and covert motivation.

The problem of determining the covert motivation underlying a given utterance depends to a large extent on the particular world view which one has. Theories range from one extreme--a robot universe--to the other extreme--totally random behavior. In between these extremes are the more common models--Marxism, behaviorism, need fulfillment, dualism, etc. Explorations in this area would quickly take us beyond the territory of descriptive linguistics.

Of more substantial interest is the notion of overt motivation. I have chosen to use the term, intention, as a cover term for overt motivation. I am using the term intention to refer to the explicit, immediate purposes which motivate the use of language in any given situation. The more common intentions include the conveyance of information, the solicitation of information, the giving of a command and the accomplishment of a real event by a linguistic act (the performative).

#### 1.3.5.2.4. The Referential Component.

The fourth component of the basic linguistic unit is the referential component. That is, the participants must be identified and the type of action that relates them must be specified. All of the details of the event x which A wishes B to know must be specified. This specifying function makes up the referential component.

By starting with the diagram in Figure 1.3, I am claiming that the basic linguistic unit must be considered to incorporate information from each of these dimensions. This leads fairly directly to what I wish to define as my basic linguistic unit. The basic linguistic unit may be defined as "that minimal independent stretch of speech which incorporates information detailing the involvement of the four dimensions suggested above." Let's examine some of the implications of this definition.

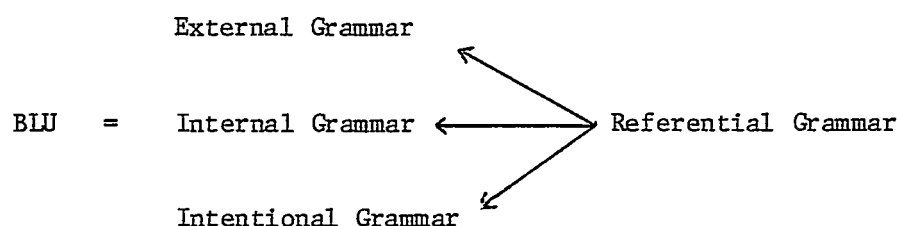
First of all, it is not difficult to determine that this basic unit is approximately equivalent to a sentence in standard linguistic parlance. Smaller units such as particles, words and phrases do not characteristically manifest input from each of the four dimensions. What status do such units have then? The model suggests that the primary function of each of these units is as a device to represent some type of information as required by one

(or more) of the determinant structural dimensions. This means that the analysis of such units should be accomplished primarily within the context of their role in the larger structure, the basic linguistic unit.

Larger linguistic units pose a different problem. Paragraphs and discourses do contain information from each of the four determinant dimensions. In this respect, both of these units conform to the criteria set forth as defining features of the basic linguistic unit. On the other hand, a discourse can be considered to differ from a basic linguistic unit in that it is made up of a number of units which also meet the basic definition established earlier. I am handling this problem by proposing that such structures make up a class of units which we may call extended linguistic units. An extended linguistic unit (ELU) can be analyzed as a single unit utilizing the same conceptual framework applied to the analysis of the BLU. The primary difference between the BLU and the ELU is the fact that a part of the structure of the ELU is a set of BLUs. Notice that I am definitely not claiming that an ELU is merely a string of BLUs. Rather, I am claiming that the basic linguistic unit is the minimal, fully-specified unit commonly occurring in language. As such it is the smallest unit which may be appropriately analyzed as a complete unit.

A third issue we might want to examine is that of the metatheoretical status of a basic linguistic unit. This question can be answered by stating that a BLU has approximately the same theoretical status as does a fully specified tree in transformation grammar or a fully specified syntagme in a tagmemic grammar. An actual stretch of speech is not equivalent to a BLU; it is the result of executing a BLU (either acoustically or in writing).

The final issue I wish to address involves the shape of a BLU. As a first approximation, we may say that a BLU is composed of an external grammar, an internal grammar, an intentional grammar and a referential grammar. However, these grammars are not qualitatively equivalent. The following formula reflects something of the type of relationship which exists between the four grammars.



Obviously, many important issues are ignored in this simple representation of a speech utterance. The most obvious is that of specifying exactly how information from the component grammars is integrated into a single stream of speech. This and similar issues will be taken up in the next chapter. There I will provide additional details on the internal structure of the BLU as well as a more extended discussion of the overall model.

#### 1.4. Summary.

The goal of this first chapter has been to conceptualize a particular view of language which differs from existing models at a number of points. I have characterized this view as a cognitive view in that language is seen as being structured by just those cognitive mechanisms which interface man's mind and the external environment. Four major components of language are distinguished with the thesis being that each of these components is based

directly upon a cognitive mechanism. Finally, it is suggested that a linguistic utterance is best understood as being composed of these four major components which are identified as an external grammar, an internal grammar, an intentional grammar and a referential grammar.

## FOOTNOTES

<sup>1</sup>Lateralization refers to the biological fact that the brain is divided into two hemispheres--the right and the left--which are connected by a nerve system called the corpus collosum. It has been found that most people demonstrate a predominant left-hemisphere specialization for language. The right hemisphere seems to be especially adapted for spatial-relational cognizing. For further discussion see Gazzaniga and Sperry (1967).

## CHAPTER TWO

### A COGNITIVE MODEL OF LINGUISTIC STRUCTURE

In Chapter One, I outlined a particular view of language which emphasized linguistic organization along what I have termed cognitive lines. The obvious next step is to develop a pragmatic and detailed model (an analytic algorithm) which may be applied to the analysis of raw linguistic data. This is the task I take up in this chapter.

#### 2.1. A Cognitive Model of Linguistic Organization.

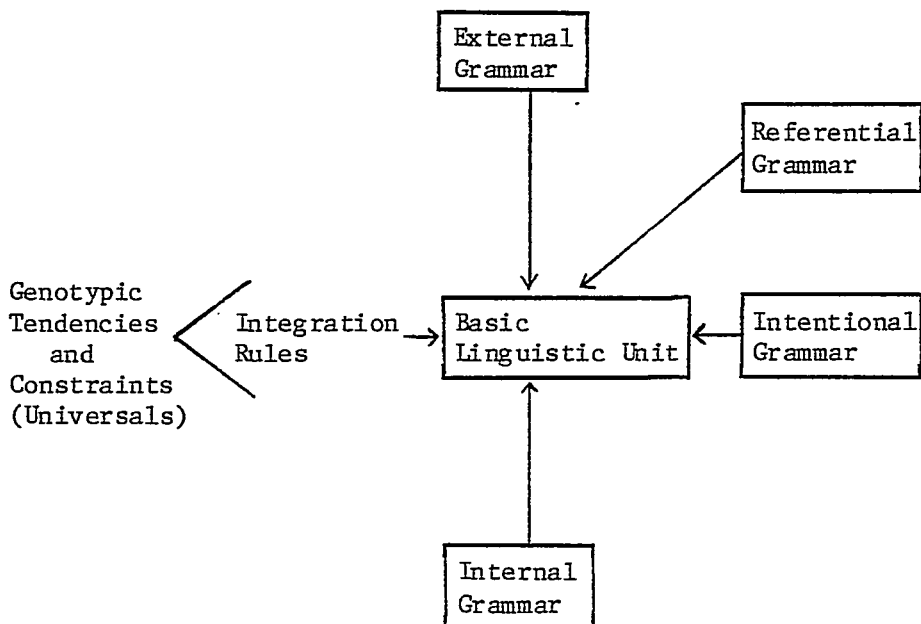


Figure 2.1. The crucial components of a cognitive model of linguistic organization are depicted with a set of integration rules which combine the input of the separate components into the basic linguistic unit.



I am now ready to proceed with the discussion of the model for which I have been laying the foundation. Immediately above is a schematic characterization of the key features of the model. Several general features of the model deserve comment before we proceed with an examination of the details of the model.

#### 2.1.1. Status as an Assembly Model.

The first general feature of the model is that it is an assembly model. That is, the model implies that a BLU is a composite structure constructed of interlocking sub-assemblies drawn from different informational sources. As suggested earlier, the model assumes that each information sub-section has some input into every BLU. The model holds out the possibility (believed to be infrequent) that the contribution to a given BLU from a particular sub-section could be zero under appropriate circumstances. On theoretical grounds I believe that such a situation would best be viewed as a case in which the input of a given sub-section has a zero manifestation rather than it being the case that that sub-section has not made a contribution at all to the content of the BLU in question.

The assembly characteristics of the model will be examined in more detail in subsequent discussions as we look at each of the sub-sections individually.

#### 2.1.2. Processing Characteristics.

A second characteristic of the model is that it is a processing model. This feature of the model involves a number of characteristics which tradi-

tional linguistic models have sought to avoid. Perhaps the most outstanding implication of this feature of the model is the notion that the BLU is constructed by means of a trial and error algorithm. This involves a substantial and radical departure from other linguistic theories. There is a type of generativity involved in the processing model, but this generativity proceeds in a manner quite different from that of standard transformational-generative grammar. In the standard theory one begins with a phrase structure which is elaborated in successive stages with each stage being the result of a specific operation, e.g., a transformation, on the preceding stage. After passing through n-stages, the original phrase structure has become fully defined resulting in a grammatical surface structure.

The generation involved in the model being proposed here is best understood as being made up of two processes. These are (1) construction and, (2) optimization. The process of construction involves the operation of the linguistic model in producing an utterance. Each component grammar contributes information which is then integrated to make up an utterance.

The process of optimization is a feature of the more general model of which the linguistic model is a part. Optimization refers to the process in which there is a continual monitoring of the construction process to be certain that the ultimate utterance is appropriately constructed.

Any processing model tends to emphasize the functional and interactive components of human behavior rather than rules and structures as the crucial features of human behavior. In proposing a linguistic theory based on a functional or cognitive view of human behavior, I am making the claim that certain insights about the nature of language can be gained in this manner which would otherwise remain obscure.

## 2.2. The Model and its Domains.

In this final section I wish to tie the parts of the model together and then to explore the domain of each of the parts of the model. What I want to do is to suggest some of the major features of each domain (grammar) with some effort being made to justify the inclusion of these features in the indicated domain. It should come as no surprise that some features are difficult to place in a single domain. At the same time, other features could be seen as composites drawing input from two or more domains.

Given the newness of the model, the specification of the features of each domain must be considered preliminary. It is quite likely the case that considerable work will have to be done applying the model to the analysis of a range of languages before a very comprehensive description of the features of each domain is possible.

In terms of a general overview of the model we may say that four distinctive components or grammars contribute in put which is organized, integrated and publicized by means of a fifth component which I have termed the tectonic component or grammar. The external grammar is concerned with those details of time and space which must be incorporated into the linguistic construction. The internal grammar defines and manifests the nature of the action represented by the verb as well as the character and role of the participants involved in the action. The internal grammar also includes instructions specifying the higher level information structure necessary to the continuity and coherence of connected speech. The intentional grammar is concerned with those features of the linguistic structure which communicate the intentions of the speaker in constructing and producing the linguistic

utterance. Finally, the referential grammar has to do with the content (referential, emotive, logical, experiential, etc.) of the linguistic utterance.

The final feature of the model, the genotypic characteristics, stands in a different relation to the model than do the grammatical components mentioned above. As suggested earlier, I am taking the position that genotypic characteristics, or universals, are best understood as being derivative of basic cognitive processes or structures rather than underlying language in some basic constitutive sense. Taking this position involves a significant break with commonly accepted dogma, but it does not negate the usefulness of the concept of universals, nor does it deny that they exist in some definable sense.

#### 2.2.1. Domain of the Internal Grammar.

The domain of the internal grammar can be divided quite naturally into two parts. One part has to do with macro-relations and the other part has to do with micro-relations. The difference between these two types of relations roughly corresponds to the difference between inter-clausal and intra-clausal relations.

##### 2.2.1.1. Micro-relations.

2.2.1.1.1. Participants and Actions. I will discuss the area of micro-relations first. This aspect of internal grammar involves a study of two essential ingredients: (1) transitivity and, (2) participant-action complexes. The study of participant action complexes is similar to what others have described as the study of case (cf. Longacre 1976, Fillmore 1966, Hale 1973, Cook 1972, etc.). There are, however, fairly significant differences between

so-called case theory and what I am proposing here. Instead of conceptualizing a case frame in which there are participant-action relations, I propose that there is a very deep dichotomy between participants and actions (verbs). In this sense, the participants are grouped together, as it were, and stand in sharp contrast to the action involved. This is not to say that there is a full blown independence between the participants and the action. Rather, the action is like a hub around which the participants are grouped. This difference is illustrated in Figures 2.2. and 2.3.



Figure 2.2. Traditionally conceptualized case roles defined in terms of the relationship between the verb and each of the participants.

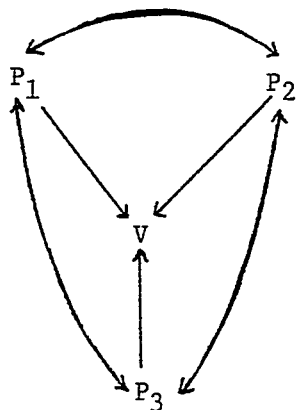


Figure 2.3. Model of a participant-verb complex as conceptualized in the present model. The crucial feature is the presence of participant-participant relations as well as participant-verb relations.

In the first diagram, the emphasis is on participant-action pairs or couplets. Each of these P-V pairs is a case role. The P's are not con-

sidered to be specially related except as they are linked by means of a given verb.

In the second figure the P's are definable as a distinctive set apart from the verb. At the same time, each of the P's does have a relationship to the verb. I suggest that this characterization of P-V relations more closely resembles the way in which these components are cognized by an observer.

Those familiar with Relational Grammar (cf. Perlmutter and Postal 1977) will notice that this conceptualization bears certain theoretical similarities to that theory. In Relational Grammar, the verb is said to dominate a set of arguments with each of those arguments bearing a certain relation to the verb. The goal of the theory is to sort out and define the types of relations that a language manifests as well as the various 'transformations' these relations may undergo in the derivation of specialized constructions (e.g. the passive). Perhaps the major difference between this approach and that of relational grammar is that I make less use of the traditional grammatical categories--subject, object, indirect object--than does relational grammar. My approach seeks to define the participants and their individual and collective relationship to the verb in a language specific, systemic manner. In some cases, the resulting analysis may look quite similar to a potential RG analysis, but this will not always be the case. This point will be amply illustrated in Part II as I present my analysis of Tzeltal.

#### 2.2.1.1.2. Transitivity.

There is a second aspect of P-V interaction which is important to the analysis of this aspect of Internal Grammar. This second aspect has to do with the notion of transitivity. In traditional linguistic studies we have a well established tradition of distinguishing between so-called transitive and

intransitive verbs. There are, of course, what we commonly refer to as stative or equative verbs, but let us set them aside for the moment.

If we again return to our basic premise that cognitive processes underlie linguistic structure in some essential sense, it would seem plausible to argue that there **MUST** be more than just two types of action--transitive and intransitive. Accordingly, I have posited the existence of an 'activity' continuum which is characterized by intense activity or potency at one extreme and by non-activity, statehood or objecthood at the other end. In more explicitly linguistic terms the one extreme is purely and intensely transitive and the opposite extreme is existential and nominative. Between these two extremes runs a continuum characterized by a gradual and continuous (in principle) transition from activity to objecthood. This proposal is quite similar in principle to that of Hopper and Thompson (1978) in which they propose a Cardinal Transitivity Relationship. By this they mean that it seems plausible to propose that in language(s) there is a cardinally transitive construction such that as constructions move away from cardinal transitivity this move is marked morphologically and/or syntactically.

Now whereas Hopper and Thompson are talking about movement away from a cardinal transitive point by very small degrees, I am proposing that the continuum involved is one which runs from the extreme of cardinal transitivity to another extreme which I call objecthood.

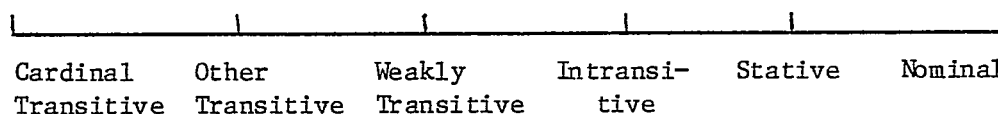


Figure 2.4. A continuum of verbal activity with one extreme defined as "purely or cardinally" transitive and the other extreme defined by nominalness or objecthood.

The indicated points along the continuum are suggestive rather than being theoretically motivated and as such are presented only to illustrate the point being made.

Having argued for the existence and usefulness of a continuum of transitivity on functional (cognitive) grounds, I propose that the analysis of a given language will be significantly aided by the application of this concept to that analysis.

A topic of much current interest in linguistics, Ergativity, falls within the domain of micro-relations and involves the intersection of P-V relations and transitivity. Because Tzeltal is an ergative language in at least a morphological sense, I will be paying considerable attention to this issue in Part II.

#### 2.2.1.2. Macro-Relations.

Macro-relations include what might be called inter-clausal relations or a sentence calculus (cf. Longacre 1976). Studies of inter-clausal relations propose such formal notions as subordination, conjunction, conditionality, etc.

In terms of the present model, macro-relations are seen as being derived from the cognitive or psychological need to "anchor" or relate a primary P-V event to a secondary P-V event. This is crucial if the listener is to be able to reconstruct for himself the 'real-world' events being related by the speaker.

While I am convinced that macro-relations encompass a significant area of study in any given language, I have not delved into this area of Tzeltal grammar to any major extent and will not be presenting any significant



material in this area. This omission does not represent a commentary on the importance of this aspect of grammar—merely a limitation of time and scope.

#### 2.2.2. Domain of the External Grammar.

The external grammar of a language is concerned with those aspects of the structure of the linguistic utterance which are devoted to defining the temporal and spatial features of the event being reported relative to both the speaker and listener. I have found it useful to divide the external grammar into two distinct areas. I refer to these areas as Deixis and Documentation.

##### 2.2.2.1. Deixis.

###### 2.2.2.1.1. Time.

Under the general heading of Deixis comes those features of the language which have to do very specifically with the location of the event in time and space. I will consider each of these in turn.

When we think of language in relation to time, there are two major points of intersection: the location of an event in time relative to the uttering of a report about that event, and the structuring of that event through time. The linguistic labels, tense and aspect, are used respectively to refer to these two features of language. Each of these constructs is sufficiently general that specialized distinctions may be drawn. I have arranged these distinctions along a somewhat discontinuous scale for display purposes. Generally speaking this scale is defined by a variable which I have labelled 'degree of specification.'

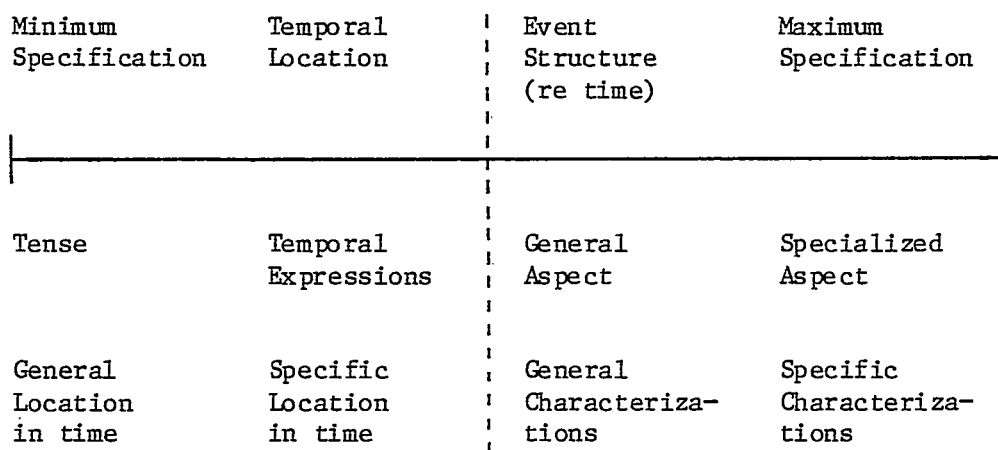


Figure 2.5. The way in which action is plotted relative to time defines the difference between tense and aspect.

At the left end of the scale, an event, as a monolithic entity is located in time relative to the time of the uttering of the linguistic expression reporting the event. When the speaker needs to be more specific, he may add an expression of time which more precisely locates the event. As one might infer from this description, the inclusion of a specific temporal expression is optional whereas the tense is obligatory. I would propose that all languages have some means of specifying tense, even if they must make use of temporal expressions for this purpose. In this sense, the marking of tense is more basic.

Toward the right side of the scale the event is no longer a monolithic entity. Its internal temporal organization relative to time is being specified. Aspect is the linguistic term used to refer to this type of organization. Again, we may distinguish between general aspect and specialized aspect. As with tense, I would propose that general aspect is more basic and, therefore, is always specified in some manner. Whenever the

speaker wishes, he may further specify the nature of the event relative to time. In such situations we may find multiple manifestations of aspect in a linguistic utterance. Following is a suggestive listing of characteristic 'types' of each of these features of time-aspect:

Tense	Temporal Expressions	General Aspect	Specific Aspect
Past	Yesterday	Complete-	Beginning
Present	Monday	Incomplete	Ending
Future	Next Year	Duration	Intermittent
	Right now	Semelfactive	Habitual
			Relation to the present
			Special States of Being

It would be most convenient if languages employed notational devices (morphosyntactic manifestations) which clearly denoted one and only one of these temporal features. Such is not the case, however. More frequently we find complex systems with significant overlap of tense and aspectual marking. In other cases, we find that tense and aspect are represented quite subtly with a heavy dependence upon contextual factors for their identification. The analysis of Tzeltal will provide a good example of a complex and non-symmetrical system with some particles bearing a multiple tense-aspect feature.

#### 2.2.2.1.2. Space.

The second major feature of deixis is concerned with the spatial constraints within which the events reported by linguistic utterances take place. In contrast to temporal references, language utterances do not need to make explicit reference to spatial locations or movement. When a

reference to space is indicated, such references will generally fall into one of two major categories: location and movement.

Conceptually, location is a rather straightforward notion. It is a fixed point in space. Logically (cognitively) linguistic utterances make reference to such locations for their informational value to the listener. Typically, because of their invariant nature, and because of their optionality re the P-V event being reported, spatial references are made with constructions which are quite optional to the basic structure.

The second feature of space--movement--is a little more integral to the event structure being reported. This follows from the rather obvious fact that many commonly occurring events involve movement through space. Two major dimensions of movement may be distinguished: (1) the nature of the movement and (2) the direction of the movement. The nature of the movement is frequently expressed by means of adverbs or some form of verbal modification. Direction may be expressed in a number of ways. Prepositional constructions are probably the most common means. The use of verbal auxiliaries is also common and is the case in Tzeltal.

#### 2.2.2.2. Documentation.

The second major area of external grammar is concerned with documentation. Documentation refers to the problem of establishing the verity (or lack thereof) of the event in question. Several issues are involved. For a given situation the speaker and the listener make certain assumptions, either explicitly or implicitly, regarding the verity, plausibility, reality (versus hypotheticality), familiarity (firsthand, or secondhand knowledge) and scope of the event being reported. Languages incorporate a variety of devices which make some (perhaps most) of this information explicit to the

listener. I will distinguish some of these briefly.

#### 2.2.2.2.1. Assertion.

Assertion might be defined as an explicit effort to establish the verity of some reported event (or state). General linguistic intuition tells us that in a certain sense, this has to be accepted as a given or the utility of language in communication would be lost. This intuition would suggest that assertion (especially in the positive sense) would tend to be unmarked in language in normal usage. Of course we know that there are situations in which there is doubt on someone's part so that a special effort has to be made by the speaker to "convince" the listener of the verity of his statement. In such cases, there is some marking device which signals this effort. In English, this is most commonly accomplished by heightened stress and pitch on the verbal auxiliary. In Tzeltal there is a particle which has, as one of its functions, the marking of a positive assertion.

An obvious component of assertion is negation. Generally speaking, negation involves a direct denial that some possible event is not the case. Negation is highly marked. Interesting philosophical questions could be raised at this point regarding the existence of a non-event. In the case of negation, the speaker is not reporting what happened. Why then does he feel compelled to report anything at all? At this stage, the theorist is forced to posit the existence of semi-linguistic processes such as the holding of expectations or assumptions. The speaker is then addressing himself to certain inaccessible (not directly observable) mental events which he considers to be 'real' in some sense. The assertion being made by the speaker is that these mental events do not match the real world relative to some specific issue. The problem of distinguishing between the external world and

the reality of the internal world is an extremely interesting issue which is certain to be a subject of growing interest among linguists in the future. I shall have more to say about this topic in the next section.

#### 2.2.2.2.2. Realis.

One of the distinguishing features of humans, including their use of language, is the ability to reflect upon and speak about topics and events which are not directly observable. This includes the ability to project established experience into what I might vaguely refer to as the unrealized world. By unrealized world I mean such concepts as future time, imaginary worlds, hypotheticality, conditionality, etc.

Employing the general assumptions of a cognitive theory of language, it would seem to follow that all people recognize and talk about the 'unreal world.' I would suspect that most, if not all, languages have some device(s) for doing this. Logically, it would seem likely that such devices probably fall into one of two classes: boundary cues which function like quotation marks to label the "enclosed" material as referring to 'an unreal world,' and particles attached to key words to indicate irreality.

It would also be logically possible to use different devices depending on the nature or the degree of unreality, being referred to. Tzeltal makes use of a suffixed morpheme which denotes some very interesting types of unreality.

#### Modality and Levels of Reality.

Explaining modality in language has always been somewhat problematic. Generally it is recognized that modality has to do with such topics as possibility, probability and necessity. Most commonly, analysts have attempt-

ted to explain modality in purely syntactic terms (cf. Jenkins 1972, Ross 1969, Newmeyer 1969, Langendoen 1970). A purely syntactic approach to the analysis of modality tends to ignore questions regarding the concept of modality and its function in language. Furthermore, a comparison of some of the competing analyses of modality suggests that a part of the reason differing analyses have been proposed lies in the fact that the analysts have somewhat varying intuitions regarding the nature of modality.

I am proposing that the concept of modality fits very naturally into a cognitive theory of grammar. Modality is, I suggest, a linguistic device used to express a perceived location in a domain of reality which is defined in terms of two dimensions--degree of certainty and degree of objectivity. Look at Figure 2.6.

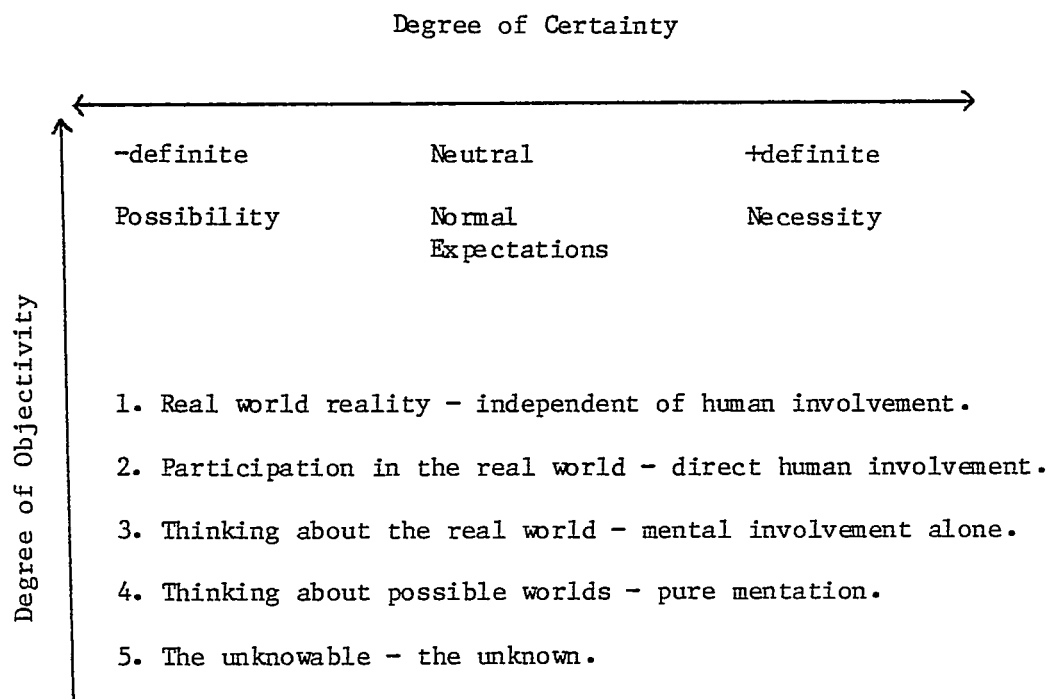


Figure 2.6. Modality can be described as the inclusion of information about certain non-formal locations in a domain of reality defined by the dimensions of certainty and objectivity.

In this Figure the horizontal dimension is defined as the degree of certainty. Notice that one extreme is characterized as -definite and the other extreme is characterized as +definite. In the middle is a neutral zone. The vertical dimension is defined as the degree of objectivity. Five levels of objectivity are suggested with the first level being the most objective and the fifth level being the least objective.

Within the framework of the present model, it is suggested that every linguistic utterance includes information as to cognitive location within this field. The neutral case (which probably makes up the majority of actual utterances) is unmarked for modality. Whenever one's location is outside the neutral zone, he indicates this fact by the use of a linguistic device which we call a modal.

Along the vertical dimension language which is constructed at the more objective level is most likely to be unmarked for modality. As one moves away from the objective extreme toward the non-objective extreme, the likelihood increases that this will be marked in some way. This is a second type of modality.

Different languages will carve up this space in different ways. In general we can say that there exists a certain domain in the neutral, objective portion of reality which is unmarked in language. Utterances which refer to location outside this domain are marked and this marking is what we are referring to when we use the term modality.

#### 2.2.2.2.3. Authentication.

Authentication is a rubric covering several features of documentation. These include responsibility for uttering and supporting a statement, inves-



ting authority in a statement, identifying the first or major author of a statement, giving urgency and emphasis to a statement, etc. I will discuss each of these briefly.

A fairly common feature of language is the presence of some device for assuming or disclaiming responsibility for the content of a statement. What we commonly refer to as direct and indirect speech is one mechanism that languages have for attributing responsibility for a statement.

Closely related to this is a concern with whether or not one is speaking as a firsthand observer of the action he is reporting. Certain South American languages make explicit this relationship between observer and reporter even to third and fourth hand knowledge (e.g. Guambiano, Toyuca, Karns 1977).

Also bound up in this area of documentation is the question of specifying underlying justification, motivation, authority, credibility, etc. This is one area in which we have a close inter-relationship between belief systems and the content and structure of linguistic utterances. Tzeltal, for example, has a commonly used device in which appeal is made to some recognized authority structure for lending weight to an exhortation. Notions of causality frequently have linguistic manifestations which constitute a type of documentation supporting the credibility of an event which may otherwise be difficult to comprehend.

The final topic to be included in the area of documentation has also been referred to in the previous discussion on deixis. This topic concerns the problem of qualification of the event as per the use of adverbs. My inclination is to consider qualification as at least a partial feature of documentation in that it constitutes evidential support helping the reporter

to establish the veracity and credibility of his statement about the event being reported. It helps to reinforce the reporter's position as a first hand observer of the focal event.

These, then, are the major features of the external grammar. Although I have not made a serious attempt to present an exhaustive catalog of all possible ways in which the real world is reflected in language, I do believe that I have mentioned the major areas of contact. Many of these features will be illustrated in the analysis which follows.

#### 2.2.2.2.4. The Auxiliary in External Grammar.

The auxiliary has always been something of an orphan in linguistic theory and description. It has traditionally been something of a catch-all for elements and functions which did not fit readily into either noun or verb phrases. Presently, there is, among transformationalists, a considerable debate as to the status of the syntactic node AUX in the underlying structure. Generative semanticists like Ross (1969) and McCawley (1971) have proposed that all auxiliaries are underlyingly main verbs. This eliminates the need for a category AUX in the underlying structure. On the other hand, defenders of autonomous syntax (Lightfoot 1974 and Akmajian & Wasow 1975) have argued against such a proposal presenting evidence they believe upholds the traditional position of autonomous syntax. Recently, Pullum and Wilson (1977) have argued that auxiliaries can be treated as underlying main verbs while still holding to the tenets of autonomous syntax.

Even though there are some significant differences between generative and interpretive semantics, it is still the case that both are dealing primarily with syntactic evidence in defending their respective positions. Within the context of the present model, I would claim that this debate,

which is essentially structural and syntactic, glosses over the wealth of functional, pragmatic information contained in the auxiliary.

There is another interesting side to this issue. Curiously, English auxiliary has lent itself very readily to syntactic analysis. This is not always the case in other languages. It was the frustration of attempting to formulate a syntactic analysis of the Tzeltal auxiliary which led me to look for some other approach to the analysis of this feature of language.

The model that I have been developing in this discussion allows a two-pronged approach to the analysis of the auxiliary. First, it attempts to specify the structure of the auxiliary in functional, rather than structural terms. Secondly, having specified the nature of this phenomenon, the model leads us to conclude that structural approaches to the analysis of the auxiliary are apt to be weak and misleading. In light of this conclusion, the model presents an entirely different approach to the analysis of the auxiliary which by-passes some of the problems inherent in a structural analysis.

There is another characteristic of auxiliaries which bears mentioning. This is the fact that it is frequently the case that some of the elements which make up the auxiliary carry multiple functions. It is often difficult to sort out these functions. This is especially true when a structural approach is being taken to the analysis of the auxiliary.

To provide us with a thoroughgoing analysis of complex features of language such as these, we need a model which is capable of sorting out these multiple functions. One of my arguments supporting the development of a model like the one presented here is that it suggests an approach suited to the task of performing the type of analysis indicated. This claim is suppor-

ted by an analysis of certain features of Tzeltal which have resisted structural analysis.

### 2.2.3. Intentional Grammar.

The third grammatical component of the model is the intentional grammar. Broadly speaking, the intentional grammar is made up of those components of the linguistic utterance concerned with the purpose of the utterance as the speaker would define his purpose in making the statement. I have distinguished two major types of intentionality which make up the intentional grammar. These can be referred to as an explicit component and an implicit component. I will consider each of these in turn, along with a consideration of arguments for making this distinction.

#### 2.2.3.1. Explicit Intentional Grammar.

The distinction between an explicit and an implicit intentional grammar is somewhat artificial. The primary determinant of such a distinction has to do with the presence of formal structural devices distinguishing one form from another. Another way to characterize the difference is to say that the explicit component has primarily a linguistic scope while the implicit component has an interactive, influential scope. In some cases these will appear to overlap as, for example, in the case of the imperative where the explicit component (as formally marked) communicates a request for a certain action. However, it may also be the case that the imperative has an implicit function of demonstrating superiority, or creating frustration, or goading in some other fashion.

I have distinguished at least six different varieties of an explicit intentional grammar. There are probably others, but these six stand out as

being commonly found in language. I would judge that most languages have formal devices for representing each of these functions. I will merely list them with a short definition or characterization of each.

- (1) The indicative. The indicative form is used to communicate information. It is normally the unmarked form in a language.
- (2) The imperative. The imperative form is used to make commands, give instructions, etc.
- (3) The interrogative. The interrogative form is commonly employed as a mechanism for eliciting information.
- (4) Focus. Focus is a device used to call special, differential attention to some part of the utterance (and, by extension, to the person or event brought into focus).
- (5) The performative. The performative is a construction in which the linguistic utterance itself accomplishes an event rather than merely reporting or commenting on that event.
- (6) Special registers. This is something of a catch-all category for a variety of specialized constructions. Included are such features as the use of special speech registers or styles to communicate certain psychological, emotional or social information such as urgency, doubt, social class, status differences etc. Also included would be special languages such as mother-in-law languages and languages used to deceive and mislead spirits and other threatening entities.
- (7) Non-verbal signals. Non-verbal speech signals usually function to either support or modify the verbal signal. In this sense, such signals can probably be considered part of the intentional grammar. Also, there usually are non-verbal signals accompanying all forms of verbal behavior.

#### 2.2.3.2. The Implicit Intentional Grammar.

Implicit intentional grammar is concerned with the nature of the impact which the speaker wishes to make on the listener. Almost by definition this component of the grammar would be more difficult to isolate and describe than the explicit intentional component. Frequently, the specific content of the implicit component must be inferred from subtle cues and from other information which is social or situational. For these reasons, my treatment of this

aspect of the intentional grammar will be quite superficial. This is not to imply that I think it insignificant.

My description of characteristic varieties of implicit intentions will be suggestive rather than comprehensive. A comprehensive treatment would take us rather far afield into the areas of psychology and sociology. The list of possible intentions roughly parallels the variety of all human interactions.

Some implicit intentions which comprise this component include the following: informing, threatening, confusing, deceiving, inspiring, commanding, counseling, exhorting, belittling, manipulating, soothing, seeking help, etc. We could go on and on, but this is sufficient to give an idea of what is contained in the implicit component of the intentional grammar.

It is a rather open question as to how this component is reflected in the surface structure of the utterances of a language. Studies of this type of information, if done at all, are just as apt to be done by an anthropologist for anthropological reasons as by a linguist for linguistic reasons. I have not probed into this area in my analysis of Tzeltal although I have some text material which would provide data for such a study.

#### 2.2.4. The Referential Grammar.

The fourth contributive component in the model is the referential component. I don't plan to dwell on this part of the model for the rather obvious reason that it is a vast and elusive topic. I do want, however, to make some "in principle" comments as to how I would structure this component relevant to the rest of the model.

I first want to comment on what might be termed the Internal Composition--the content--of this component. I would suggest that this com-

ponent can be considered to be made up of two parts--the encyclopedic component and the lexical component. The lexical component is not truly independent in that it is a part of the encyclopedic component.

The lexical component is a dictionary-like file of phonologically-established units which have been invested with a distinctive 'meaning.' The meaning of each item has been built up through time and experience and represents a composite of referential associations unique to each individual. Even though the lexicon of each speaker of the language is unique, it is nonetheless the case that there is a sufficient degree of commonality in the experience of the speakers of a language that terms can be used with a fair degree of confidence as to their similarity in meaning.

Guesses as to the organization of the lexicon remain somewhat tentative. Some have proposed an hierarchical structure (e.g. Collins and Quillian 1969). Others have suggested an associative clustering of terms according to some commonality of shared features (Rumelhart, et al. 1972). My own inclination is towards the latter position, but this prejudice is based partly on personal intuition and partly on a certain congeniality with the literature which takes this position. The literature on this topic is quite extensive and growing rapidly. I suspect that our knowledge will have to advance considerably beyond its present state before we will be able to make confident statements about the internal organization of the lexicon. For this reason alone, further discussion of this problem in these pages would be rather specious.

The Encyclopedic component encompasses all of the knowledge and memory which the speaker has collected in his lifetime. To attempt to specify this component much further would be a forbidding task. There is, however, one

feature of this component which I wish to discuss briefly. This has to do with what others, especially stratificationists, refer to as the situational context. I am taking the position that the situational context is, and can only be, comprehended and mediated through the encyclopedic component. This implies that all situations are analyzed and/or interpreted through the lens of encyclopedic knowledge. The result, as far as this model is concerned, is that an additional component for situational contexts does not have to be posited.

The second major consideration in describing this component of the model is the nature of its articulation with the remainder of the model. Look at the following diagram:

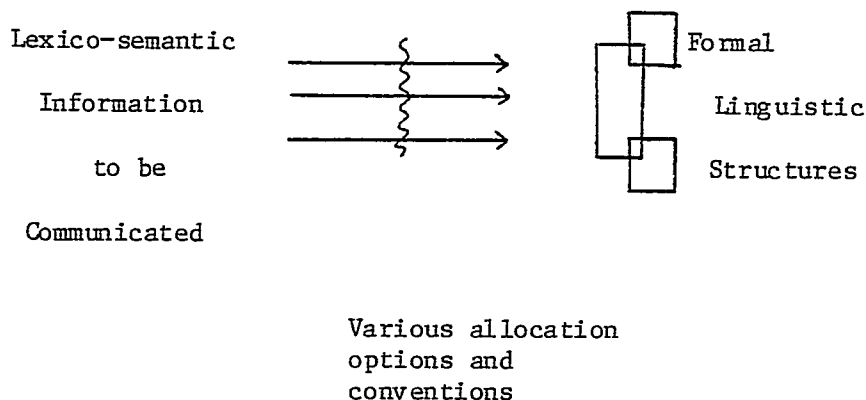


Figure 2.7. Model illustrating the view that referential information is complexly allocated into linguistic structures.

In this diagram the beginning point is the identification and specification (on the part of the speaker) of the lexico-semantic information to be communicated. At this point, the information is partly verbal and partly relational or intentional. Drawing on the other components of the total model, the speaker of the language has available to him a number of conventions and options which will "carry" or communicate this information to the listener.



Obviously, the choice of conventions and options will determine the degree of match between what the speaker wishes to communicate and what the listener understands the speaker to mean. The result of the decisions which the speaker makes is a set of formal linguistic structures which publicly encode (in an informal manner) the lexico-semantic information the speaker wishes to communicate.

The reader will notice that this model operates in a manner quite opposed to the prevailing transformational model. In the transformational view, the formal linguistic structures are generated first and then invested with lexico-semantic information quite late in their derivational history. Because I am trying to develop a model which I believe more closely approximates the involvement of cognitive structures and processes, I would argue that this conceptualization of the referential component is closer to "psychological reality." Again, of course, I am forced to resort to an argument of consistency and to indulge liberally in theoretical license to support this position. If the total model is demonstrated to be untenable, then this account of the incorporation of lexico-semantic information into linguistic utterances will be seriously weakened.

Again I am forced to report that there will be little or no discussion of this component in the analysis of Tzeltal which follows. An analysis of Tzeltal using this component of the model will have to wait for some future scholar who may wish to delve into this area.

#### 2.2.5. The Tectonic Grammar.

This final grammatical component differs from the other components in that it does not represent some overt cognitive link to the external world (or internal world.) Rather, the tectonic<sup>1</sup> grammatical component is

concerned with the organizational structure of the basic linguistic utterance. In this sense, we may say that the features which make up the tectonic grammar are arbitrary. That is, I would suggest that there are no constraints on the shape and content of tectonic grammar beyond those constraints imposed by cognitive structures which interface the external world with the human mind. This type of constraint is not, however, insignificant.

The most obvious theoretical victim of this position is "autonomous syntax." Again, as suggested earlier, I am taking the position that autonomous syntax is more apparent than real. What is real is the set of cognitive structures which interpret the real world. What we have identified as autonomous syntax is a set of conventions into which information from four specialized grammars is integrated. The shape of these conventions has been conditioned by the requirements of the requisite cognitive structures and the type of information which they contribute to the linguistic utterance.

It is convenient, of course, to be able to speak about the general structure of the language and we will do so in very general terms. In doing this, it is necessary to always remember that we are talking about common and generalized patterns--abstracted from rather than underlying language in some inherent, intrinsic manner. To maintain this convenience while, at the same time, exploiting the insights suggested by the present model, I have found it useful to divide the tectonic grammar into two sections. These I have labelled major structural conventions and integration rules.

#### 2.2.5.1. Major Structural Conventions.

Briefly, I have identified three categories of structural conventions which are useful to obtaining an overview of the structure of a language. I shall list these with but a brief definition of each.

#### 2.2.5.1.1. Basic Phrase Structure.

As long as there is the recognition that one is talking about certain types of linguistic structures which are more "common," it is possible to make statements about phrase structure. It is common to consider a simple, active, declarative sentence as the most common or basic construction in a language. Phrase structure analysis usually begins at this level with further interest being directed at how other phrase structures differ from the basic ones. It is useful and convenient to be familiar with the basic phrase structure of common forms, as long as we recognize that this phrase structure is motivated rather than being fully independent.

#### 2.2.5.1.2. Word Order.

Very similar things can be said about word order as were said about phrase structure. The simple, active, declarative construction in a given language commonly has a specific word order associated with it. This word order is frequently taken as a norm with deviations from this norm constituting an appropriate subject for investigation. As is fairly apparent by this time, my model suggests that what is basic is the simple, active declarative construction. The word order associated with this type of construction is a feature of that construction. Changes in word order represent some other change in one of the component grammars which has input into the resultant public construction. While studies of word order can be done independently of other grammatical considerations, such studies are misleading if they do not reflect motivating factors from a component grammar.

#### 2.2.5.1.3. Constraints.

It is not uncommon to find that a given language has certain constraints on the structure of its utterances that we do not find in other languages.

For example, in English we may readily add several prepositional phrases to a sentence to express location, time, manner, etc. Tzeltal constrains this type of expansion within a single sentence. If it is necessary or desirable to express such information, additional sentences will be employed. On the other hand, English is more constrained than Tzeltal in how it expresses aspect.

Constraints of this sort would appear to be more arbitrary than other features of language which we have discussed so far. In a sense, however, this conclusion might be said to stem from an incomplete view of the present model. It is certainly plausible to suggest that the interaction of certain cognitive structures which are differentially specialized according to a given cultural, ecological and sociolinguistic environment might influence the structure of language in ways we have not yet considered. Far more research is indicated, however, before we could hope to evaluate this hypothesis.

#### 2.2.5.2. Integration Rules.

I have posited the existence of integration rules which function to arrange the relevant information and forms contributed by the individual components. If all this information were simply juxtaposed in a string, then the specification of the integration rules would be very simple. Unfortunately, this is rarely (if ever) the case. The interweaving of component information in language greatly increases the complexity of the resultant structures and obscures the origin and the function(s) of some of the constituents of the language.

The number of types of integration rules which I am proposing is probably too few. Only a detailed application of the model to the analysis of a

particular language or to numerous languages will reveal if there are other types of rules, and if there are, how many additional types there are.

#### 2.2.5.2.1. Allocation Rules.

Allocation rules are primarily designed to assign component information to a specific "location" in a potential string or sequence. This generalized definition obviously obscures the fact that this involves numerous details and processes which have been omitted.

The question as to whether or not there is some ordering of allocation rules is difficult to evaluate. My intuition is that there is something a little more basic about the internal grammar and that the information from this component is allocated first. Then the other information is allocated with the intentional component, perhaps, preceding the external component. This ordering is largely conjectural. I think a case could also be made that these rules can and do operate simultaneously to produce the output. This sort of proposal has also been made for the order of application of phonological rules although this proposal has not been widely accepted (Koutsoudas, Sanders and Noll 1974).

The other integration rules I am proposing could be considered as specialized classes of allocation rules. However, it may prove useful to consider them as distinct rules.

#### 2.2.5.2.2. Stacking Rules.

Stacking rules operate to impose two or more functions upon a single element (morpheme). I suspect this is far more common than we realize. In fact, if we consider the contribution of the referential component to be allocated by integration rules, then virtually all elements have multiple functions.

This stacking phenomenon will be invoked in several instances in my analysis of Tzeltal.

#### 2.2.5.2.3. Suppression Rules.

In some instances, the presence of certain information requires that other information normally present be suppressed or eliminated. In such a situation a suppression rule operates to achieve the desired result. A common example would be the English imperative in which the otherwise obligatory subject is suppressed because of the nature of the imperative.

#### 2.2.5.2.4. Continuity Rule.

Continuity rules function to provide smooth transitions between the various components of the linguistic structure. The insertion of euphonic syllables is an example of a continuity rule. Vowel harmony might be another example.

At levels above the sentence, continuity rules come into play in the form of anaphora, phrasal repetition, etc.

### 2.3. The Shape of the Resultant Analysis.

The final task is to indicate what it is we have when we have applied this model to the analysis of a language. Every theory of language has some device(s) for displaying the analyses of language it produces. Tagmemicists can produce a string of tagmemes to display the results of a particular analysis. Transformational grammarians have trees and a list of appropriate transformations which have been applied to generate the resultant sentence.

The assumptions underlying the present model have led me to propose a two level conceptualization of linguistic units. These two levels are somewhat like the difference between the ideal and the real or the public and

the private or surface and deep. In the case of the present analysis, the real is an actual linguistic expression which someone produces either verbally or in writing--a surface structure--in many quarters. These real expressions are the things which influence us in our interactive behavior.

On the other hand there is the ideal. The ideal is really an account of how and why the real produces the impact that it does. Perhaps a diagram will clarify the distinction that I am trying to make.

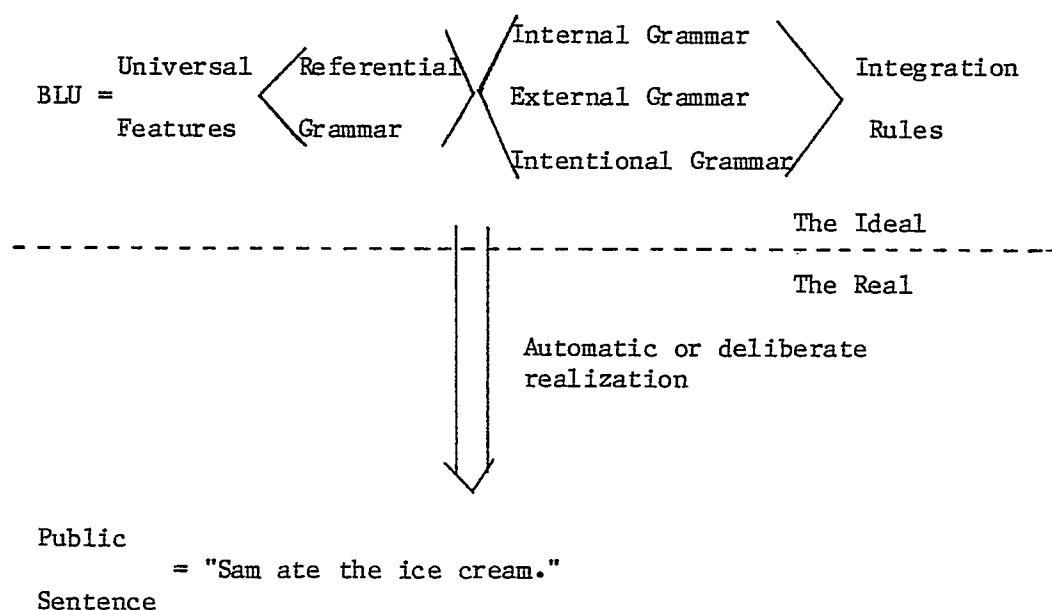


Figure 2.8. The BLU has a complicated structure at the ideal or deep level. At the surface level we have only exemplars such as "Sam ate the ice cream."

In the domain of the real we have only historic examples of produced speech. Such exemplars function as stimuli and are capable of influencing anyone unless that person has no algorithm for interpreting these speech events (stimuli). The basic linguistic unit (BLU) is the abstract algorithm available to the listener which enables him to comprehend the public linguistic

utterances he encounters. If we apply this generalized algorithm to the public sentence, "Sam ate the ice cream." and specify the role and content of each component, the result will be an ideal representation of the public sentence. This ideal BLU is then in a form which can be comprehended by the listener.

In general, the linguist, as an analyst, is much more interested in the shape of the ideal linguistic utterance than he is in the character of the real linguistic utterance. In and of itself, the real linguistic utterance is trivial. The truly interesting insights about language are to be gained by developing, refining and applying models of the shape of ideal language so as to understand how and why listeners are able to comprehend public instances of speech.



## FOOTNOTES

<sup>1</sup>The term tectonic is more familiarly used in geology to refer to the plate structures which underlie the continents. Its usage implies a coordinated and overlapping structure (usually on a large scale). I am using the term here to refer to the following structural characteristics: (1) gross structure, (2) the allocation of sub-structures, (3) the inter-organization of constituent structures, and (4) the sum total of all of the above.

There are two reasons I employed another term rather than using a term such as surface structure or syntactic structure. (1) These terms already have fixed connotations which would color the points I wish to make. (2) Such a term is more in keeping with my empiricist intentions re the cognitive model.

PART II

APPLICATION OF THE MODEL  
TO PROBLEMS IN TZEITAI GRAMMAR

## INTRODUCTION TO PART II

In Part I, I sought to develop a model of language organization emphasizing the participation of cognitive structures which are presumed to interface man and his environment. The model posits the existence of four major cognitive structures. The linguistic manifestation of these four types of information is in terms of (1) an External Grammar, (2) an Internal Grammar, (3) an Intentional Grammar and (4) a Referential Grammar. Furthermore, the model suggests that each of these structures underlies, and manifests itself as, a type of information about the nature of events in the external world surrounding the observer. Finally, the model argues that a characteristic structure can be understood as the intersection of these four informational structures in a linguistic string.

Part II consists of four studies of selected grammatical problems in Tzeltal. Each of these studies involves the application of a different feature of the model to the analysis of the problem at hand. The first three studies--those of Chapters Three, Four, and Five--all deal with features of the External Grammar of the language. The final study which takes up Chapters Six and Seven deals with a problem in the Internal Grammar of Tzeltal.

In Chapter Three, the focus of the analysis is on the particle YAC, one of the most commonly occurring particles in the language. In my analysis of this particle I make use of a concept taken from the discussion of integration rules in Chapter Two, which I called "stacking." Specifically, I argue

that YAC is best analyzed as a composite of three separate functions which have been "stacked" together into this particle.

Chapter Four presents an analysis of tense and aspect in Tzeltal. This analysis is designed as an investigation into the way in which the language incorporates information about the relationship between time and event. One of the major findings of this analysis is the discovery that at least four different aspectual systems exist in the language. These are (1) Simple Aspect, (2) Comparator Aspect, (3) Augmented Aspect and (4) Derivational Aspect. Each of these systems represents a specialized portion of the total time-event relationship and each system has a separate linguistic realization.

In Chapter Five the focus is again on a single morpheme **-uc**. This morpheme defines, in Tzeltal, the boundary between normal, expected, predictable events and all other possible events. It is a linguistic marker tagging an event with properties of hypotheticality and/or non-normalness. In terms of the cognitive model, **-uc** is an indicator of "irreality."

The final study focuses on a problem in the internal grammatical component of the language. This study focuses on the morpheme **-BE**. The function of **-BE** can only be understood within the context of the total participant complex in the Tzeltal sentence. The application of theoretical insights gained in Chapter Two leads to an analysis which appears to be well-motivated, consistent with other facts of the language and virtually exceptionless.

The basic analysis of **-BE** is presented in Chapter Six and then further examined in Chapter Seven in terms of a counter analysis cast within the

framework of Relational Grammar. The result of this examination is a refinement of and a reaffirmation of the original analysis.

#### Introductory Notes on Tzeltal Grammar.

In this brief sketch I am presenting some introductory material on Tzeltal grammar to facilitate the intelligibility of the early examples. This is probably necessary even though most of the material to be presented in this sketch will be discussed in detail in subsequent chapters.

#### Ergativity and Person Markers.

Tzeltal falls into that class of languages which linguists have come to term as ergative languages (cf. Dixon 1979). In the case of Tzeltal, this ergativity is manifested in the morphology of the verb. That is, the set of affixual markers which indicate the subject of an intransitive verb are the same as those which mark the direct object of a transitive verb. (A more precise formulation of this principle will be presented and discussed in some detail in Chapter Six.) This is illustrated in the following paradigms.

<b>tal-on</b>	'I came.'	<b>tal-otic</b>	'We came.'
<b>tal-at</b>	'You came.'	<b>tal-ex</b>	'You(pl) came.'
<b>tal-Ø</b>	'He came.'	<b>tal-ic</b>	'They came.'
<b>s-nit-on</b>	'he pulls me'	<b>s-nit-otic</b>	'he pulls us'
<b>s-nit-at</b>	'he pulls you'	<b>s-nit-ex</b>	'he pulls you(pl)'
<b>s-nit-Ø</b>	'he pulls him'	<b>s-nit-ic</b>	'he pulls them'

In the first paradigm, the intransitive verb 'come' has a set of suffixes to indicate concord with the subject in terms of person and number. In the second paradigm, the subject is marked with a prefix for subject--s- for third person--and the object is marked with a set of suffixes identical to the set which marks subject in intransitive verbs.

The set of suffixes which mark the subject of an intransitive verb are also used to indicate the subject of an attributive or equational construction.

<b>winic-on</b>	'I am a man.'
<b>winic-at</b>	'You are a man.'
<b>winic-Ø</b>	'He is a man.'
<b>tsaum-on</b>	'I am pretty.'
<b>tsaum-at</b>	'You are pretty.'
<b>tsaum-Ø</b>	'He is pretty.'

There are two sets of prefixes used to indicate the subject of a transitive verb. One set is used before consonant-initial verbs and the other before vowel-initial verbs. These sets are illustrated below.

<b>j-le-Ø</b>	'I look for it.'	<b>j-le-Ø-tic</b>	'We look for it.'
<b>a-le-Ø</b>	'You look for it.'	<b>a-le-Ø-ic</b>	'You(pl) look for it.'
<b>s-le-Ø</b>	'He looks for it.'	<b>s-le-Ø-ic</b>	'They look for it.'
<b>qu-ill-Ø</b>	'I see it.'	<b>qu-ill-Ø-otic</b>	'We see it.'
<b>aw-ill-Ø</b>	'You see it.'	<b>aw-ill-Ø-i</b>	'You(pl) see it.'
<b>y-ill-Ø</b>	'He sees it.'	<b>y-ill-Ø-ic</b>	'They see it.'

This set of markers, the so-called ergative set, is also used to indicate possession. The first set, the so-called absolutive set, is never used for this purpose. Note the following examples:

j-na	'my house'
c-oc	'my foot'
qu-ip	'my strength'
a-na	'your house'
aw-oc	'your foot'
aw-ip	'your strength'
s-na	'his house'
y-oc	'his foot'
y-ip	'his strength'

Note that the first person marker has two forms preceding a vowel initial word. The Tzeltal orthography follows the Spanish convention of using the *qu-* before front vowels and the *c-* elsewhere.

In the examples used in the coming chapters, I have used a shorthand to identify these two sets of markers. The absolutive set--subject of intransitive verb, and direct object of transitive verb--are indicated by the letter 'A' plus a number to indicate person. The ergative set is identified by the letter 'E' and the appropriate number to signal person. This convention is illustrated in the following examples.

1. Ya x-bo-on ta j-na.  
YAC incompl-go-A1 to E1-house.  
I am going to my house.

2. La s-maj-otic te j-nan.

Past E3-hit-Alpl art El-mother

Our mother hit us.

Comments on Word Order.

The most characteristic word order of the simple, active, indicative is VOS. This is quite a rare word order and, for this reason, there is a tendency to question whether VOS is really the most basic word order for Tzeltal. It is true that in longer discourses there is frequent deviation from VOS with SVO being the most common deviant. Such deviation, however, looks very much like some sort of focus. Among the some eight to ten thousand sentences which I have recorded in my data, I would say that something on the order of eighty to ninety percent reflect a straightforward VOS word order.

Additional evidence for this word order comes from the reactions of native speakers when other orderings were suggested. If the order of the O and S were reversed, the resultant construction was viewed as being anomalous. This was especially the case when both the subject and object were third person participants. If the personhood of the subject was not the same as that of the object, the native speaker could depend upon the cross-referencing system of the verb to disambiguate the roles of the two participants. If the person marker used on the verb was incorrect (as in the case of a non-native speaker) or inaudible for some reason, word order is considered diagnostic in distinguishing the correct roles of the involved participants.



In other cases in which there is deviation from the VOS order, this deviation is usually accompanied by other syntactic changes such as relativization or complementation.

Tzeltal is also an AN language. That is, when a noun is modified by an adjective, the modifying adjective usually precedes the noun. Again, deviation from this order usually involves something like focus or prominence.

#### Concord Between Verbs and the Other Participants.

The earlier paradigms suggested that the verb is inflected to indicate the person and number of the subject and the object. In principle, this concord is invariably present. In practice, the marking of this concord is not as rigorous as I have implied. The biggest problem is that of defining exactly what is meant by the term object. As we shall see in Chapter Six, the object which is most specifically marked in the verb is not necessarily the direct object. When there are three participants, one of them--the direct object--is indexed by a single morpheme irregardless of its person and number (cf. Chapter Six).

It is also the case that there is not a rigorous adherence to the general rules of concord in the marking of number. The most frequent occurrence of this involves the third person plural of both the subject and object, but particularly of the object. Sometimes, one must depend on the context to determine whether the subject or the object is plural (when both of them are third person).

This sketch should provide enough background so that the reader can follow the argumentation and the examples as illustrations of the point(s) being made in the body.

For additional information on Tzeltal grammar see Slocum (1948) and Kaufman (1971).

### Orthography.

The orthography used throughout this work is that used for materials published in the language itself. I recognize that this will make the reading of some of the examples a little more difficult for those not familiar with Tzeltal or Mayan linguistics. On the other hand, those who are familiar with the major published materials in Tzeltal will find this orthography completely familiar. To bridge the gap, I am presenting this orthography with phonetic equivalents.

Orthography	General Phonetic Value
p	p
t	t
qu	k
c	k
b	b
d (in borrowed words)	d
g (in borrowed words)	g and ɠ
p'	p' (glottalized stop)
t'	t'
qu'	k'
c'	k'
ts	ts
ch	tʃ
ts'	ts'
ch'	tʃ'
s	s
x	ʃ
r (in borrowed words)	r or ʎ or ř
m	m
n	n
l	l
'	glottal stop
y	y
w	w
j	h

a	a
e	e
i	i
o	o
u	u

#### Other Preliminaries.

In identifying the morphemes in the examples I use, I will be using the same labels throughout even though a discussion of some of these labels does not come until further in the analysis. Those particles which represent a complex function and which will be discussed at some length in subsequent sections will simply be copied and capitalized in the morpheme-by-morpheme translation.

CHAPTER THREE  
ANALYSIS OF THE PARTICLE, YAC

3.1. Introduction.

In this chapter, I take up the analysis of the particle, YAC. Past analyses of this particle have generally identified it as a marker of incomplete aspect (Slocum n.d., Cowan n.d.). Other linguists who have had informal contact with the language have felt that the particle may be indicating present tense rather than incomplete aspect.

This ambivalence is significant. As I hope to show in this analysis, the particle YAC is best seen as a composite of functions. These functions are (1) marking of non-past tense, (2) marking of an affirmative proposition and (3) the marking of a volitional event.

In the first part of the analysis, I deal with the phonological shape of the particle in that it has a number of shapes. This phonological analysis is crucial to the remainder of the analysis. If it were the case that there were two separate grammatical particles, rather than one, we would then be faced with some puzzling problems of irregularity. An analysis which points to the existence of a single particle YAC makes possible a grammatical analysis of symmetry and elegance.

In the second part of the chapter, attention is focused on the "grammatical" function of YAC in terms of the assumptions of the cognitive model. Specifically, we shall be dealing with the principle of "stacking" as discussed in Chapter Two.

## 3.2. Illustrative Data.

The following data demonstrate the principle contexts in which YAC does and does not occur. The subsequent discussion will refer to these examples as I develop an analysis of this particle.

1. Ya x-tal- $\emptyset$ .  
YAC incompl-come-A3  
He/it comes/will come.
2.  $\emptyset$ -Tal- $\emptyset$ .  
compl-come-A3  
He/it came.
3. Ma x-tal- $\emptyset$ .  
neg incompl-come-A3  
He/it does not come/will not come.
4. Ma'  $\emptyset$ -tal- $\emptyset$ .  
neg compl-come-A3  
He/it did not come.
5. Ya s-pas- $\emptyset$  waj.  
YAC E3-make-A3 tortillas  
He/she makes/will make tortillas.
6. La s-pas- $\emptyset$  waj.  
past E3-make-A3 tortillas.  
She made tortillas.
7. Ma s-pas- $\emptyset$  waj.  
neg E3-make-A3 tortillas.  
He/she does not/will not make tortillas.

8. **Ma la s-pas-Ø waj.**  
 neg past E3-make-A3 tortillas  
 He/she did not make tortillas.
9. **Winic-on.**  
 man-A1  
 I am a man.
10. **Tal-em-on.**  
 come-perf-A1  
 I have come.
11. **Ma x-a-pas-Ø waj.**  
 neg incompl E2-make-A3 tortillas  
 You do not/will not make tortillas.  
 also  
 Don't make tortillas! (imperative)
12. **Tal-an!**  
 come-Aimp  
 Come!
13. **Pas-a waj!**  
 make-Eimp tortillas  
 Make tortillas!
14. **Ya j-pas-Ø waj.**  
 YAC E1-make-A3 tortillas.  
 I make tortillas.
15. **Yac a-pas-Ø waj.**  
 YAC E2-make-A3 tortillas  
 You make tortillas.

16. Ya s-pas-Ø waj.  
 YAC E3-make-A3 tortillas.  
 She makes tortillas.
17. Ya qu-il-Ø j-na.  
 YAC E1-see-A3 my-house  
 I see my house.
18. Yac aw-il-Ø a-na.  
 YAC E2-see-A3 your-house  
 You see your house.
19. Ya y-il-Ø s-na.  
 YAC E3-see-A3 his-house  
 He sees his house.
20. Ya bal x-tal-at?            Yac.    Ya x-tal-on.  
 YAC ?    incompl-come-A2    YAC    YAC incompl-come-A1  
 Are you coming?            Yes.    I am coming.
21. Yac-uc j-maj-Ø te qu-inam ya x-ilin-Ø.  
 YAC-subj E1-hit-A3 the my-wife    YAC incompl-angry-A3  
 If I were to hit my wife, she would get angry.
22. Y bin yac-al a-le-bel-Ø?  
 and what YAC-gen E2-look for-dur-A3  
 And what are you looking for?
23. X-coxcon-on ta ba-el.  
 incompl-limp-A1 prep go-nom  
 I limp along.

24. X-macmum c-o'tan.

incompl-close in E1-heart

My heart is pounding.

25. X-bururet-Ø te j-ni' yu'um wayal-on.

incompl-bubble-A3 the my-nose because sleep-A1

I snore when I sleep.

### 3.3. The YAC + x- Hypothesis.

An analysis of the phonological shape of YAC must be carried out within the context of both its occurrence and function. Otherwise, some anomalous forms appear which have to be accounted for by ad hoc means.

The analysis of YAC must begin with a consideration of the occurrence and non-occurrence of the particle x-. When this particle occurs it immediately precedes the main verb and is prefixed to it as the outermost prefix. (I believe x- marks incomplete aspect, but this is not a unanimous opinion.) Consider the following examples:

26. Ma j-c'an-Ø waj.

neg E1-wantA3 tortillas

I don't want tortillas.

27. Ma x-a-c'an-Ø waj.

neg incompl-E2-want-A3 tortillas

You don't want tortillas.

28. Ma s-c'an-Ø waj.

neg E3-want-A3 tortillas

He doesn't want tortillas.



29. Ma x-qu-ill-Ø waj.  
 neg incompl-E1-see-A3 tortillas  
 I don't see tortillas.
30. Ma x-aw-ill-Ø waj.  
 neg incompl-E2-see-A3 tortillas  
 You don't see tortillas.
31. Ma x-y-ill-Ø waj.  
 neg incompl-E3-see-A3 tortillas  
 He doesn't see tortillas.

In these data, the x- occurs with certain transitive constructions, all of which are in the present tense/incompletive aspect. Specifically, x- appears in the second person where the person marker is a vowel (or /aw-/) and before all forms where the verb stem begins with a vowel.<sup>1</sup> It does not appear in 26 and 28. In these cases we have a consonant-initial verb stem to which a person marker--also a consonant--has been prefixed.

On the basis of these examples, it appears to be the case that x- occurs precisely in those situations in which it precedes not more than one consonant. If we assume that x- is underlyingly present in all of the constructions (26-31), then it appears necessary to posit a rule of consonant deletion. Such a rule might take the following form.

Deletion Rule A: xCC- → ØCC-

This rule states that when x- is affixed to a verb form in which two consonants are already present due to an earlier process of person affixation, then the x- is deleted. This rule would then account for the

presence and absence of the morpheme *x-* in negative transitive and intransitive constructions which involve the incomplete aspect.

Now, what about the non-negative forms? Observe the following paradigms:

### Transitive

#### Consonant-Initial Stems

14. *Ya j-pas-Ø waj.* I make tortillas.  
 15. *Yac a-pas-Ø waj.* You make tortillas.  
 16. *Ya s-pas-Ø waj.* He makes tortillas.

#### Vowel-Initial Stems

17. *Ya qu-ill-Ø waj.* I see tortillas.  
 18. *Yac aw-ill-Ø waj.* You see tortillas.  
 19. *Ya y-ill-Ø waj.* He sees tortillas.

### Intransitive

#### Consonant-Initial Stems

32. *Ya x-tal-on.* I come.  
 33. *Ya x-tal-at.* You come.  
 34. *Ya x-tal-Ø.* He comes.

#### Vowel-Initial Stems

35. *Ya x-illin-on.* I get angry.  
 36. *Ya x-illin-at.* You get angry.  
 37. *Ya x-illin-Ø.* He gets angry.

First of all, we may note that the morpheme  $x-$  does not occur anywhere in the transitive forms (14-19), even though the forms have single consonant clusters verb initially. Secondly, we see that an additional element  $c-$  has appeared in the second person where the person marker is a vowel. Note that  $x-$  occurs in all forms of the intransitive irregardless of whether the verb stem begins with a consonant or vowel. How are we to account for these facts if we wish to pursue the hypothesis that  $x-$  is a marker of incomplete aspect for both transitive and intransitive constructions as suggested earlier?

First of all, we may note that the morpheme  $x-$  does not occur anywhere in the transitive forms even though forms 17-19 have single consonant clusters verb initially. Secondly, we see that an additional element  $c-$  has appeared in the second person where the person marker is a vowel. Thirdly, we note that  $x-$  occurs in all forms of the intransitive irregardless of whether the verb stem begins with a consonant or vowel. Further, we have an additional phonological element  $-c$  occurring in certain environments for which we must account.

As a possible solution to this problem, I am going to propose a  $yac + x-$  hypothesis. This hypothesis states that the underlying structure of affirmative, incomplete constructions, both transitive and intransitive, is  $yac + x-$  + verb stem with appropriate person markers. The resultant underlying conjugations using this formula would then be as follows:

## Consonant Initial Stems

Transitive		Intransitive	
Yac xjpas waj.	'I make tortillas.'	Yac xtallon.	'I come.'
Yac xapas waj.	'You make tortillas.'	Yac xtalat.	'You come.'
Yac xspas.	'He makes tortillas.'	Yac xtal.	'He comes.'

## Vowel Initial Stems

Yac xquill na.	'I see the house.'	Yac xoc'on.	'I cry.'
Yac xawill na.	'You see the house.'	Yac xoc'at.	'You cry.'
Yac xyill na.	'He sees the house.'	Yac xoc'.	'He cries.'

The first thing we note is that these putative underlying forms violate the rule which constrains word initial consonant clusters. In its most general form, this rule could be stated:

Consonant Cluster Constraint Rule - # C<sub>1</sub> C<sub>2</sub> -

This rule states that no more than two consonants may occur word initially in a consonant cluster. From the data we can see that this rule is violated in the first and third person forms of those transitive verbs with consonant initial stems. The affixation of x- has resulted in clusters of three consonants.

$$x- + \# C_1 C_2 - \longrightarrow \# C_0 C_1 C_2$$

Because this cluster violates the Consonant Cluster Constraint (CCC) Rule, a deletion rule much like the one proposed earlier operates to delete one of the consonants. The most reasonable candidate for deletion is  $x^-$  which is  $C_0$ .

Deletion Rule B      $\# C_0 C_1 C_2^- \rightarrow \# C_1 C_2^-$

This rule eliminates unwanted consonant clusters and provides a possible explanation for the fact that  $x^-$  does not occur. However, in referring back to the data on the preceding page, it is clear that the structural description of the rule is not met in several cases. If the rule applied in all and only those situations in which its structural description were met, then we would expect to find the morpheme  $x^-$  present in several instances in which it, in fact, does not occur. Compare the following:

Output of the Consonant Deletion Rule  
(Transitive Forms Only)

Consonant Initial Stems

Yac jpas waj.	'I make tortillas.'
Yac xapas waj.	'You make tortillas.'
Yac spas waj.	'He makes tortillas.'

Vowel Initial Stems

Yac xquill na.	'I see the house.'
Yac xawill na.	'You see the house.'
Yac xyill na.	'He sees the house.'

## Actually Occurring Forms

## Consonant Initial Stems

Ya jpas waj.	'I make tortillas.'
Yac apas waj.	'You make tortillas.'
Ya spas waj.	'He makes tortillas.'

## Vowel Initial Stems

Ya quill na.	'I see the house.'
Yac awill na.	'You see the house.'
Ya yill na.	'He sees the house.'

According to the Deletion Rule B, all of these forms except the first and third person should have  $x^-$  present because its presence does not violate the CCC. However, a glance at the forms which actually occur indicates that  $x^-$  is never present in this paradigm. This contradiction means that either the rule is incorrectly stated or some other process is involved which affects the occurrence of  $x^-$ . My solution is to propose that the deletion rule was generalized to all affirmative forms which are transitive. Some external support for this analysis comes from San Lorenzo Zinacantan Tzotzil (Laughlin 1975). In this closely related language,  $x^-$  still occurs in the incomplete transitive conjugations. In conjugations of consonant initial stems, the  $x^-$  occurs only before the second person in which the person marker is a vowel. In conjugations of vowel initial stems,  $x^-$  occurs before all forms. It would appear that a deletion rule like the one above has operated to delete  $x^-$  before consonant clusters. If only one other consonant is present--either a person marker or a stem consonant--then  $x^-$  occurs.

The motivation for the generalization of the deletion rule in the Tzeltal transitive is uncertain. I suspect that the motivation for this process has come at least partially from the adoption of the particle YAC as a part of the verbal complex. The dialect of Tzotzil, referred to above, does not have the putative particle, *yac*, so further pressures for deletion of *x-* in Tzotzil constructions have not been present (Laughlin 1975).

After applying the generalized form of the deletion rule, we get the following forms:

Transitive	Intransitive
Consonant Initial Stems	
<i>Yac jpas waj.</i> 'I make tortillas.'	<i>Yac xtalon.</i> 'I come.'
<i>Yac apas waj.</i> 'You make tortillas.'	<i>Yac xtalat.</i> 'You come.'
<i>Yac spas waj.</i> 'He makes tortillas.'	<i>Yac xtal.</i> 'He comes.'
Vowel Initial Stems	
<i>Yac quill na.</i> 'I see the house.'	<i>Yac xoc'on.</i> 'I cry.'
<i>Yac awill na.</i> 'You see the house.'	<i>Yac xoc'on.</i> 'You cry.'
<i>Yac yill na.</i> 'He sees the house.'	<i>Yac xoc'.</i> 'He cries.'

When we compare these forms with those which actually occur, we find that the *-c* (voiceless, velar stop) appearing in these derived forms actually gets to the surface in only two cases. Both cases involve the second person in which the first element in the form following the particle *yac* is a vowel. To account for these facts, I propose that a low level rule of





auxiliary from the complete potential response statement. YAC has the same force in Tzeltal. The crucial fact is that in an essentially free form, the particle is **yac** rather than **\*ya**.

Looking at sentence 39, we observe that the first word in the sentence is **yacuc**, a subjunctive construction. With the affixation of a suffix beginning with a vowel we again have the form **yac** rather than **\*ya**. The obvious counter argument that the velar stop is inserted to separate two vowels, loses credence when we observe that the past subjunctive form is **lauc** (**la + -uc**). Thus, the affirmative subjunctive construction would clearly appear to be composed of the morphemes **yac + -uc**.

Notice that sentence 39 also poses a problem for the proposed rule of low level **-c** deletion before a consonant. The complete rule is:

$$\text{yac} \# \text{C-} \rightarrow \text{ya} \# \text{C-}$$

The form **yacuc** (as in sentence 39) meets the structural description of the rule which means that the final **-c** should be suppressed to yield **\*yacu**. This does not happen. There is a two-fold reason for this: (1) this is a low-level suppression rule probably motivated by a pressure to simplify a phonological sequence which occurs extremely frequently. (2) In the case of **yacuc**, the final **-c** is crucial to the meaning and function of the word. This is not true in the case of **yac**. In this case, it made no difference in the function and meaning of the particle that the final **-c** was dropped.

Finally, in sentence 40 we have an example of the present progressive construction. The form of interest is **yacal**. The affix **-al** is one of a class of affixes which functions to enlarge and generalize the scope of the stem to which it is attached. In this case, it indicates that we are not

speaking of a unitary punctiliar action, but rather of a general action or process which extends through a period of time including the present. Again, the significant fact is the presence of the velar stop in the root.

Summarizing, it would seem that the only time that the velar consonant is not a part of the particle is when it occurs preceding consonants and consonant clusters. Therefore it seems quite plausible to argue that the underlying form of this affirmative particle is **yac** rather than **\*ya**.

This determination is quite important to the analysis of the function of this particle. If it were the case that there were two separate particles **yac** and **ya**, then the analysis of their separate functions would further complicate the analysis of Tzeltal grammar.

#### 3.4. Analysis of the Functions of YAC.

To my knowledge, no one has ever presented a formal and systematic analysis of YAC. Those who have worked with the language (Slocum n.d., Cowan n.d.) have referred to this particle as an indicator of either present tense or incomplete aspect. Kaufman (1971) does not deal with the particle in his handling of Tzeltal morphology and I have not had access to his syntactic materials.

Colleagues who have learned the language report that it is quite easy to learn to use YAC but exceedingly difficult to explain exactly what its function is. Their readiest explanation is that it indicates non-past tense. Almost everyone mentions that it seems to mean more than this but they aren't sure what else it might mean.

The analysis of YAC is somewhat complicated by the fact that no other closely related Mayan language appears to have, or use this particle in the

same way. Tojolobal has a particle /wa/ used to indicate non-past tense (Furber-Losee 1976). Tzotzil has two particles /t/ and /ta/ which apparently carry some aspectual function (Cowan 1969, Laughlin 1977). YAC appears to represent a Tzeltal innovation, and, as such, has been imbued with a complex of functions which we shall examine shortly.

One of the arguments I've advanced as a justification for developing a cognitive model of linguistic structure is that it provides a convenient plan of attack for proposing analyses of troublesome particles such as this. When discussing integration rules, it was pointed out that languages can, and frequently do, "stack" a variety of functions (types of information) into a single word or particle. Having made this assumption, we can approach the analysis of a particle like YAC without the pressure of having to find THE solution to the question of its proper and basic function. Furthermore, having posited the existence of a limited set of classes of information, we are well-equipped with a stock of possible solutions.

In the analysis which follows I shall propose that YAC may have as many as three simultaneous functions which indicate non-past tense, affirmative assertion and volitional action. When he hears this particle, the Tzeltal speaker responds to each of these three functions as though he "heard" three separate signals.

The existence of these functions cannot be inferred from a single sentence. Rather, the complex of constituent functions of YAC must be discovered from a comparative analysis of sentences in which it does and does not occur.

I've organized this analysis according to the different functions I've identified. In each section evidence will be presented to support the analysis proffered.

## 3.4.1. YAC as an Indicator of Non-Past Tense.

Probably the most readily identifiable function of YAC is that of marking non-past tense. Consider the following examples:

1. Ya x-tal-Ø.  
YAC incompl-come-A3  
He comes. (He will come.)
2. Ø-Tal-Ø.  
compl-come-A3  
He came.
5. Ya s-pas-Ø waj.  
YAC E3-make-A3 tortillas  
She makes tortillas.
6. La s-pas-Ø waj.  
past E3-make-A3 tortillas  
She made tortillas.
10. Tal-en-on.  
come-perf-A1  
I have come.
35. Qu-il-oj-Ø Ocosingo.  
E1-see-perf-A3 Ocosingo  
I have seen Ocosingo.

By comparing sentences 1 and 5 with 2 and 6, we can see that YAC occurs when the construction is in the non-past tense. In sentence 2 the past tense is represented by a zero morpheme. In sentence 6, the particle *la* occurs as a marker of simple past. The major challenge to this analysis comes from the

fact that the morpheme  $x-$  also co-varies with YAC in these examples. On the basis of this co-variance alone, it would be possible to argue that the  $x-$  indicates non-past tense and YAC indicates incomplete aspect. This is probably due to the conceptual similarity which exists between non-past tense and incomplete aspect. In my analysis I feel that the evidence points toward the first view. Therefore, I've adopted that analysis. This issue will be dealt with more thoroughly in Chapter Four.

From sentences 10 and 35 we may observe that YAC also does not occur in perfective constructions. Since these forms also involve action in the past, they add further evidence--in a negative way--to the argument that YAC marks non-past tense.

#### 3.4.2. YAC and the Making of an Affirmative Proposition.

Even though YAC is easily associated with non-past time, I'm not sure that this is really its primary function. Depending on how one interprets the evidence, it may be the case that the primary function of YAC is that of making an affirmative proposition. Consider the following examples:

1. **Ya**  $x$ -tal- $\emptyset$ .  
YAC incompl-come-A3  
He will come.
  
3. **Ma**  $x$ -tal- $\emptyset$ .  
neg incompl-come-A3  
He won't come.
  
5. **Ya**  $s$ -pas- $\emptyset$  waj.  
YAC E3-make-A3 tortillas  
She will make tortillas.

7. **Ma s-pas-Ø waj.**  
 neg E3-make-A3 tortillas  
 She won't make tortillas.

In comparing these examples we may observe that the only difference between the affirmative and the negative versions is the substitution of the negative particle *ma* for the affirmative particle *YAC*. The crucial fact is that the negative particle is not merely added to the sentence, it completely replaces the affirmative particle. This would tend to suggest that *YAC* and *ma* function like logical operators either affirming or denying the truth value of the action indicated by the remainder of the construction.

A counter argument to this proposal could be that the negative constructions have been formed not by replacing *YAC* with *ma*, but by adding *ma* to the affirmative construction after which there is some sort of phonological fusion between the *YAC* and *ma*. If this could be demonstrated it would weaken the claim that *YAC* functions as an affirmative proposition marker. However, I do not believe that the evidence will support this counter proposal. There are two types of evidence against such a proposal.

The first type of evidence is provided by occurrence of the negative in the past tense. Look at the following examples:

2. **Ø-Tal-Ø.**  
 compl-come-A3  
 He came.
4. **Ma' Ø-tal-Ø.**  
 neg compl-come-A3  
 He didn't come.

6. **La s-pas-Ø waj.**  
 past E3-make-A3 tortillas  
 She made tortillas.
8. **Ma la s-pas-Ø waj.**  
 neg past E3-make-A3 tortillas  
 She didn't make tortillas.
- 38a. **Och-~~en~~-Ø.**  
 enter-perf-A3  
 He has entered.
- 39a. **Ma' och-~~en~~-Ø.**  
 neg enter-perf-A3  
 He hasn't entered.

By comparing these examples with 1, 2, 5, and 7, it is immediately clear that the shape of the negative particle *ma* is not affected by whether or not it occurs in the past tense. This invariance suggests that when it occurs in the non-past tense, it stands alone as an independent particle having replaced, rather than having been phonologically merged, with the particle YAC.

The second bit of evidence against the fusion hypothesis comes from sentences like the following:

40. **Ma' me ja-uc ya x-col-otic yu'um.**  
 neg emph pro-subj YAC incompl-free-A1pl prep  
 We definitely won't be able to get free from that.
41. **Ma ma ya s-c'an-Ø ja'.**  
 neg neg YAC E3-want-A3 water.  
 It is not the case that he wants water.

In these examples we find that the negative particle occurs in sentences in which YAC also occurs. This would seem to further support the view that *ma'* does not represent a phonological fusion of a negative and YAC. The apparent contradiction involved in the occurrence of both negative and affirmative particles in these constructions can be resolved by appealing to the notion of scope in defining the function of negatives in Tzeltal constructions.

The difference between these constructions and the normal pattern of negation has to do with the scope of negation. In the normal case, the scope of the negation is usually the truth value of the predication of the verb. In sentences 40 and 41 the negation has a higher scope. That scope is best understood as implying the existence of two possible alternatives. In the normal case, negation is understood as the denial of a possible action. In sentences 40 and 41, negation really involves the selection of one alternative over another by negating one of the possible alternatives.

Having handled this counter argument to the interpretation of YAC as an indicator of an affirmative proposition, we can look at other evidence which supports the view that YAC does indeed function to indicate affirmativeness. Consider the following examples:

- |     |     |     |               |                             |      |                 |            |                             |
|-----|-----|-----|---------------|-----------------------------|------|-----------------|------------|-----------------------------|
| 42. | Ya  | bal | a-c'an-Ø      | waj?                        | Yac. | Ya              | j-c'an-Ø   | waj.                        |
|     | YAC | ?   | E2-want-A3    | tortillas                   | yes  | YAC             | E1-want-A3 | tortillas                   |
|     |     |     |               | Do you want some tortillas? |      |                 |            | Yes. I want some tortillas. |
|     |     |     |               |                             |      |                 |            |                             |
| 43. | Ya  | bal | x-ba-at?      | Yac.                        | Ya   | x-bo-on.        |            |                             |
|     | YAC | ?   | incompl-go-A2 | yes                         | YAC  | incompl-go-A1   |            |                             |
|     |     |     | Will you go?  |                             |      | Yes. I will go. |            |                             |



There are two significant facts we must consider in these examples: (1) the function of YAC as a pro-sentence and (2) the occurrence of YAC in an interrogative construction. We will consider these facts in turn.

In these examples, YAC can function as an affirmative pro-sentence. In such situations it clearly makes a positive assertion that the action implied by the question will be true. Sentence 44 is a negative version of the same construction.

44. Ya	bal	x-ba-at?	Ma'-uc.	Ma	x-bo-on.
YAC	?	incompl-go-A3	no-subj	neg	incompl-go-A1
Will	you	go?	No.	I	won't go.

Again, the only difference between sentences 43 and 44 is the difference between a positive and a negative assertion.

Now, let us return to the problem posed by the occurrence of YAC in interrogative constructions.

The fact that YAC can and does occur in interrogative as well as indicative constructions requires a characterization general enough to admit both functions.<sup>2</sup> To say that YAC functions to make a positive assertion is too strong a statement especially if we take the term, 'assertion,' to mean "the statement of a fact." This would obviously exclude interrogative constructions which involve a request for information, not a statement of a fact.

There is one other bit of evidence which we need to consider in precisely identifying this aspect of the function of YAC. This is the matter of the imperative. Consider the following examples:

12. **Tal-an!**  
 come-Aimp  
 Come!
13. **Pas-a waj!**  
 make-Eimp tortillas  
 Make tortillas!

The particle YAC also does not occur in these examples of the strong imperative. A supposition that YAC cannot occur in an imperative construction must be tempered, however, on the basis of examples like the following:

1. **Ya x-tal-Ø.**  
 YAC incompl-come-A3  
 He will come.

Literally: You are requested to see to it that he comes!

15. **Yac a-pas-Ø waj.**  
 YAC E2-make-A3 tortillas.  
 You will make tortillas.

Literally: I am politely requesting that you make some tortillas!

Examples 1 and 15 have exactly the same surface representation as simple, active, declarative constructions. In appropriate contexts, however, such constructions are clearly seen as imperatives. The particle YAC is obviously present in these examples. How, then, are we to define the function of YAC which concerns us here?

The facts are these: (1) YAC clearly marks affirmation; (2) YAC can function as a pro-sentence; (3) YAC never occurs with the strong form of the

imperative; (4) YAC does occur in polite imperatives. On the basis of the evidence we have looked at so far, it seems that we can make the following general statement about YAC: 'YAC functions to indicate an affirmative, non-imperative proposition.' By the use of the term, proposition, I am referring to any sort of statement without reference to its mood. In this sense, it can include interrogatives.

Including reference to the imperative in this definition of YAC is somewhat troublesome. It is well known that the imperative is a troublesome construction in language. In the case of Tzeltal, we might hypothesize that YAC is not present in the strong imperative for one of two reasons: (1) the imperative is inherently positive unless otherwise indicated or (2) the mood of an imperative is entirely distinct from the indicative mood and, therefore, the use of YAC is not indicated. If we assume (1) we can hypothesize that YAC is not present because it is redundant. If we assume (2) the reason YAC is not present is because its use is limited to the indicative mood I have defined to include interrogatives. The latter seems the most plausible. If we take this position, we can then say that YAC functions to indicate an affirmative indicative proposition.

However, YAC does not function in all time frames to mark a positive proposition. Consider the following examples:

- |                               |                           |
|-------------------------------|---------------------------|
| 45. <del>Ø</del> -Way-at bal? | Ia. <del>Ø</del> -Way-on. |
| compl-sleep-A2 ?              | past compl-sleep-A1       |
| Did you sleep?                | I did. I slept.           |

The contrast between the negative and the positive statements (43 and 44) suggests that there is a definite sense in which YAC functions to make a

positive assertion. However, this must be qualified on the basis of the evidence from the past tense. In such cases YAC does not occur even though an affirmative statement is being made. This collective evidence implies that YAC denotes an affirmative proposition in non-past time. Whenever it occurs, it carries at least these two functions.

### 3.4.3. YAC as an Indicator of Volition.

The third function of YAC involves a complex of features which I have chosen to refer to as volition. The general idea is that the use of YAC indicates that the action about to be reported in the sentence is the result of a deliberate and specific choice on someone's part (usually the grammatical subject of the sentence).

But there is more to this complex than mere volition. Also implied is the idea that the action has a goal, an end purpose. When there is action which has no goal, YAC does not occur in the sentence.

Finally, the usage of YAC implies that the action of the verb is semelfactive. That is, the action is understood as a discrete event. It has a beginning point, an ending point and happens only once. This does not mean that the event cannot be repeated. Rather, there is the sense that the event or action can be seen as a unitary, monolithic event whenever it occurs and each time it occurs.

In terms of the earlier theoretical discussion, we can say that this function of YAC signals a recognition that the events which occur in the real world are differentially motivated. In the case of Tzeltal, it appears to be the case that, in certain contexts, a dichotomy is set up between discrete, well-motivated events and those which are more diffuse in terms of completion and motivation.

The following examples illustrate this dichotomy.

46. Ya s-mac-Ø te puerta.  
 YAC E3-close-A3 the door  
 He closes the door.
47. X-macmum-Ø q-uinal.  
 incompl-closing in-A3 environment.  
 The weather is getting closed in.
48. Ya s-pich'-on te c'ajc'al.  
 YAC E3-slow-A1 the sun  
 The sun is wearing me out.
49. X-pich'pum-Ø ta a'tel te a'tel-etic.  
 incompl-slowly-A3 to work the work-pl  
 The workmen are working lethargically.
50. X-bururet-Ø te j-ni' yu'um wayal-on.  
 incompl-bubble-A2 the my-nose because sleep-A1  
 I snore when I sleep.

Examples 46 and 48 manifest the normal construction in which YAC occurs. None of the other examples have YAC although they all have the incomplete aspect marker x-.

A comparison of these examples reveals something of the difference involved in the non-occurrence of YAC. For example, sentence 46 describes a specific action which has a definite point of initiation, a definite goal, and an expected conclusion. Moreover, it manifests volition on the part of the subject (he).

None of these qualities is true of sentence 47, in which YAC does not occur. There is, however, a definite sense of change. The observer is aware

that an event is taking place, but it is cognized as an undirected event. It has no well-defined beginning and ending point.

One of the most common usages of this type of construction is in sentences like 50. This construction is employed to indicate characteristic, or descriptive behavior which lacks volitional characteristics. Frequently, it refers to a characteristic behavior over which one has no control such as the way something moves or the type of noise it makes.

### 3.5. Summary.

In this chapter I have argued that the particle YAC is best understood as a composite of functions as indicated in the following featural analysis.

YAC

+ non-past tense

+ affirmative assertive

+ volition

I've suggested that an analysis of YAC which does not account for each of these functions is going to be unsatisfactory.

The obvious claim I wish to make is that a model such as the cognitive model developed in this study is especially suited to analyses of this sort. In the case of YAC, the salient features of the cognitive model are (1) the External Grammar and (2) stacking rules which are a part of the Tectonic Grammar. The three functions of YAC identified above each represent a piece of information contributed by the External Grammar. Non-past tense has to do with the location of the event in time. The making of an affirmative assertion involves documentation that an event has or will take place. The

complex of features discussed under the rubric, volition, has to do with the nature of an event in terms of its status as a specific, cyclical, well-motivated event.

My belief is that the analysis of YAC resulting from the application of the cognitive model has yielded insights of two sorts which might otherwise have been missed using other models. (1) The cognitive model allows us to view YAC as a composite of specialized functions. (2) As a result of having pursued the analysis of a single particle in the way we did, major conceptual patterns have begun to stand out which permeate the language. Let me attempt to illustrate this point.

The function of YAC, when seen in the context of contrasting functions suggests the presence of two informational structures important to the speaker of the language. These are: (1) the epistemological status of events, and (2) a special concern with the teleological nature of events.

In the first case, we find that all events are accompanied by one or more markers which provide information on the speaker's conviction as to the reality or verifiability of a reported event. More specific illustration of this system will come in Chapter Five when we investigate the functions of the affix **-uc**.

In the second case, we find a high degree of sensitivity to the structure of events in terms of active versus passive involvement. There appears to be a major dichotomy between "passive events" and "active events." Active events involve volitional actors while passive events involve static actors. Besides its manifestation in the particle YAC, we find evidence for this

principle in the fact that Tzeltal has several different constructions which manifest passivity. One of these will be examined in some detail in Chapter Seven.



## FOOTNOTES

<sup>1</sup>Because the predominant canonical shape of verb roots is CVC, there has been a tendency (Kaufman 1971) to treat roots such as *ił* 'see' and *oc'* 'cry' as though they had a glottal stop present as the initial consonant. This allows these roots to conform to the predominant canonical shape of verb roots in Tzeltal.

I have two objections to this analysis. (1) It is never the case that two words in the language are differentiated on the basis of the presence or absence of an initial glottal stop. (2) None of the phonological rules which are sensitive to C-V differences "notice" the putative presence of the initial glottal stop. The evidence seems far more convincing for an analysis which does not posit a glottal stop as the first phoneme in every word which would otherwise begin with a vowel.

<sup>2</sup>I am indebted to Steve Wallace for pointing out the significance of the occurrence of YAC in interrogative constructions.

## CHAPTER FOUR

### TENSE AND ASPECT IN TZELTAL

#### 4.1. Introduction.

According to the cognitive model of linguistic structure presented earlier in Chapter Two, one of the four constituent grammars of any language is the external grammar. The external grammar is defined as that informational component concerned with those features of the linguistic report having generally to do with time and space. On theoretical grounds it was argued that because time and space are, in the main, inescapable dimensions of the human experience, language necessarily incorporates information having to do with the temporal and spatial aspects of the event being reported in the BLU.

In this chapter we will be concerned almost exclusively with an examination of the temporal information found in Tzeltal linguistic constructions. In traditional linguistic terms, this investigation will be focused on the analysis of tense and aspect in Tzeltal. The majority of the analysis will focus on aspect as the marking of tense does not appear to be especially salient in Tzeltal.

The analysis presented in this chapter has been carried out as a partial illustration of the following theoretical points. (1) The analysis of tense and aspect will serve as one illustration of the necessary presence of temporal information in linguistic constructions. (2) Aspect in Tzeltal is manifested in several different systems with each system having distinctive

semantic and morpho-syntactic properties. This fact poses significant problems for an analytic approach such as that of generative grammar which usually attempts to incorporate most such information into the auxiliary. A Tzeltal auxiliary, as conceptualized by a generative grammar, would be either fragmentary or hopelessly complicated. This suggests the need for an alternative approach. (3) The structural and conceptual complexity of the overall tense-aspect system in Tzeltal encourages a systemic approach like that of the cognitive model being employed here. (4) I intend to show that this approach to the analysis of tense/aspect in Tzeltal will allow us to glimpse the more general outlines of the way in which native speakers of Tzeltal cognize and organize in language the temporal features of their experience.

#### 4.2. Tense.

For the purposes of this analysis I shall define tense as the location of an event in time relative to the linguistic act which reports that event. This can be accomplished in one of two ways. First, we can have special tense markers--usually attached to the verb--which indicate a general location in time relative to the linguistic utterance. Secondly, we can make use of temporal expressions which specify a particular time frame during which the action took place. We shall look at both briefly in this analysis.

The tense system in Tzeltal is quite simple in terms of the number of distinctions it makes. As has been suggested by the discussion in the last chapter, a case could be made for the position that there are no true tenses in Tzeltal. I think this is probably too strong of a position even though it is the case that the so-called tense markers do not unambiguously indicate tense.

In this analysis, I will take the position that there are only two tenses. These are the past and the non-past.

#### 4.2.1. The Non-Past Tense.

The non-past tense includes both the present and the future. The only linguistic difference between the two is the optional presence of a temporal expression. Otherwise, the difference is specified by the context.

In the last chapter, I suggested that one of the functions of YAC is the marking of non-past tense. Consider the following examples:

1. Ya x-och-on ta avion.  
YAC incompl-enter-A1 into airplane  
I get into the airplane.  
or  
I will get into the airplane.
2. Ya j-pas-~~o~~-tic j-c'al-tic.  
YAC El-make-A3-Elpl El-cornfield-Elpl  
We will make our cornfield.
3. Pajel, ya x-ba-at ta Yaxala'.  
tomorrow YAC incompl-go-A2 to Yaxala'  
Tomorrow, you will go to Yaxala'.

These examples are clearly distinguished by the presence of the particle YAC. Sentences 1-3 are all simple indicative constructions. Sentences 4-6 illustrate other constructions in which YAC occurs.

4. Yac-uc x-loc'-on bael, ya x-ilin-~~o~~  
YAC-subj incompl-leave-A1 go YAC incompl-angry-A3  
If I were to leave, my wife would get angry.  
  
te qu-inam.  
the my-wife

5. Ya bal x-oc'-at bael? Yac.  
 YAC ? Incompl-cross-A2 go YAC  
 Will you cry? Yes, I will.

6. Yac-al-on ta pas na.  
 YAC-gen-A1 to make house  
 I am building a house.

The particle YAC occurs in each of these sentences although it is not an independent particle in two of them. The tense of these sentences is also non-past.

The major problem (if it is a problem) with the view that YAC indicates non-past tense, is the presence of the particle x-. As we shall see in the next section, this particle is also never present in past tense constructions. Although there are certain constructions in which it is also not present in the non-past tense, I believe that its absence is for phonological, not functional reasons (cf. Chapter Three). Otherwise, there are two constructions in which YAC and x- are not both present. Look at the following sentences:

7. X-macmum c-o'tan.  
 incompl-close my-heart  
 My heart is pounding.

8. X-bururet te j-ni' yu'um wayal-on  
 incompl-bubble the my-nose because sleep-A1  
 I snore when I sleep.

9. Yac-on ta jutsajel.  
 YAC-A1 to sitting  
 I am sitting down.

10. ~~Yac~~-all-on ta beel.  
 YAC-gen-A1 to walking  
 I'm walking along the trail.

In sentences 7 and 8, ~~x-~~ occurs but not YAC. We find that the reverse of this is true in sentences 9 and 10. In Chapter Three I suggested that YAC is not present in sentences like 7 and 8 because of the nature of the event being reported--not because such sentences have a tense other than the non-past.

Sentences 9 and 10 indicate progressive or continuous action. If we take the position that ~~x-~~ indicates incomplete aspect, then we could argue that ~~x-~~ does not occur in sentences 9 and 10 because these sentences are emphasizing durative aspect rather than incomplete aspect. If we accept the claim that ~~x-~~ indicates incomplete aspect, then it is probably not the primary indicator of non-past tense. Therefore the particle YAC remains as the most likely candidate for marking non-past tense.

It is this sort of evidence and reasoning which has led me to conclude that YAC marks--among other things--non-past tense.

#### 4.2.2. Past Tense.

Conceptually, past tense says nothing more than that the event being reported took place prior to the time of the report. In Tzeltal, the crucial facts are represented in the following examples:

11. ~~Ø~~-och-on ta avion.  
 compl-enter-A1 to avion  
 I entered the airplane.

12. ~~La~~ ~~j-pas-Ø-tic~~ j-c'al-tic.  
 past El-make-A3-Elpl my-cornfield-pl  
 We made our cornfield.
13. ~~Ø-Ba-at~~ ta Yaxala' wojey.  
 compl-go-A2 to Yaxala' yesterday  
 You went to Yaxala' yesterday.
14. Tall-em-on.  
 come-perf-A1  
 I have come.
15. Qu-ill-oj-Ø Lacandon.  
 El-see-perf-A3 Lacandon  
 I've seen Lacandon.

All of these examples speak of actions which have taken place in the past. Sentences 11-13 refer to the past in only general terms while sentences 14 and 15 are more specific in that they include an aspect marker indicating perfectivity.

The first fact to be noted is that YAC does not occur in these constructions. Secondly, we note that x- also does not occur. Thirdly, we note that, in sentence 12, we have another particle la which has been identified as past tense. In sentences 11 and 13 a zero morpheme has been marked as a prefix on the verb.

There are several possible interpretations of these facts. The most straightforward account, and the one I espouse, is this: the simple past is marked in two ways depending upon the transitivity of the verb. In the case of transitive constructions, the particle la indicates past tense. In the

case of the intransitive construction, the absence of a marker indicates past tense. This means that in examples like 11 and 13, there could be an additional "zero morpheme" preceding the verb which marks the simple past. If this is the case, sentence 11 should be analyzed as follows:

16. \* $\emptyset$   $\emptyset$ -och-on ta avion.  
 past compl-enter-A1 into airplane  
 I got into the airplane.

I know of no structural evidence which would indicate the superiority of one interpretation over the other. Theoretically, we could probably argue that there is a difference between the absence of a marker and the presence of a zero morpheme. Based primarily on notions of symmetry and pattern pressure, I have taken the position that simple past is marked either by *la* or by the absence of a marker depending upon transitivity. The completive aspect marker is a zero morpheme prefixed to the verb.

In the case of sentences 14 and 15, this zero morpheme does not appear because these examples represent more than simple completive aspect. These examples are marked for perfective aspect. More on this when we take up the analysis of aspect.

#### 4.2.3. The Occurrence of Temporal Expressions.

When it is necessary to more precisely specify the temporal location of an event, a temporal expression can be added to accomplish this task. Such temporal expressions do not, however, replace tense markers. Furthermore, no matter how near or distant an event, as indicated by a temporal expression, the tense markers do not change. This reinforces the argument that there are only two tenses, the past and the non-past.



#### 4.3. Aspect.

While the tense system in Tzeltal does not appear to be particularly involved, the same cannot be said for the aspect system. The remainder of this chapter will be devoted to an examination of some of the features of this system.

In Chapter Two, aspect was defined as "the internal temporal organization of an event." Where tense is concerned primarily with the simple location of an event in time, aspect is concerned with the nature of an event as it stretches through time. In a sense we can say that tense is primarily punctiliar while aspect has breadth. Aspect represents a more detailed elaboration of the nature of an event related to time than does tense. For this reason, it is not surprising that Tzeltal (like most other languages) has a more elaborate system for specifying aspect than it does for specifying tense.

The analysis of aspect in Tzeltal will fall into four sections with each section devoted to the analysis of a separate aspectual system. These aspectual systems are: (1) simple aspect, (2) comparator aspect, (3) augmented aspect and (4) derivational aspect. Although these category labels, especially three and four, emphasize structural differences, it is nonetheless the case that each aspectual system is distinctive for both semantic/cognitive and morpho-syntactic reasons.

##### 4.3.1. Simple Aspect.

Simple aspect, as used here, refers primarily to those aspects which refer only to the action itself. Three primary possibilities are involved: (1) the action has ended, (2) the action is presently going on, or (3) the

action is not necessarily happening now, but neither has it been completed. These three possibilities are realized in Tzeltal as (1) the completive aspect, (2) the durative aspect and (3) the incompletive aspect. We will look at each of these in turn.

#### 4.3.1.1. The Incompletive Aspect.

I have already alluded to incompletive aspect in several places. I shall review the facts briefly again for the sake of the present discussion.

Whenever the non-past tense occurs, one of the aspects necessarily accompanies it. The action is either on-going (durative aspect) or it has not yet ended (incompletive aspect).

The incompletive aspect is marked by the morpheme *x-* which is prefixed to the verb.

17. Ya *x-bo-on* ta *j-na*.  
 YAC *incompl-go-A1* to my-house  
 I will go to my house.
18. Yac *a-chon-Ø* te *nalaxax*.  
 YAC *E2-sell-A3* the oranges  
 You sell the oranges.
19. Ma *x-a-chon-Ø* te *nalaxax*.  
 neg *incompl-E2-sell-A3* the oranges  
 You don't sell oranges.
20. X-*coxcon-on* ta *beel*.  
*incompl-limp-A1* to walk  
 I limp as I walk.

Sentences 17, 19 and 20 have x- present as a prefix to the verb. As I argued in Chapter 4, I believe that x- is also underlyingly present in construction 18. Evidence for this position comes largely from examples like 19, where the x- appears when the assertion is negative rather than positive.

The function of the incomplete aspect is to signify that the action in focus has not yet terminated. This doesn't mean that the action is presently going on. It may be yet to start. All it indicates is that the action in view has not come to an end or been accomplished.

This concept of incomplete action perhaps explains why the morpheme x- is almost always present in the non-past tense. Incomplete action is necessarily non-past. Conversely, action in non-past time is very apt to be incomplete. In Tzeltal, however, it appears to be the case that either incomplete aspect or durative aspect is marked in the non-past but rarely both.

#### 4.3.1.2. The Completive Aspect.

The completive aspect is used to indicate that the focal action has been terminated. As such it is necessarily located in past time. The following sentences exemplify completive aspect:

21.  $\emptyset$ -bo-on ta j-na.  
 compl-go-A1 to my-house  
 I went to my house.
22. La a-chon- $\emptyset$  te nalaxax.  
 past E2-sell-A3 the oranges  
 You sold the oranges.

23. Ma' la a-~~chon~~- $\emptyset$  te nalaxax.  
 neg past E2-sell-A3 the oranges  
 You didn't sell the oranges.

24.  $\emptyset$ -~~coxcon~~-on ta beel.  
 compl-limp-A1 to walk  
 I used to limp.  
 or  
 I limped along.

In none of these examples does the morpheme x- occur. Its place is taken by a zero morpheme prefixed to the verb. Again we note that the past tense necessarily implies completive action. However, because this is indicated by a zero morpheme it would be difficult to tell whether or not perfect and durative action which occurred in the past are marked for completive aspect. My intuition is that they are not, but I cannot prove this in any straightforward way.

#### 4.3.1.3. The Durative Aspect.

##### 4.3.1.3.1. Durative Aspect in the Non-Past Tense.

Durative aspect refers to action which extends through time, usually in a continuous manner. The most common occurrence of durative aspect in Tzeltal is in the present. This usage indicates that the focal action is simultaneous with the speech event. The further implication is that the action began at some point prior to the speech event and will be continuing beyond the point of the speech event.

The durative aspect is indicated by the use of a distinctive construction in Tzeltal. Actually there are several ways of indicating durative

aspect in Tzeltal. A part of this variability represents functional differences while the rest represents purely alternative ways of indicating the same thing. I will investigate some of the variation but not all of it. A complete analysis would require a monograph.

I shall begin by examining the following set of examples. Discussing the significance of the variation found in these examples will lead us into a more detailed analysis of the durative aspect in Tzeltal.

25. Yac j-bon-bel- $\emptyset$  j-na.  
 YAC E1-paint-dur-A3 my-house  
 I am painting my house.
26. Yac-on ta s-bon-el j-na.  
 YAC-A1 to E3-paint-nom my-house  
 I am painting my house.
27. Yac-al j-bon-bel- $\emptyset$  j-na.  
 YAC-gen E1-paint-dur-A3 my-hpuse  
 I am painting my house.
28. Yac-al-on ta s-bon-el j-na.  
 YAC-gen-A1 to E3-paint-nom my-house  
 I am painting my house.
29. Ay-on ta s-bon-el j-na.  
 is-A1 to E3-paint-nom my-house  
 I am painting my house.
30. Y-ip-all-on ta bon j-na.  
 E3-power-gen-A1 to paint my-house  
 I am painting my house.

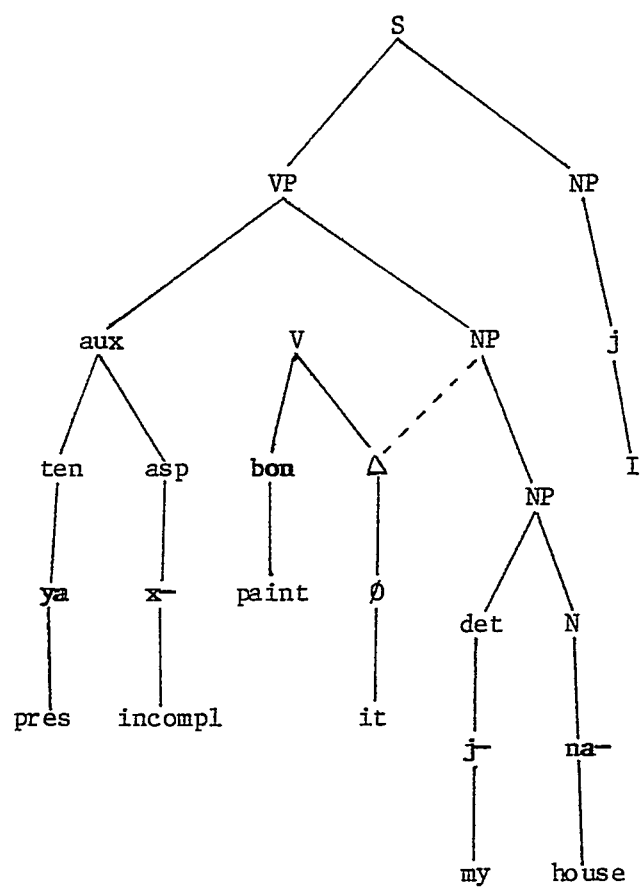
Several observations suggest themselves. First of all, looking at sentence 25, we see that the 'tense marker,' YAC, is now realized as *yac* which is its putative underlying form. Secondly, we note the presence of a suffix which is labeled as durative. Thirdly, we note that this durative suffix does not occur in all cases. Compare sentences 25 with 26 and 27 with 28. Fourthly, we note that in some cases, the initial particle YAC is inflected with a subject marker. In such cases, the lexical verb is preceded by a preposition and is without the durative marker, *-bel*. Furthermore, the lexical verb now has a third person ergative marker prefixed to it.

Generalizing, we observe that there are basically two ways to express the durative aspect (for transitive verbs). For convenience I will refer to these as the anti-transitive and the semi-transitive forms of the durative. The semi-transitive form retains the lexical verb as the matrix verb. However, this lexical verb has both verbal and nominal morphological characteristics. This feature will be further explored below as we consider this form in greater detail. The anti-transitive (possibly related to the anti-passive described by relational grammarians) is distinguished by two key features: (1) The matrix verb is an intransitive construction utilizing the particle *yac* and inflecting it with absolutive term markers. (2) The lexical verb form has been reduced to an adjectival participle located in a prepositional phrase.

One way to compare these sentences is to look at tree diagrams illustrating something of their structural organization. (Note: The use of tree diagrams here is intended primarily for heuristic purposes. It does not represent an endorsement of T-G, nor does it imply an acceptance of the resultant structural relationships suggested in the tree.)

The simple active indicative:

31. Ya j-bon- $\emptyset$  j-na.  
 YAC EL-paint-A3 my-house  
 I paint my house.



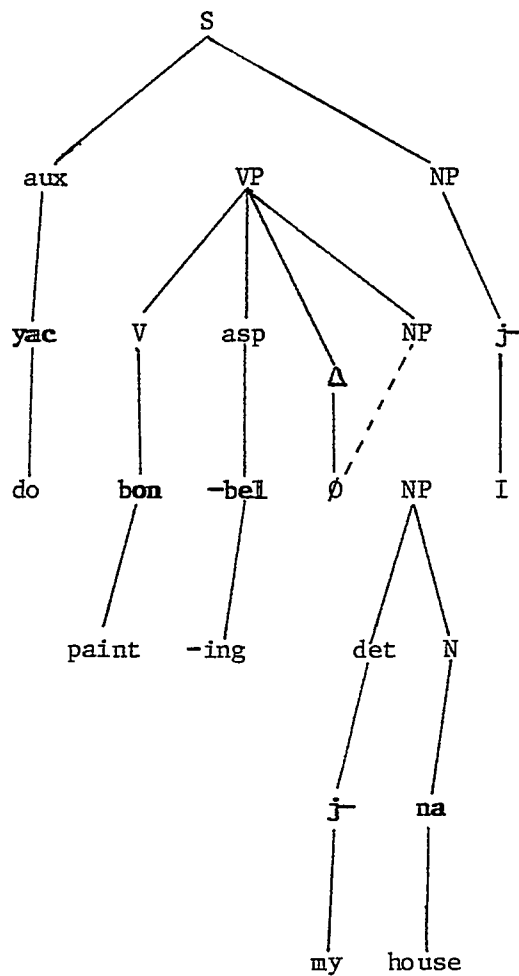
The semi-transitive:

32. Yac<sup>1</sup> j-bon-bel- $\emptyset$  j-na.

YAC El-paint-dur-A3 my-house

I am painting my house.

Literally: I'm doing the painting of my house.





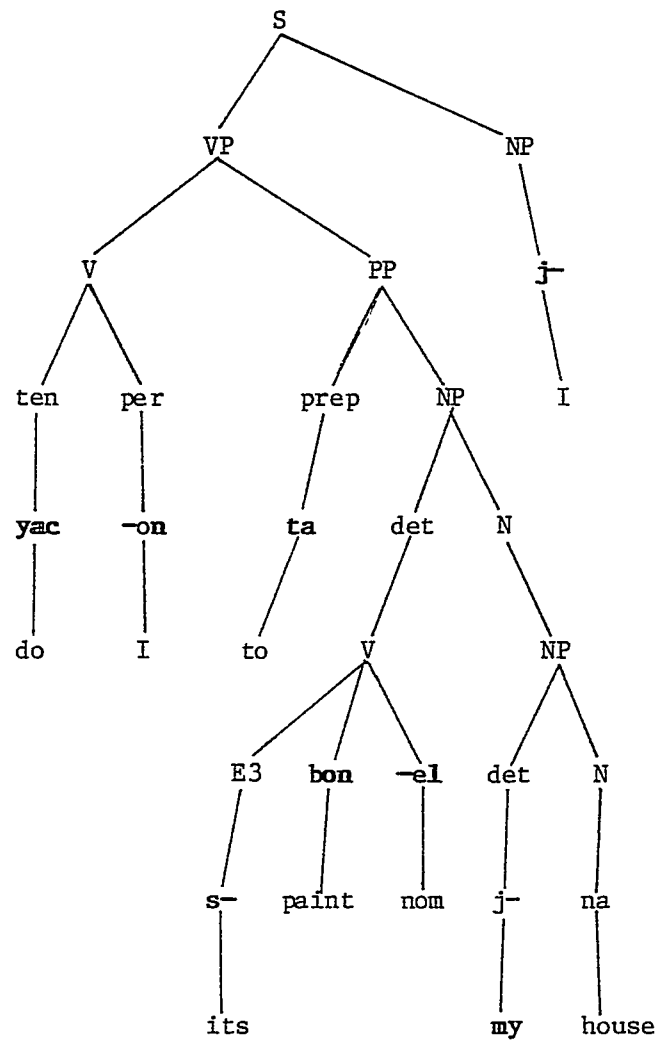
The anti-transitive:

26. **Yac-on ta s-bon-el j-na.**

YAC-A1 to E3-paint-nom my-house

I am painting my house.

(Literally: I am house-painting.)



In comparing the three trees, it is instructive to note a paired shift of constituents and functions. In the indicative the particle YAC is a simple auxiliary-like particle carrying only the functions identified in the last chapter. In the semi-transitive example, YAC is manifested in its full form **YAC** rather than the **Ya** we would expect according to the analysis in the last chapter. In the anti-transitive example, we find that this particle is now inflected with a person marker and is functioning as the matrix verb in the sentence. This shift of function is reflected in the three trees. In the first tree, YAC is treated as a part of the auxiliary which is dominated by the VP. In the semi-transitive sentence, YAC manifests a node *aux* which is dominated by S and is parallel to rather than being dominated by the VP. In the anti-transitive sentence YAC is the matrix verb in the VP.

This shift in the function of the particle YAC is accompanied by a shift in the opposite direction on the part of the lexical verb. In the indicative sentence the lexical verb **bon** is functioning normally as the matrix verb of the construction. However, in the semi-transitive constructions, we find that the lexical verb has taken on the affix **-bel**. This gives participle-like qualities to the verb although we find that it is still inflected as the matrix verb of the construction. This situation has changed, however, in the anti-transitive construction. Now the lexical verb has become a full-fledged participle acting as an adjective to modify house.

The significance of this shift is uncertain. The most plausible explanation would be a putative shift from activeness to stateness. According to this hypothesis, the anti-transitive represents a means of expressing a verbal notion as an attribute rather than as an activity. This would accord

with the attributive-like construction of the anti-transitive. Compare it with a typical attributive construction.

32. **Winic-on**

man-A1

I am a man.

33. **Muc<sup>u</sup>l-at.**

big-A2

You are big.

The second major feature of interest in the durative construction is the suffix **-bel** which appears in the semi-transitive form of the durative aspect. The major question regarding this suffix is that of how it participates in the marking of durative aspect. Obviously it isn't criterial in that there are durative constructions which aren't marked by the presence of **-bel**.

To help us answer this question we need to examine some additional evidence. Look at the following examples:

34. **Bin c<sup>o</sup>p<sup>i</sup>ll te yac aw-all-be-bel- $\emptyset$  a-ba-ic ta beel?**  
 what word-gen the YAC E2-say-BE-dur-A3 E2-self-A2pl to walk  
 What are you saying to each other (as you travel along)?

35. **Ja<sup>u</sup>- $\emptyset$  yac a-le-bel-on-ic yu<sup>u</sup>m te la**  
 pro-A3 YAC E2-look for-dur-A1-E2pl for the past  
 You are looking for me because you ate the

**a-we<sup>u</sup>- $\emptyset$ -ic te waj.**

E2-eat-A3-E2pl the tortillas

tortillas (that I provided for you).

36. Yac-al-on ta beel ta muc'-ul ja'.  
 YAC-gen-AI to walk to big-gen water  
 I am going to the river.

37. Yac be-bel-on ta muc'-ul ja'.  
 YAC trail-dur-AI to big-gen water  
 I am going to the river.

Sentence 37 has a quite specialized meaning. It emphasizes the durational, sequential, repetitive nature of the actual activity in which I (the speaker and actor) am involved. It implies something unusual or different about the activity in view. It suggests greater activity and intensity. By contrast, sentence 36, which is the predominant form, expresses present involvement in reaching a goal. It does not imply any special intensity or commitment. In this case, the goal is reaching the river and I, the speaker and actor, am presently on my way there. The fact that sentence 37 does not commonly occur is not surprising in that the intransitive verb by its very nature communicates a sense of duration. Therefore, it would seem redundant to have additional specialized means of subcategorizing the sort of duration in focus.

By comparing sentences 34 and 35 we can further eliminate the possibility that the morpheme *-be1* has something to do with concord between the verb and the terms present in the sentence. In sentence 34 there are two object terms--the message and the person being spoken to. This fact elicits the morpheme *-be* (cf. Chapters Six and Seven for further discussion of this point). The morpheme *-be1* also occurs in this sentence so it must not be concerned with the marking of a term.

The question that remains is that of explaining the significance of the morpheme **-bel** and the existence of a variety of ways of expressing durative aspect.

There does not appear to be a simple, unambiguous answer to this question. In general, it would appear that if the native speaker feels compelled to make some sort of subtle distinctions, he has the means to do so. If there is no need for such refinement of expression, a given speaker is apt to make use of but a single form to express all of the progressives in his narrative (discourse, conversation, address or whatever).

If the native speaker is asked to make a distinction between the forms in terms of usage or appropriateness, most responses tend to be along the scale of verbicity and activity.

38. Ya j-bon-Ø j-na.  
 YAC El-paint-A3 my-house.  
 I paint my house.

This is the active, indicative form. It simply states a fact or an intention in a punctiliar fashion.

39. Yac j-bon-bel-Ø j-na.  
 YAC El-paint-dur-A3 my-house  
 I am painting my house.

The presence of the **-bel** as well as the rest of the syntactic organization of this form implies present, first-hand, physical involvement in the activity of applying paint to a house. It makes the most explicit reference to the internal temporal and physical structuring of the situation.

40. Yac-al-on ta s-bon-el j-na.

YAC-gen-A1 to E3-paint-nom my-house

I am painting my house.

This form of the progressive implies a degree of removal from the activity stated by the lexical verb. It makes reference to one's goal or orientation within a larger time frame or schedule of activities. A person could utter this statement to a friend he met on the trail when that friend inquired as to the nature of his recent activities. An approximate equivalent in English might be this exchange between two friends over the phone who had not talked to each other for some time.

A: "What are you doing these days?"

B: "Right now, I'm in the middle of painting my house."

Person B is not necessarily telling A that he was engaged in the act of applying paint to his house when he was interrupted by the phone call. In fact, he may not have done any painting for a week. What he is saying is that he has begun the job and is actively working on it, but has not yet completed it.

41. Ay-on ta s-bon-el j-na.

is-A1 to E3-paint-nom my-house

I am painting my house.

As might be expected by the presence of a stative verb, this form of the progressive makes a statement about the disposition of one's energies relative to all possibilities. That is, I'm making the assertion that of all of the things that I could be doing or even ought to be doing, what I am doing

is painting my house. To a certain extent a contrast is being drawn between what I am doing versus what anyone else is doing. The least amount of focus is on the nature of the activity described by the lexical verb.

A scale of activity is distinctly observable. As the lexical verb is demoted from its most verb-like status in the indicative to a noun-like status in sentences 40 and 41, the focus of the progressive shifts from activity to state or condition. These forms of the progressive make possible the distinguishing of fine shades of meaning in a given situation.

42. Y-ip-all-on ta s-bon-el j-na.

E3-power-gen-A2 to E3-paint-nom my-house

I am painting my house.

Literally: I am really applying myself to the painting of my house.

As the literal translation suggests, this form of the progressive is used to make a statement of diligent and energetic involvement in the activity referred to by the lexical verb. The attributive verb, *yipalon*, is built up from a root, *-ip*, meaning 'strength, power or energy.'

What, then, can we say of *-bel* and the semantic load or function which it carries? Is it the carrier of a semantic distinction or is it a morphological-syntactic feature which is present but only incidentally related to the semantic shifts involved in the various forms of the progressive. It would seem that we are forced to minimize the semantic function of *-bel* when we note that it occurs in only one form of the progressive. Distinctions in meaning are not confined to the forms in which *-bel* occurs. The other forms vary among themselves.

If ~~-beel~~ is not crucial to the construction of the durative aspect, how are we to account for its origin? The most plausible account would seem to be one involving the merger of two propositional sentences into one. The proposed sentences which are merged are 43 and 44.

43. Yac ta beel.

YAC to walk

It/he is moving along (the trail).

44. Ya j-bon-Ø j-na.

YAC El-paint-A3 my-house

I paint my house.

In the merger, Sentence A is superimposed on B giving C, which is ultimately simplified to yield D.

A. Yac ta beel.

Superimposition

B. Ya jbon jna.

Resultant Form

C. \*Yac ta jbon beel jna.

Simplification

D. Yac jbonbel<sup>2</sup> jna.

What support do we have for this analysis? (1) The meaning of **beel** in A supplies a component of meaning very similar to the special form of the durative being analyzed. (2) This juxtaposition of verbal components fits a well-established pattern in the language involving both direction and compounding.



## 4.3.1.3.2. Durative Aspect in the Past Tense.

The durative aspect can occur in past tense constructions. In such cases the durative is indicated by the morpheme **-bel**. The number of alternatives which exist for expressing durative aspect in the non-past tense do not appear to exist in the past tense. The following examples are of past tense usages of durative aspect:

45. **Tal-em-∅ y-ac'-bel s-ba-ic ta lecubtesel.**  
 come-perf-A3 E3-give-dur his-self-pl to healing  
 Having come they were giving themselves to healing.  
 More idiomatically: They had come and were being healed.
46. **Y-oxeb-all-ix jabil s-jajch-el j-le-be-bel-∅.**  
 it-three-nom-now year it-begin-nom E1-look for-BE-dur-A3  
 Beginning three years ago, I have been looking
- sit a ja'-∅ higuera-te' ini, pero ma'-y-uc**  
 fruit ana pro-A3 fig-tree this but neg-is-subj  
 for fruit from the fig tree, but it has never
- ban y-ac'-∅ sit.**  
 where E3-give-A3 fruit  
 given any fruit.
47. **La s-lajin-∅-ix spisil s-taquin yu'um y-ac'-bel-∅**  
 past E3-use up-A3-now all her-money because E3-give-dur-A3  
 She had used up all of her money because
- s-ba ta poxtayel.**  
 her-self to medical treatment  
 she was getting medical treatment.

Looking at these sentences, some very interesting questions arise. First, we note that in only one case do we have a clear instance of durative functioning as the matrix verb in an independent clause (sentence 46). We might, also, be able to make this claim for sentence 47, but it is a more ambiguous example. Sentence 45 has the durative form in a dependent clause which is attached to an independent clause. Sentence 45 could also be construed as a coordinated construction.

Secondly, we note that there is no formulaic construction accompanying the *-be1* forms which we could identify easily as a tense marker. Specifically, we have no form using the particle *1a* which normally accompanies past tense transitive verbs. On the other hand, it does not appear to be the case that the *-be1* form can stand alone without any temporal or adverbial constituent accompanying it. What can we conclude from these facts?

One major fact seems to stand out in these examples. The durative appears to have a special need for orientation or anchoring to an action or point in time. In particular, a past form of the durative resists occurring without some expression of time of action to which it can refer. It appears unacceptable to say in Tzeltal as we would say in English:

- a. He was fighting.
- b. He was looking for a stick.

A little reflection would lead one to argue that a very similar condition holds for English as well. It could be argued that there was something in the context which supplied an orientation for these durative constructions. In reality, we might know from context that statement 'a' was

made in response to a question such as, "What was Johnny doing in the alley?" Sentence 'b' could have been uttered in response to the question, "What was Harold doing just before lunch?" This would suggest that such constructions must also have an orientation in English as well as in Tzeltal. Perhaps it is a general characteristic of language. In the case of Tzeltal, it would appear that there is a formal constraint which requires that every sentence have an explicit reference point toward which the durative construction, whether dependent or independent, can be oriented.

In the non-past tense, this requirement is met implicitly because of the presentness of such a construction. The action must be going on (in some sense) or the durative would not be used.

#### 4.3.2. Comparator Aspects.

Comparator aspects are those which compare or relate one state of affairs with another state of affairs. While the simple aspects dealt primarily with the nature of an action itself, comparator aspects have to do with different states which come into being as a result of the action involved. These states are linked, not only by action, but by time.

##### 4.3.2.1. Perfect Aspect.

Perfect aspect, as defined for Tzeltal, refers to a state which exists as a result of some past action. The difference between the completive aspect and the perfect aspect is that the completive says nothing more than that an action has terminated. Whenever a person wishes to refer to the state which results from a past action, he must use the perfect aspect. Conceptually, perfect aspect can be represented as in Figure 4.1.

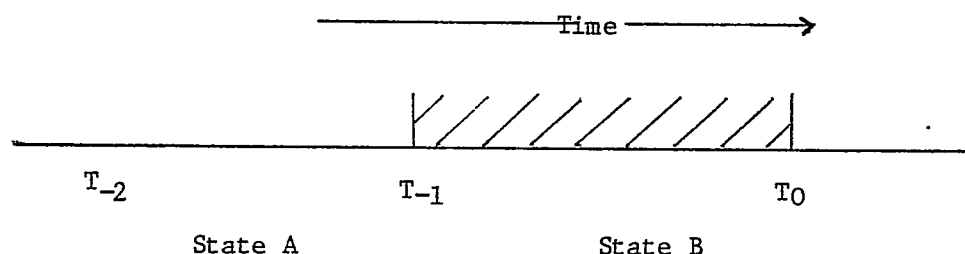


Figure 4.1. Perfect aspect is used to refer to the state (State B) which exists as a result of the occurrence of a focal event at point  $T_{-1}$ .

Perfect aspect is indicated in Tzeltal by two sets of affixes which are suffixed to the matrix verb. These are  $-oj$  and  $-ej$  for transitive verbs and  $-em$  and  $-en$  for intransitive verbs. The rules for choosing the appropriate affix are quite straightforward. For transitive verbs  $-ej$  is used when the preceding number of syllables (not counting subject markers) is more than one. This would include both multi-syllable stems and single syllable stems plus  $-bey$ . Elsewhere, that is, with single-syllable stems,  $-oj$  is the appropriate form of perfect aspect. Compare sentences 48, 49 and 50.

48.  $Qu-ill-~~o~~j-\emptyset-tic$   $wacax$ .  
 E1-see-perf-A3-E1pl cow  
 We have seen the cow.
49.  $Qu-ill-bey-ej-\emptyset$   $querem$ .  
 E1-see-BE-perf-A3  
 I have seen the boy.
50.  $S-coltay-ej-\emptyset$   $querem$ .  
 E3-free-perf-A3 boy  
 He has freed the boy.

The location of the perfect aspect marker in transitive verbs is most interesting in relationship to the affixes of concord. By comparing sentences 49 and 50 we see that the perfect need not be attached directly to the verb stem. From sentence 48 we observe that it is not necessarily the final affix on the verb. Look at sentence 51.

51. **Como jich y-al-bey-ej-~~o~~-otic ta s-carta**  
 for this E3-say-BE-perf-A3-Alpl in his-letter  
 For this is what the president has told us

**te presidente.**  
 the president  
 in his letter.

In this example we note that the perfect affix occurs between the -BE and the absolutive affixes of cross-reference. This would tend to suggest that the -BE has a closer tie to the verb stem than do the absolutive term markers. The significance of this is discussed in Chapters Six and Seven.

The choice of affixes for the intransitive perfect, ~~-em~~ or ~~-en~~ is determined by a phonological dissimilation rule as stated in Rule 4.1.

Rule 4.1.

<del>-em</del>	<del>-en</del>	/ verb stem final consonant
		+ bilab
+ bilab	+ nasal	
+ nasal	+ apical	

The standard form is ~~-em~~ with the alternate form, ~~-en~~ occurring following stems which end with a bilabial consonant /b, p, p', or m/. A few examples are given for illustration.

## - bilabial

tall	'come'	tales	'has come'
ba-	'go'	baem	'has gone'
taq'uij	'dry'	taq'uijem	'has dried'
oc'-	'cry'	oq'-uam	'has cried'
sujt	'return'	sujtem	'has returned'
och	'enter'	ochem	'has entered'

## + bilabial

cham	'to die'	chamen	'has died'
chojip	'to cease'	chojpen	'has ceased'
lub	'to tire'	luben	'has tired'
muc'ub	'to become larger'	muc'ubem	'has become large'

## 4.3.2.2. Transitional Aspect.

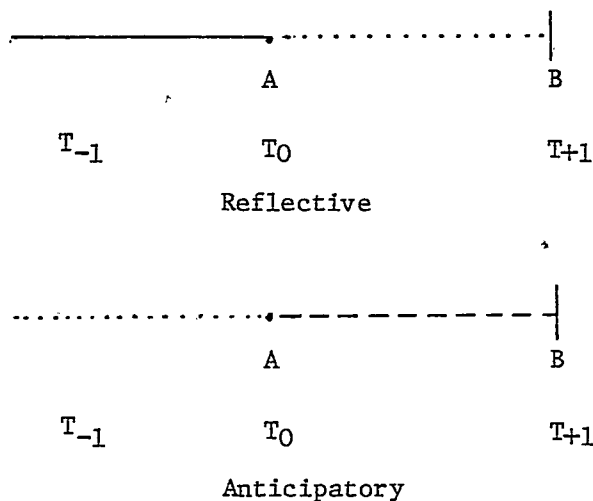
Slocum (n.d.) observed that the particles, **-ix** and **-to** were complementary in that they never both occurred in the same sentence. A functional analysis indicates that there is, indeed, a very good reason for this complementarity. Conceptually, the two particles might be described as the opposite sides of the same coin. The morpheme **-ix** is a marker of the fact that a transition has been made from one state to another state at some definite point in time. In contrast, the particle **-to** locates an event or a thing in a state or condition at a temporal or conceptual point previous to and anticipating a contrasting state or condition. Entailed is the belief or the expectation that the contrasting state or condition will come.

The key feature of these two morphemes is that they strongly imply a transition from one state to another state at a specified point in time. One

marker, **-ix**, implies that this transition has already been made. The other marker, **-to**, implies that this transition has not yet been accomplished. In this sense, these particles have certain tense-like properties as well as aspectual properties. We will consider these in turn.

#### 4.3.2.2.1. Pre-Transitional Aspect.

The marker **-to** can be seen as an indication of pre-transition aspect. Functionally there appears to be at least two usages of **-to**. I will label these 'reflective' and 'anticipatory.' These usages can be represented schematically as follows:



In the reflective usage, the speaker means to communicate that some state or condition which began at some indefinite point in the past is still true at time zero. Entailed according to the general definition of **-to** is the idea that at some future point,  $T_{+1}$ , the pertinent condition will change.

In the anticipatory usage, the speaker is focusing on  $T_{+1}$  and asserting that some state or event will come to be at that point. Note that the common

element--a future change--is present in both of these conditions. Furthermore, in the anticipatory usage, the speaker is not restricted to real time in his use of **-to**. An historical present may be used in which the speaker uses **-to** to specify that some future event or condition will come to be that is not the case relative to the speaker's 'discourse time frame.'

#### Anticipatory Usages.

Look at the following examples:

52. Ya to s-pas-~~o~~ s-na.

YAC yet E3-make-A3 his-house

He has yet to build his house.

53. Ma<sup>r</sup> to ay-uc y-a<sup>r</sup>iyel, hermanos.

neg yet is-subj E3-experience brethren

We haven't had that experience yet, brethren.

54. La to s-~~pacjc~~<sup>r</sup>an s-ba xan a.

past yet E3-humble his-self more ana

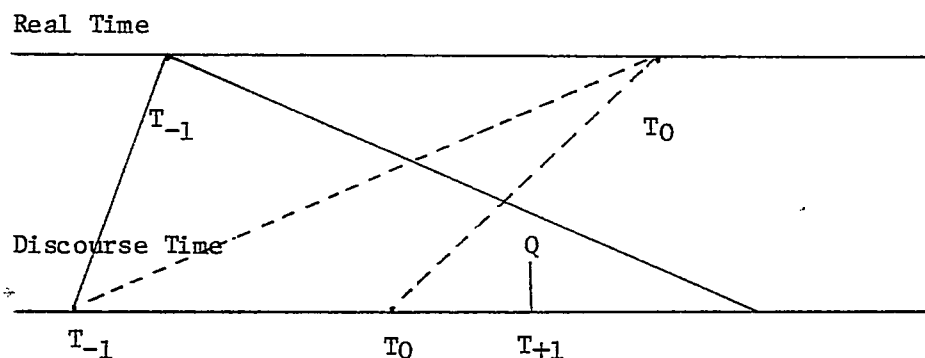
He was yet to humble himself even further.

In sentence 52, speaker time and real time are not distinguished. In this case, the use of **-to** locates a presumed event (building a house) in future time. Note particularly the entailed assumption that he/someone will, in fact, build a house. In the case of sentence 53, some special experience is described as not yet having been experienced. The definite implication is that this state of affairs will change at some further point.

Sentence 54 is a good example of the usage of **-to** in past time. The speaker is uttering a statement about an event which has, in fact, already



taken place, but he is referring to this event as though he has gone back in time to a point which precedes the specified event.



The speaker is speaking at  $T_0$  in real time and "locating" himself at  $T_0$  in discourse time. He uses *-to* because event Q takes place at  $T_{+1}$  in discourse time. The whole time frame in discourse time, however, took place at  $T_{-1}$  in real time. Therefore, the use of the tense marker *la* is called for.

#### The Reflective Usages.

A reflective usage of *-to* indicates that some state or condition which began at some indefinite point in the past is still true at Time zero. Implied is the belief that this will change at some point in the future. Consider the following examples:

55. *Ay-Ø to ajch'al ta be.*  
 is-A3 yet mud on trail  
 There is still mud on the trail.
56. *Pues, tut to te queren.*  
 well little yet the boy  
 Hmm, the boy is still small.

57. Li' to ya j-chic-~~o~~-tic te ja'mal  
 here yet YAC El-burn-A3-Elpl the jungle  
 We still burn the jungle here.

(In contrast to some other place where they no longer burn the jungle.)

In sentence 55, the speaker is indicating that the trail is still muddy, but assumes or implies that this will change at some future point. The situation is somewhat different in sentence 57. Here the speaker asserts that a past custom (burning the jungle) continues to be practiced. Instead of pointing to a time when the practice will cease as far as the speaker is concerned, he refers to another locale where it is known that burning used to be practiced but is not any longer.

In a somewhat philosophical vein, we might propose that the usage of **-to** in Tzeltal reflects the existence of a cognitive awareness of a natural dialectic. This natural dialectic is of the general form that all conditions which are non-stable tend to become stable. The point at which they become stable is the transition point always implied linguistically by the usage of **-to**.

#### 4.3.2.2.2. Post-Transitional Aspect.

The suffix, **-ix**, has frequently been analyzed as a durative aspect marker. Since it also has a certain sense of perfectivity, it has also been characterized as a marker of completive aspect. Each of these characterizations approximates the significance of this morpheme but does not identify its most crucial component. The most basic function of **-ix** is that of signifying that a transition has been made from one state to another state. The fact that the transition is an accomplished fact does not mean that **-ix**

necessarily involves past tense. I shall show why this is the case when we look at some examples.

58. Ya ~~x-we'~~-on-ix.  
 YAC incompl-eat-A1-now  
 I'm eating now.
59. Ya ~~x-we'~~-on.  
 YAC incompl-eat-A1  
 I eat/I will eat.
60. La ~~j-man-Ø~~-ix.  
 past E1-buy-A3-now  
 I've bought it now/already.
61. La ~~j-man-Ø~~.  
 past E1-buy-A3  
 I bought it.
62. ~~Tal-en-Ø~~-ix.  
 come-perf-A3-now  
 He has now come.
63. ~~Tal-en-Ø~~.  
 come-perf-A3  
 He has come.
64. ~~Lub-en~~-on-ix.  
 tire-perf-A1-now  
 I'm tired now.
65. Muq'u-ix te ~~querem~~.  
 big-now the boy  
 The boy is big now.

The affix, **-ix**, when translated as 'now', certainly conveys a sense of perfectivity. This perfectivity derives from the fact that at some past point there has been an entry into a state which contrasts diametrically with an earlier state. The significance of **-ix** can be represented in Figure 4.2.

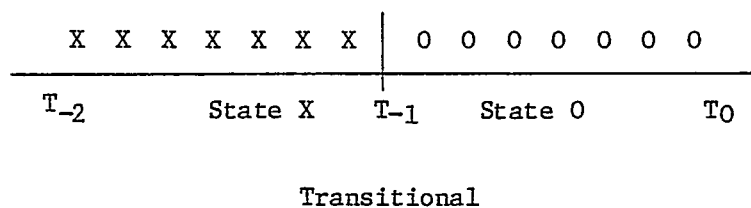


Figure 4.2. A schematic representation of the significance of **-ix**.

Using example 65, State X refers to the time when the boy was small. At some point  $T_{-1}$  (which need not be a punctiliar location in time) the boy became big. The use of **-ix** indicates that the boy is now in State 0, the state of bigness.

#### 4.3.2.2.3. Transitional Aspect.

The aspects which have been discussed to this point in the context of transitions have been unilateral. That is, they look forward to a point of transition or back to it, but don't specifically refer to the event of the transition itself. In this section, we will discuss this feature of the transitional aspect.

In Tzeltal, this aspect is represented by the occurrence of the word **c'oyem**. **C'oyem** is the perfective form of a verb which means 'to arrive' in those contexts in which it is the matrix verb. Observe the following examples:

70. Ya me s-xat-ex c'oy-em, x-chi-Ø.

YAC emp E3-shred-A2pl become-perf incompl-say-A3

He will devastate you, he said.

(Literally: When he gets finished with you, you will be completely shattered and devastated.)

71. Jich yu'um te Eba, la s-we'-Ø, y tey la

Therefore the Eve past E3-eat-A3 and there past

Therefore, Eve went ahead and ate (the fruit),

s-ta-Ø s-wocol c'oy-em.

E3-meet-A3 her-trouble become-perf

and as a result, she was given a punishment that lasted for the rest of her life.

72. Pero ac'-a c-u'umin-Ø-tic c'oy-em.

but give-Eimp E1-possess-A3-E1pl become-perf

But we must take permanent possession of it.

In each of these sentences, the presence of the aspect indicated by c'oyem indicates that a definite and usually permanent transition has been made from one state to another. Perhaps the closest equivalent in English is our usage of the word 'become.' The word 'become' implies that one enters a particular state and becomes characterized by whatever it is that makes up that state. If we say of a person, "He became a criminal," we indicate that he has entered a certain state. Furthermore, there is a certain permanence or irreversibility about this transition. The word c'oyem expresses a very similar idea.

Notice that in each of the examples given, this idea of permanence is an important feature of the meaning. This is reflected in the translation of

each sentence. It is interesting that Tzeltal has a much more elegant and parsimonious way of expressing this concept than does English.

#### 4.3.3. Augmented Aspect.

I am using the term augmented aspect to refer to a type of construction in which the speaker can use a verb root of a certain type to specify certain aspectual qualities of the action in focus. The set of verb roots which can function in this way is quite limited. The most commonly occurring roots which can indicate aspect are:

jajch	'to get up,' 'to start'
och	'to enter'
laj	'to end,' 'to cease'
ba	'to go'

The following examples will illustrate the aspectual qualities of each of these roots when it is used to indicate aspect.

73.  $\emptyset$ -Jajch- $\emptyset$  s-chol- $\emptyset$  te s-c'op.  
 compl-begin-A3 E3-preach-A3 the his-message  
 He began to preach his message.
74. Ya x-jajch-at ta animal ta orita.  
 YAC incompl-begin-A2 to run to immediately  
 You will begin making great progress right away.
75.  $\emptyset$ -Och- $\emptyset$  ta s-pas-el te s-na.  
 compl-enter-A3 to E3-make-gen the his-house  
 He began to build his house.

76. Ma' me x-och-otic ta pensar, hermanos,.  
 neg emph incompl-enter-Alpl to think brethren  
 Don't begin to think, brethren,

te jo'-on, Ø-ju'-ix c-u'um.  
 the pro-Al compl-able-now my-pro  
 that, "As for me, I can do it by myself now."

77. Ya x-ba loc'-on bael ta yan lado.  
 YAC incompl-go depart-Al go to other side  
 I am going to take off for other parts (right away).

78. Ya x-ba j-mil-at.  
 YAC incompl-go El-kill-A2  
 I'm going to kill you (shortly).

79. Ø-Laj-Ø ta s-pas-el te s-na.  
 compl-finish-A3 to El-make-gen the his-house  
 His house is finished.

This system of using verb roots to express a specialized aspect is not totally regular. In some cases (sentences 73-76) the auxiliary verb actually appears to be the matrix verb in the sentence. It is, itself, inflected for both person and aspect. On the other hand, the forms used in sentences 77-78 do not appear to be able to accept this inflectional load.

The aspectual functions borne by each of these auxiliary verbs has to do with the beginning or the ending of the action. Since there is a certain volitional element present in "beginning" an action, it is, perhaps, not surprising that these verbs have some of the properties of a matrix verb.

## 4.3.4. Derivational Aspect.

The final type of aspect to be considered in this study is that indicated by derived forms of a given verb. The type of aspect which is handled in this way is apparently limited to either repeated or habitual activity. The following examples will illustrate this fact. The derived forms illustrated below are the most commonly used forms. These examples constitute only a partial set of the actually occurring forms in the language.

-awan A stem formative added to a transitive verb to indicate characteristic or habitual behavior.

80. Ya s-ti'-on te ts'i'.

YAC E3-bite-A1 the dog

The dog will bite me.

81. Ya x-ti'-awan-Ø te ts'i'.

YAC incompl-bite-awan-Ø the dog

The dog bites. The dog is a biter.

82. Ya s-mil-Ø wacax.

YAC E3-kill-A3 cow

He will kill the cow.

83. Ya x-mil-awan-Ø.

YAC incompl-kill-awan-A3

He is a murderer.

-ilan A stem formative which means 'to do repeatedly.'

84. Ya j-lup-Ø chenec<sup>n</sup> sœc cuchara.

YAC E1-dip-A3 beans with spoon

I ladle beans with a spoon.



85. Ya j-lup-ilan-Ø loq'-uel te ja' sɔc lata.  
 YAC El-dip-ilan-A3 the water with can  
 I dip out the water with a can (referring to the task of removing  
 the water from a swamped canoe with a tin can).
86. Ya j-pol-Ø te j-tep yu'um  
 YAC El-undo-A3 the my-shoes because  
 I will take off my shoes because
- ya x-c'ax-on ta ja'.  
 YAC incompl-cross-A1 over water  
 I have to cross the river.
87. Ya j-pol-ilan-Ø te alewac ta jujum c'ajc'al.  
 YAC El-undo-ilan-A3 the hammock for each day  
 I take down my hammock every day.

-omaj A stem formative which indicates customary activity.

88. La s-ts'is-b-on j-wex te qu-inam.  
 past E3-sew-BE-A1 my-pants the my-wife  
 My wife sewed up my pants for me.
89. Ay-Ø ta ts'is-omaj-el te qu-inam.  
 is-A3 at sew-omaj-nom the my-wife  
 My wife is sewing (as she normally does).

In each of these examples, when the stem formative is added to a verb root, it converts that root into a verb which implies repeated or habitual activity. In such cases, the aspect is actually a functional part of the verb stem itself.

#### 4.4. Summary.

Four different aspectual systems have been identified and described for Tzeltal. Each of these systems has a distinctive function and a distinctive morpho-syntactic manifestation. The fact that there are different morpho-syntactic means of expressing each of these aspectual systems means that more than one aspect can be, and frequently is, expressed in a given construction. The flexibility of this system and the compatibility of its components allows the Tzeltal speaker to express, easily and precisely, a rich and varied range of aspectual notions.

To return for a moment to the central argument of this thesis, it is my contention that the existence of several different morpho-syntactic systems for expressing aspect would greatly complicate an analysis pursued within a framework such as that of generative grammar. Furthermore, much of the richness and the variety of this system would be lost in such an analysis.

By pursuing an analysis within a cognitive framework, we have been able to account for much of the morpho-syntactic diversity by appealing to the existence of several systems of aspect. Not only does this allow us to construct a complete picture of the Tzeltal aspectual system, but it allows us to gain a certain amount of insight into the total structure of the language vis-a-vis the four constituent informational structures. More of the overall picture will be revealed as we pursue the analysis of other features of the language in the next several chapters.

## FOOTNOTES

<sup>1</sup>My data consistently report this form in durative constructions like the semi-transitive. Other speakers of the language (non-native speakers) have told me that they were not sure whether the form of YAC in such constructions was **Ya** or **Yac**. As I have argued in the body of the chapter, I believe that the form is properly **Yac** and that the reason for this is that it has taken on verbal qualities and therefore, is functioning in a more independent manner than it normally does. For this reason, it occurs here in its full phonological form.

<sup>2</sup>The shortening of the vowel is probably due to the fact that when **beel** became affixed to the verb to indicate durative aspect, it began to function as a single morpheme rather than two morphemes as in A (**be-el**).

## CHAPTER FIVE

### IRREALITY AND THE ANALYSIS OF **-uc**

#### 5.1. Introduction.

One of the characteristic features of the external grammar of a language is the presence of a mechanism for expressing various types of irrealis. Irrealis, as defined earlier, has to do with situations, events and relations which lie outside the domain of "the routine, the normal and the expected." The boundaries of this domain are going to vary from one language to another.

In this chapter I will begin by describing the "normal" domain as a means of defining what constitutes irrealis in Tzeltal. The remainder of the chapter will be devoted to an analysis of characteristic constructions which manifest various types of irrealis. As we shall see in the subsequent discussion, the morpheme **-uc** is the primary marker of a construction expressing irrealis.

#### 5.2. Defining the Domains of Tzeltal Reality and Irrealis.

One way to view the domain of Tzeltal irrealis is by exclusion. That is, we can define the real world and then identify the unreal world as everything outside the real world.

In the case of Tzeltal, the real world can be defined in terms of two dimensions. These two dimensions can be seen as elaborating a "familiar field" in which a person moves in the routine experiences of his life.

Whenever that person is forced to deal with issues outside this familiar field along either of the two defining dimensions, he marks this experience in some way by the use of the morpheme **-uc**.

The two defining dimensions of Tzeltal reality are: (1) hypothetical versus real worlds and (2) normal and/or expected events versus non-normal and/or non-expected events. In the first case, we are talking about events—familiar or unfamiliar—in a hypothetical time frame which is known not to exist. In the other case, we are talking about events which have been or are likely to be experienced in real time but which violate some sort of expectation. These are not mutually exclusive dimensions. It is quite possible that an event could be both a non-expected event and in hypothetical time.

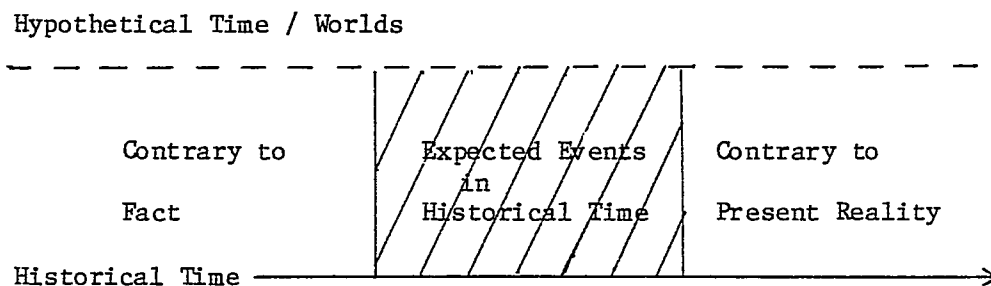


Figure 5.1. A diagram defining the bounds between the real and the non-real in the Tzeltal conceptual world. All those events which are viewed as being outside the hatched area--the world of irreality--are linguistically marked with **-uc**.

In the subsequent analysis of **-uc**, I will be using the term, subjunctive, to refer to those constructions in which **-uc** occurs. It must be emphasized that the constructions so analyzed need not closely approximate the subjunctive constructions of some other specific language. In Tzeltal

the use of **-uc** is highly productive and has a rich diversity of usages. In this sense, the Tzeltal subjunctive qua subjunctive is a broadly defined linguistic phenomenon.

### 5.3. General Remarks.

In Tzeltal, the presence of a subjunctive is manifested by the presence of the suffix **-uc**. However, unlike many languages, Tzeltal may attach this suffix to most word classes rather than restricting its occurrence to verbal constructions. In such constructions, **-uc** functions somewhat like a predicator claiming that something is unusual about the word to which it has been attached. This is true even when **-uc** is attached to a noun. In this chapter, I will be examining the use of this suffix in some detail in order to provide a reasonably complete summary of its grammatical and semantic scope.

### 5.4. Types of Subjunctive.

There does not appear to be clear grammatical evidence for distinguishing between various types of subjunctives. On the other hand, if we were to rely solely upon semantic criteria--perhaps by using binary features--we might identify fifteen or twenty different subjunctives. Such a delineation would probably prove to be somewhat trivial. Therefore, I have chosen to divide the subjunctive into two classes according to the conceptual framework established earlier. The first class of subjunctives will be those having to do primarily with hypothetical time or hypothetical worlds. The second class will consist of those which refer to historical time but deal with events outside the realm of normal expectations.

## 5.4.1. The Subjunctive in Hypothetical Time.

## 5.4.1.1. The Simple Hypothetical Subjunctive.

The simple hypothetical subjunctive is used in those situations in which one wishes to speculate about what 'might have been' in contrast to what was. It would seem reasonable to suppose that there can be both present and future usages of the hypothetical subjunctive, but I lack evidence to support this assumption. My examples all deal with a past tense hypothetical situation.

Examples 1 and 2 are consecutive sentences taken from a single discourse. The speaker is recounting the story of Eve and the serpent in the Garden of Eden. In these examples the speaker is speculating about what might have been the result if the serpent had told the truth rather than lies.

1. Te ~~ja~~mal-uc la y-al-Ø te pucuj-e, teme  
 the open-subj past E3-say-A3 the devil-phr if  
 If the devil had been telling the truth,

(ya)c-a-we'-Ø te sit te te' ini, ya  
 YAC-E2-eat-A3 fruit the tree this YAC  
 he would have said, "If you eat the fruit of this tree,

x-och-at ta castigojel.  
 incompl-enter-A2 into torment  
 you will enter into great torment."

2. Jich ta bit'il ay-on ta j-wocol-e,  
 thus to how is-A1 to E1-trouble-phr  
 "Your troubles will be just like mine,"

x-chi-uc, te pucuj-e.  
 incompl-say-subj the devil-phr  
 he would have said.

In these examples the speaker is doing nothing more than speculating about what "might have been." Because the speaker is referring to a hypothetical version of the story, he uses the subjunctive to indicate this fact.

Note that in sentence 1 the suffix **-uc** is attached to an adverb which means "truthfully." Its usage there indicates that it is this particular feature of the event which is deviant. All other features of the construction are considered correct. That is, the main participant is correctly identified and it is true that he said something. The incorrect part is that he spoke falsely rather than truthfully.

In the second example, **-uc** is suffixed to a quotative verb. This means that that which is reported in the quotation is not what he said.

There are no explicit structural clues that indicate that this is a hypothetical rather than some other type of subjunctive. One is dependent upon the context for this type of information.

#### 5.4.1.2. The Conditional Subjunctive.

The conditional subjunctive is used in Tzeltal in those situations in which one has both a classical if-then condition and an element of potentiality or hypotheticality. The element of hypotheticality is criterial in that there are conditionals which do not require the subjunctive. Specifying a precise rule which distinguishes between those conditionals which require the subjunctive and those which do not is not easy. In general it appears



that the non-subjunctive conditional is used in those situations in which it is quite likely, reasonable and/or necessary that someone will be exercising the if-option thus encountering the consequences. In contrast, the subjunctive conditional is used when it is unlikely, unreasonable and/or unnecessary that one would exercise the if-option. This is where the hypothetical feature comes in.

In the examples that follow, the first two are conditions which do not require the subjunctive. The second two examples are conditional subjunctives.

3. ~~Teme~~ ya la s-jajch- $\emptyset$  c'op c-u'um-tic,  
 if YAC past E3-begin-A3 talk EL-poss pro-Elpl  
 If we begin to criticize and gossip about one another,

ja'- $\emptyset$  te bin ut'il tsaltamba  $\emptyset$ -c'oy-~~em~~- $\emptyset$ .  
 pro-A3 the how conflict compl-arrive-per-A3  
 then fighting and arguing will follow.

4. ~~Teme~~ ma' la j-na'- $\emptyset$ -tic, hermanos,  
 if neg past EL-know-A3-Elpl brethren  
 If we haven't learned anything (from this), brethren,

ta mero melel obol j-ba-tic ta patil.  
 to very truth poor EL-self-Elpl to later  
 then we will certainly suffer for it later.

5. Yac-uc j-pits'- $\emptyset$  tomut ta j-c'ab,  
 YAC-subj EL-squeeze-A3 egg in my-hand  
 If I were to squeeze an egg in my hand,

ya x-top'- $\emptyset$  ta ora.  
 YAC incompl-burst-A3 to hour  
 it would break right away!

6. Manch-uc ya j-poch-Ø te wacax,  
 manchuc YAC E1-to skin-A3 the cow  
 If I were not to skin the cow,

ya j-we'-Ø soc tsotsil.  
 YAC E1-eat-A3 with hair  
 I'd have to eat it with the hide still on it.

In comparing the two conditionals, it is immediately apparent that there is no structural difference other than the presence or absence of the subjunctive affix. The non-subjunctive (sentences 3 and 4) merely inserts an if-conjunction at the beginning of the first of two independent but coordinated clauses to form a conditional sentence.

The non-subjective condition=

if-conjunction + situation clause + consequence clause.

The if-conjunction is the word *teme* which is almost always translated 'if' and which may be used in constructions other than conditionals. Neither the situation clause nor the consequence clause has structural features which identify it as such. Rather, these are semantic or logical labels for these clauses. In another context, either one of these clauses could be used by itself without any structural changes and be perfectly acceptable.

The conditional subjunctive is the most formally structured of the subjunctives. In the positive form, the subjunctive affix is suffixed to the particle *yac* to give *yacuc*. Otherwise, as in the non-subjunctive conditional, there are two independent clauses making up the complete construction. There is no surface structure conjunction joining the two independent clauses.

The negative conditional subjunctive is signaled by the presence of a specialized word **manchuc**.<sup>1</sup> The negative conditional subjunctive may be manifested in at least two different constructions. I've identified these as the standard and the appositional forms of the negative conditional subjunctive. Compare sentences 7 and 8.

7. **Manch-uc** ya j-poch-Ø te **wacax**,  
**manchuc** YAC El-to skin-A3 the cow  
 If I were not to skin the cow,

ya j-we-Ø **soc** **tsotsil**.  
 YAV El-eat-A3 with hair  
 I would have to eat it with the hide still on it.

8. Ya j-poch<sup>r</sup>-Ø te **wacax**. **Manch-uc**  
 YAC El-to skin-A3 the cow **manchuc**  
 I skin the cow. Otherwise,

ya j-we<sup>r</sup>-Ø **soc** **tsotsil**.  
 YAC El-eat-A3 with hair  
 I would have to eat it with the hide still on it.

In sentence 7 we have the classical if-then conditional relationship. The if-condition is stated first with the consequence following in a coordinated independent clause. I'm calling this the standard form of the negative conditional subjunctive. In sentence 8 the two independent clauses of sentence 7 have been disjoined and now form two independent, but related sentences. Furthermore, the negative subjunctive word, **manchuc**, has been moved and is now attached to the second rather than the first sentence. Note also the change in translation. The first sentence now contains no subjunctive

elements. How are these sentences related? I have proposed the following analysis to account for the relationship between these two constructions.

### Standard Negative Conditional Subjunctive

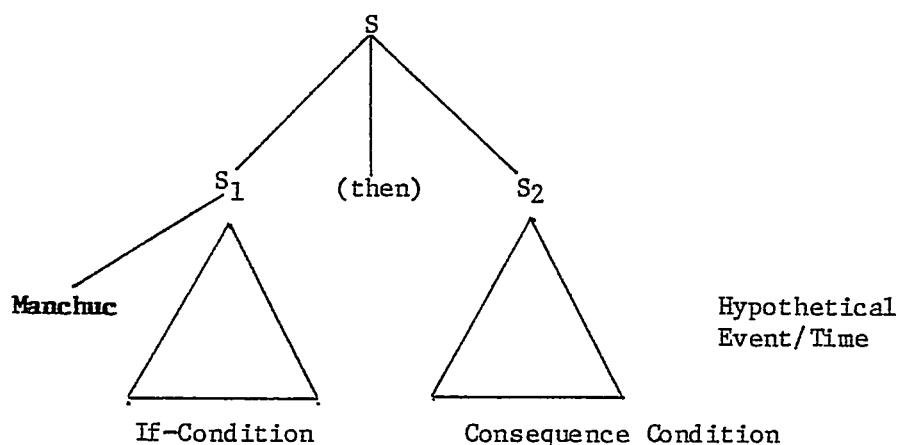


Figure 5.2. A sketch of the general structure of a standard negative conditional subjunctive. A primary feature of this subjunctive is that it is seen as being entirely within the domain of hypothetical or unreal time.

The standard negative conditional subjunctive is made up of two sentences which, apart from the operator **manchuc**, appear to be mutually contradictory. In sentence 7, this sequence would be:

I skin the cow; I eat the beef with the hide still on it.

The major distinguishing feature of this form of the negative subjunctive is that the total construction is located in the realm of the hypothetical.

## The Appositional Negative Conditional Subjunctive

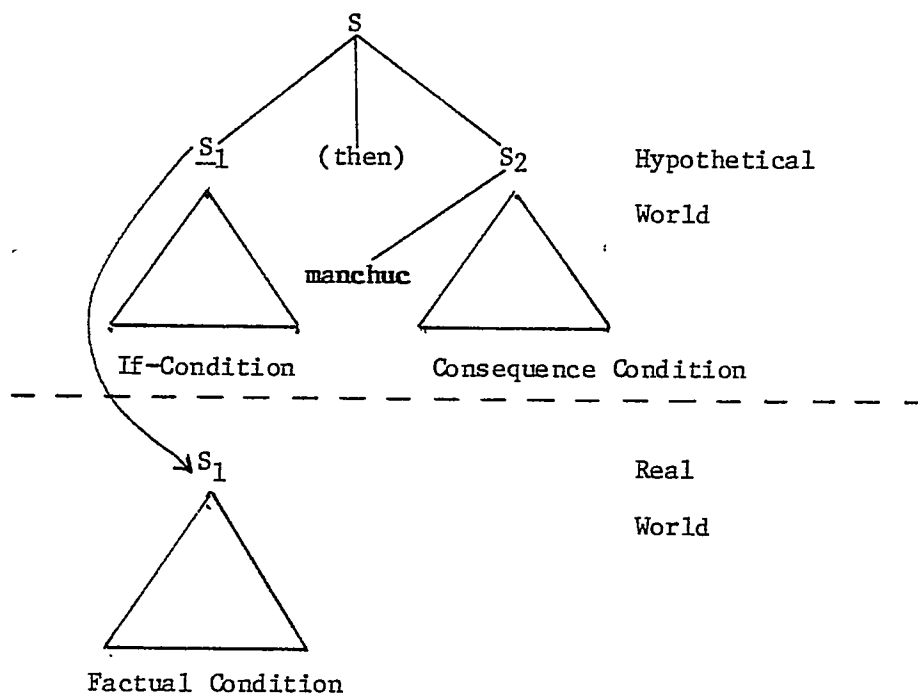


Figure 5.3. The appositional form of the negative conditional subjunctive is distinguished by the fact that the first condition is considered to be located in the real world.

In the appositional form,  $S_1$ , the if-condition, has been promoted into the realm of the real world. As such, it does not have a subjunctive form in it. However, a trace of  $S_1$  in the form of  $\underline{S}_1$  still exists in the basic underlying sentence. The logical operator, **manchuc**, has been moved and is now attached to the  $S_2$ , the consequence condition.

The distinctiveness of the appositional construction is manifested by both phonological and structural information. In the standard form, **manchuc** is accompanied by a high-level intonation and no phonological pause between

it and the subsequent word. In the appositional form, there is a higher stress on the second half of the word and a slight phonological pause between it and the next word in the construction. In the standard form, a high, level intonation is maintained over the entire if-condition following **manchuc**. In the appositional form, the intonation closely approximates that of a simple indicative construction with the same content.

Now we come to the crucial question of specifying the difference between the two constructions. According to our earlier theoretical discussion, a difference of the sort we are looking at here is almost certain to reflect a difference in information structure.

At the most basic level, I would suggest that these two forms of the negative conditional subjunctive exist because it is both possible and desirable to "move into" the hypothetical world at a variety of points. In the standard forms, one places the entire event (both skinning and eating) in the hypothetical world. In the appositional form, the first part of the event is or has become historical fact. It is only a possible course of action in regards to this historical event which can be placed in the hypothetical realm.

It is also quite probable that the two constructions are differentially appropriate to particular discourse settings. An educated guess would be that the entire standard form would be considered as background or fill material in a narrative or descriptive discourse. On the other hand, only the second part of the appositional form would be background material. The first half of the construction would quite likely be a part of the theme line of the discourse.

This explanation receives some support from the role of **manchuc** in the appositional construction and its consequent translation. In this construction, **manchuc** functions almost as a pro-clause. It replaces and incorporates

the information contained in the preceding historical condition. Compare sentences 9 and 10 which give two different translations of the second part of sentence 8 beginning with **manchuc**.

9. Otherwise, I would have to eat it with the hide still on it.
10. If it is not the case that I skin the cow, then I would have to eat it with the hide still on it.

Sentence 10 is an expanded translation conveying in a more complete sense, the meaning of **manchuc** in this construction. This semantic content is all present in **manchuc** in the appositional construction; hence its status as a pro-clause. In this sense **manchuc** manifests the existence of  $S_1$  in the hypothetical world, which has actually been historically realized and is therefore marked by the indicative sentence  $S_1$  which I called the factual condition in Figure 5.3.

#### 5.4.2. The Non-Hypothetical Subjunctive.

The second class of subjunctives in Tzeltal are those which deal with events located in historical time but which lie outside a normative range of expectedness. Within this broad class of subjunctives, I will differentiate a number of sub-types according to a variety of criteria both structural and conceptual.

##### 5.4.2.1. The Desiderative/Hortatory.

The desiderative/hortatory subjunctive (hereinafter d/h subjunctive) expresses a sense of urgency that something be or become the case that is not presently the case. An English expression like, "May you find wealth and happiness," would be translated with this subjunctive. Also, this subjunctive is quite characteristic of a hortatory discourse in which the speaker is

urging people to do something or be something that is not presently the case.

The primary grammatical distinctive of the d/h subjunctive is that the **-uc** suffix is found almost exclusively with adjectives and specialized expressions of desire or supplication. Some constructions either are, or are very close to being imperatives. Usually, however, it is possible to say that when a person is being exhorted to an action rather than to a condition or attribute of character, a specialized imperative is used rather than the subjunctive.

A very commonly occurring feature of the desiderative subjunctive is the exclamation, **jichuc**. **Jich** is an exclamation or response meaning 'yes,' 'that's right,' 'that's it,' etc. **Jichuc** then means something like, 'Yes, I also would like this/that (referring to the subject of the present context) to be the case.' It expresses the desire that a condition which is not presently the case become the case.

The expression, **jichuc**, is also a formulaic term ending a prayer or supplication. It is functionally equivalent to the English word 'Amen' but does not have quite the same semantic content. As the formulaic ending to a prayer or supplication, it has the meaning, "May the/my preceding requests be granted or realized."

11. C'alal nopol ya x-cha"-chan-~~ix~~ te Job-e,  
 when nopol YAC incompl-again-die-A3-now the Job-phr  
 When Job was about ready to die,

"**Jich-uc,**" x-chi-~~ix~~.  
 affirm-subj incompl-say-A3  
 he said, "Amen."

(Literally: "Thank goodness that what is coming is so much better than what has been.")



12. **Ma ba jich-uc (ya)c<sup>2</sup>-aw-a<sup>1</sup>iy-∅-ic, hermanos.**  
 don't affirm-subj YAC-E2-hear-A3-E2pl brethren.  
 Don't let this (falling into bad habits) happen brethren.  
 (Literally: May the previously outlined scenario not become true of you.)

In sentence 11 we see the more formulaic usage of **jichuc**. In this context, Job is anticipating a life after death that is free from all of the sort of suffering and trouble that he had while he was on the earth. The primary thrust of the expression in this context is that of looking forward to what is to come rather than bemoaning the experience on earth.

In sentence 12 we see a more hortatory usage of **jichuc**. In this usage, the speaker presents the listeners with a likely scenario then urges his listeners not to let this scenario become true of them. In this example, **jich** is a demonstrative pronoun referring anaphorically to the content of the preceding context.

The following examples are primarily hortatory with any desiderative content being submerged. As noted earlier, the hortatory subjunctive most commonly attaches the subjunctive affix to adjectives.

13. **Ya la s-c<sup>1</sup>an<sup>1</sup>-∅ te puro lec-uc bin**  
 YAC past E3-want-A3 the pure good-subj what  
 It is desirable that only good

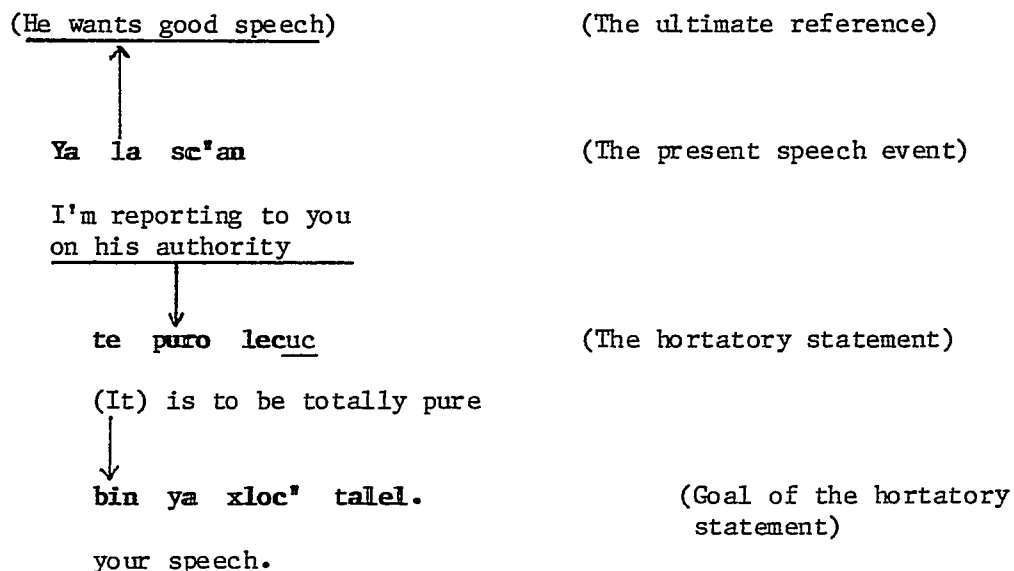
**ya x-loc-∅ tallel.**  
 YAC incompl-leave-A3 come  
 come out of your mouths.

(Literally: I'm telling you that God has said that He wants your speech to be good.)

14. **Ma' ba pajal-uc como Ø-laj-at ta tenel**  
 neg same-subj as(Sp) compl-finish-A2 to press down  
 We are not being the same as Paul if we stop applying ourselves

**sutel ta te' banti te aw-a'tel-e.**  
 lean against tree where the your-work-phr  
 and go sit in the shade at the site of our work.

We will look at sentence 13 as a representative example of the d/h subjunctive. The general structure of this sentence is as follows.



Sentence 13 is a case of reported speech. The subjunctive morpheme is affixed to the predicate adjective in the phrase, '**te puro lecuc.**' In this sentence, the speaker is urging his listeners to speak only well of each other rather than derogatorily. The subjunctive implies that the opposite has been the case, but is not desirable. They are being urged to change.

One of the major structural features of the d/h subjunctive (but not limited to the subjunctive) is the presence of the particle **la**. This particle indicates that the statement or exhortation being made by the present

speaker is actually a report of a similar exhortation made by someone else, usually a person of higher authority. The preceding diagram captures this fact by indicating the presence of a piece of information (the ultimate reference) which has no Tzeltal reflex other than the presence of the particle *la*.

The subjunctive marker *-uc*, is found in the hortatory statement. This is the sentence which specifies the quality that the speaker (both the original speaker and his proxy) is urging upon his listeners. The affixation of the subjunctive particle to *lec*, meaning 'good,' indicates that it is a state or quality of goodness (of speech) to which the speaker is exhorting the listener. The behavior being addressed is stated in the final sentence.

#### 5.4.2.2 The Contrary-to-Fact Subjunctive.

The contrary-to-fact subjunctive is the most common of the subjunctives in Tzeltal in terms of occurrence. There are numerous subtypes which are primarily distinguished by semantic rather than structural characteristics. I will present each type with an example(s) and a brief explanation as to why the subjunctive construction is used in each. It will be noted that there appears to be a considerable amount of overlap between some of the subtypes. In some cases, it even appears that one could have classified a particular example in more than one subclass. This is due in large part to the nature of subjunctivity (or irrealty) in the language. Therefore, for classificatory purposes, I have relied upon what appears to be the most salient function of each example.

In the most general sense, the contrary-to-fact subjunctive has to do with events and conditions that are contrary to experience, belief and expectation. A general sense of irrealty and unexpectedness characterizes those

situations marked by the use of this subjunctive. The subtypes will delineate some of the various forms of this irrealty in greater detail.

#### 5.4.2.2.1. Contrary-to-Fact.

The function of the contrary-to-fact subjunctive is to establish factness by denying the verity of an alternative assumption or conclusion. Initially, this seems similar to negation. However, in simple negation, one is merely denying the truth value of a statement about an event or condition. In the second case--of the contrary-to-fact subjunctive--we are concerned with the problem of correcting false information. Compare sentences 15 and 16 with 17 and 18 respectively.

15. **Ma'** ~~Ø~~-tal-Ø te c-amigo.  
 neg compl-come-A3 the my-friend  
 My friend didn't come.
16. **Ya** bal x-tal-Ø ja'al? **Ma'-uc.**  
 YAC ? incompl-come-A3 rain simple neg  
 Is it going to rain? No.
17. **Ma'** ~~Ø~~-tal-uc-Ø te c-amigo.  
 neg compl-come-subj-A3 the my-friend  
 My friend didn't come. (Contrary to what I, you or someone else expected.)
18. **Ya** x-tal-Ø ja'al. **Ma' jich-uc.**  
 YAC incompl-come-A3 rain neg affirm-subj  
 It is raining (or about to). That is not true.  
 (You are incorrect in believing or assuming that it is about to rain.)

In sentences 15 and 16 the subjunctive is not used because the linguistic task at hand is that of getting or sending information only, hence, the

use of the simple indicative. In sentences 17 and 18 the task is not one of simply getting or transmitting information, but of correcting false information. This is the function of the contrary-to-fact subjunctive.

It will be noted that all of the examples of the contrary-to-fact subjunctive include the negative particle, *ma*<sup>3</sup>. I think there are two possible and perhaps related explanations for this. This explanation(s) leads us to a rather thorny epistemological problem which is beyond the scope of this investigation. Briefly, the problem is this: Given no previous context, does the assertion of the truth of a non-event involve the conveyance of any information? Let me give an example. If I walked up to a stranger and told him that President Carter was coming to see me, he'd probably say, "Wow! Why is he coming to see you?" If I then walked up to another stranger and told him that President Carter was not coming to see me, I'd probably get a strange look and a quizzical, "So what!"

Why is this the case? I'm suggesting that this is because the second example involves 'non-information.' The assertion of a non-event where none was expected does not involve a communication of significant new information. Therefore, there would be no need for a contrary-to-fact subjunctive which did not have a negative particle indicating the presence of a false assumption. The real converse--the assertion of an event where none was expected--might then better be characterized as contrary-to-expectation. And, in fact, this is one of the subtypes of the subjunctive that I will be describing shortly.

Additional examples of the contrary-to-fact subjunctive follow:

19. *Ma*<sup>3</sup> *ba* *s-wolol-uc* *yac* *a-poc-Ø*  
 neg it's-round-subj YAC E2-wash-A3  
 You didn't wash the whole thing

tene bayal y-abacul.

if much it's dirt

if it still has a lot of dirt on it.

20. Ja<sup>o</sup>-~~o~~ ta mero ya x-laj-~~o~~ te pobre Job.

pro-A3 to YAC incompl-finish-A3 the poor

It appeared that Job was almost finished.

Job-e. Pero ma<sup>o</sup> jich-uc, hermanos.

but no affirm-subj brethren

But this wasn't the case, brethren.

21. Osella que ma<sup>o</sup> qu-ermano-tic-uc la

perhaps that not El-brother-Elpl-subj past

Perhaps it wasn't really a brother that

j-pas-~~o~~-tiqu-ix ta lot.

El-do-A3-Elpl-now to lie

we lied to.

In sentence 19 the mistaken assumption is that a thorough job of washing (some object) has been done. In sentence 20 the mistaken conclusion is or would be that Job was completely devastated by what happened to him. This example is semantically quite similar to the contrary-to-expectation subjunctive. In sentence 21, the mistaken assumption is (from the previous context) that a particular person is a fellow brother (believer or worshipper).

In each case, it is clear that the purpose of the subjunctive is to establish factness by contradicting the mistaken assumption and/or conclusions which have been or which might have reasonably been drawn. In sentence 19, the subjunctive affix is suffixed to an adjective; in 20 to a demonstrative pronoun; and in 21 to a noun. In sentence 17, the affix was

attached to a verb. It seems clear that this suffix may be attached to a wide variety of word classes and that the rule which determines its placement must be seen as being sensitive to semantic as well as grammatical information.

#### 5.4.2.2.2. The Contrary-to-Expectation Subjunctive.

The contrary-to-expectation subjunctive is used to relate a factual outcome to a presumed outcome when the factual outcome is at variance with the presumed outcome. In this definition, factual is not to be equated with historical. Rather, it means the result specified in the statement being made. Most statements are about future events when the speaker is stating an opinion or conviction which he realizes flies in the face of conventional wisdom or expectation. Look at the following diagram:

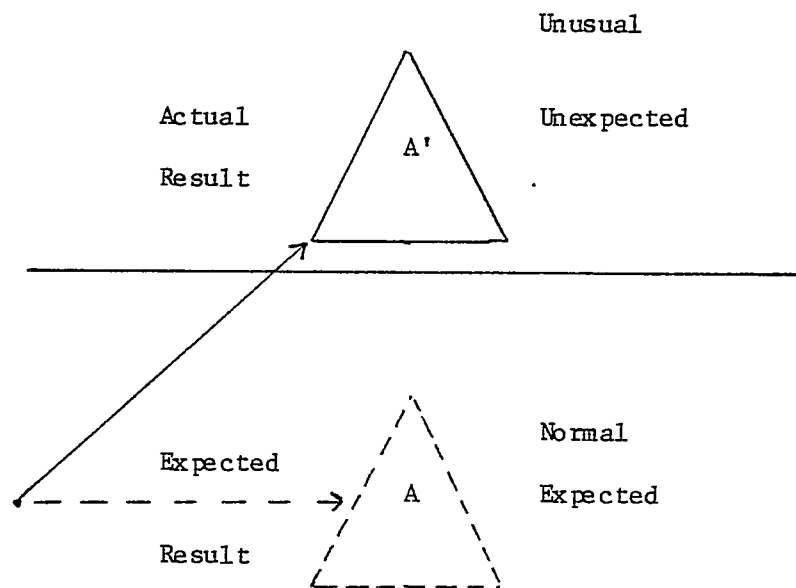


Figure 5.4. A schematic representation of the structure and usage of the contrary-to-expectation subjunctive.

First of all, we note that there are two strata along the vertical dimension of normality. The lower stratum represents those events and relationships which, in the mind of the speaker and in the tradition of a group, are normal, reasonable and expected. The upper stratum represents those events which are unusual, unexpected and unlikely. The speaker of Tzeltal uses the subjunctive to refer to an event which happened or which will happen in the upper stratum when he expected it to happen in the lower stratum. The occurrence of A' rather than A, elicits the subjunctive as an indication of a departure from 'normality.' This subjunctive can be used in any time frame, but occurs primarily with the future. The following examples illustrate this point.

22. C-o'tan-uc ya j-nop-Ø, pero ma x-ju'-Ø.  
 my-heart-subj YAC E1-learn-A3 pero not incompl-able to-A3  
 I want to learn (it), but I can't.  
 (I should be able to.)
23. Ay-uc-Ø bit'il ya s<sup>3</sup>-sujtes-Ø y-o'tan.  
 is-subj-A3 how YAC E3-turn-A3 his-heart  
 Perhaps there will be some who will change their ways.  
 (But I doubt it, knowing them.)
24. Ma' me ja'-uc-Ø ya x-col-otic yu'um.  
 no emph pro-subj-A3 YAC incompl-free-A1pl dem  
 We certainly won't be able to get free from that.  
 (Even though we think we can.)

In parentheses after each translation is a statement indicating the norm or the supposition in each case. The subjunctive in each statement in the text indicates the speaker's judgment that his statement violates the normal and expected. This crossing of stratal boundaries calls for the subjunctive.



## 5.4.2.2.3. Contrary-to-Appearance Subjunctive.

Semantically, the contrary-to-appearance subjunctive is quite similar to the contrary-to-fact subjunctive. However, it is more specialized and formulaic. In all of my examples, the negative subjunctive word *manchuc* is employed and has the meaning 'even though.' The skeletal structure of this subjunctive is that of the following logical argument.

The Argument of the Subjunctive	Normal Argument
If X then Y	If X then Y
$\frac{X}{\text{but not Y}}$	$\frac{X}{\therefore Y}$
(Because X does not really entail Y as assumed)	

Formally such an argument is not valid in that the conclusion contradicts the premises. However, in the non-formal world of real experience we realize that the first premise really must<sup>o</sup> be stated more probabilistically. If this is done, the first argument would probably be stated as follows:

$$\frac{\text{If X then usually Y}}{X} \\ \therefore \text{probably Y}$$

The contrary-to-appearance subjunctive has the very specific function of denying the validity of the normal entailment relation between X and Y. The following examples illustrate this point quite clearly.

25. Manchuc weno s-c'op-oj- $\emptyset$ -ix te alal-e, pero  
 manchuc good E3-talk-perf-A3-now the child-phr pero  
 Even though it is the case that the child has learned to

ma' to la s-na'- $\emptyset$  mero pensar te ya  
 neg yet past E3-know-A3 very think the YAC  
 talk very well, it is still not the case that he is

y-ac'-b-at wen consejos, hermanos  
 E3-give-BE-A2 very advice brethren  
 capable of giving you good advice.

26. "Te banti ay-at, manchuc tujl-at xan-ix/  
 art where is-A2 manchuc one person-A2 just-now  
 "Wherever you are, even though it appears that you are

x-chi- $\emptyset$  tey me  $\emptyset$ -joy-at a,"  
 incompl-say-A3 there emph compl-accompany-A2 ref  
 by yourself, that is not true; I am with you,"

x-chi- $\emptyset$ .

incompl-say-A3

In the first case, the normal entailment relation is that anyone who is capable of speaking well is capable of giving you good advice. The use of the subjunctive in this case indicates that we have a situation in which the normal entailment relation is not true. In the case of sentence 25, the normal argument would be:

Premise: Anyone who speaks well is capable of giving you good advice.

Premise: X speaks well.

Conclusion: X is capable of giving good advice.

The negative subjunctive\* indicates the presence of an additional premise which is usually implicit and which is usually stated in terms of its exceptional status relative to the first premise.

Premise: Anyone who speaks well is capable of giving you good advice.

Premise (Implicit): A child is not capable of giving good advice under any conditions.

Premise: X who is a child speaks well.

Conclusion: X is not capable of giving you good advice because he is a child.

The purpose of the subjunctive in these constructions is to indicate that what appears to be a universally valid entailment relationship is not valid in certain exceptional situations. In sentence 25, the incorrect entailment relation is that all who speak well are capable of giving good advice. In sentence 26, the incorrect entailment is that if someone is present at my side, then I certainly will be able to see that person. Again, an entailment relation which appears to be true is not.

#### 5.4.2.2.4. The Contrary-to-Present Reality Subjunctive.

The purpose of this subjunctive is to contrast a given event or condition to the present situation and to locate that event or condition outside of the domain of the present. It asserts or implies that the event or condition in question is not true of or is diametrically opposed to the present situation. Schematically, we might represent this subjunctive as follows:

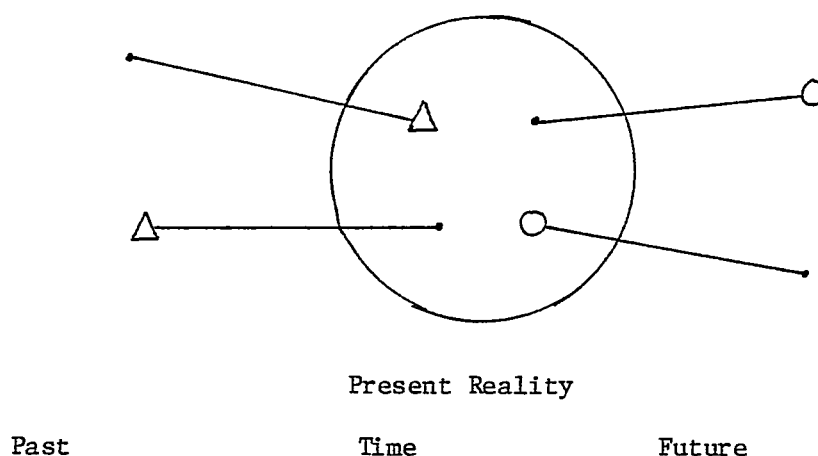


Figure 5.5. The contrary-to-present reality subjunctive implies mutual exclusivity between the present and the non-present. Whatever is true of the present is different from what was or will be true of the non-present.

Specifying the boundaries of the domain of the present would be rather difficult. I would suspect that determining the boundaries of the present is a judgment which depends upon the whole context of the statement being made and the nature of the state or event to which it is being contrasted. This will be evident from the examples which follow.

27. Pero te jo<sup>o</sup>-otic, hermanos, ma<sup>o</sup> to ay-uc- $\emptyset$   
 but art pro-A1pl brethren neg yet is-subj-A3  
 But as for us, brethren, we haven't yet

ba(n) j-ta- $\emptyset$ -tic te tulan golpe.  
 where E1-find-A3-E1pl art hard hit  
 encountered such tribulation.

28. Pero ja<sup>o</sup>-uc- $\emptyset$  me to jo-otiqu-ix euc te  
 but pro-subj-A3 emph yet pro-A1pl-now also art  
 But we are just like them, those of us who

bin ay-otiqu-ix ta S-c"ab te Dios-e.

what is-Alpl-now in his-hand the God-phr

have given ourselves into the hand of God. ('them' refers to the addressees of the Book of Philippians in the New Testament.)

In sentence 27 the subjunctive indicates that the harsh tribulation which he (the speaker) has been describing is not true of the listeners at the present time and probably hasn't been at any point in the past either. Therefore, it is not now, nor ever has been a part of their experience. This statement does not assert the certainty that such tribulation is coming, but implies that it is likely.

In sentence 28, one group of people is being compared to and identified with another group of people. The first group no longer exists except in a historical sense.

Structurally, the C-PR subjunctive most frequently attaches the subjunctive affix to a referential or demonstrative pronoun. It also may occur with the stative very ay.

#### 5.4.2.2.5. The Hortatory Subjunctive.

The hortatory subjunctive is semantically very similar to the contrary-to-present-reality subjunctive in that it contrasts a future, desirable state of affairs which is presently absent or non-characteristic of the object of discussion with the present condition of same. There are, however, several differences between the hortatory and the C-PR subjunctives.

(1) The hortatory subjunctive is forward-looking. (2) The hortatory subjunctive is commonly couched in a construction which we might term a polite imperative, or an imperative of obligation. (3) In the hortatory subjunctive, the **-uc** suffix is normally affixed either to a descriptive adjective or

to a verb. In summary, the hortatory subjunctive is used to urge the listener toward some ideal of character and behavior.

The subjunctive is appropriate for two reasons: (1) the ideal represents a potentiality which is at present, unrealized; (2) the ideal is frequently more the exception than the norm of character and behavior.

Schematically, we can represent the hortatory subjunctive as in Figure 5.6.

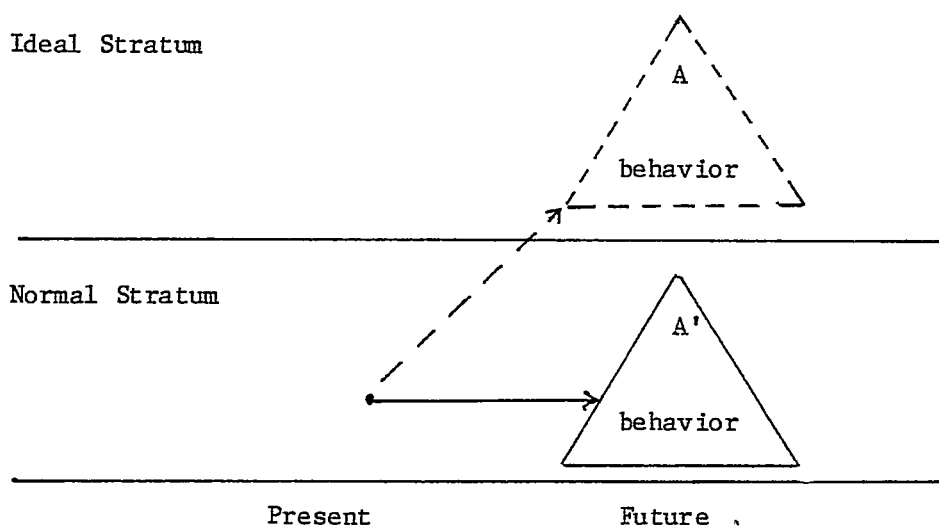


Figure 5.6 The hortatory subjunctive communicates the idea that some ideal behavior, A, should become real behavior, A'.

In Figure 5.6. there are two strata--the ideal and the real or normal. These generally correspond to the hypothetical-real dichotomy discussed earlier. By using the hortatory subjunctive, the speaker is asserting that there exists an ideal model of behavior and character. This model is triangle A in Figure 5.6. Further, the speaker is asserting that actual behavior and character should conform to this ideal, hence triangle A', which is in the real or normal stratum.

The hortatory subjunctive in Tzeltal provides an elegant, yet parsimonious and precise technique for communicating these concepts. Our English equivalents are considerably more cumbersome and imprecise. In the examples which follow I will attempt to reflect this difference by providing both a literal translation and a paraphrastic translation which seeks to express in English what the Tzeltal expresses to a Tzeltal listener.

29. Ya la s-c'an-Ø te puro lec-uc bin

YAC past E3-want-A3 art pure good-subj what  
He wants everything which comes out of our mouths

ya x-loc'-Ø talel.

YAC incompl-leave-A3 coming

to be good. (Referring to the character of one's speech.)

Paraphrastic translation: God has said that He wants everything which we say to be good (pure). At present this is not true of our speech. Therefore, we must change our behavior if we are to conform to the ideal which God has established for all of us.

30. Ø-Tojob-uc-Ø bael.

compl-straight-subj-A3 going

We should go straight. (From the context.)

Paraphrastic translation: There is a straight and desirable way that we should go. At present, we are not going that way. Therefore, we must straighten out our ways if we are to conform to the ideal.

31. Ya me s-c'an-Ø x-chi'-Ø, te c'ux-uc

YAC emph E3-want-A3 incompl-say-A3 art hurt-subj  
God desires that you love each other.

yac aw-a'iy-Ø a-ba-iq-u-e x-chi-Ø.

Yac E2-feel-A3 your-self-pl-phr incompl-say-A3

Paraphrastic translation: God's desire is that you love each other. At present you are not loving each other as you should. Therefore, you need to strive toward this ideal.

In the literal translations there is only a hint of the complete semantic content. We would probably depend upon phonological features and the discourse context to supply the information which the hortatory subjunctive supplies in Tzeltal.

#### 5.4.2.2.6. Contrary-to-Intention Subjunctive.

The uniqueness of this final subjunctive is a little more tenuous than the others in that I cannot support it with numerous examples. However, in terms of its plausibility relative to the criterial features of the subjunctive, it would appear to be a legitimate sub-type. The essential feature of this subjunctive is that the intended result of an action is not the actual result. In this sense, this subjunctive is quite similar to the contrary-to-expectation subjunctive. The examples will reflect this similarity.

32. Ma<sup>ʔ</sup> chopol c<sup>ʔ</sup>op-uc bin nax Ø-loc<sup>ʔ</sup>-Ø  
 neg bad word-subj what only compl-leave-A3  
 What we said wasn't really (overtly) bad (even

ta qu-e-tic.  
 from my-mouth-pl.  
 though it had that impact).

33. Ay-uc-Ø bit'il Ø-laj-uc-Ø ta jos.  
 is-subj-A3 how compl-finish-subj-A3 to buzzard  
 He was left for the buzzards.

Paraphrastically: He was dumped in a ditch and left for dead with the intended result that he would be eaten by the buzzards. However, this did not happen.



In sentence 32, the context is that of a discussion of backbiting. The speaker is talking about situations in which a person says something either to or about another person with an immediate or eventual negative consequence. The point is being made that a person can say something with severe negative impact without either saying or intending something really evil or bad.

#### 5.5. Some Theoretical Issues in the Analysis of **-uc**.

In this final section, I wish to weave together some of the theoretical threads surrounding the particle, **-uc**. Specifically, I want to attempt to cast some additional light on the significance of this particle from the vantage point of the total cognitive model.

##### 5.5.1. The Status of **-uc** as a Verificational Device.

In the introductory part of this chapter it was suggested that **-uc** is a marker of irreality. As the subsequent analysis has demonstrated, this term covers a lot of territory which we have only begun to explore. While I did suggest several types of reality, I did not specify what each of these types of reality might or might not look like.

The preceding analysis has repeatedly made reference to such concepts as assumption and expectation. What type of reality are we talking about here? On the one hand, an assumption (or an expectation) represents abstract knowledge. On the other hand, an assumption represents external reality in an abstract sense. How do we correlate the two?

One way to approach this problem is in terms of verification. As used here, verification has to be with the assignment of a truth-value to a putative event. The easiest event to verify is one which has been witnessed

directly. The next easiest event to verify is one which a person would expect to happen; that is, it is highly predictable. The hardest event to verify is one which a person finds improbable or unexpected.

My thesis is this: When a person experiences an event first hand, he does not need any special linguistic cues to verify the truth value of the event. If he did not directly experience the event, but finds such an event normal and predictable, he needs linguistic cues of only moderate force to verify the event. In Tzeltal these cues are *yac*, *ma'*, and to a certain extent, *la*. When the event is very improbable, a person needs a much stronger linguistic cue to verify the putative event. The suffix *-uc* is the device used in Tzeltal to accomplish this purpose. It is a linguistic cue that an improbable, unexpected, or hypothetical event was, is or will be true.

#### 5.5.2. *-uc* and the Holding of Presuppositions.

Another way to look at the function of *-uc* is to propose that its function is to index and to modify some presupposition held by the listener. In this view, a basic linguistic unit is seen not so much as a linguistic report about a real-world event, but as a device designed to modify in some way a presupposition about the real world. The affix *-uc* is the particular linguistic device which indicates that the BLU is aimed at changing or correcting a presupposition held by the listener(s). One way to characterize this function, is to say that *-uc* is a logical operator whose purpose is to reverse the previously assigned truth value of the presupposition in focus.

## FOOTNOTES

<sup>1</sup>There is no non-subjunctive form of this word so its origin is uncertain. The most reasonable explanation would seem to be that it is a contracted form of the phrase, **ma<sup>h</sup> jichuc**. The stages in the derivation of such a contraction could reasonably have been as follows:

Original phrase: **ma<sup>h</sup> jichuc**

1. Contraction: **ma<sup>h</sup> jichuc**      **ma<sup>h</sup>-chuc**
2. Stop Degradation: the glottal stop is degraded to a continuant with the apical nasal an appropriate candidate given the apical point of articulation of the affricate.
3. **ma<sup>h</sup> chuc**      **manchuc**

Support for this analysis of the derivation of **manchuc** includes: (1) the non-existence of an uninflected form **\*manch**; (2) a tendency for syllable or word final glottal stops to be softened or elided preceding other consonants; and (3) the consonant cluster, nasal-stop or nasal-affricate, is virtually unknown in Tzeltal within a single syllable. The only known exception is the word **ants** meaning, 'woman,' and derived forms using this root.

<sup>2</sup>In fast speech it is occasionally the case that a contraction takes place between YAC and the following verb. This is illustrated in the following examples:

**Bin yac a-pas-Ø?**      Normal Form  
 what YAC E2-do-A3  
 What are you doing?

**Bin ca-pas-Ø.?**      Contracted Form  
 what E2-do-A3  
 What are you doing?

<sup>3</sup>When the person marker is phonemically identical to the first consonant, it is assimilated so that only one consonant appears in the surface form.

## CHAPTER SIX

### THE ROLE OF -BE IN THE INTERNAL GRAMMAR OF TZELTAL

#### 6.1. Introduction.

Earlier, the internal grammatical component was described as involving two types of relations: micro-relations and macro-relations. The study of the micro-relations in a language is concerned with the analysis of participant-action (verb) complexes. Such complexes characteristically involve a single verb and the set of participants which participate in the action implied by that verb.

It was further argued that there are at least two types of relations which fall into the category of micro-relations. These are P-P relations and P-V relations. P-V relations have received considerable attention under the general rubric of case analysis. P-P relations have not been as systematically studied and are frequently ignored unless there is some compelling reason to handle them.

Despite the fact that the morpheme -BE occurs extremely commonly in Tzeltal, it has been difficult to provide a precise and well-motivated account of it. To a certain extent, this difficulty has been due to the nature of the conceptual framework brought to bear on the analysis. I hope to overcome this difficulty by making use of a model especially suited to the analysis of grammatical problems such as the one involving -BE.

My approach to the analysis of -BE will be somewhat inductive. I begin by examining Dixon's (1979) proposal for a universal characterization of participant terms. Finding that this approach does not supply sufficient information to allow a precise analysis of -BE, I present and examine additional evidence germane to the problem. Having worked through this evidence, a more comprehensive analysis of -BE is presented.

## 6.2. Participant-Verb Relations.

In Chapter Two it was suggested that the predicate or the matrix verb in a BLU may be considered as the nucleus or the hub around which the arguments in the sentence revolve. There are two classes of arguments (hereinafter referred to as terms) in Tzeltal constructions. (I am using the notion 'term' in the same sense as that used by relational grammarians. A term is a nominal which has a grammatical relation to the verb or is governed by the verb. A non-term is one which does not customarily bear a grammatical relation to the verb.) Class 1 is made up of terms and Class 2 is made up of non-terms.

In Tzeltal there are three terms which make up Class 1. Whenever any one of these terms occurs in a sentence, the verb cross references the presence of each term with an appropriate affix in the verb morphology. It is not mandatory that all three terms occur in every sentence. Following Dixon (1979) I will temporarily refer to these terms as A, S, and O. As Dixon points out, characterizing these terms adequately but unambiguously is not easy, especially for those whose linguistic experience has primarily been with Indo-European languages. Using these terms requires a considerable adjustment in one's understanding of the conventional terms, subject, object,

indirect object, etc. I will attempt to characterize A, S, and O somewhat informally at this point believing that the following discussion employing these terms will supplement this preliminary description.

Dixon proposes that there are three universal semantic-syntactic primes which he labels as A, S, and O. These are defined as follows:

A = Subject of a transitive verb.

S = Subject of an intransitive verb.

O = Object of a transitive verb.

In a given language, the morphology and/or the syntax of that language reflect a tendency to group these functions in one of two ways: nominative/accusative or ergative/absolutive.

Nominative	$\left. \begin{array}{c} A \\ S \\ O \end{array} \right\}$	Ergative
Accusative		Absolutive

In a nominative/accusative language, A (subject of transitive verb) and S (subject of intransitive verb) are grouped under the general rubric of subject of the verb. This grouping is then identified as the nominative case. The function O (object of transitive verb) stands by itself and is always in the accusative case.

The grouping of these terms is different in so-called ergative languages. In such a language the A term stands by itself and constitutes the ergative case. The S term and the O term are grouped together and identified as the absolutive case. In such a language, either the morphology or the syntax or both reflect this grouping. In Tzeltal those affixes which

mark subject of an intransitive verb and object of a transitive verb are identical. This was illustrated in the paradigms presented in the Introduction to Part II.

In order to characterize the semantic component of these terms for an ergative language, it is necessary to give them a different label so as to avoid confusion with the primes as defined by Dixon. The A term can be referred to as the ergative case. I will use the symbol, E, to refer to this term. To refer to the S-O grouping, I will use the label, absolute case. This is shortened to Ab. The following description of the E and Ab terms refers specifically to Tzeltal although they are probably generally true of many languages which have morphological ergativity.

An E term is "an actor (not necessarily animate) which does something to some thing or someone." An approximation but not a true equivalence is found in the notion AGENT. The presence of an E term REQUIRES that there be a recipient of the action which the E term initiates.

An Ab term is "an actor (animate or inanimate) whose involvement in any activity does not extend beyond himself." This involvement may be either active or passive. That is, the Ab actor may be engaging in an activity or may be the object of the activity of an E term. A political example might help to illustrate the concept of an Ab term. In a monarchy there are two classes of people: the monarch and the monarch's subjects. The monarch's subject are capable of independent action (they are not automatons or robots) but at any and all times they are under the administration and the jurisdiction of the monarch. They don't make laws and edicts, they carry them out. An Ab term is quite similar to a SUBJECT in a monarchy.

Grammatically, an Ab term may be either the subject of an intransitive verb or the direct object of a transitive verb. As the subject of an intransitive verb, the Ab term may carry out any action which does not affect anything or anyone else. As the object of a transitive verb, the Ab term is acted upon by an E term. The similarity to the political example is not difficult to see.

#### 6.2.1. The Tertiary Term.

Earlier it was indicated that three terms are marked in the morphology of the verb. The first two may be defined very adequately in terms of the syntactic-semantic primes posited by Dixon. How then do we account for the third term?

I will begin by indicating that there is a third term which is commonly marked (that is, it is obligatory within certain well defined parameters), in the Tzeltal verb. Because there does not seem to be any one single grammatical term which accurately conveys the sense of this relation, I will use a grammatically neutral term to refer to this relation. I will use the label, Tertiary, to refer to this third relation. This relation will be symbolized by the letter T.

The tertiary relation is something of an anomaly when compared to traditional linguistic categories and relations. On the basis of general linguistic theory, we might assume that this tertiary relation must be something very similar to the indirect object (Keenan & Comrie 1977, Postal & Perlmutter 1977). The indirect object is normally considered to be the recipient or the beneficiary of the action of the verb. However, as we shall see shortly, the tertiary relation appears in some Tzeltal constructions when there is no



indirect object as commonly understood in linguistic theory. Furthermore, when we examine the morphology of Tzeltal verbal constructions we find that the marking of direct and indirect object is very puzzling if we assume that the tertiary relation is equivalent to an indirect object.

I will begin the analysis of this problem by suggesting a definition of the tertiary relation which emphasizes its semantic role rather than its surface grammatical status. As a first approximation, we might characterize the tertiary term as a "passive bystander" relation. Consider the following sentence.

1. I gave the ball to Mary.

According to conventional wisdom, 'the ball' would be considered the direct object and 'Mary' would be considered the indirect object. Mary receives the ball and is, therefore, an active participant. The ball is a passive participant and, as such, might be viewed as a "bystander."

Now look at sentence 2.

2. I gave Mary the ball.

In this sentence, Mary has become the direct object and the ball is now the indirect object. T-G grammar accounts for this structure by saying that it is the output of a Dative Movement Transformation. Again, Mary is the active participant and the ball is the passive participant. Note that while the post-predicate noun phrases have switched grammatical relations, each participant retains the participant status that it had in the first sentence. This suggests that, in the case of English, grammatical relations rather than participant relations are marked in the grammar of the sentence.

Is there any difference in the meaning of the two sentences? The answer to this question probably depends on who you ask. Some would say that sentence 2 differs from sentence 1 only in the application of an optional transformation (Katz-Postal Hypothesis, Katz & Postal 1964). Therefore, there is no difference in the meaning of the two sentences. Others would suggest that there is a slight difference in emphasis or focus in the two sentences. None would dispute the view that the physical action is the same in both sentences. In each case, a physical object--a ball--was transferred from my possession to Mary's possession. In this sense the two sentences definitely have a sameness about them.

Now look at the following Tzeltal sentences.

3. La y-ac'-b-on jum palota.  
past E3-give-T-A1 one ball.  
He gave me a ball. (or) He gave a ball to me.
4. La s-mil-b-on j-wacax.  
past E3-kill-T-A1 my-cow  
He killed my cow.
5. La s-pas-b-on na.  
past E3-make-T-A1 house.  
He made me a house. (or) He built a house for me.
6. La s-ts'-is-b-on j-c'ab.  
past E3-sew-T-A1 my-hand  
He sewed up my hand.

Sentences 3 and 5 quite clearly have both direct and indirect objects.

Sentences 4 and 6 would not normally be considered to have indirect objects.

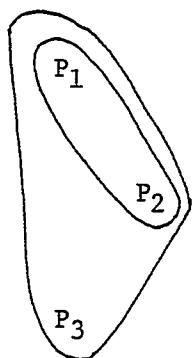
Yet it appears that both sets of sentences elicit the same morphological and syntactic relations in the verb. The presence or absence of an indirect object did not alter the shape of the verb morphology. How are we to account for these facts?

One possible solution would be to propose that there is a ranking of participants according to the intensity of their involvement in the action. According to this view we might say that there is a primary object and a secondary object. The primary object is the one toward which the action of the verb is aimed whether in a benevolent, malevolent or neutral sense. The secondary object is the physical object involved in this transaction. The primary object is an intentional object. It is the target; the end. The secondary object is a means to an end.

The force of this proposal is to suggest that in Tzeltal, in contrast to English, participant relations are more forthrightly marked than are the surface grammatical relations which organize the participants in a surface structure.

This finding is consistent with the model of P-V and P-P relations developed in Chapter Two. There it was suggested that the analysis of participant roles in a linguistic construction must be sensitive to both P-P relations and P-V relations. In the case of Tzeltal, the evidence we've examined so far suggests that there are well defined and shared "participant complexes" in the internal grammar of the language. At least two such complexes have been suggested so far; the ergative complex and the absolutive complex.

The Ergative Complex.



An actor whose actions affect others.

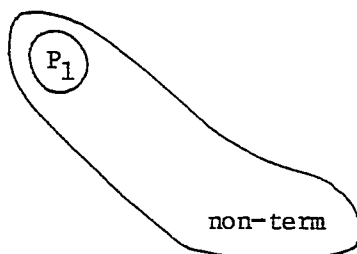
An actor who is the intentional object of P<sub>1</sub>.

A passively involved entity.

The crucial ingredient of the ergative complex is the fact that a very basic dichotomy or conflict is set up between P<sub>1</sub> and P<sub>2</sub>. P's action is ALWAYS aimed at P<sub>2</sub>, never at P<sub>3</sub>. If there is a P<sub>3</sub>, it is simply present as an involved entity--a helpless bystander.

I am suggesting that the P-P relations reflected in the ergative complex are more crucial to the construction of a BLU in Tzeltal than are the surface grammatical categories (P-V relations). This is at least a major part of the reason that P<sub>2</sub> is always indexed in the verb as the "direct object" whether or not it occupies this P-V relation.

The Absolutive Complex.



In the absolutive complex, there is only one participant which has termhood. Because this participant does not affect anyone but himself, it is always indexed in the verb by the absolutive case. The non-terms which occur as a part of an absolutive complex are primarily locatives as in "I went to my house.", or instrumental media as in "I mounted my horse."

These proposals appear to account for the data we've looked at so far. There are, however, some additional pieces of this puzzle which we need to consider. Look at the following sentences.

7. La c-ac' j'ba ta a'tel.

past E3-give my-self to work  
I applied myself to the task.  
(Litterally: I gave myself to the work.)

8. La s-mil-Ø s-wacax.

past E3-kill his cow  
He killed his cow. (Where 'he' and 'his' refer  
to the same person.)

9. La s-mil-bey-Ø s-wacax.

past E3-kill-T-A3 his-cow  
He killed his cow. (Where 'he' and 'his' refer  
to two different persons.)

10. La a-pas-Ø a-na.

past E2-make-A3 your-house  
You built your house.

11. La j-ts'is-Ø j-c'ab.

past E1-sew-A3 my-hand  
I sewed up my hand.

The morpheme -BE occurs in only one of these sentences. Why is this the case?

By comparing sentences 8 and 9 it appears to be the case that when the subject (ergative term) is one and the same with the other active participant, there is no cross-referencing needed in the verb.

What about the case in which there are three participants which are all active to some extent? In English we can say any of the following sentences without the least difficulty.

12. They sent you to me.
13. He will kill me for you.
14. She gave me to you.

In each of these sentences both the primary and the secondary objects are 'active participants.' To some extent, this quality of 'activeness' is due to the fact that both are directly involved in the verbal interchange.

How are such sentences constructed and spoken in Tzeltal? According to what we have seen so far, we would expect the following constructions to represent each of these English exemplars.

15. \*La s-ticum-at-on-ic.  
past E3-send-T2-A1-E3p1  
They sent you to me.
16. \*Ya s-mil-at-on.  
pres E3-kill-T2-A1  
He will kill you for me.

17. \***La y-ac'-on-at.**  
 past E3-give-T1-A2  
 She gave me to you.

However, speakers of the language find such constructions unacceptable. Rather than uttering such constructions, they will make use of a benefactive phrase similar to a prepositional phrase. For example, sentence 15 would probably look something like 18.

18. **La s-ticum-at-ic ta jo'on j-cuenta.**  
 past E3-send-A2-E3pl to me my-account  
 They sent you to me. (Literally: They sent you to me  
 on my account.)

Similar devices would be necessary to express sentences 16 & 17. On the basis of this evidence, there appears to be a constraint on the nature of the participants which make up a participant complex. Compare sentences 15 & 19.

15. \***La s-ticum-at-on-ic.**  
 past E3-send-T2-A1-E3pl  
 They sent you to me.
19. **La s-ticum-b-on-ic te mula.**  
 past E3-send-BE-A1-E3pl the mule.  
 They sent the mule to me.

In terms of their content, the only difference between sentences 15 & 19 is that in sentence 15, all of the participants are human while in sentence 19, only two of the participants are human. Sentence 15 is totally unacceptable while sentence 19 is perfectly natural. This evidence supports my earlier suggestion that clearly defined participant complexes underlie possi-

ble constructions in the language. Furthermore, the evidence seems to suggest that such participant complexes are, themselves, constrained so that some are acceptable and some are not.

If there is a constraint on the number of human participants which can be included in a participant complex (which is obligatorily cross-referenced in the verb), then it should be instructive to examine those situations in which there are two non-human or non-animate participants in Tzeltal constructions. Sentences 20-28 present data of this sort.

20. Ya j-chic- $\emptyset$  s-pat te'.
- pres El-burn-A3 its-bark tree
- I will burn the bark of the tree
- or
- I will burn tree bark.
21. Ya j-chic-bey- $\emptyset$  s-pat te te'.
- pres El-burn-T-A3 its-bark the tree
- I will burn the tree's bark.
- or
- I will burn the bark of the tree.
22. ?La j-tul- $\emptyset$  s-sit.
- past El-pick-A3 its-fruit.
- I picked its fruit.
23. La j-tul-bey- $\emptyset$  s-sit.
- past El-pick-T-A3 its-fruit
- I picked its fruit.
24. Ya j-bon- $\emptyset$  y-oc mesa.
- pres El-paint-A3 its-leg table
- I will paint the table's leg.



25. Ya j-bon-bey-Ø y-oc mesa.  
 YAC El-paint-BE-A3 its-leg table  
 I paint the table's leg.
26. Ya j-bon-bey-Ø y-oc s-mesa.  
 pres El-paint-T-Ø its-leg his-table  
 I will paint his table leg (for him).
27. La c-ac'-bey-Ø s-we'el te mula.  
 past El-give-T-A3 its-feed the mule  
 I gave the mule its feed.
28. \*La c-ac'-Ø s-we'el.  
 past El-give-A3 its-feed.  
 I gave the mule its feed.

In sentences 20-25, there are, or appear to be two inanimate entities (participants or terms) besides the subject or ergative term. The question of whether or not there are two terms is, of course, a part of the problem. The English phrase, 'the bark of the tree' is somewhat ambiguous as to the number of terms or entities implied as being present. We could either be talking about a particular bark or about a unique and discrete part of another unique and discrete object. In the first sense, there is a single term involved. In the second sense, there are, I would suggest, two terms involved. This distinction is reflected in the alternative translations of sentences 20 & 21 involving the English phrases, 'tree bark' versus 'tree's bark.' In sentence 21 the clear implication is that the ergative term intends to affect the tree. His means of doing this is by damaging (burning) the bark part of the tree. Even though the tree is an inanimate object, it

is being treated as an intentional object. The bark of the tree is the means by which the tree is going to be affected and, therefore, becomes the tertiary object.

Sentences 22 & 23 illustrate this same point. Either sentence is acceptable although 23 is preferred. There are two possible reasons for the acceptability of both forms. (1) It could be the case that sentence 22 is viewed as having only a single object which would be fruit. On the otherhand, sentence 23 has two objects. The more general object--tree--is seen as the intentional object in that it is having its fruit taken from it. In this case, fruit would become the tertiary object.

(2) Another possible explanation is that when both of the potential objects are inanimate, it is not crucial to distinguish between the absolute and the tertiary objects or participants. In such situations the use of the -BE is optional depending on whether or not the speaker wishes to clearly distinguish an intentional object.

In examples 27 & 28 we have the case in which one of the objects is animate but not human. In this case it is clearly unacceptable to use the construction without making use of -BE.

In the final case we have examples 24-26. In 24 and 25 we have a situation analogous to 20 & 21. There are two inanimate objects which bear a part-whole relationship to each other. The use of -BE is somewhat optional. When it is used, it implies a sharper division between the table and its leg. The table becomes an intentional object which is being affected by the action of the ergative participant.

In sentence 26, however, an additional term has been introduced into the situation. In this sentence there is some person whose presence is indicated by the possessive morpheme on the word for table. In this case we are assured of having an active participant and this fact is captured in the morphology of the verb by the presence of *-bey*. With the presence of an animate participant it does not matter what the relationship is between the table and its leg. That is, it doesn't matter whether we are talking about John's (or anyone else's) table leg or John's table's leg.

In these sentences we find that the verb morphology is sensitive to the relationship between two potential terms. In the one case it clearly indicates the presence of two terms. In the other case, it implies that only one term is present. This disambiguation is accompanied by, and in a sense, is identical to the introduction of an intentional object (an absolutive term) into the content of the sentence.

The major point to be made in this case is that while an inanimate object may or may not be perceived as an intentional object, an animate object is always perceived as an intentional object. In this sense an hypothesis regarding a scale of animacy does appear to have a certain degree of validity. It may, however, not be the animacy which is the key variable but the ability of a term to be an intentional object. Of course, this ability to be an intentional object is not totally unrelated to that term's animateness. The following graph displays the general relationship we have observed so far between personhood (or animacy) and absolutivity (ability to function as an intentional object).

## Absolutivity Scale

(Likelihood of functioning as an intentional object.)

Obligatory

Optional

1 & 2 Both are seen as intentional objects. Therefore, only one may articulate directly with the verb.

(1 or 2) + 3 Either the 1 or 2 term will be absolute. If 3 is the intentional object, it must be in a separate phrase.

## Animacy Scale

3 + 3 At least one will be the intentional object, and will thus serve as the absolute term.

3 (a or i)  
+  
2 (a or i) The animate term will serve as the intentional object

3i + 3i There need not be an intentional term. If there is, the more general term will probably be the intentional term.

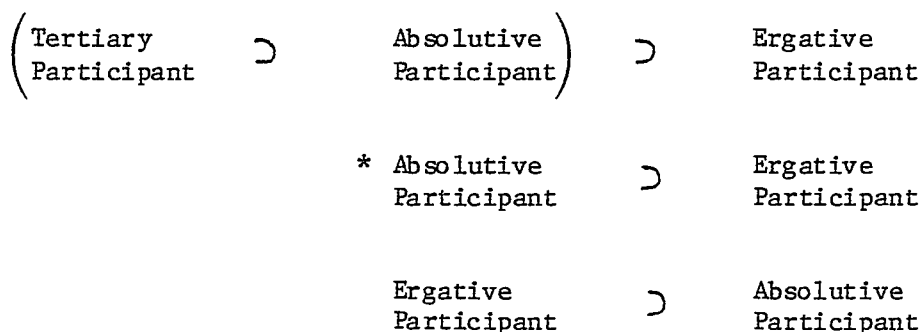
Key:

a= animate  
i= inanimate

Figure 6.1. The graph reflects a principle in Tzeltal grammar stating that as an object becomes less animate, it is less likely to function as an absolute object.

Figure 6.1. reflects an empirically observed principle in Tzeltal to the effect that as an object becomes less animate, it becomes less capable of functioning as an intentional or absolutive object in the Tzeltal verbal construction. The significance of this absolutivity scale is as follows: If the morpheme BE marks the presence of a tertiary object (which can only occur if there is an intentional object present), then the inclusion of a suitable intentional object is crucial to the marking of a potential tertiary object (assuming that a suitable candidate exists). Differently put, if a sentence includes two potential objects but neither of them is sufficiently salient (defined here in terms of animacy) to be an intentional object, then there cannot be a tertiary object.

What we have, then, is an implicational hierarchy similar in some respects to the ones described by Givón (1976) and Moravcsik (1974). It also differs in some interesting and significant ways. Consider the following implicational hierarchies:



According to the first hierarchy, the presence of a tertiary participant implies the presence of an absolutive participant and the presence of both the tertiary and absolutive participants implies the presence of an ergative participant. However, it is not the case that the presence of an absolutive

participant alone implies the presence of an ergative participant (the condition which exists in intransitive constructions). It is true, however, that the presence of an ergative participant implies the presence of an absolutive participant. The only valid unidirectional hierarchy involving all three participants is the following one.

D.O.		S(tr)		I.O./D.O./S(int)
Tertiary Participant	⊃	Ergative Participant	⊃	Absolutive Participant

In terms of typical implicational hierarchies, this particular hierarchy seems rather anomalous. This is why I have found it more useful to define the relationship between these various participants in terms of a total Participant Complex such as the one described earlier as the Ergative Complex.

A second interesting observation to be made about the ranking of objects in the Absolutivity Scale of Figure 6.1. is that the ranking is virtually identified to Silverstein's Agency Hierarchy. (1976)

<u>Silverstein's Hierarchy</u>	<u>Absolutivity Scale</u>
Non-singular 1st and 2nd person pronouns	1st and 2nd person
Singular 1st and 2nd person pronouns	(1st and 2nd) + 3rd person
3rd person pronouns	Two 3rd persons
Proper names	
Human	3rd (animate or inanimate)
Animate	+
	3rd (animate or inanimate)
Inanimate	3rd inanimate + 3rd inanimate

The problem in comparing the two hierarchies is that they were posed for two very different reasons. Silverstein proposed his hierarchy as a way to account naturally for the fact that some Australian (and other) languages had split or overlapping case systems, combining elements of an ergative-absolutive system with elements of a nominative-accusative system. That is for a given grammatical slot, e.g. subject of transitive verb, some nouns were marked with ergative case, others with nominative case. On the basis of his hierarchy, Silverstein suggested that this was due to the fact that some participants were more "natural" fillers of a given grammatical slot (e.g. subject of transitive verb) than were others. For example, a first person pronoun is more apt to be an instigator while an inanimate object is more likely to be an involved entity. The split case system (Silverstein suggests) was developed to mark participants occurring in roles other than their more "natural" role.

The absolutivity scale I've proposed has only to do with objects. Specifically it purports to account for the fact that certain participants cannot function as tertiary objects (first and second persons can only be intentional or absolute objects). At the other extreme, when there are two inanimate objects, it may be the case that neither functions as an intentional object. If one does, it is always the more general of the two.

There is no split ergativity in Tzeltal of the sort that Silverstein was attempting to account for. Therefore, his use of the agency hierarchy does not apply to that aspect of the language.

It is, however, quite significant that the two hierarchies are so similar. I would suggest that this is because there is something semantically or

cognitively real about such a ranking of participants in the conceptual world of human observers.

Furthermore, as we have seen in Tzeltal (and in a great many other languages according to Silverstein and Dixon (1977) some grammatical facts appear to be explainable only in terms of such cognitive perceptions. This is why I have found it useful to pursue an analysis of Tzeltal along such lines.

To this point the weight of the evidence suggests that there is a definite, hierarchical relationship which holds between the possible participants in an action. I have suggested that the primary feature of this hierarchical arrangement of participants is an intrinsic opposition between one participant who wishes to affect a second participant and this second participant who is the object of the first participant's action. The second participant is characterized as being the intentional object. Whether or not the action directly affects this second participant, he is viewed as being the ultimate goal of the action.

The lowest participant in the hierarchy is the tertiary object. The tertiary object is a means to an intentional end. It is treated as a totally passive participant.

In the analysis, it was pointed out that this putative hierarchy of participants corresponds fairly closely to a scale of animacy. The ergative term is most animate and the tertiary term is least animate. The absolutive participant is between these two in terms of its likelihood of being animate. In those cases in which the ergative participant is not animate in the normal sense, it must at least have some efficacious quality; otherwise, it could not be an ergative participant.



### 6.2.2. Structural Support for the Participant Hierarchy.

On the basis of the preceding evidence I have indicated that I consider -BE to be a marker of the presence of a tertiary object or participant in a linguistic construction. In this light one of the initially puzzling features of -BE is that, in traditional grammatical terms, it is always the direct object in those constructions in which it occurs. Furthermore, -BE exhibits unusually tight bonding with the verb stem. This bond is so tight that no other post-verbal affix may come between it and the verb stem. These facts seemed quite paradoxical initially.

This seeming paradox was considerably illuminated when I discovered a paper on bitransitivity written by Osgood and Tanz (1976). In this paper (entitled, "Will the Real Direct Object in Bitransitive Sentences Please Stand up?"), Osgood and Tanz report a series of studies--both linguistic and psycholinguistic--in which they examined the relative salience of direct and indirect objects in constructions in which both occur. They found a very significant tendency towards treating the direct object as a part of the verb/action complex. The more salient object tended to be the indirect object.

In seeking a theoretical explanation for the experimental data, Osgood and Tanz state:

"It is thus assumed that simple cognitions are tripartite in structure, the three components being M (the meaning of one perceived entity, later of a subject NP), -(M) (the meaning of the perceived action or stative relation, later of a verb phrase), and M (the meaning of another perceived entity, later of an object NP). It is further assumed that all complex cognitions are analyzable into conjoined sets of simple cognitions--indeed, must be so analyzed in order to be comprehended (and, for economy in expression, simplexes may be synthesized into complexes in sentence production)." (1976:542)

In their discussion they propose that  $M_1$  is the 'doer',  $M_2$  is the 'done to' participant and (M) is the action which relates the two. When there is another involved entity, this entity tends to be incorporated into the more general framework by which people cognize their world. In the case of the bitransitive, Osgood and Tanz suggest that the indirect object is the  $M_2$  and the direct object is a secondary entity which must be incorporated into the more general framework in order to be expressed in language. They propose that, as a general rule, this tends to be accomplished by some sort of verb-incorporation.

The research and theoretical discussion reported in this paper account beautifully for some of the puzzling characteristics of -BE. (1) It reinforces the claim that -BE primarily indicates the presence of an involved entity—a tertiary object in my earlier discussion. (2) It explains why -BE always refers to the direct object. (3) It provides a well-motivated rationale for the fact that -BE is so tightly bonded to the verb that no other affix may come between the two. (4) And finally, the notion of a simple cognition as outlined by Osgood and Tanz accounts remarkably well for the basic participant complex described above. In this complex I suggested that the ergative participant is the 'doer unto' and the absolutive participant, as the intentional object, is the 'done to' participant. Any additional participant must be incorporated into the more general framework of the simple cognition (which involves only two participants and the action which relates them). In Tzeltal, this is accomplished by the syntactically invariant morpheme -BE.

The major difference between the Tzeltal case and the research reported by Osgood and Tanz is the fact that occurrences of -BE are not restricted to

clearly bitransitive constructions. This is illustrated in the following pair of examples.

29. La s-mil-l-b-on j-wacax.

past E3-kill-BE-A1 my-cow

He killed my cow.

30. La y-ac<sup>h</sup>-b-on jum wacax.

past E3-give-BE-A1 one cow

He gave me a cow.

Example 30 is clearly bitransitive while sentence 29 does not appear to be bitransitive at all. However, both are constructed as though there were three participants in the action. In sentence 29 the third participant occurs as the possessor of the noun 'cow.' Structurally it would be difficult to produce an analysis in which this possessor could be understood as an indirect object. The most straightforward solution to this problem is to claim that Tzeltal has generalized the principle discussed by Osgood and Tanz. Instead of applying the principle only to bitransitive sentences, Tzeltal applies it to any construction in which there are already three participants. This is why I have suggested that -BE marks the presence of a tertiary participant--not just the presence of an indirect object.

### 6.3. Summary.

In this chapter I have argued that the analysis of the morpheme -BE must be pursued within the broader context of the participant complex found in the BLU of Tzeltal.

Evidence was presented demonstrating that the participant complex (of a transitive construction) included at least a "doer" participant (Ergative), a

"done to" participant (Absolute) and, optionally, an "involved entity" participant (Tertiary). Conceptually, these participants are characteristically ranked along a scale of activeness with the ergative participant (always the grammatical subject) being the most active of all participants. The tertiary participant is the least active and, when present, is always the grammatical direct object. The absolute participant is the one to whom the action is always directed. Grammatically, the absolute participant may be the direct object (if there is no tertiary participant), the indirect object, the possessor of the direct objective or a benefactive.

Within this overall framework, it is clear that -BE functions to mark the presence of a tertiary participant in any BLU in which all three participants occur.

## CHAPTER SEVEN

### ADDITIONAL CONSIDERATIONS IN THE ANALYSIS OF -BE

#### 7.1. Introduction.

Having arrived at an analysis of -BE within the framework of the model developed in the first part of this study, I wish now to proceed to an examination of several additional issues relating to the analysis in the last chapter.

First of all, I will examine what might be termed the cross-referencing relationship which exists between the verb and the terms which occur in a given construction. This is of interest for two reasons. (1) Such an examination should help us to sharpen our understanding of -BE and how it functions in the language. (2) At this level of the analysis, we are able to begin focusing on what I earlier described as the integration component of language organization. This component is concerned with the problem of drawing all relevant information together and allocating this information into a sequential string for the purpose of communication.

The second issue I wish to examine is that of an alternative analysis of -BE within the framework of relational grammar. An examination of the strengths and weaknesses of this analysis should serve to further illuminate the function of this morpheme. Also, this examination serves to illustrate some of the theoretical differences which exist between a structural model such as relational grammar and a cognitive model such as the one presented in this study.

Thirdly, I want to look at the passive in Tzeltal. Because of the particular approach taken to the analysis of -BE in the last chapter, the function of -BE in the Tzeltal passive should serve as a critical test for the viability of this analysis.

## 7.2. The Cross-referencing Principle.

Earlier it was pointed out that the Tzeltal verb is inflected to mark the presence of any and all participants which have term status. I indicated that the possible terms were the Ergative Term, the Absolutive Term and the Tertiary Term. I am referring to this inflectional pattern as cross-referencing. The verb "indexes" the presence of all terms which occur within the construction.

I've already demonstrated that this principle is consistently followed in unambiguous situations. The problem I wish to address now has two parts: (1) Is this cross-referencing principle sufficiently rigorous that it is diagnostic?, (2) If there are exceptions, what are they and how may we account for them?

I will begin by again illustrating the principle and then proceed to the more problematic cases. The cross-referencing principle states that whenever any of the three terms, E, A, and T occur in a sentence, each of these terms is cross-referenced in the verb. This implies that there is a marker in the morphology of the verb for each and every term contained in the surface structure of the sentence. Observe the following illustrative examples.

### 1. Ya x-tal-on.

YAC incompl-come-Al

I will come.

An intransitive verb requires only a single term and that is the absolutive term.

2. La s-mil-Ø te winic.  
 past E3-kill-A3 the man  
 He killed the man.

There are two terms in this sentence: the ergative term--an unknown third person--and an absolutive term, 'the man.' The E term is marked by the prefix s- and the A term is marked by the third person absolutive marker which happens to be zero.

3. La s-maj-on.  
 past E3-hit-A1  
 He hit me.

Again there are two terms. The E term is marked by the s- prefix and the A term is marked by the -on suffix.

4. La s-maj-b-on j-pat.  
 past E3-hit-T-A1 my-back  
 He hit my back.

All three terms are marked in this sentence--the E term by the prefix s-, the A term by the suffix -on and the T term by the suffix -b-.

5. La s-maj-bey-Ø s-pat.  
 past E3-hit-T-A3 his-back  
 He<sub>1</sub> hit his<sub>2</sub> back.

Again there are three terms with the A3 term marked by a zero morpheme.

Notice particularly that where the English pronominal system leaves ambiguous

the number of referents in the sentence, this is not possible in Tzeltal.

Compare this sentence with sentence 6.

6. La s-maj-Ø s-pat.

past E3-hit-A3 his-back

He<sub>1</sub> hit his<sub>1</sub> back. (or) He hit himself in the back.

7. La a-maj-Ø a-pat.

past E2-hit-A3 your-back

you hit your back. (or) You hit yourself in the back.

While examples 1-5 are completely unambiguous, we encounter a problem in 6 and 7. Simply put, the problem is that of how many terms are really present. In both 6 and 7 there are three terms present in the surface structure of the sentence: the hitter, the hittee and the thing which was hit. However, the hitter and the hittee are the same person. It would appear that this reduces the number of terms to two: the hitter and the thing hit. This supposed reduction in the number of terms certainly appears to be indicated by the cross-references in the verb.

Now, if we assume that there are only two terms in these sentences, what are they? It is fairly clear that we still have an ergative term. If the possessor has become a non-term because of its equivalence with the ergative term, then it would seem to be the case that the remaining term is 'pat' (back). Normally, under the condition of possession this would be considered a tertiary term as in example 5. If it retains its tertiary termhood in these sentences, then it should be marked by the appropriate cross-referencing morpheme in the verb, i.e. -b- or -bey.' However, we note that this is not the case. Therefore, we are led to the conclusion that 'pat' has been



elevated to absolute termhood. Since 'pat' is a third person term, it is marked with a zero morpheme in the verb.

There are at least two lines of reasoning which support this conclusion. First, let us assume that, on the basis of sentences 5 and 6, the possessor remains the absolute term since it is marked by a zero morpheme. It would then follow that in sentence 6, the morpheme *-bey* does not occur because there are really only two terms--the hitter and the hittee being one and the same person. If this were the operative process, then we would expect to find the morpheme *-at* (the marker of Absolute 2) in sentence 7. However, this is not the case. Therefore, this assumption must be incorrect.

Secondly, let us assume that even though it is the case that the possessor has lost its termhood, the term 'pat' remains a tertiary term. If this were the case, we would expect to find it cross-referenced in the verb in both sentences 6 and 7. This is not the case. Therefore, we are led to conclude that the term 'pat' does not retain its status as a tertiary term in these sentences.

A further problem with the second assumption has to do with the theoretical question of whether or not there can be a tertiary term without an absolute term. I would predict that the answer to this question is "no," although I cannot prove this at this point. It is possible that we could infer from the hierarchy of term relations that there must always be an absolute term before there can be a tertiary term. This issue will come up later when we look at the morphology of passive constructions.

As a result of evidence we've examined to this point, it seems both reasonable and necessary to posit a special identity condition which affects

cross-referencing. This identity condition has two effects. Formally stated this condition is as follows:

Given:	E	A	T
When:	E	≡ A;	then 1. $A_1 \rightarrow \text{non-term}$
			2. $T \rightarrow A_2$
Result:	E	$A_2$	non-term

This rule states that when the referent of the E term is identical to the referent of the A term, then (1) the A term is demoted to non-termhood, and (2) the T term is elevated to A termhood. The final result is that only two terms are present to be cross-referenced in the verb. This cross-referencing is done by the utilization of appropriate morphemes showing concord with the E term and the new A term.

What motivates this shift in termhood under the condition of identity? Although they must remain rather tentative, at least two possible motivations suggest themselves. (1) If it is that case that there exists a strong rule requiring that the verb cross-reference all unique terms in the sentence, then it could be the case that this transformation is a necessary adjustment due to the fact that sentences such as 6 and 7 are understood as having only two unique participants. (2) There could be some cognitive or semantic constraint which says that under non-reflexive conditions the doer and the intentional object cannot be the same entity. Under conditions of identity, the tertiary term is necessarily reinterpreted as the intentional object.

The foregoing examples illustrate the working of the Cross-referencing Principle. These examples represent simple, active, indicative constructions. We will be looking later at the passive to observe the nature of the cross-referencing such constructions manifest.

### 7.3. The Advancement Hypothesis.

The second issue to be taken up in this chapter is an analysis of -BE within the framework of Relational Grammar. In two stimulating papers on Tzotzil syntax (a language closely related to Tzeltal), Aissen (to appear) argues that -BE can be accounted for in purely syntactic terms. Her argument is based on the putative existence of two processes in Tzotzil syntax which she labels Possessor Ascension and Indirect Object Advancement. These processes are commonly employed by relational grammarians in their syntactic analyses.

We'll look at each in turn to see how it handles the data.

#### 7.3.1. Possessor Ascension.

The possessor ascension principle is posited to account for facts like those in the following sentences.

8. La s-mil-b-on j-wacax.  
 past he-killed-BE-me my-cow \*  
 He killed my cow.

9. La s-p'is-b-at aw-oc.  
 past he-measure-BE-you your-foot \*  
 He measured your foot.

\*I will be using fairly neutral morpheme labels in this section to avoid confusing the differing claims of contrasting analysis.

In each of these sentences there is a possessed noun phrase serving as the direct object in the sentence. In each case, we note that the possessor is registered in the verb using the morphemes normally identified as the absolutive set which are used to mark direct objects. The possessor ascen-

sion analysis posits the existence of two object phrases in some underlying level. At the underlying level the possessed NP is the direct object and the possessor is the indirect object. In the final or surface level, the possessor NP is raised to direct object. This requires that the possessed NP which is direct object at the underlying level must go 'en chomage.' The affix -BE is suffixed to the verb as a morphological trace of this advancement. Using example 8, the ascension process is as follows:

	First Object	Second object
Some underlying level	direct object ( <b>wacax</b> 'cow')	indirect object (j- 'me' or 'my')
Surface level	direct object chomeur ( <b>wacax</b> 'cow')	direct object (j- 'me' or 'my')
Morphological evidence of final status	chomeurhood marked by the presence of BE affixed to the verb	direct object status indicated by the presence of the absolutive marker <b>-on</b>

### 7.3.2. Indirect Object Advancement.

Underlying the Possessor Ascension Rule is another rule known as Indirect Object Advancement. This rule states that whenever there is an indirect object in the underlying structure this indirect object will advance to direct object status. This advancement causes the underlying direct object to go 'en chomage.' Aissen notes that in the underlying structure, there are a number of notional categories which are lumped together and which function as indirect objects. These include possessor NP, recipient, benefactive, malefactive, addressee, etc.

Whenever there is an indirect object in the underlying level of structure this indirect object will be raised to direct object status. The underlying direct object becomes a chomeur. This chomeurhood is marked by the presence of BE in the verb morphology. This rule of advancement is obligatory except in the cases identified earlier, namely (1) when the possessor and subject refer to the same participant, and (2) when the direct and indirect objects are first and second person. These exceptions are noted by Aissen without positing any particular motivation for their status. Also, Aissen notes that, for Tzotzil, the Possessor Ascension Rule is optional with first and second person possessors. This is not the case in Tzeltal.

### 7.3.3. Differences.

Aissen's analysis depends upon the claim made by relational grammar that the syntactic relations--subject, direct object, indirect object--are universal syntactic primes. To many this assumption is self-evident and not open to question. Obviously, if an analyst does not agree with this assumption, he is less likely to accept analyses built on such an assumption.

By now it should be clear that the syntactic primes of relational grammar differ considerably from the theory of participant-action complexes posited earlier as the primary framework defining P-V relations in the clause (simple sentence). My theoretical differences with the R-G analysis of -BE are based primarily on this conceptual difference. There are, however, some less formal reasons for disputing Aissen's analysis. Some of the reasons will admittedly appear to be rather esoteric and intuitive. Nevertheless, I will argue that the collective weight of the various arguments is sufficient to merit serious consideration.

## 7.3.3.1. Native Speaker Intuitions.

There seems to be a significant intuition on the part of native speakers that the possessor or the recipient (Aissen's underlying indirect object) is more 'involved' in the action than is the underlying direct object. Let me give a simple illustration of this.

9. La j-mac-bey s-wacax.  
 past El-enclose-BE his-cow  
 I locked up his cow.

One's response to this construction can be in either of two directions. For example, let's suppose I am asked the question: "Why did you lock up his cow?" How would I respond? If I had a direct object orientation I would probably respond with an answer which focused primarily on the cow and its overall situation. A typical answer might be, "Because it (the cow) was wandering around loose."

Now suppose that I change my focus so that I am oriented to the possessor rather than to the possessed. When asked the same question, I might respond. "Because he (the possessor) is my friend and our friendship would be damaged if I failed to help him protect his property."

In my discussions with native speakers, I frequently found that in constructions such as the one above (involving a possessor noun phrase), intention was much more important than the nature of the actual physical action involved. There appears to be a constant awareness of intentionality in transitive constructions. This native speaker response tends to reinforce the notion of intentionality which I have developed earlier.

Aissen's analysis suggests that at some level of underlying structure, the possessor NP is an indirect object term. In the process of derivation,

the possessor is raised to direct object status and the former direct object—in this case, the cow—goes en chomage. The presence of -BE marks the presence of the chomeur.

Although I don't believe she said so directly, I suspect that Aissen senses the saliency of the possessor NP as discussed above. A belief that such saliency is best accomplished by raising this NP to direct object is the primary motivation for the putative principle of possessor ascension.

I believe the major weakness of Aissen's analysis lies in the assumption that the direct object is necessarily more salient than the indirect object. The work of Osgood and Tanz which I discussed earlier suggests that the indirect object may be more salient than the logical direct object. This also accords with Givon's observation (1976) that a human object is more accessible and salient in a hierarchy defined according to the likelihood that a particular object can or will become a topic in a sentence. Given that human objects are very apt to be indirect objects when there is another object present, this accounts for the fact that the Tzeltal indirect object is more distinctively marked than is the direct object (when both occur). Aissen's analysis is not, I suggest, sensitive to the genuine participant-action structure which underlies Tzeltal.

#### 7.3.3.2. The Fact of Ergativity.

My second major objection to Aissen's analysis has to do with the phenomenon of ergativity. Although increasing attention has been paid to this phenomenon in recent years, there still exists considerable mystery regarding its significance. Because a preponderance of today's linguists have been trained in an environment where their primary contact was with nominative-accusative languages it is not surprising that ergativity has been

viewed primarily as an interesting curiosity rather than as a genuinely different principle of language organization. This could be due either to a certain linguistic myopia or to a genuine conviction that ergativity does not, in fact, represent significant differences in linguistic structure. The genuine distinctiveness (or lack of it) of ergative languages remains an open question.

It is my growing conviction, based to a fairly large degree on my work with Tzeltal, that ergative languages may indeed make use of some basic grammatical relations and structures which must be defined and understood within the context of ergativity per se rather than in terms of the grammatical relations and structures long familiar to investigators working in the nominative-accusative linguistic tradition. I suspect it was a similar suspicion which led Dixon (1979) to propose three universal syntactic-semantic primitives A, S, and O, which differentially underlie both ergative and non-ergative languages. Even though we know that the two classes of language differ as to how they group these functions, basic questions remain as to the genuine significance of the two different groupings.

Even if we cannot establish that there must be a significant difference accompanying a divergent grouping, we can allow for the possibility of a significant difference in the existence of a divergent grouping of primitives. The distinctiveness of ergativity has served as a partial motivation for my thesis that the fundamental linguistic opposition in Tzeltal is between affector and affected. Whether this basic opposition led to the development of an ergative framework or an accusative framework led to the emergence of this basic opposition is difficult to estimate. My guess would be the former, but I cannot prove it at this point.



The point I wish to make here is that the fact of ergativity suggests that the analyst might find it informative, in a language like Tzeltal, to pursue his analysis within a framework that is specifically atuned to the purpose and structure of ergativity (whatever that purpose and structure is). In the present study I have proposed an analysis which is (I would suggest) quite compatible with the facts of ergativity as manifested in Tzeltal. This analysis differs in some basic and principled ways with Aissen's, which is cast in terms somewhat more suitable to nominative/accusative linguistic structure. While Aissen's analysis provides an essentially accurate formal account of many of the facts, I am suggesting that her analysis obscures the underlying motivating principles which produce the facts each analysis is attempting to describe.

A further weakness of Aissen's analysis lies in the fact that she is not able to account for some of the exceptions to her analysis. She merely notes that they occur. The analysis I've presented handles the exceptions as a part of the total analysis. Within my analysis the exceptions are not really exceptions but a part of the set of facts to be accounted for.

#### 7.3.3.3. Additional Constructions.

The third issue I wish to take up as a part of my treatment of Aissen's analysis involves a construction she does not discuss in her analysis of Tzotzil. If these forms do not occur in Tzotzil, then obviously she would have had no reason to discuss them. There is really a two-fold reason for examining these constructions here. (1) They do exist in Tzeltal and, therefore, must be accounted for. (2) If we were to adopt Aissen's analysis, we would, as far as I can determine, have trouble accounting for these construc-

tions. On the other hand, these constructions do not pose a serious challenge to my analysis. Let's look at these constructions.

10. Ya s-wejtes-bey-on tal te alambre.  
 pres E3-obtain-T-A1 come the wire  
 He will get (and bring) the wire for me.
11. Ya s-wejtes-b-on tal te j-relojo.  
 pres E3-obtain-T-A1 come the my-watch  
 He will get (and bring) my watch.  
 or  
 He will get (and bring) my watch for me.
12. La s-xa'-bey-on s-jol te mameca te j-nan.  
 past E3-wash-T-A1 its-head the doll the my-mother  
 My mother washed the doll's hair for me.
13. La s-xa'-b-on (j)-jol te j-nan.  
 past E3-wash-T-A1 my-head the my-mother  
 My mother washed my head.

In examples 10 and 12 we note that the T term is fully manifested in the form *-bey + -on*, rather than the more commonly attested, *-b + -on*. Such forms occur with sufficient frequency that they could not be considered accidental. It might be possible to argue that such forms are due to idiolectical or dialectical variation. The idiolectical hypothesis is unlikely in that such forms are fairly widely used and understood. Furthermore (at least some) speakers have a sense of appropriateness which guides their selection of a given form in a given situation.

Looking at sentences 10 and 12 we may note that the object term is not possessed by the absolutive object as it is in sentences 11 and 13. However, this is not a diagnostic feature of this construction. Compare sentence 14.

14. Ya s-cheban-tes-bey-on c-o'tan te elec'-winic.  
 pres E3-discourage-cause-T-A1 my-heart the steal-man  
 The thief is discouraging me (my heart).

Also, both forms may occur with the imperative. Compare sentences 15 and 16.

15. Chom-b-on te silla!  
 sell-T-A1 the chair  
 Sell me the chair!

16. Chetan-bey-on te silla!  
 to put on four legs-T-A1 the chair  
 Set up a chair for me!

This construction is not limited to first person even though all of the preceding examples involve first person indirect objects (absolute object).

17. La s-c'ujban-bey-at bael te lapiz.  
 past E3-arrange for-T-A2 go the pencil  
 He arranged to take the pencil (to/for you).

Also, it is the case that when the structural indirect object is second person plural that the form is always ~~-beyex~~ rather than ~~\*-bex~~. In the third person any potential differentiation is neutralized because the marker for the third person object (absolute term) is zero.

What conclusions can we draw from this evidence and how does this affect our analysis? The case of the second person plural forms would tend to suggest the difference between the reduced and expanded forms is one of convention. That is, the forms are approximately equivalent and the choice

is determined quite arbitrarily. On the other hand, in the case of the first and second person singular forms, there appears to be a difference sufficient to elicit judgments of acceptability and unacceptability from native speakers. What is this difference?

The form of the second person plural construction has a phonological explanation. There is a phonological rule in Tzeltal that prevents or discourages contraction under the condition of vowel similarity. This neutralizes the possible difference in the second person plural between the reduced and expanded forms. Therefore, we need not deal further with the second plural construction.

Let's return to the problem at hand. After studying some of the examples and their context I suggest that the presence of the expanded forms signals a change in the relationship of the two objects and in their relationship to the matrix verb. The basic process operating appears to be a shifting of intentionality from the A term (as previously defined) to the T term (as previously defined). The result is that the T term (which we would identify as the direct object) is made to conform more to the traditional expectation of what a direct object is; that is, it becomes the object which seems to be the primary receptor of the action of the verb. Correspondingly, the A term (which we would customarily identify as the indirect object) is made to conform more to the traditional expectation of what an indirect object is; that is, the recipient or the benefactor of the action of the verb.

If this analysis is correct, it appears that the most direct way of characterizing the shift is in terms of intentionality. Within the relational grammar framework (as proposed by Aissen) there has been no change in

the relations between direct object, indirect object and the verb.

Therefore, there is no way to account for the two forms other than to posit that they are merely alternative means of expressing the same set of relations and advancements.

In terms of the analysis that I have posited, the intentionality hypothesis would appear to pose a significant problem. This problem is as follows. I originally defined the A term as being the intentional object. Now if I want to suggest that intentionality is being shifted from one term to another term, I have a contradiction which must be resolved.

	A Term (defined as intentional object)	T Term (defined as mediating object)
<del>-b-on</del>	intentional object	mediate object
-bey-on	? object	intentional object

In terms of my original analysis it would appear that the A term and the T term have been or should be transposed in the expanded forms. The morphology, however, does not support such a transposition. Therefore, some other explanation must be found. My proposed solution is to posit a rule of intentionality bifurcation. This rule states simply that intentionality may be focused on both the T term and the A term. The primary notional result is that the A term (indirect object) is a more passive and a more peripheral participant. The T term becomes more focal. The morphological reflex of this rule is the presence of ~~-b-~~ rather than the reduced form ~~-b-~~.

It must be noted that this rule is optional, although it appears to be both common and productive. Since neither this rule nor the morphological

construction which underlies it has been attested in other closely related Mayan languages, it would appear that this is a fairly recent innovation. The origin of this innovation is, at the moment, quite obscure. One possibility could be contact with Spanish in which both objects have multiple pronominal forms depending on number and gender. This multiplicity of forms could be motivating a trend towards greater specificity in the Tzeltal morphology. On the other hand, this innovation could be purely spontaneous. Because this is a lowland area in which there has been considerable intermixing of sub-dialects as well as substantial contact with the national language, it is unlikely that this form represents a retention rather than an innovation.

In summary, three arguments have been advanced in support of my analysis; versus that of Aissen's: (1) native speaker intuition, (2) the fact of ergativity and (3) the existence of expanded form. It is probably the case that none of these arguments would be considered sufficiently substantial alone to argue for the superiority of my analysis to that of Aissen. It is my contention, however, that the combined weight of these arguments allows me to claim that my analysis accounts for the facts in a manner more internally consistent with the structural, functional principles which underlie the structure of the language. Furthermore, on the basis of the cognitive model presented earlier, I suggest that my analysis is more naturally motivated than is that of Aissen.

#### 7.4. The Passive.

We turn now to an examination of the passive. This examination will serve two purposes. (1) It will allow us to learn something of how the

Tzeltal passive is formed. (2) It will serve as a final check on the analysis of -BE, which I have proposed.

We will be looking only at those forms of the passive which have a morpho-syntactic manifestation. Other forms of the passive which are based on lexical and idiomatic constructions will not be considered. For example, there is in Tzeltal a passive very similar in form and usage to the "get" passive in English. We will not be looking at this passive.

#### 7.4.1. General Comments.

On the basis of morphological evidence, the passive in Tzeltal can be considered to have two forms--the perfect and the non-perfect. The perfect form of the passive is readily identified by the presence of the suffix -bil. As one might expect, the perfect passive has considerable similarity to a predicate adjective. In fact it is not infrequent to find a perfect passive form being used as an adjective to modify a noun. The perfect passive is used in those situations in which one wishes to refer to the state of affairs that has come to exist as a result of the event lexically identified in the construction. The non-perfect passive may be either past, present or future with the present and the future being indistinguishable morphologically. The essential marker of this passive is the morpheme -ot. There is an alternative form -bot which we will examine in the context of our analysis of the particle -BE.

I will begin this analysis by proffering some examples.

18. Pajel, ya x-mil-ot-Ø te wacax.  
 tomorrow YAC incompl-kill-pass-A3 the cow  
 Tomorrow, the cow will be killed.

19. ~~Ø~~-Xat-ot-~~Ø~~ yu'um te pucuj.  
 compl-shatter-pass-A3 by the devil  
 He was devastated by the devil.
20. Ya s-boj-~~Ø~~ te ja'mal yu'um ma  
 YAC E3-cut-A3 the jungle because not  
 He cuts down the weeds so that  
 x-mil-ot-~~Ø~~ a te ixim-e.  
 incompl-kill-pass-A3 ref the corn  
 the corn won't be killed.
21. Mero lot ~~Ø~~-pas-b-ot-~~Ø~~.  
 very lie compl-do-BE-pass-A3  
 She told a real lie.
22. Yan te jo'-otic-on, ma'yuc j-tuc ya  
 other the pro-Alpl-ex none El-value YAC  
 But we are perceived  
 x-ill-ot-otic-on.  
 incompl-see-pass-Alpl-exclu  
 as being worthless.
23. Teme ya x-jajch-~~Ø~~ guerra, ya x-mil-ot-ex.  
 if YAC incompl-start-A3 war YAC incompl-kill-pass-A2pl  
 If a war starts, you (pl) will be killed.
24. Ya x-a'-b-ot-on bayal taq'uin.  
 YAC incompl-give-BE-pass-A1 much money  
 I will be given much money.
25. Ya x-pas-b-ot-ex perdon euc a.  
 YAC incompl-do-BE-pass-A2pl pardon also ref  
 You will also be forgiven these actions.



Examining the constructions in which the passive morpheme *-ot* occurs--but not *-bot*--we find that in each instance there is only a single argument for the matrix verb. This argument was the surface direct object in the active version of each sentence.

26. A. Tomorrow, (someone) will kill the cow.  
P. Tomorrow, the cow will be killed.
27. A. The devil shattered him.  
P. He was shattered by the devil.
28. A. He cuts down the weeds so the weeds won't kill the corn.  
P. He cuts down the weeds so the corn won't be killed.
28. A. Someone perceives us as being worthless.  
P. We are perceived as being worthless.
30. A. If a war starts, (someone) will kill you.  
P. If a war starts, you will be killed.

In our earlier definition of each of the terms which bears a relation to the verb, we stated that the absolutive term is both subject of intransitive verbs and intentional object of transitive verbs. These passive examples provide us with a good example of the merging of these two relations into a single morpho-syntactic relation.

Comparing sentences 31 and 32 we have a clear demonstration of the operation of the passive transformation in Tzeltal.

31. A. *Teme ya x-jajch-Ø guerra, ya x-mil-ot-ex.*  
if YAC E3-begins war YAC incompl-kill-pass-A2pl  
If a war starts, you will be killed.
32. B. *Teme ya x-jajch-Ø guerra, ya s-mil-ex.*  
if YAC incompl-starts war YAC E3-kill-you  
If a war starts, (someone) will kill you.

The essential difference (morphologically) is the loss of the ergative marker, *s-* accompanied by the insertion of the passive marker *-ot* between the verb stem and the absolutive marker. Syntactically, we have a change from transitivity to intransitivity.

I will make a more formal statement of passivization later in this section.

#### 7.4.2. The BOT Passive.

For convenience of reference I will present another set of constructions involving the *-bot* passive. The free translation of each example will be followed by an approximate active construction from which the passive might have been derived. I term these examples 'approximate' because, in most cases, the ergative participant or subject has been lost and can only be inferred.

33.  $\emptyset$ -Ch'i'-b-ot- $\emptyset$  s-nuculel don Julio  
 compl-tear-BE-pass-A3 his-skin don Julio  
 Don Julio's skin was torn. (He was gored by a cow.)  
 (The cow) tore don Julio's skin (when it gored him.)
34. Ya x-chum-b-ot y-it te cayuco.  
 ya incompl-bump-BE-pass its-rear end the canoe  
 The canoe is bumped in the rear.  
 (Another canoe) bumps into the rear of the canoe.
35.  $\emptyset$ -Jall-b-ot- $\emptyset$  te winic te ma ma lec te  
 compl-tell-BE-pass-A3 the man that not not good the  
 The man was told that his work was no good.  
 y-a'tel-e.  
 his-work-phr  
 (Someone) told the man that his work was not good.

36. **Ya x-tup'-b-ot-ex a-mul-ic.**  
 YAC incompl-blot out-BE-pass-A2pl your-sin-pl  
 Your sins will be blotted out.  
 (Someone) will blot out your sins.
37. **Oxeb welta jich Ø-a'b-ot-on qu-il.**  
 three times this give-BE-pass-A1 I-see  
 I was shown this three times.  
 (Someone) showed this to me three times.

Examining sentences 33-37 we find that in every case there is both an absolutive term and a tertiary term. Furthermore, as in the active voice, the absolutive term may be either an indirect object or a possessor. The presence of a tertiary term in each of these examples is manifested by the presence of the tertiary marker BE. In the case of the passive the vowel of the marker -BE is phonologically reduced because it precedes another vowel. This process is analogous to that of the active voice in which the /e/ is dropped preceding the vowel of another affix.

As a first approximation it appears to be the case that the passive transformation in Tzeltal can be characterized as E Deletion. When E is deleted the passive marker must be inserted and is inserted following BE and preceding the absolutive marker. Furthermore, the deletion of the E term means that the A term is promoted to subject in the surface grammar of the language. It is this feature of the Tzeltal passive which makes it distinctive when compared to English (and many other) passives. Sentence 36 provides us with a good example of this difference. I will look first at the English passive and then compare this with the Tzeltal passive.

## General Passive Transformation (for English)

SD: NP - Aux - V - Np  
 1        2        3        4

SC: 4    2be+en    3    by 1

                  S                    V                    DO  
 Active: Someone will blot out your sins.  
                   1                    2                    3                    4

                  S    V                    by-phrase  
 Passive: Your sins will be blotted out by someone.  
                   4    2                    3                    4

In English 'your sins' is a noun phrase treated as a single argument (in this case, the Direct Object in the active sentence). In the application of the passive transformation, the NP moves as a single unit. For the purposes of verb agreement this noun phrase would be considered third plural. Now, suppose only the possessor is moved. This would yield a sentence like example 38. To the speaker of English sentence 38 is considered somewhat odd and ungrammatical.

38. You will be blotted out your sins.

It is interesting, however, that English can approximate this idea with the 'get' passive or a variation of the 'get' passive using the auxiliary 'have.'

39. You will get your sins blotted out.

40. He got his bell rung by the linebacker.

41. He had his car stolen.

42. I had the bill sent to me.

In these sentences, the possessor of the noun in the direct object NP has assumed subject position. But notice that the DO NP still occurs in the passive in a pre-verbal position. What motivates these constructions? It has been suggested by Tripp (1978) that such constructions are used when the possessor is partly responsible for the deed by his negligence, ignorance or even direct intention. I would suggest that such constructions represent an attempt to elevate the possessor (or indirect object) to a subject-like position. The overall effect of this shift is to make the underlying possessor (indirect object) the focal participant (or victim) in the action.

In Tzeltal, this is the standard, rather than the unusual means of constructing the passive. This is because of the ranking of the participants discussed earlier. Using an English translation of sentence 38, the Tzeltal passive is approximately as follows:

	S		V		DO
43.	Someone	will	blot	out	your sins.
	E		V	A	T

	S		DO		V	by phrase
44.	You	will	have (your)	sins	blotted	out (by someone).
	A		T		V	

The upper labels are those characteristically used in modern grammar. The lower labels are those which I have posited for a Tzeltal grammar. Note that the pressure of the English translation has distorted the processes actually involved in Tzeltal. There is not, for example, a movement of A from post-verbal to pre-verbal position. The Tzeltal passive transformation using a Tzeltal construction is illustrated below.

45. Active:           S V DO IO (DO)  
 Ya s-tup'-bey-ex a-mul-ic.  
                   E V T A

46. Passive:       V DO p S (DO)  
 Ya x-tup'-b-ot-ex a-mul-ic.  
                   V T p A

The use of traditional categories produces considerable confusion and anomaly in characterizing the Tzeltal passive. The biggest problem is that of attempting to decide what the real direct object term is. If we choose BEY, which is the particle cross-referencing 'your sins,' then we must explain why it plays no role at all in the passive transformation. If we choose -EX as the direct object then we must explain why this term has supplanted 'your sins' as the direct object. I suggest these problems can be handled quite easily within the framework developed earlier in the analysis of -BE.

#### 7.4.3. Passivization.

At a fairly high level of generalization, passivization in Tzeltal can be stated as a very simple rule.

Active = E Verb T A

Passive = Verb T A + Passive morpheme

From this process statement we can see that the passive is derived from the active by a rule of E Deletion. This rule is accompanied by the addition of a special morpheme (one of a set) marking passive. To borrow a concept from relational grammar, we might say that the passive marker is equivalent to an E Chomeur.

While E Deletion can be considered a general form of the passive derivation in Tzeltal, there are a number of other syntactic processes which accompany this derivation. (1) The general verb becomes or behaves as though it were an intransitive verb. (2) The absolutive term becomes the subject even though it may seem implausible in certain situations such as when the A is a possessor. (3) As a result of the existence of a simplicity metric there is a tendency for some relevant morpho-syntactic information to be dropped or to be replaced by phrasal equivalents. (It should be noted that this principle also operates in active constructions. Its most common manifestation is the dropping of plural markers for third person T and A markers. Evidently speakers of the language feel that the information carried by such markers is available from the context and need not be marked in the morphology of the verb. At this point I am not able to provide a formal characterization of this simplicity metric. My best guess is that it can probably only be expressed as a tendency and not as a formal constraint.) (4) The passive marker follows a T marker but precedes an A marker.

For a given sentence, the morphology of the verb is established according to the rules applying to the active version of that sentence. The passive transformation is a late transformation which deletes the E term and inserts a passive marker. The A term automatically becomes the subject. The fact that the verb has become an intransitive verb does not require a change in subject marking because A terms are invariant regardless of the transitivity of the verb.

This analysis of the passive does provide one additional insight into the analysis of -BE. The passive construction provides us with a class of construction in which there is both an absolutive and a tertiary object, but

no ergative participant. However, this does not constitute evidence that an absolutive and tertiary participant set is an independently legitimate set. This set is the residual result of the loss of an ergative participant. In this sense the existence of constructions having A and T terms but no E terms does not violate the basic analysis established earlier.

Otherwise we find that the perfect passive does not add significant new evidence to our examination of the problem of the particle -BE (other than corroborating this analysis). In a positive sense we can see that the raising of A rather than T to subject position, in the Tzeltal passive, does accord with my basic analysis.

#### 7.4.4. The Perfect Passive.

Now that we've examined the non-perfect passive, we must take a look at the perfect passive. Look at the following examples of the perfect passive.

47. **Pas-bil-~~Ø~~-ix** te mesa.  
 make-p pass-A3-now the table  
 The table has now been constructed.
48. **Wen p~~oc~~-bil-~~Ø~~** te j-c'ab-tic.  
 very wash-p pass-A3 the my-hand-pl  
 My hands have really been washed.
49. **Puro man-bil** te<sup>r</sup> ya s-c'an.  
 only buy-per pass wood pres E3-want  
 He wants only store-bought lumber (to be used).
50. **Maj-ulan-bil-on** ta c'axlan-etic.  
 hit-iterative-p pass-A1 by stranger-pl  
 I had been beaten up by outsiders.



The first thing we note is that these constructions imply less activity than some of the examples we worked with earlier. For example, in sentence 48 the perfect form is functioning as a predicate adjective. The focus of the sentence is really on the cleanness of the hands rather than the amount or the degree of washing. This construction might more appropriately be translated: "My hands are really clean." The translation given with the example is a more literal one while the second translation is closer to the underlying communicative intent of the Tzeltal.

Looking at sentence 49 we observe that the perfect passive form is clearly functioning as an adjective in that it directly modifies a noun. In this case we can clearly label the perfect passive form as a participle. As such it freely functions as an adjective.

In contrast sentences 47 and 50 contain perfect passive forms functioning in a more verb-like manner. In both cases the form is functioning as a matrix verb and refers definitely to past actions. It is still true, nonetheless, that there is a certain sense of stativeness about these constructions due to the perfectivity.

It is curious that the morpheme signaling the perfect passive construction, *-bil*, contains the segment *-b-*. We might be lead to speculate that the perfect passive morpheme is made up of two merged elements (*-b- + -il*). Having made this leap, we might further suggest that the *-b-* is related to the familiar morpheme *-BE*. While this is an intriguing possibility, it is difficult to find significant evidence to support such an hypothesis. It is possible that historically, *-b-* and *-il* were separate morphemes and in some unknown manner came to represent the perfect passive construction. Be this as it may, in the present form of the language, it appears that *-bil* is a

unique, discrete morpheme quite unrelated to the articulation of the verb with its arguments. Evidence consists primarily in the occurrence of passive forms analogous to active forms in which *-bey* occurs along with the perfect passive marker *-bill*. Look at the following examples.

51. A'-bey-bill-~~Ø~~, jich la s-pas.  
 give-be-p pass-A3 this past E3-do  
 That which he had been given to do is what he did.

52. Yom-bey-bill-otiqu-ix j-nich'nab yu'um  
 unite-BE-p pass-Alpl-now our-children by  
 Our children have been gathered together by

te maestro.  
 the teacher  
 the teacher.

53. J-na'-ojj te s-cuenta c-utsilal ya  
 El-know-perf the its-account my-joy ya  
 I know that what has happened to me  
 x-c'oijt te bin pas-bey-bill-on-e.  
 incompl-arrive the what do-BE-p pass-Al-ana  
 will be beneficial.

Several significant facts stand out in these examples. First, we note that these passive verbs follow a very similar pattern of cross-referencing to that of their active counterparts. The tertiary object is cross-referenced by the affix *-bey* and the absolutive object is cross-referenced by the appropriate affix according to person and number.

Secondly, the morpheme which signals passivity is invariant in these examples (and, to my knowledge, in all others as well). The shape of the

morpheme is not subject to any sort of concord or cross-referencing with the arguments of the verb.

The third significant observation has to do with the placement of the morpheme marking passivity. It occurs between the tertiary object marker and the absolutive object marker. This ordering is a further indication of the tightness of the bond that exists between the verb and the tertiary object (in contrast to the bond between the verb and the absolutive object). These morphological facts are in line with the predictions of the Osgood hypothesis as discussed earlier.

Otherwise, the perfect passive appears to be similar in all respects (other than its perfectivity to the non-perfect passive). It is formed in the same way and has the same structural characteristics.

#### 7.5. Summary.

It appears that the evidence of the passive quite straightforwardly supports the general principles of participant-verb relations being posited in this analysis of Tzeltal. Both the derivation of the passive and its general construction can be accounted for quite simply and elegantly using the E, A, and T participant-verb scheme. It has been argued that the E-A-T analysis provides both an economical and a well-motivated explanation of the semantic-syntactic phenomena which constitute the Tzeltal passive. A competing analysis of the passive using the T-G model has been shown to introduce unwanted complexity and anomaly into the analysis of the passive and its derivation from its active base form.

While a standard Relational Grammar analysis is somewhat similar to the one presented here, I have presented evidence arguing that the E-A-T analysis provides a more highly motivated account than does the R-G analysis.

Finally, I wish to suggest that the superiority of the present analysis derives from its roots in a cognitive model of linguistic structure. This model has allowed us to make generalizations about a particular set of data which otherwise present us with some puzzling anomalies.

## CONCLUSION

In Part I, I began by reviewing recent developments in the field of linguistics. The conclusion drawn from this review was that the field of linguistics is now entering or re-entering a period of overt empiricism. The reason for this return to empiricism is located in a number of perceived inadequacies in the rationalist model (Chomskyan transformational grammar) which had been posited as a general model of language structure and processing.

This return to empiricism reflects a natural stage in the cycle of paradigm development which Kuhn (1962) suggests characterizes all scientific activity. The primary goal of this new empiricism is the acquisition of new linguistic knowledge. Presumably this endeavor will culminate in the development of a new and better rationalist model at some point in the future.

In this light, I suggested that the new empiricism is best served by developing and pursuing a range of models of linguistic structure. These models are "throw-away" models which serve a temporary and useful function in guiding research activity in much the same manner that other scientists put forth and test hypotheses about the empirical concerns of their discipline. Several such models were presented and discussed briefly in terms of their assumptions and their goals.

The remainder of Part I is concerned with the presentation and discussion of another model designed to facilitate the sort of empiricist research

needed to further linguistic knowledge. The justification for this model is that it is very similar to the so-called "throw-away" models. A further justification for the model is the fact that it appears to provide an adequate account of certain facts in Tzeltal linguistic constructions which can not be readily accounted for using a rationalist model (such as the Aspects model).

### The Cognitive Model

The cognitive model proposed in this thesis takes as its central hypothesis the claim that what is really innate in humans is a set of cognitive structures which interface the human mind and the external world. These cognitive structures serve as the channels by which man acquires information about his environment. Therefore, I argued, one way to view the organization of language is to conceive of it as a sophisticated composite of just that information distinguished by man's cognitive structures.

In Chapter Two I suggested that there are at least four major cognitive structures which participate in the perception of the external world. These are (1) an awareness of several dimensions of time and space, (2) an awareness of actors, actions and a variety of possible relations between the two, (3) an awareness of causality, intention and purpose and their involvement in the actions one observes and (4) an ability to label and refer to both action and actor in the absence of either.

The final step in the development of the argument is to propose that each of these cognitive structures underlies and motivates a significant informational-organizational component in language. In the presentation of the model, I proposed four such components or grammars. These are--following

the order of presentation in the previous paragraph--(1) the External Grammar; (2) the Internal Grammar; (3) the Intentional Grammar and (4) the Referential Grammar.

If we accept the claim that language is a composite of four different types of information, then it follows that we should be able to analyze a language in these terms. Since each of the four Grammars really represents cognitive or conceptual information, it is obvious that the application of this model to the analysis of a language will differ significantly, if not radically, from other, more traditional models.

In Part II I have applied the cognitive model to the analysis of four different problems in Tzeltal grammar. In Chapter Three, we dealt with the particle YAC. The resultant analysis proposed that YAC was a composite of three separate functions or types of information. These are (1) marking of non-past tense, (2) the marking of an affirmative proposition and (3) the marking of volitional qualities in the character of the action represented by the lexical predicate. All three functions have to do with some aspect of the External Grammar of the language.

The significance of this analysis of YAC in relation to other possible analyses using more traditional models lies in the fact of its multiple functions. In a syntactic analysis, a particle (such as this) must come from a single phrase structure rule. We might, for example, suggest that YAC is a part of the AUX node because of its function as a marker of non-past tense. This poses a problem when an optional negative transformation is applied replacing YAC with *ma*. There is no well-motivated reason why YAC should be replaced under this condition if it is a tense marker.

An additional problem with a possible syntactic analysis of YAC has to do with the fact that a syntactic analysis avoids the inclusion of semantic information as a part of the analysis. In the case of YAC, it is crucial to include its affirmative properties as a part of the analysis. A grammatical analysis which chooses not to, or is unable to include this sort of information in the analysis will be incomplete.

The volitional function of YAC poses an even greater problem for a syntactic or a structural analysis. There are no phrase structure rules which are sensitive to a volitional component because this is a semantic rather than a syntactic feature. Therefore, this feature of the particle is not handled by any straightforward syntactic process.

The particular feature of the cognitive model which enables us to account quite easily for the various functions of YAC is the principle referred to earlier as the "stacking principle." This is a principle which says, in effect, that *n*-semantic functions (pieces of information) can be and frequently are stacked into a single surface particle. This principle further implies that the native speaker of the language responds to the single particle as though it were underlyingly three separate particles. An analysis of this sort is much more feasible in terms of a functional model of the sort introduced here than it is within the context of a syntactic analysis.

In Chapter Four, I pursued an analysis of Tzeltal tense and aspect within the framework of the cognitive model. This analysis revealed the existence of four distinct aspectual systems, each of which has distinctive conceptual and morpho-syntactic correlates. The four systems identified were (1) simple aspect, (2) comparator aspect, (3) augmented aspect and (4) derivational aspect.



The analysis of aspect in the standard Aspects model is somewhat oblique. That is, aspect is a semantic label rather than a syntactic label. In the case of English, the transformational model posits the existence of an auxiliary which includes all those forms which encode aspect in English. If we were to attempt to do this in the case of Tzeltal, a putative auxiliary node would have to be treated as a "meta-node." That is, the analysis would recognize the presence of a node in principle, but would state that the manifestation of the auxiliary in the surface structure could not be defined in terms of purely syntactic rules (unless, of course, one makes use of a large number of item-and-process statements).

Consider, for example, the affix ~~-ix~~ which indicates post-transitional aspect. This aspect marker can be suffixed to at least five different classes of words with its location in a specific sentence being determined by semantic rather than syntactic information.

The relationship between each of the aspectual systems and the nature of the aspect that system marks, is another Tzeltal linguistic fact for which there is no simple syntactic explanation. Accounting for such a correlation requires an analytic approach which makes use of semantic information. It is precisely such facts that a cognitive model accounts for so well. By assuming a priori that language is a device constructed to convey information which is semantically or cognitively salient, we can discern structural patterns in language which exist especially to make such information explicit. Further, we are then in a position to posit analyses for these patterns which are well motivated.

In Chapter Five, attention was focused on the morpheme ~~-uc~~. The analysis examined various manifestations of this morpheme in some detail.

Because its primary function is that of marking unreality, the analysis necessarily dealt with various features of the Tzeltal conception of unreality. The analysis revealed two primary dimensions in the Tzeltal conceptualization of unreality. These are (1) pure hypotheticality and (2) counter expectancy.

I would suggest that possible syntactic analyses of ~~-uc~~ would be deficient in two regards. First of all, a syntactic analysis would have difficulty in determining or predicting where the particle was going to occur in the surface structure. This difficulty is not due to the fact that its position of manifestation is arbitrary, but rather because it is conceptually defined. Therefore, one needs a semantically sensitive rule to define the placement of this affix.

The second deficiency is, admittedly, one of aesthetics. That is, a syntactic analysis of the particle ~~-uc~~ will not begin to record the richness and the diversity of meaning that this particle brings to instances of its use. For this sort of information one is forced to pursue an analysis within a semantic framework. In this regard, it is quite significant that a semantically defined analysis is able to provide a quite straightforward and economical account of the occurrence of ~~-uc~~. To the extent that this is a desirable feature of any model, the cognitive model stands as a framework which has both permitted and guided an analysis of this feature of the language which seems structurally, semantically and intuitively sound.

In Chapters Six and Seven, attention was focused on a problem in the Internal Grammar of Tzeltal. In this case, the subject of analytical concern is the significance of the morpheme ~~-BE~~ which is always attached to the verb. The analysis indicated that there exists in Tzeltal a very distinctive rela-

tionship among the set of participants drawn together by a single action. We found that there is a scale of importance, as it were, which dominates the relationship of each participant to the others. In this "hierarchy" of participant relations, we found that the function of -BE is that of marking the presence of a tertiary participant. A tertiary participant is somewhat like an innocent bystander. He (it) is only incidently involved in the action. The major participants--the doer and the done to--are far more salient in the structure of the event and also in the awareness of the native speaker of the language when he refers to a given event.

Of all of the linguistic problems examined in this analysis, the problem of -BE would seem to be the most amenable to a purely syntactic analysis. However, there are a number of reasons why this is not the case. (1) Any participant cross-referenced by the occurrence of the morpheme -BE is always the surface structure direct object, but only certain surface structure direct objects are cross-referenced by -BE. (2) Some surface structure direct objects cannot be cross-referenced by -BE. (3) Under certain conditions, there may be two object participants, neither of which is cross-referenced by -BE. (4) The object participant not cross-referenced by -BE may fill any of the following surface structure grammatical roles: indirect object, possessor of the direct object, direct object (when there is only one object participant) and subject (of a passive verb). (5) The morpheme -BE displays a very tight bonding with the lexical verb. No other affixes may occur between it and the verb stem. This is not true of affixes which cross-reference the other object participant.

The only syntactic analysis which has even come close to accounting for this morpheme is that of Judith Aissen (forthcoming) which was carried out

within a relational grammar framework. While this analysis accounts for some of the facts (one and four above), it does not provide a motivated account for the other facts. These are handled primarily as exceptions to the analysis.

I have argued that an analysis carried out within the framework of the cognitive model developed in Part I provides a motivated account of all the facts involving the occurrence and function of this morpheme in the language. When all possible participants (doer, done to, bystander) are involved in an action, there is a well-defined system for relating these participants and for cross-referencing them in the verb according to their semantic or cognitive inter-relationship.

This system is best defined as a partially hierarchical complex in which the principal dichotomy is between the doer and the done to. The third participant is then the bystander--identified as the tertiary participant in the body of the analysis. Each of these participants is invariantly cross-referenced in the verb--the doer by ergative case markers, the done to by absolutive case markers and the bystander by -BE. This analysis then avoids all of the problems raised by the fact that the done to participant may be manifested in any one of four different surface grammatical categories.

Within this analysis, there is a solution to the problem of why -BE is not always present when there are two object participants. The solution is bound up in the definition of what may constitute a done to object (an intentional object). The morpheme -BE is present whenever there are two object participants, one of which is clearly an intentional object. The crucial point here is the fact that the definition of a legitimate inten-

tional object is culturally or cognitively defined as per the Silverstein Agency Hierarchy (1976). Such a principle is clearly outside of the domain of a typical syntactic analysis. An appeal to a cognitive-semantic model such as the one presented in Part I seems to provide the most reasonable and the most highly motivated account of the facts surrounding the occurrence of -BE.

It is regrettable that we have been able to test only a very limited portion of the model in this analysis. We looked at three features of the External Grammar--the analysis of YAC, the analysis of tense and aspect, and the analysis of ~~uc~~ (as a marker of unreality)--and one feature of the Internal Grammar--the analysis of -BE. In the latter case, however, the analysis of this one morpheme necessarily included an analysis of the larger participant complex of the Tzeltal sentence. This material really represents just a minute sampling of possible analyses using the cognitive model. The analysis of a complete utterance, for example, would include information from each of the four grammars. In the foregoing analysis we made use of only two of these four grammars. For the present, these samples will have to suffice as a representative application of the cognitive model to the analysis of a language. On the basis of the utility of the model demonstrated in this small sample of problems, I'm optimistic that the model is capable of providing insightful analyses into a variety of linguistic problems.

There are several other useful features of the model which we have not investigated in this study. I shall comment on these briefly.

A second useful feature of the model is that when it is applied to the analysis of a particular problem, it yields useful insights into the cognitive as well as the structural features of the language. This is particu-

larly useful to those who wish to learn to speak a language in addition to studying that language.

One of the most useful features of the model is that it is easy to apply. This should not be construed to mean that the model is, therefore, trivial. Because the model is based on some very explicit and some very fundamental assumptions about the nature of language, any analysis done within the framework of the model makes, in principle, a similar fundamental claim about the problem it addresses. The analyses of Tzeltal using the cognitive model have yielded some fundamental insights about the organization of the language. I believe this is due to the supportive nature of the theoretical assumptions underlying the model.

On a theoretical plane, a useful feature of the model which has not been treated in this thesis, is its potential for making predictions about the universal characteristics of the languages of the world. Having argued that language is based on the possession of shared, innate cognitive structures, it follows that this provides us with a natural and a well-motivated means of doing comparative studies of different languages.

Finally, I find the model quite appealing in that it attempts to provide a motivation for and not just a description of the phenomena of language. The studies presented in Part II reflect this characteristic of the model. The insights I've gained into Tzeltal using the cognitive model have excited my curiosity about this language in particular and about all languages in general. I am now eager to apply the model to the analysis of other languages in the future.

APPENDIX

Cuento Yu'un Jose

1. Jose's Story

(J1) Bueno, Ay- $\emptyset$  jum cuento yu'un tujl winic. (J2) Te  
 Okay, is-A3 one story about class man art  
 Okay, this is a story about a man. The

winic ja'- $\emptyset$  s-biil Jose. (J3) Te Jose  $\emptyset$ -jalaj- $\emptyset$  soc  
 man pro-A3 E3-name art compl-stay-A3 with  
 man's name was Jose. Jose lived with his father.

te s-tat. (J4) Y te s-tat ma' ba  $\emptyset$ -a'-b-ot- $\emptyset$   
 art his-father and art his-father neg compl-give-BE-pass-A3  
 He (Jose) had not been shown how to work.

y-il- $\emptyset$  ta lec a'tel. (J5) Jich yu'un, ja'- $\emptyset$  nax  
 E3-see-A3 to good work therefore pro-A3 only  
 Therefore, all Jose had learned

ba-~~en~~- $\emptyset$  ta y-o'tan puro tajimal te Jose. (J6) Pero la  
 go-perf-A3 to his-heart only play art but past  
 to do was play. But there

s-ta- $\emptyset$  y-orail  $\emptyset$ -loc'- $\emptyset$  ta a'tel. (J7)  $\emptyset$ -Ba-jt  
 E3-find-A3 his-time compl-leave-A3 to work compl-go-A3  
 came a time when he had to go to work. He went to

ta yan lado. (J8)  $\emptyset$ -Ba-jt ta mero xajch'al. (J9) La  
 to other area compl-go-A3 to very far past  
 another area. He went far away. He

y-ijquitay- $\emptyset$  te s-tat. (J10) Jich yu'um ta banti  
 E3-leave-A3 art his-father therefore to where  
 left his father. In the area he came to,

$\emptyset$ -c'oy- $\emptyset$  la s-le- $\emptyset$  a'tel.  
 compl-arrive-A3 past E3-look for-A3 work  
 he looked for work.

(J11) Entonces, ta banti la s-le- $\emptyset$  te a'tel, tey  
 then to where past E3-look-A3 art work there  
 Then, he stayed two or three months where he was looking

$\emptyset$ -jalaj- $\emptyset$  cheb, ozeb u. (J12) La y-il- $\emptyset$  tey  
 compl-stay-A3 two three month past E3-see-A3 there  
 for work. He saw a girl there.

ay- $\emptyset$  jum ach'ix. (J13) La s-mulan- $\emptyset$ . (J14) La s-c'opon- $\emptyset$ .  
 is-A3 one girl past E3-like-A3 past E3-talk-A3  
 He liked her. He proposed.

(J15) Jich la s-c'an-bey- $\emptyset$  permiso te s-tat  
 then past E3-want-BE-A3 permission art herfather  
 Then, he sought permission from the girl's father and

s-nan. (J16)  $\emptyset$ -A'-b-ot- $\emptyset$  te quere~~m~~ yu'um ma' ba  
 his-mother compl-give-BE-pass-A3 art boy because neg  
 mother. The boy was given permission because no one knew

il-bil- $\emptyset$  te bin modo y-u'um, teme ya s-c'an- $\emptyset$   
 see-perf pass-A3 art what way E3-poss if YAC E3-want-A3  
 his customs, whether he like to work or not.



a'tel. (J17) Pero te Jose, mero ma' s-c'an-Ø a'tel.  
 work but art very neg E3-want-A3 want  
 But Jose, really didn't like to work.

(J18) Ø-Ch'aj-Ø ta a'tel. (J19) Ø jaragon x-chi-Ø  
 compl-lazy-A3 at work or lazy incompl-say-A3  
 He was lazy. Or lazy is another word to

s-biil te yan c'op. (J20) Mero ma' s-c'an-Ø.  
 E3-name art another word very neg E3-want-A3  
 describe it. He really didn't like to work.

(J21) Jich yu'um Ø-jal-b-ot-Ø te s-tat te  
 that why compl-say-BE-pass-A3 art E3-father art  
 That's why he was told by the father of the girl.

ach'ix, (J22) "Bin nax c-o'tan yac aw-ich'-Ø te c-antsil  
 girl what only E1-heart YAC E2-take-A3 art his-woman  
 I am pleased that you will take my daughter.

j-nich'an, x-chi-Ø.  
 my-child incompl-say-A3

(J23) Y te Jose la y-al-Ø, "Pues, lec ay.  
 and art past E3-say-A3 well good is-A3  
 And Jose replied, "Okay, fine.

(J24) Jum c-o'tan ya x-nupum-on." (J25) Jich yu'um  
 one E1-heart YAC incompl-marry-A1 therefore  
 I really want to get married. Therefore

Ø-nupumtes-ot-Ø. (J26) Spisil c'alal Ø-nupum-ix te  
 compl-marry-pass-A3 all when compl-marry-now art  
 they were married. Now all of his daughters were married

Jose soc te xPetra (xPetra s-biil te ach'ix).  
 and art her-name art girl  
 as Jose had married xPetra (the name of the girl).

(J27) Jich yu'um c'alal la s-nupum-~~Ø~~-ic, la  
 that because when past E3-marry-A3-Ep1 past  
 There after he married them, he told him,

y-al-bey-~~Ø~~, "Yo'tic ya x-jul-at cheb ja'bil ta j-na."  
 E3-say-BE-A3 now YAC incompl-arrive-A2 two year to El-house  
 "Now you will stay two years at my house."

(J30) ~~Ø~~-jil-~~Ø~~-ic cheb ja'bil ta s-na, ta s-na  
 compl-stay-A3-Ap1 two year at his-house at his-house  
 They stayed two years at the house of the girl's

s-tat te ach'ix. (J31) Y Te Jose ay-~~Ø~~ ta a'tel  
 her-father art girl and art is-~~Ø~~ at work  
 father. Jose worked

pero ma'ba mero ya y-o'tantay te a'tel. (J32) Ma' ba  
 but neg very YAC his-heart art work neg  
 but didn't really apply himself to the work. He didn't

mero ya s-c'an-~~Ø~~. (J33) Tey ~~Ø~~-ayin-~~Ø~~ tujl s-nich'an  
 very YAC E3-want-A3 there compl-born-A3 class his-child  
 really want to. There a child was born to Jose.

te Jose. (J34) ~~Ø~~-Ayin-~~Ø~~-ix tujl s-nich'an te Jose  
 art compl-born-A3-now class E3-child art  
 Jose and xPetra now had a baby.

soc xPetra.  
 and

(J35) Bueno, la y-al-Ø te s-ni'al te  
 good past E3-say-A3 art his-father-in-law art  
 Then, Jose's father-in-law said to Jose,

Jose. (J36) "Yo'tic te bin ut'il ay-Ø-ix te a-nich'an,  
 Now art how is-A3-now art your-child  
 "Now that you have a child,

Ø-loc'-an-ix te aparte. (J37) Ya x-ju'-Ø  
 compl-leave-Aimp-now art apart. YAC incompl-able-A3  
 you should live apart. You can build a

yac a-pas-Ø a-na ta banti yac a-mulan-Ø," x-chi-Ø.  
 YAC E3-make-A3 your-house to where YAC E2-like-A3 incompl-say-A3  
 house where ever you like, he said,

s-c'oblal. (J38) Te Jose la y-al-Ø,  
 E3-message art past E3-say-Ø,

(J39) Lec ay-Ø."  
 good is-A3  
 Very well.

(J40) Ø-Ba-jt la s-toj-bey-Ø y-ajwal y  
 compl-go--A3 past E3-pay-BE-A3 his-landlord and  
 He went and payed a landlord and they built a house.

la s-pas-Ø-ic te s-na. (J41) Ø-Ba-jt yu'un te  
 past E3-make-A3-Epl art his-house compl-go-A3 because art  
 Therefore he moved to

s-na. (J42) Jich yu'un Ø-sol-Ø-ic bael soc  
 E3-house therefore compl-crossover-A3-Apl go with  
 the house. Therefore he left with his wife and went there.

te y-inam, soc te xPetra. (J43) ~~Ø~~-Ba-jt-ic ta s-na.  
 art E3-wife with art compl-go-A3pl to E3-house  
 They moved to their house.

(J44) C'alal ~~Ø~~-c'oy-~~Ø~~ ta s-na ma'ba la  
 when compl-arrive-A3 to her-house neg past  
 When he had moved in, Jose didn't look for work.

s-le-~~Ø~~ a'tel te Jose. (J45) Yu'um ma' s-c'an-~~Ø~~  
 E3-look for-A3 work art because neg E3-want-A3  
 Because he didn't like

a'tel.  
 work  
 to work.

(J46) Ay-~~Ø~~ wan jum o cheb u ay-~~Ø~~ ta s-na.  
 is-A3 perhaps one or two month is-A3 to his-house  
 One or two months passed and Jose did little work.

(J47) Ma'-y-uc bin ya s-c'an-~~Ø~~. (J48) Ja'-~~Ø~~ nax ya  
 neg-2-subj what YAC E3-want-A3 pro-A3 only YAC  
 He didn't want to do anything. He only wanted

s-c'an-~~Ø~~ we'el. (J49) Ya y-all-~~Ø~~ te xPetra, "Jose,"  
 E3-want-A3 food YAC E3-say-A3 art  
 to eat. xPetra said, "Jose,"

x-chi-~~Ø~~, "le-a a'tel. (J50) Teme ma'-uc,  
 incompl-say-A3 look for-Eimp work if neg-subj  
 "Look for work. If you don't

ya me x-laj-otic. (J51) Teme ma'uc ya  
 YAC certainly incompl-finish-Elpl if neg-subj YAC  
 we will certainly all die. If not, we'll all



(J61) Bueno, la s-ta-Ø y-orail Ø-jal-b-ot-Ø,  
 okay past E3-find-A3 his-hour compl-say-BE-pass-A3  
 Now a time came when he was told.

(J62) "Yo'tic, Jose, ma'-y-uqu-ix j-c'u' y ja'-at  
 today neg-2-subj-now E1-dress and pro-A2  
 "Today, Jose, I don't have a dress, and you don't have a

ma'-y-uqu-ix a-c'u' euc. (J63) Ba-an le-a  
 neg-2-subj-now E2-shirt also go-Aimp look for-Eimp  
 shirt either. Go. Look for work.

a'tel.  
 work

(J64) "Bueno," la y-al-Ø, "Yo'tic mill-a jum  
 okay past E3-say-A3 now kill-Eimp one  
 "Okay," he said. "Now, kill a chicken."

mut." (J65) Ay-Ø jum s-me'mut y-u'um te y-inam.  
 chicken is-A3 one her-hen his-poss art his-wife  
 His wife had a hen.

(J66) La s-mil-Ø y la y-ac'-Ø ta pael  
 past E3-kill-A3 and past E3-give-A3 to make  
 She killed it and prepared it.

talel. (J67) La s-ch'iil-Ø. (J68) Jich la s-pots-Ø  
 coming past E3-fryA3 thus past E3-wrap-A3  
 She fried it. She wrapped the

bael soc waj y la y-al-Ø,  
 going with tortilla and past E3-say-A3  
 tortillas and said.

- (J69) "Y ban ya x-ba-at?" (J70) Ø-Jal-b-ot-Ø  
 and where YAC incompl-go-A2 E3-say-BE-pass-A3  
 "And, where are you going?" This is what

y-u'um te y-inam, te xPetra.  
 E3-poss art his-wife art  
 he was told by his wife.

- (J71) La s-jac'-Ø te Jose. (J72) "Bueno, yo'tic  
 past E3-reply-A3 art okay today  
 Jose replied, "Okay, today

ya x-ba j-le-Ø banti ya x-laj-on.  
 YAC incompl-go El-look for-A3 where YAC incompl-finish-A1  
 I am going to go look for a place to die.

- (J73) Yu'um ma' j-c'an-Ø-ix te li' ay-on.  
 because neg El-want-A3-now art here is-A1  
 Because I don't want to be here.

- (J74) Ma' j-c'an-Ø cuxul-on. (J75) Ø ya x-ba  
 neg El-want-A3 alive-A1 or YAC incompl-go  
 I don't want to live any longer. I'm going to

j-le-Ø jum winic te ay-uc-Ø te bin ut'il ya  
 El-look for-A2 one man art is-subj-A3 art how YAC  
 look for a man, if there is one, who will give me money."

y-a'-b-on taq'uin.  
 E3-give-BE-A1 money

- (J76) "Bueno, pas-a abi.  
 okay do-Eimp excl  
 "Okay, do it then!"

(J77)  $\emptyset$ -Ba-jt,  $\emptyset$ -been- $\emptyset$  wan, como mill  
 compl-go-A3 compl-walk-A3 perhaps about thousand  
 He left and walked perhaps a kilometer.

metro ta s-na. (J78) Ay- $\emptyset$  jum ja'. (J79) Y ta  
 meter from his-house is-A3 one water and at  
 He came to a steam. There,

ja' la s-jutsan- $\emptyset$  s-ba te Jose. (J80) La  
 water past E3-sit-A3 his-self art past  
 Jose sat down. He

s-loq'ues- $\emptyset$  te s-we'el la s-pol- $\emptyset$  spisil.  
 E3-take out-A3 art his-food past E3-unwrap-A3 all  
 took out the food and unwrapped all of it.

(J81)  $\emptyset$ -Och- $\emptyset$  ta we'el. (J82) Jich yu'um  $\emptyset$ -tal- $\emptyset$   
 compl-enter-A3 to eat then compl-come-A3  
 He began to eat. Then a man came by.

(J83) "Bin yac a-pas- $\emptyset$  a?"  $\emptyset$ -ut-ot- $\emptyset$ .  
 what YAC E2-do-A3 ana compl-ask-pass-A3  
 "What are you doing?" he was asked.

(J84) "Ma'-y-uc. (J85) Ay-on ta we'el," x-chi- $\emptyset$ .  
 neg-<sup>2</sup>-subj is-A1 to eat incompl-say-A3  
 "Nothing, I'm eating," he said.

(J86) "Pero bin s-tuc- $\emptyset$  te jum mut aw-ich'-oj- $\emptyset$ ."  
 but what E3-purpose-A3 art one chicken E2-take-perf-A3  
 "But why did you bring the whole chicken?"

(J87) "Pues, yu'um ya j-we'- $\emptyset$ ."  
 well because YAC E1-eat-A3  
 "So I could eat it."



(J88) "Pero an te aw-inam, bin ya s-we'-Ø  
 but conj art E2-wife what YAC E3-eat-A3  
 "But what is your wife eating since you

yu'um spisil la aw-ich'-Ø tal te mut (J89) Y  
 for all past E2-take-A3 come art chicken and  
 brought the whole chicken with you? What

te aw-inam bin ya s-we'-Ø."  
 art your-wife what YAC E3-eat-A3  
 is your wife eating?"

(J90) "Aaa, pero te qu-inam ya s-we'-bey-Ø te y-oc,  
 but art my-wife YAC E3-eat-BE-A3 art it's-foot  
 "Ah, but my wife is eating the feet,

ya s-we'-bey-Ø te s-jol ya s-we'-bey-Ø te s'cha'cha',  
 YAC E3-eat-BE-A3 art it's-head YAC E3-eat-BE-A3 art it's-gizzard  
 the head, the gizzard and the liver.

ya s-we'-bey-Ø te s-tsej-cub. (J91) Ja'-Ø Ø-jil-Ø  
 YAC E3-eat-BE-A3 art it's-liver pro-A3 compl-leave-A3  
 Those things are

yu'um ya s-we'-Ø."  
 for YAC E3-eat-A3  
 there for her to eat."

(J92) "Y te ja'-at?"  
 and art pro-A2  
 "And you?"

(J93) "Jo'-on, ya j-we'-Ø te mero ti'bal."  
 pro-A1 YAC E1-eat-A3 art very meat  
 "I'm eating the real meat."

- (J94) "Y bin yac a-le-bel-Ø? (J95) Ban ya  
and what YAC E2-search-dur-A3 where YAC  
"What are you searching for?" "Where are

x-ba-at?," Ø-jal-b-ot-Ø.  
incompl-go-A2 compl-say-BE-pass-A3  
you going?," he was asked.

- (J96) "Ma'-y-uc, yac-all j-le-bel-Ø jum winic  
neg-is-subj YAC-gen E1-look for-dur-A3 one man  
"Nowhere, I'm looking for a man,

te ay-uc bin ut'il ya s-coltay-on. (J97) Te ya  
art is-subj what how YAC E3-help-A1 art YAC  
if there is one, who will help me. Who will

y-a'-b-on ta majanel taq'uin yu'um ma'-y-uqu-ix  
E3-give-BE-A1 to loan money because neg-is-subj-now  
loan me money because I don't have any clothes left.

j-c'u', ma'-y-uqu-ix j-wex. (J98) Y te qu-inam y  
my-shirt neg-is-subj-now my-pants and art my-wife and  
And my wife and son

te j-nich'an ma'-y-uqu-ix bin ay-Ø y-u'um."  
art my-son neg-is-subj-now what is-A3 E3-poss  
don't have anything either."

- (J99) Bueno, Ø-jal-b-ot-Ø yu'um te winic,  
okay compl-say-BE-pass-A3 by art man,  
Then he was told by the man,

"Yu'um ball mero ch'aj-at ta a'tel?," x-chi-Ø  
because ques very lazy-A2 of work incomp-say-A3  
"Is it because you are lazy?"

(J100) "Pues yac, ya x-a'tej-on pero ma'-y-uc  
 well YAC YAC incompl-work-A1 but neg-is-subj  
 "No, I am willing to work, but nobody

mach'a ya s-toj-on."  
 who YAC E3-pay-A1  
 will pay me."

(101) "Bueno, yo'tic yac aw-ich'-Ø bael te jum  
 okay today YAC E2-take-A3 going art one  
 "Okay, today, take this little stick with you,

tut te' ini," x-chi-Ø. (J102) "Te te' ya  
 little stick this incompl-say-A3 art stick YAC  
 he said. "The stick

c-a'-b-at bael ini, yac aw-ich'-Ø sujtel ta a-na.  
 E1-give-BE-A2 going this YAC E2-take-A3 return to E2-house  
 I'm giving you, take it back to your house.

(J103) Pero primero ya j-we'-Ø-tic te a-mut,"  
 but first YAC E1-eat-A3-E1pl art E2-chicken  
 But first, we will eat your chicken," he said.

x-chi-Ø. (J104) "Cheb-all-tic ya j-we'-Ø-tic te  
 incompl-say-A3 two-gen-pl YAC E1-eat-A3-E1pl art  
 "The two of us will eat your chicken,

mut. (J105) C'alal Ø-laj-Ø c-u'um-tic s-we'el  
 chicken when compl-finish-A3 E1-poss-pl it's-food  
 When we finish the chicken, then

te mut, y ba-an."  
 art chicken and go-Aimp  
 you will go."

- (J106) "Bueno," x-chi- $\emptyset$ . (J107) Jich  $\emptyset$ -Ba-jt.  
 okay incompl-say-A3 then compl-go-A3  
 "Okay," he said. Then he went.

- (J108) Yan welta ta s-na te winic y-ich'-oj- $\emptyset$   
 another time at his-house art man E3-take-perf-A3  
 Again the man went to his house, taking the little

- bael jum tut te'. (J109)  $\emptyset$ -C'oy- $\emptyset$  ta s-na  
 going one little stick compl-arrive-A3 at his-house  
 stick with him. He arrived at his house.

- (J110) " $\emptyset$ -Tal-on," x-chi- $\emptyset$  c'oyel  
 compl-come-A1 incompl-say-A3 arriving  
 "I've arrived," he said approaching.

- (J111) "La", y  $\emptyset$ -sujt-at-ix talel,"  
 come and compl-return-A2-now coming  
 "Come here! You've returned already,"

- x-chi- $\emptyset$  s-c'oblal y-u'um te y-inam.  
 incompl-say-A3 E3-manner by art his-wife  
 said his wife questioningly.

- (J112) " $\emptyset$ -sujt-on-ix."  
 compl-return-A1-now  
 "I've returned."

- (J113) "Y ban ay- $\emptyset$  te taq'uin?," x-chi- $\emptyset$ .  
 and where is-A3 the money incompl-say-A3  
 "And where is the money?," she said.

- (J114) "Pues, te taq'uin, ma'-y-uc, ma' la  
 well art money neg-is-subj neg past  
 "Well, there's not money; I didn't find any.

j-ta- $\emptyset$  (J115) Jip la y-al-b-on te winic:  
 E1-find-A3 only past E3-tell-BE-A1 art man  
 But the man did tell me this:

Ja- $\emptyset$  te tut te' ini, teme ya j-c'an- $\emptyset$  ya  
 pro-A3 art little stick this if YAC E1-want-A3 YAC  
 See this little stick, if I want for us to eat

x-we'-otic, x-chi- $\emptyset$  ya j-tij- $\emptyset$ -tic te mesa  
 incompl-eat-A1pl incompl-say-A3 YAC E1-strike-A3-E1pl art table  
 he said, we just hit the table.

(J116) Entonces, ya x-tal- $\emptyset$  te we'el," x-chi- $\emptyset$ .  
 then YAC incompl-come-A3 art food incompl-say-A3  
 Then our food will appear," he (Jose) said.

(J117) "Bueno, pas-a abi," x-chi- $\emptyset$ .  
 okay do-Eimp excl incompl-say-A3  
 "Okay, do it then," she said.

(J118) "J-wi'nall-ix ya c-a'iy- $\emptyset$ , x-chi- $\emptyset$  te  
 E1-hunger-now YAC E1-feel-A3 incompl-say-A3 art  
 "I'm hungry," said his wife.

y-inam.  
 E3-wife

(J119)  $\emptyset$ -Och- $\emptyset$  (J120) C'alal la s-tij- $\emptyset$   
 compl-enter-A3 when past E3-hit-A3  
 He began to do it. When he hit the door,

te puerta, te mesa soc tut te',  $\emptyset$ -tal- $\emptyset$  jayeb  
 art door art table with little stick compl-come-A3 much  
 and the table with the stick, a lot of food appeared.

we'el-ic. (J121) Te Jose y soc te xPetra mero tse'el  
 food-pl art and and art very happy  
 Jose and xPetra were very happy.

yo'tan. (J122) Ø-we'ic. (J123) Puro semana jich ya  
 E3-heart compl-eat-A3pl all week this YAC  
 They ate. All week this is what

s-pas-Ø. (J124) Puro ya s-tij-Ø te mesa y tey  
 E3-do-A3 all YAC E3-strike-A3 art table and there  
 All they did was hit the table and, presto!

ay-Ø te we'elil.  
 is-A3 art food  
 There was their food.

(J125) Bueno, tey abi te xPetra. (J126) Ay-Ø  
 okay there excl art is-A3  
 Okay, there was xPetra. There

yan winic te s-la'c'oj. (J127) Ø-jal-b-ot-Ø,  
 another man art her-neighbor compl-say-BE-pass-A3  
 was a man who was her neighbor. She was told,

"Y bin yac a-we'-Ø-ic," Ø-ut-ot-Ø.  
 and what YAC E2-eat-A3-Epl compl-say-pass-A3  
 "And what do you eat?," he asked.

(J128) Ø-joc'oj-bey-ot-Ø, "Bin yac a-we'-Ø-ic?"  
 compl-ask-BE-pass-A3 what YAC E2-eat-A3-Epl  
 She was asked, "What do you(pl) eat?"

(J129) La y-al-bey-Ø, "Pues, ay-Ø jum tut te".  
 past E3-say-BE-A3 well is-A3 one little stick  
 She told him, "Well, my husband has a little stick."

(J130)  $\emptyset$ -Loc<sup>n</sup>- $\emptyset$  (J131) La s-le- $\emptyset$ . (J132) La  
 compl-leave-A3 past E3-look for-A3 past  
 He departed and searched and found a man.

s-ta- $\emptyset$  jum winic. (J133)  $\emptyset$ -A'-b-ot- $\emptyset$  tall te  
 E3-find-A3 one man compl-give-BE-pass-A3 come art  
 He was given a

tut te<sup>n</sup>, Y jich  $\emptyset$ -jal-b-ot- $\emptyset$ , 'C'allal ya  
 little stick and this compl-tell-BE-pass-A3 when YAC  
 And this is what he was told: 'When I want

j-c'an- $\emptyset$  ya x-we'-on-ix, c'allal wi'nal-ix ya  
 E1-want-A3 YAC incompl-eat-A1-now when hunger-now YAC  
 to eat, when I am hungry,

j-ca'iy- $\emptyset$  ya j-tij-tic-on te mesa. (J134) Tey  
 E1-feel-A3 YAC E1-strike-E1pl-ex art table There  
 I hit the table. There

ay- $\emptyset$ -ix te j-we'el-tic.<sup>n</sup>  
 is-A3-now art my-food-pl  
 is the food.

(J135) "Mero melel?," x-chi- $\emptyset$  te winic.  
 very true incompl-say-A3 art man  
 "Is that so?," the man said.

(J136) "Mero melel," x-chi- $\emptyset$  te xPetra.  
 very true incompl-say-A3 art  
 "That's right," said xPetra.

(J137) "Bueno, cham-b- $\emptyset$ -on, abi," x-chi- $\emptyset$ .  
 okay sell-BE-Eimp-A1 excl incompl-say-A3  
 "Okay, then sell it to me!" he said.

(J138) "Pero jayeb yac aw-a'-b-on?"  
 but how much YAC E2-give-BE-A1  
 "How much will you give me for it?"

(J139) "Ya c-a'-b-at ciento cinquinta peso — yu'um  
 YAC E1-give-BE-A1 100 50 peso for  
 "I'll give you one hundred and fifty pesos for

te jum tut te'."  
 art one little stick  
 the little stick."

(J140) "Bueno, ich-a."  
 okay take-Eimp  
 "Okay, take it."

(J141)  $\emptyset$ -Tal- $\emptyset$  te xPetra, la y-elc'an- $\emptyset$  loq'uel  
 compl-come-A3 art past E3-steel-A3 taking  
 xPetra came back. She sneaked it

ta s-na. (J142) Ma' ba tey ay- $\emptyset$  te s-mamalal,  
 from her-house neg there is-A3 art her-husband  
 out of the house. Her husband wasn't there,

ba-em ta paxial. (J144) La y-elc'an- $\emptyset$  loq'uel te  
 go-perf to visit past E3-steel-A3 taking art  
 he'd gone visiting. She stold the little

tut te'. (J145)  $\emptyset$ -Tal- $\emptyset$ , y-a'-bey- $\emptyset$  te yan  
 little stick compl-come-A3 E3-give-BE-A3 art another  
 stick. She came and gave it to the other

winic. (J146) Jich yu'um c'alal  $\emptyset$ -jul- $\emptyset$ , la  
 winic therefore when compl-arrive-A3 past  
 man. Therefore, when he returned,



s-joc<sup>o</sup>-bey- $\emptyset$  te y-inam, "Yo<sup>t</sup>ic wi<sup>n</sup>al-ix ya c-a<sup>i</sup>y- $\emptyset$ ,  
 E3-ask-BE-A3 art his-wife now hunger-now YAC El-feel-A3  
 he asked his wife, "I'm hungry now,

xPetra. (J149) Ich<sup>a</sup> tal te tut te<sup>r</sup>, ya me  
 take-Eimp come art little stick YAC excl  
 xPetra. Bring the stick, so I can

j-tij- $\emptyset$ -ix." |  
 El-strike-A3-now  
 hit it."

(J150) Jich  $\emptyset$ -jajch- $\emptyset$  ta wocol te y-inam,  
 thus compl-begin-A3 to difficult art his-wife  
 "That's when xPetra got into trouble.

te xPetra. (J151) "Pues, la j-chon- $\emptyset$  te te<sup>r</sup>."  
 art | well past El-sell-A3 art stick  
 "Oh, but I sold the stick."

(J152) y te Jose  $\emptyset$ -jajch- $\emptyset$  ta c<sup>a</sup>ajc<sup>u</sup>bel.  
 and art compl-begin-A3 art anger  
 Jose got angry.

(J153) "Y ban  $\emptyset$ -ba-jt- $\emptyset$ ? (J154) Y ban ay- $\emptyset$  te  
 and where compl-go-A3 and where is-A3 art  
 "And where did it go? And where is the

s-tojol?"  
 it's-pay  
 money for it?"

(J156) "Pues, tey ay- $\emptyset$  ciento cinquinta peso."  
 well there is-A3 100 50 peso  
 "Well, there is the one hundred and fifty pesos."

(J157) "Ma' j-c'an'Ø te ciento cinquinta peso.  
 neg El-want-A3 art 100 50 peso  
 "I don't want the one hundred and fifty pesos.

(J158) Ya j-c'an-Ø te tut te'." (J159) Jich la  
 YAC El-want-A3 art little stick then past  
 I want the little stick. Then he

s-loq'ues-Ø chuquill s-ch'ujt y la s-maj-Ø art y-inam.  
 El-take off-A3 tie his-stomach and past El-hit-A3 art his-wife  
 took off his belt and beat his wife.

(J160) Bueno, la s-cha' y-all-bey-Ø, "Yo'tic pas-a  
 okay past E3-again E3-say-BE-A3 now make-Eimp  
 Some time later, he told her again, "Make

oxeb bala mats'. (J161) Yan welta ya  
 three balls ground corn another time YAC  
 threeballs of mats. : I'm going again,"

x-bo-on," x-chi-Ø te yan winic.  
 incompl-go-A1 incomp-say-A3 art another man  
 said the man.

(J162) Ø-Øch-Ø s-pas-Ø yan welta te xPetra—  
 compl-begin-A3 E3-make-A3 another time art  
 xPetra began to make them again--

oxeb bala mats', oxeb ta wol.  
 three balls ground corn three of round  
 three balls of ground corn, three round balls.

(J163) Jich Ø-ba-jt yan welta te winic y  
 then compl-go-A3 another time art man and  
 Then the man left again;

Ø-loc"-Ø ta s-na. (Jl64) "Ya x-ba j-le-Ø  
 compl-leave-A3 from his-house YAC incompl-go El-look for-A3  
 he went outside. "I'm going to look for

yan winic," x-chi-Ø. (Jl65) "Repenta ay-Ø mach'a  
 another man incompl-say-A3 perhaps is-A3 who  
 another man," he said. "Perhaps there is someone

ya y-a'-b-on ta majanel taq'uin. (Jl66) Yu'um ta  
 YAC E3-give-Be-A1 for borrow money because of  
 who will loan me some money. Because

mero melel, ma'-y-uqu-ix bin ya j-we'-Ø-tic yan  
 very true neg-is-subj-now what YAC El-eat-A3-Elpl another  
 it is truly the case that again, we have nothing to eat.

welta. (Jl67) Y ma'-y-uqu-ix te te'. (Jl68) Ø-Ba-jt-ix."  
 time and neg-is-subj-now art stick compl-go-A3-now  
 The little stick is gone. It's gone.

(Jl69) Te xPetra, bueno, ya s-pas-Ø-tic te mats.  
 art okay YAC E3-make-A3 art ground corn  
 xPetra began making the mats'.

(Jl70) La s-pas-Ø ox wol te mats'.  
 past E3-make-A3 three round art ground corn  
 She made three balls of ground corn.

(Jl71) Sacub q'uinal, la y-ich'-Ø bael te Jose.  
 daybreak past E3-take-A3 going art  
 At daybreak Jose took the ground corn with him.

(Jl72) Ø-Ba-jt. (Jl73) Ta banti nix Ø-ta-ot-Ø  
 compl-go-A3 to where just compl-find-pass-A3  
 He departed. He arrived at where

yu-um te winic ini, tey Ø-c'oy-A3  
 by art man this there compl-arrive-A3  
 he had previously been found by the man.

(J174) Ø-Øch-Ø s-puc'-Ø te mats' ta tsima  
 compl-began-A3 E1-dissolve-A3 art ground corn in bowl  
 He began to dissolve his mats in a bowl.

(J175) Bueno, la y-uch'-Ø. (J176) Tey abi,  
 okay past E3-dring-A3 there excl  
 Then, he drank it. Sure enough,

Ø-tal-Ø yan welta te winic. (J177) Jich  
 compl-come-A3 another time art man this  
 the man came there again. This

Ø-joc'o-bey-ot-Ø, (J178) "Bin yac a-le-Ø?"  
 compl-ask-BE-pass-A3 what YAC E2-look for-A3  
 is what he was asked, "What are you looking for?"

(J179) "Pues, ma-y-uc."  
 well neg-is-subj  
 "Oh, nothing."

(J180) "Y ban ya x-ba-at?"  
 and where YAC incompl-go-A2  
 "And, where are you going?"

(J181) "Ya x-ba j-le-Ø a'tel ta namal.  
 YAC incompl-go E1-look for-A3 work to far  
 "I'm going to look for work far away from my home.

(J182) Aver tene ay-Ø mach'a ya j-ta-Ø jum  
 we'll see(Sp) if is-A3 who YAC E1-find-A3 one  
 Perhaps I will meet someone

winic, te la y-a'-b-on ta majanel taq'uin.  
 man art past El-give-BE-A1 to borrow money  
 who will loan me some money.

(J183) Yu'um te q'u-inam, y te jo'-on euc, ma'-y-uc'u-ix  
 because art my-wife and art pro-A2 also neg-is-subj-now  
 Because my wife and I also, have no pants,

j-wex, ma'-y-uc'u-ix j-c'u', ma'-y-uc'u-ix bin ut'il  
 my-pants neg-is-subj-now my-shirt neg-is-subj-now how  
 no clothes, and there's nothing for me to eat."

ya x-we'-on."  
 YAC incompl-eat-A1

(J184) "Y bin s-tuc te tanto mats'  
 and what it's-purpose art considerable ground corn  
 "And, what is the purpose of all that mats

aw-ich'-oj-Ø?"  
 E2-take-perf-A3  
 you brought?"

(J185) "Pues, chican jayeb c'ajc'all ya x-been-on."  
 well who knows how many day YAC incompl-walk-A1  
 "Oh, who knows how many days I might be travelling."

(J186) "y te ja'-Ø aw-inam, bin ya y-uch'-Ø?"  
 and art pro-A3 your-wife what YAC E3-crink-A3  
 "And your wife, what is she drinking?"

(J187) "Pues, te qu-inam, ay-Ø ta j-na. (J188) Ya  
 well art El-wife is-A3 at my-house YAC  
 "My wife is at home. She

s-pas-Ø waj. (J189) Ya s-pas-Ø bin ya s-pas-Ø.  
 E3-make-A3 tortillas YAC E3-make-A3 what YAC E3-make-A3  
 can make tortillas. She will make whatever she can.

(J190) Ya s-we'-Ø."  
 YAC E3-eat-A3  
 She'll eat."

(J191) "Y ja'-at?"  
 and pro-A2  
 "And you?"

(J192) "Jo'-on, qu-ich'-oj-Ø spisil te mats'."  
 pro-A1 El-take-perf-A3 all art ground corn  
 "Me, I brought all of the mats."

(J193) "Bueno, lec ay-Ø yo'tic ya c-a'-b-at  
 okay good is-A3 now YAC El-give-BE-A2  
 "Okay, that fine. I'll give you

bael yan te'," x-chi-Ø s-c'oblal. (J194) "Pero  
 going another stick incompl-say-A3 his-message but  
 another stick," he said. "But  
 i

primero ya c-uch'-Ø-tic te mats'  
 first we'll drink the mats'."  
 first YAC El-drink-A3-Elpl art ground corn."

(J195) Ø-Øch-ic ya y-uch'-Ø-ic te  
 compl-began-A3pl YAC El-drink-A3-E3pl art  
 "They commenced drinking the mats.

mats' te winic. (J196) Ø-laj-Ø y-o'tan-ic  
 ground corn art man compl-finish-A3  
 They finished

ta y-uch'el.

to E3-drink

drinking.

(J197) Yo'tic tey ay-Ø te ja'-Ø te te'."

now there is-A3 art pro-A3 art stick

"Now, here is the stick."

(J198) Tut varita Ø-a'-b-ot-Ø.

little stick (Sp) compl-give-BE-pass-A3

(He was given a little stick.)

(J199) "Ich'-a

take-Eimp

"Take it

bael yan welta. (J200) Te bin ut'il la a-pas-Ø

going another time art how past E1-do-A3

as before.

What you did before,

yan welta, jich yac a-pas-Ø.

another time that YAC E2-do-A3

that's what you will do.

(J201) Yo'tic ya

now YAC

Now I will

c'all-b-at," x-chi-Ø s-c'oblal. (J202) "C'alal ya

E1-tell-BE-A2 incompl-say-A3 his-message

tell you," he said emphatically.

when YAC

"When you

x-c'oy-at ta a-na, yac a-mac-Ø te puerta,

incompl-arrive-A2 at E2-house YAC E2-close-A3 art door(Sp)

arrive at your house, you will lock the door,

y yac a-mac-Ø te ventana ta lec. (J203) Yac.

and YAC E2-close-A3 art window(Sp) to good YAC

and the windows really well.

Lock

a-mac-Ø ta lec te ja'-Ø a-na. (J204) Yac aw-a'-bey-Ø

E2-close-A3 to good art pro-A3 your-house

up your house real tight.

YAC E2-give-BE-A3

Use nails.

**clavo.** (J205) **Wen clavo.** (J206) **Entonses c'alal**  
 nails(Sp) very nails then when  
 Big nails. Then, when it

**macal-ix, yac aw-otses-Ø spisil te aw-umtiquil y**  
 close-now YAC E2-put inside-A3 all art your-children and  
 is closed, put your children and

**soc te ja'-Ø aw-inam.** (J207) **Y te puerta aw-u'um**  
 and art pro-A3 E2-wife and art door E2-poss  
 your wife inside. The door must

**wen chucul, y ta toyol, wen macal.** (J208) **Yac**  
 very tied and to high very closed YAC  
 be securely closed, and the ceiling tightly closed. You

**aw-a'-bey-Ø te vara yan welta, te tut te'.**  
 E2-give-BE-A3 art stick another time art little stick  
 take up the stick again.

(J209) **Yac a-tij-Ø ta mesa.** (J210) **C'alal chucul-ix aw-u'um**  
 YAC E2-hit-A3 on table when tied-now your-poss  
 You hit the table. When everything is secured,

**spisil y tey ay-Ø yac a-tij-Ø.** (J211) **Tey ay-Ø**  
 all and there is-A3 YAC E2-hit-A3 there is-A3  
 you hit it. Then your

**yan welta te ja'-Ø we'el," x-chi-Ø s-c'oblal.**  
 another time art pro-A3 food incompl-say-A3 his-message  
 food will be there again," he said.

(J212) **"Bueno," x-chi-Ø te Jose.**  
 okay incompl-say-A3 art  
 "Okay," said Jose.



(J213) Yan welta  $\emptyset$ -Ba-jt. (J214)  $\emptyset$ -C'oy- $\emptyset$ .  
 Another time compl-go-A3 compl-arrive-A3  
 He left again. He arrived (home).

(J215) " $\emptyset$ -Tal-on," x-chi- $\emptyset$ .  
 compl-come-A1 incompl-say-A3  
 "I've come," he said.

(J216) "La". Och-an (J217) Ban ay- $\emptyset$  te taq'uin?"  
 come enter-Aimp where is-A3 art money  
 "Come! Come in! Where is the money?"

(J218) "Pues ma'-y-uc taq'uin, pero li' ay- $\emptyset$  jum  
 well neg-is-subj money but here is-A3 one  
 "Oh, there's no money, but here is

vara te la y-a'-b-on tal te winic yan welta.  
 stick art past E3-give-BE-A1 come art man another time  
 a stick, that the man gave me.

(J219) Te ja'- $\emptyset$  nix jich ya j-pas- $\emptyset$ -tic te bin  
 art pro-A3 just this YAC E1-do-A3-E1pl art how  
 We will do the same with it as with the one

ut'itl te yan la a-chon- $\emptyset$ -ix bael."  
 art other past E2-sell-A3-now go  
 that you sold."

(J220) "Bueno, pues ya j-pas- $\emptyset$ -tic abi. Ya  
 okay well YAC E1-do-A3-E1pl excl YAC  
 "Okay, let's do it then. I

j-c'an- $\emptyset$  ya x-we'-on-ix," x-chi- $\emptyset$  te xPetra.  
 E1-want-A3 YAC incompl-eat-A1-now incompl-say-A3 art  
 want to eat, said xPetra.

(J221) "y te jayeb umtic ay-~~Ø~~-ix ta oq'uel  
 and art how much children is-A3-now to cry  
 And all the children are crying

yu'um wi'nal."  
 from hunger  
 from hunger"

(J222) Bueno, te Jose la y-al-~~Ø~~, "te winic  
 okay art past E3-tell-A3 art man  
 Then Jose said, "the man

la y-al-b-on, primero ya j-mac-~~Ø~~-tic te  
 past E3-tell-BE-A1 first YAC El-close-A3-Elpl art  
 told me this, first we close the

ventana, y tey abi ya j-mac-~~Ø~~-tic spisil puerta/  
 window and there excl YAC El-close-A3-Elpl all door  
 windows, and then we lock all the doors/

ya j-mac-~~Ø~~-tic te na, c-a'-bey-~~Ø~~-tic clavo.  
 YAC El-close-A3-Elpl art house El-give-BE-A3-Elpl nails  
 we close the house and nail it up.

Spisil ya j-chuc-~~Ø~~-tic ta lec."  
 all YAC El-tie-A3-Elpl to good  
 Everything must be secured.

(J223) "Y bin yu'um?," x-chi-~~Ø~~ te xPetra.  
 and why incompl-say-A3 art  
 "And why?," said xPetra.

(J224) "Ma' j-na'," pero jich la y-al-b-on  
 neg El-know-A3 pero jich past E3-tell-BE-A1  
 "I don't know, but that's what

te winic."

art man

the man told me to do."

(J225) "Bueno, j-pas-tic abi."

okay El-do-Elpl excl

"Okay, let's do it then!"

(J226) Ø-Och-Ø te winic ya x-chapan-Ø

compl-enter-A3 art man YAC incompl-prepare-A3

The man entered and prepared

te ventana, ya s-pas-Ø spisil te puerta. (J228) Ya

art window YAC El-do-A3 all art door YAC

the windows, he locked the door.

He

x-chuc-Ø ta lec.

incompl-tie-A3 to good

tied it securely.

(J229) Jich yu'um c'alal Ø-jutsul-Ø-ix spisil te

because when compl-sit-A3-now all art

Then when they were seated, all of the

y-umtiquil te familia y-u'um, jich la y-al-Ø

his-children art family(Sp) his-poss this past E3-tell-A3

children of his family,

this is what Jose said,

te Jose, "ya j-tij-Ø te tut vara.

art YAC El-hit-A3 art little stick

"I will hit with the stick."

(J230) Ma"-uc te vara la s-tij-Ø.

neg-subj art stick past E3-hit-A3

But hitting with the stick didn't produce any food.



(J240) Y te tut varita ini,  $\emptyset$ -c'atp'uj- $\emptyset$  ta  
 and art little stick this compl-transform-A3 to  
 The little stick filled the house with money,

mero taq'uin te s-najtil s-najtil, bit'il-ic  
 very money art E3-length E3-length just like-pl  
 just like a barrel.

barril. (J241) $\emptyset$ -Jajch- $\emptyset$  ta tulan ta wilel.  
 barrel(Sp) compl-begin-A3 to hard to fly  
 It began bouncing around violently.

(J242)  $\emptyset$ -Laj- $\emptyset$  primero te Jose. (J243) S-chebal  
 compl-finish-A3 first art it-second  
 Jose died first.

$\emptyset$ -laj- $\emptyset$  te y-inam. (J244)  $\emptyset$ -A'-b-ot- $\emptyset$   
 compl-finish-A3 art his-wife compl-give-BE-pass-A3  
 Then his wife died. She got it

li'i. (J245) Tey abi te y-umtiquil.  
 here there excl art his-children  
 here. There were his children.

$\emptyset$ -Laj- $\emptyset$  spisil. (J247) Jayeb s-biluc  
 compl-finish-A3 all How much his-stuff  
 They all died. All of his things

$\emptyset$ -woch'-tic-lam-b-ot- $\emptyset$ . (J248)  $\emptyset$ -Cham- $\emptyset$  te  
 compl-compress-pl-ref-BE-pass-A3 compl-die-A3 art  
 were smashed to bits. Jose died,

Jose te mero  $\emptyset$ -ch'aj- $\emptyset$  ta a'tel.  
 art very compl-lazy-A3 to work  
 the one who always avoided work.

(J249) Y tey Ø-laj-Ø te cuento y-u'um.  
and there compl-finsih-A3 art story his-poss  
That's where the story ends.

## FOOTNOTES

6 <sup>1</sup>Conjugation is irregular.

<sup>2</sup>**Ma'yuc** is probably a contraction of **ma'-ay-uc**, neg-is-subj. The translation is, 'there is none.'

<sup>3</sup>Irregular form of pronoun **-ja'**.

Ay Jun Cuento Yu'un Jos

2. This is a story about a buzzard.

(JP1) Ay- $\emptyset$  jum cuento yu'un jos y s $\emptyset$ c pocoqu-e.  
is-A3 one story about buzzard and and frog-ref  
This is a story about a buzzard and a frog.

(JP2) Jum tiempo  $\emptyset$ -ta-ot- $\emptyset$  te pocoqu-e. (JP3) Jich  
one time compl-meet-pass-A3 art frog-ref this  
One day the frog was encountered (by the buzzard). This

$\emptyset$ -jal-b-ot- $\emptyset$ :

compl-tell-BE-pass-A3

is what he was told:

(JP4) "Teme ya s-c'an- $\emptyset$  ya x-ic'-ot-at  
if YAC E3-wish-A3 YAC incompl-carry-pass-A3  
"If you wishes, you can be carried to the

ba-el ta yan lado."

go-part to other side

other side."

(JP5) Jich te pocoqu-e, la s-pas- $\emptyset$  pensar teme  
this art frog-ref past E3-do-A3 thought if  
The frog considered this offer wondering if it was

lec te ya x-ba-jt-e.

good that YAC incompl-go-A3-ref

a good idea for him to go.



(JP6) "Bin nax c-o'tan yu'um," x-chi-Ø te  
 what only El-heart about incompl-say-A3 art  
 "I would be delighted," said the frog.

pocoqu-e.

frog-ref

(JP7) Jich te jos-e, la y-all-bey-Ø "Pues,  
 this art buzzard-ref past E3-tell-BE-A3 okay  
 Then the buzzard said to him, "Okay,

mo-an."

ascend-Aimp

climb on (my back)."

(JP8) Jich te pocoqu-e, Ø-mo-Ø ta s-pat  
 this art frog-ref compl-ascend-A3 upon his-back  
 Then the frog climbed onto the buzzard's back.

te jos-e. (JP9) Jich la y-ill-Ø s-pisil pueblo-etic.  
 art buzzard-ref this past E3-see-A3 E3-all town-pl  
 This way he could see all of the villages.

(JP10) Jich c'alal mero toyol ay-Ø-ix a, jich la  
 this when very high is-A3-now anaph this past  
 When they were very high in the air, the frog said,

y-all-Ø te pocoqu-e, "Pues, ya wan j-c'an-Ø ya  
 E3-say-A3 art frog-ref well YAC perhaps El-wish-A3 YAC  
 "Well, perhaps I'd like to go back

x-co-on-ix."

incompl-descend-A1-now

down now.

(JPI1) Jich te jose-e, "Bin yu'um?" x-chi-Ø.  
 this art buzzard-ref what purpose incompl-say-A3  
 The buzzard replied, "Why?," he said.

(JPI2) Jich la y-al-Ø te pocoqu-e, "Lum bayal  
 this past E3-say-A3 art frog-ref very much  
 The frog replied, "You stink.

aw-ic. Mero ma' ba lec ya c-a'iy-Ø."  
 your-odor very neg good YAC EI-sense-A3  
 I can't stand to smell you."

(JPI3) Jich' te jos-e la y-al-Ø, "Bueno.  
 this art buzzard-ref past E3-say-A3 okay  
 The buzzard replied, "Okay.

(JPI4) Pues chab-an ta c'op. (JPI5) Tene ma'-uc, ya me  
 but close-Aimp to word if neg-subj YAC emph  
 But you'd better shut-up. If you do, I'll drop you,"

j-coltay-at," x-chi-Ø te jos-e.  
 EI-help--A2 incompl-say-A3 art buzzard-ref  
 said the buzzard.

(JPI6) Jich yan welta la y-al-Ø. (JPI7) La  
 this other time past E3-say-A3 past  
 The frog spoke again He said,

y-al-Ø, "Ya x-co-on."  
 E3-say-A3 YAC incompl-descend-A1  
 "You must take me down."

(JPI8) "Bueno. Co-an jich-e."  
 okay descend-Aimp this-ref  
 "Okay. Go on down, then."

(JP19) Jich  $\emptyset$ -ch'oj-ot- $\emptyset$  co-el ta mero toyol.  
 this compl-throw-pass-A3 down-part from very toyol  
 Thus, he was thrown down from high in the sky.

(JP20) Jich yu'um te pocoqu-e, c'alal nopol ya  
 this reason art frog-ref when near YAC  
 Therefore, when the frog was about to hit

s-ta- $\emptyset$ -ix te ton-e, jich la y-all-bey- $\emptyset$  te  
 E3-meet-A3-now art stone-ref this past E3-say-BE-A3 art  
 a stone, he said to the stone.

ton-e, "Loc'-an! (JP21) Teme ma'-uc, ya x-laj-at."  
 stone-ref leave-Aimp if neg-subj YAC incompl-end-A2  
 "Get away! If you don't, you'll get smashed."

(JP22) Pero, te ton-e ma' ba  $\emptyset$ -loc'- $\emptyset$   
 but art stone-ref neg compl-leave-A3  
 But the stone didn't respond.

y-u'um-ix. (JP23) Tey nix ay- $\emptyset$  s-tuquel a.  
 his-poss-now there merely is-A3 his-alone ana  
 All it could do was lay there.

(JP24) Jich yu'um, c'alal  $\emptyset$ -c'oy- $\emptyset$  tey a,  
 therefore when incompl-arrive-A3 there ana  
 Therefore, when the frog hit, he immediately

toj tom-el te pocoqu-e.  
 immediately smash-part art frog-ref  
 splattered against the rock.

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