

**TOWARDS THE RECONSTRUCTION OF THE ROOT MORPHEMES  
OF THE PRONOMINAL AFFIXES OF PROTO-MAYAN**

by

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TOWARDS THE RECONSTRUCTION OF THE ROOT MORPHEMES

OF THE PRONOMINAL AFFIXES OF PROTO-MAYAN

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## ABSTRACT

The Mayan languages are well-known for their ergativity, which is manifested morphologically by different sets of pronominal affixes. One set (known as 'ergative' or set A) cross-references the subjects of transitive sentences and the possessors of nouns; the other (known as 'absolute' or set B) cross-references the subjects of intransitive sentences and the objects of transitive sentences. The Mayan languages are separated into two groups, depending on where the absolute pronominal morphemes are affixed. Highland or OSV languages generally prefix their absolutes to the verb (though in some languages, they are suffixed in certain constructions); lowland or SVO languages suffix their absolutes.

In earlier efforts to reconstruct the pronominal affixes of Proto-Mayan (the ancestral language from which the Mayan languages are descended), scholars have proposed two different sets, ergative (both pre-vocalic and pre-consonantal) and absolute. In this thesis we attempt to show that the pronominal affixes of the present-day Mayan languages are descended from only one set in Proto-Mayan. We argue that the present-day variation in the pronominal affixes has arisen over time as a result of both phonological and morphological processes, as well as the nature of the Mayan verbal complex, and the position of the pronominal affix in question. The proposal of one set of Proto-Mayan pronominal affixes rather than two has consequences insofar as our understanding of Mayan phonology and morphology are concerned. In addition, the close relationship between phonology and morphology receives recognition.

For Brian and Culum

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## LIST OF NON-PHONETIC SYMBOLS AND ABBREVIATIONS

/	becomes (in phonological rules)
/	and (in alternations: e.g., n-/w n[ <u>  </u> C] and w[ <u>  </u> V])
[ ]	in the environment
#	word boundary
+	morpheme boundary
*	proto-form, or abstract form
∅	unattested form
>	origin of
<	descended from
a(w)	a[ <u>  </u> C], aw[ <u>  </u> V]
in,n	in or n
C	consonant
V	vowel
V:	long vowel
V V	" "
abs	absolute
erg	ergative
sg	singular
pl	plural
asp	aspect
aff	affix
dir	directional
class	classifier
cl	clitic
cont	continuative
comp	completive
incl	inclusive
excl	exclusive

**ADDITIONAL SYMBOLS AND ABBREVIATIONS AS USED BY THE  
INDICATED AUTHORS**

Fought, John J.	:"	= primary stress
Kaufman, Terrence	: ___^___	= juncture (occurs with certain prefixes and particles)
	//...//	= enclose a morphophonemic form
	/.../	= a phonemic form
Stevenson, Paul S.	Cl	clause
	dub	dubitative
	Prx	proximal time
	Psd <sub>1</sub>	immediate past
	RefD	reflexive suffix of a directional
	resalt.	prominent; null aspect; focusses attention on important events

## PHONOLOGICAL INVENTORY OF PROTO-MAYAN

(Kaufman, 1969, in Campbell, 1977, p. 96)

p	t	t̂		tz	č	k	q	
b'	t'	t̂'		tz'	č'	k'	q'	?
				s	š		j	h
m	n						ŋ	
w	l				y			

	i	u
e	a	o
	a	

V:

Campbell's modifications (1977): addition of r, on the basis of K'ichean data, e.g., (p. 99):

	K'iche'	Mam	Mocho	Tzotzil	Yukatek	Huastek	gloss
(*y)	yawa:b'	ya:b'	ya:b'	yah	yah	(yu:t')	"sick"
(*r)	wa <u>r</u>	wa <u>r</u>	wač	vay	way	way	"sleep"

## NOTE ON ORTHOGRAPHY

The history of the methods of writing down the Mayan languages is long and involved. Colonial grammarians, faced with sounds they had never heard before such as [q'] and [k'], sometimes made up symbols for these sounds, such as ε ([q']) and ꝑ ([k']). For other unfamiliar sounds they adopted conventional symbols from Spanish, e.g., c or qu for [k], and x for [š]. Unfortunately no one agreed-upon system ever evolved; over the years the more unusual symbols were discarded, and others adopted with little consistency. Even the linguists working in Mayan today do not use the same symbols. As an example, Bricker (1988) who chose not to standardize the orthography of her data samples, was constrained to make statements such as the following: "Knowles' ä corresponds to Bruce's ə, Hofling's i, and MacLeod and Warkentin and Scott's ^". (p. 21). To compound matters, the Mayan Academy recently adopted an orthographic system for the Mayan languages which includes some symbols (notably x, [š]) which originate from Spanish orthographic conventions. Therefore, depending on the provenance of the data, the same sound may be written several different ways. Even for one accustomed to the various orthographic practices of different times and different linguists, it is sometimes difficult to decipher the exact sounds of a word; for those not familiar with Mayan the task is frustrating and at times impossible. To deal with this matter we have chosen to standardize the orthography of all examples given in this thesis. The alternatives, either appending tables of the symbols used by all the different authors or giving a phonetic rendering of each data item, would impede the reader's progress. We have been careful to use the author's own phonetic correspondences in choosing the symbols used to represent his or her data. For example,

Stevenson (1987) uses xh for what he describes as an alveolar fricative (England 1983 uses x for the same sound); this is rendered as ɣ within this text. When it has been difficult to ascertain the phonetic value of an author's symbol, we have attempted to use other authors' work as a concordance, insofar as that is possible. A full table of the symbols used with this thesis follows:

	bilabial	alveolar	palatal	retro.	velar	uvular	glottal
stops	p b p' b'	t d t'			k g k'	q q'	ʔ
fricatives		s z	ɕ	ɣ	j		h
affricates		tʃ tʃ'	ɕç ɕç'				
liquids		l r					
nasals	m	n			ŋ		

While recognizing the dangers of standardizing orthography—chief among them being the misrepresentation of data—the benefits are obvious for the reader.

## CHAPTER 1

This thesis is concerned with reconstructing the pronominal affix system of Proto-Mayan. Just like Proto-Indo-European, Proto-Mayan is a theoretical construct; no written records exist in it. It is the proposed ancestor of the Mayan family of languages. There are approximately twenty-eight<sup>1</sup> Mayan languages spoken today in an area roughly bounded by southern Mexico, Guatemala, Belize, and northern Honduras and El Salvador. We also have limited knowledge of a few others which have become extinct. We include here Kaufman and Campbell's 1985 classification of the Mayan languages:

- "Subgroups:
1. Huastekan: Huastek, Chikomuceltek
  2. Yukatekan: Yukatek, Lakandon, Mopan, Itza
  3. Cholan-Tzeltalan (or Greater Tzeltalan)
    - a) Cholan - Chol, Chontal; Chorti, Cholti<sup>2</sup>
    - b) Tzeltalan - Tzeltal, Tzotzil
  4. Kanjobalan - Chujean (or Greater Kanjobalan)
    - a) Kanjobalan: Kanjobal, Akatek, Jakaltek; Motocintlek (Motocintlek and Tuzantek varieties)
    - b) Chujean - Chuj, Tojolabal

- 
1. Deciding whether a language is indeed a language or rather a dialect is a perennial problem in Mayan. Thus, classifications tend to differ somewhat in the number of languages they include. Kaufman and Campbell are authoritative in the field, however, and we will rely on their conclusions. "Teko" is found in this thesis under the name of Tektiteko, which was discovered by a researcher in the field to be a more acceptable term to the speakers of the language.
  2. Robertson (personal communication) points out that Cholti is the ancestor of Chorti rather than an extinct language; it therefore doesn't belong in a list of Mayan languages (unless that list include Colonial Kaqchikel, etc.). Also, rather than being grouped with Ixil, Awakatek according to his evidence belongs with Mam and Tektiteko.

5. K'ichean - Mamean (or Eastern Mayan)
- a) K'ichean - Q'eqchi; Uspantek; Pokomchi, Pokomam; K'iche', Kaqchikel, Tzutujil, Sakapultek, Sipakapa
  - b) Mamean: Teko, Mam; Awakatek, Ixil"
- (1985, p.188)

On the whole, we will make use of the classifications shown in this table. However, we have adopted two changes suggested by Robertson (1977, 1980), placing Chuj with Kanjobalan and Tojolabal with Tzeltalan. Thus there will be no mention of a 'Chujean' sub-group, for reasons which will be discussed in the last chapter.

In the above list, two of the languages, Chikomuceltek and Cholti, are extinct (though, see footnote 2 concerning Cholti). Others are very difficult to obtain information on. Accordingly, for the most part they have not been included in this study, on the principle that a mere set of pronominal affixes is not sufficient data from which to draw the sort of generalizations made here. Unfortunately, this means that the Huastekan subgroup is not represented at all. It would have been interesting to compare the developments within Huastek with those of the other Mayan languages from which it has been isolated for centuries. This has not been possible, as very little work has been done on this language. The other languages for which data was too scant for much comment are Kanjobal, Akatek, and Motocintlek in the Kanjobalan subfamily; and Uspantek, Sakapultek, and Sipakapa in the K'ichean group. When these languages have pronominal developments similar or identical to those of their close neighbours, we have felt courageous enough to include them in a statement made about the subfamily to which they belong. Otherwise we have left them for consideration at some future date when data become available.

Typologically, the Mayan languages are classified as ergative languages. The morphological consequences of ergativity as far as pronominal systems are concerned are that two sets of pronouns exist, fulfilling different roles. One set, traditionally called 'ergative' (or set A by some Mayanists) is used to mark the subjects of transitive sentences, and possessors of nouns; the other, called 'absolutive' or set B marks the subjects of intransitive sentences and objects of transitive sentences. The terms 'absolutive' and 'ergative' will be employed here.<sup>3</sup>

There are two main ways to group the Mayan languages. One separates K'ichean and Mamean as eastern Mayan, and groups Kanjobalan, Greater Tzeltalan (sometimes separated into Cholan and Tzeltalan), and Yukatekan as western Mayan, with Huastekan assigned to neither. The other splits the family into two, one group designated highland languages, and the second designated lowland languages. The first classification is mainly based on phonological innovations, and the second on morphological considerations. Within this thesis, we have adopted the second method of grouping, highland/lowland, because we have found the position of the morphemes in question to be important (insofar as their historical development is concerned).

The highland/lowland distinction is based on the location of the absolutive pronominal affixes with relation to the verb. What are commonly called 'lowland' languages suffix their absolutives, while 'highland' languages prefix theirs. ('Lowland' and 'highland' refer to the geographical location

---

3. As the concerns of this thesis are phonological and morphological, we do not address the syntactic consequences of ergativity, though there are several.



where each group is spoken. Most of the highland languages are spoken in the Guatemalan and southern Mexican cordillera, while most of the lowland languages are spoken in the Petén and the flatter lands to the west). There is variation within this general pattern: for instance, some of the highland languages which prefix their absolutive pronominals in transitive verbal constructions suffix them in stative sentences; others prefix the absolutives everywhere. The general distribution of the ergative and absolutive pronominals is as follows:

(highland and lowland languages): ergatives always immediately precede the verb or noun

(highland, transitive constructions): abs - erg - verb

(lowland, transitive constructions): erg - verb - abs

(highland, intransitive constructions): abs - verb

(lowland, intransitive constructions): verb - abs

(highland, stative constructions): abs -

locative, adjective, etc. or locative, adjective etc. - abs

(lowland, stative constructions): locative, adjective, etc. - abs.

As examples of a typical lowland language we offer the following sentences from Lakandon, a member of the Yukatekan subgroup:

Transitive: " ?u hätz- - ik - en  
 "me pega"  
 (he hits me) (Bruce 1968 p.80)

(3rd sg.erg - verb - affix - 1st sg abs)

Intransitive: "tal - eč  
 "llegaste"  
 (You arrived) (ibid p. 98)

( verb - 2nd sg abs)

Stative: "winik - en  
 " soy hombre"  
 (I am a man) (ibid p. 42)  
 ( noun - 1st sg. abs)

Because of the above configurations, lowland languages are often referred to as SVO languages (cf Bricker 1977).

In contrast, Kaqchikel, a typical highland language, orders its pronominals as follows:

Transitive: y - in - ru - č'ay  
 'he hits/is hitting me' (Osborne, field notes)  
 asp. - 1st sg. abs - 3rd sg. erg - verb)

Intransitive: š - at - ok  
 'you came (in)' (ibid.)  
 ( asp. - 2ng sg. abs. - verb)

Stative: in winaq  
 'I am a man' (ibid.)  
 ( 1st sg. abs. - noun)

Highland languages, since they place the absolutive (object) pronominal affixes ahead of the ergatives in a transitive sentence, are sometimes called OSV languages. (As commonly used, "SVO" and "OSV" are a bit misleading, as they refer only to the order of pronouns within the verbal complex, not to the overall order of constituents in a sentence in a

Greenbergian sense).<sup>4</sup> The classification of the language groups in our study is:

<u>Highland</u>	<u>Lowland</u>
Mamean	Yukatekan
K'ichean	Tzeltalan
Kanjobalan	Cholan
(abs.-erg.-V)	(erg-V-abs)
(B - A - V)	(A - V - B)

Previous reconstructions of the pronominal system of Proto- Mayan have taken for granted that two separate sets of pronominal affixes have existed in Mayan since the beginning. Thus, ergative paradigms for Proto- Mayan have been suggested (in both pre-vocalic and pre-consonantal form) as well as absolutive paradigms. Our approach is quite different, for we contend that all Mayan pronominals, whether ergative or absolutive, are ultimately descended from one ancestral set. Our first objective is to describe this set, and to explain how it evolved into the diverse forms found today. Our second, equally important, is to describe the conditions necessary for these changes to have taken place. One of the main themes of this work is that the unique morphological structure of the Mayan languages (in particular, that of the verbal complex) has set the stage, as it were, for the development of the pronominal affixes. Indeed, to carry the analogy further, we will give evidence that for instance the ergative first singular and absolutive first

---

4. Perhaps a better way to indicate the order of constituents would be to use A (denoting ergative) and B (absolutive) as follows: 'highland' language configuration = BAV; 'lowland' = AVB. It should be mentioned here that adherence to these configurations is by no means rigid. Q'eqchi' (K'ichean) and Awakatek (Mamean) both suffix the absolutives in some transitive constructions (Robertson, personal communication).

singular of a given Mayan language are (etymologically speaking) the same actor, in different settings.

In arguing that the divergence of the Mayan pronominal affixes came about as a product of phonological and morphological processes, we do not wish to assert that it is not necessary to keep the ergative and absolutive paradigms apart. It would be folly to do so; the specification of the relationship of a noun (or pronoun) to the verb is crucially important (and not just in Mayan). In any case, the two paradigms are most definitely different today, both in form and function. Nonetheless, this does not preclude the possibility that originally the role of a pronominal was indicated by its position; and that subsequent changes due to environmental factors acted upon the morpheme, resulting in its variation in form. Thus, for instance, we assert that the Jakaltek second person singular forms, hač̣- in the absolutive and ha(w)-<sup>5</sup> in the ergative, are both ultimately descended from Proto-Mayan \*at. We explain the difference between the two forms as follows: PM \*t / č̣ in Kanjobalan (the sub-family to which Jakaltek belongs); h was inserted before all vowel-initial pronominals; č̣ was lost in the ergative before the ergative marker w, which itself dropped before a consonant-initial verb (but not before a vowel-initial verb). In derivational form, the changes were:

---

5. This configuration reads as follows: ha[  C]; haw[  V]. This notation, common in Mayan linguistics, will be used throughout the thesis.

Absolutive		Ergative		
*at+C	*at+V	*at+w+C	*at+w+V	
ačC	ačV	ačwC	ačwV	*t/č
hačC	hačV	hačwC	hačwV	h-insertion
"	"	hawC	hawV	č/∅[_w]
"	"	haC	"	w/∅[_C]
-----				
hač	hač	ha	haw	

The obvious questions raised by the above derivation will be answered in various sections of the thesis. For instance, the ergative marker w (whose existence is posited for the first time here) plays a central role in the development of the ergative pronominals; it will be discussed below. Language-specific changes, such as Proto-Mayan/sub-family correspondences, h-insertion rules, etc. will be covered in Chapter Two, where the reconstructions themselves are presented. The phonological and morphological processes described in the second chapter will be explained more fully in Chapter Three, along with the environmental conditions in which they take place. The last chapter deals with meta-phonological and morphological considerations, such as why more changes occurred on the average to ergative pronominals than to absolutive pronominals.

The only previous attempts to reconstruct the Proto-Mayan pronominal affixes were made by Kaufman (1964, with later revisions) and Robertson (1977b, 1980, 1982a, 1984c, 1985). Kaufman's initial reconstructed paradigms were as follows:

	Ergative		Absolutive
	<u>  </u> C	<u>  </u> V	
1 sg.	*'in	*w	*'in
2	*'a		*'atw
3	*y		∅
1 pl	*q		*'oŋ
2	*e		*eš/oš
3	*ky		*eb/ob/ab

(1964 pp.123-124)

By 1972, they had been modified to:

	Ergative		Absolutive
	<u>  </u> C	<u>  </u> V	
1 sg	*in	*w	*in
2	*a:	*a:w	*ʌt
3	*u } *s }	*y	∅
1 pl.	*x } *qʌ }	*q	*oʔŋ
2	*e }	*e {w } {y }	*eš
3	*ke	*k	*eb'

(source: Smith-Stark 1983 pp.209-211)

Little comment on Kaufman's reconstructions can be made, as nowhere does he explain or divulge the reasoning behind any of his forms. It is in many ways a cautious reconstruction of the Proto-Mayan pronominal affixes, encompassing many of the present-day forms found within various languages. For instance, positing both \*u and \*s for the pre-consonantal ergative third singular enables one to derive both K'iche' u- and Kanjobal s straight from the proto-form with no intervening developments. However, without explanation it is difficult to know (and probably improper to speculate) how the ergative pre-consonantal third singular forms which do

not exactly conform to either \*u or \*s can be accounted for. Robertson in contrast has accompanied his reconstruction of the Proto-Mayan forms with extensive argumentation. His proposed system is:

	Ergative		Absolutive
	<u>  </u> C	<u>  </u> V	
1 sg.	*nu	*w	*in
2	*a	*aw	*at
3	*ru	*r	∅
1 pl.	*qa	*q	*o?ŋ
2	*e	*er	*eš
3	*ki	*k	*eb?

(Robertson 1977b, 1980, 1982a, 1984c, 1985 and personal communication)

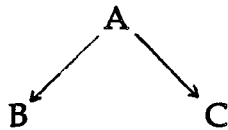
Compared to Kaufman's, Robertson's system is less conservative and correspondingly more abstract. Since only one form is posited for each person/number morpheme, more rules are needed in the case of individual languages in order to explain the evolution of their particular instantiations of a pronominal. For example, in order to derive Q'eqchi' pre-consonantal ergative third singular s, he proposes the following steps: first, \*ru/r, due to syncope, which he justifies with examples from Mam and Sipakapa K'iche'; second, r/r̥[\_C], which occurs in Sipakapa K'iche; third, r̥/š, as took place in Persian and as occurred in Uspantek prior to a š/j change (realized everywhere except before č̣). (Robertson 1977). As we present our reconstructions below, we will mention and integrate Robertson's arguments; in some cases we do not agree with his version of the development of a pronominal, and in others we do. However, as mentioned above, Robertson (as does Kaufman) takes for granted that it is necessary to reconstruct both absolutive and ergative paradigms and, further, that separate ergative pre-

vocalic and pre-consonantal proto-morphemes must be postulated. As a result of several observations that we have made (given below), we have been able to pursue a course of reconstruction that is diametrically opposed; we claim that it is not obligatory, nor is it satisfactory, to propose a plethora of proto-forms when one set will do. As stated previously, it is entirely possible to regard the absolutive/ergative distinction as basic, yet still regard the separate paradigms as derived from one. The development of two and in some languages three forms for one person-number morpheme, we believe, came about because of environmental conditions and the action of phonological and morphological processes. Like Saussure, our fundamental tenet is that where similarity exists, some sort of relationship, historic or at least on an abstract level, is implied. As Lehmann says, in his discussion of the Indo-European laryngeal theory: "Saussure's basic assumption was that a similarity - such as the similarity between - (σ) 'εχω, λ ειπω, 'ισταμι and 'εσχον, 'ελιπον, στατο| - of phonemic variation in morphemes of a seemingly different structure pointed to anterior forms of a similar structure" (1955, p. 23).

The reconstructed set of Proto-Mayan pronominal affixes which we shall present shortly is founded on certain observations. When first faced with the pronominal paradigms of the Mayan languages, one is struck by the obvious similarity in some instances between the pronouns of the absolutive and the pronouns of the ergative. The first person singular is a case in point. In many languages, the absolutive and pre-consonantal ergative manifestations of the first singular are identical, or at least very similar: eg. Q'eqchi' absolutive in-, ergative pre-consonantal in-; Jakaltek absolutive hin-, ergative pre-consonantal hin; Yukatek absolutive -en, ergative pre-



consonantal in-<sup>6</sup>. Naturally, if one assumes that the two paradigms are derived from separate sets of proto-forms, this observation, though interesting, is nothing more than a curious fact, perhaps born of semantic affinity, analogy, or even sheer coincidence. If the basic assumption of the separation of the paradigms is not made, however, then the observation of the similarity of person-number morphemes becomes potentially meaningful. Of course, by itself, similarity is not a sufficient criterion on which to construct a theory of one unified paradigm of pronominal affixes. In order to establish a historical relationship between the two paradigms, there would have to be reasons for change. In other words, given the situation



there must be some factor or factors which provide the impetus for change. One obvious place to look is in environment. Given the same morpheme, if that morpheme appears in different places one might expect changes to occur (this is the basic principle of allomorphy). Examining the distribution of the ergative and absolutive pronominals reveals the following facts: absolutes generally precede the verb in intransitive constructions, where no ergative pronominals are present. In the lowland languages the absolutes always follow the verb (except for Tzotzil which has two sets of absolutes—one preceding and one following the verb). The only time the two sets of

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6. In fact, we find that in those cases where the first singular forms do not resemble each other, usually a replacement of the original singular morpheme by the plural has taken place (e.g. Tzeltal), or else some process such as fusion with a former aspect marker has occurred (as in Mam).

pronominals appear in comparable positions is in the highland languages; note that the absolutes, without ergatives, are situated before an intransitive verb while in a transitive sentence the ergatives precede the verb. Otherwise, absolutes and ergatives do not appear in the same environments.

Focussing on this pre-verb position for a moment we observe that ergative morphemes have pre-vocalic and pre-consonantal variants; this does not occur (with a few exceptions) with the absolute pronominal affixes. The assumption usually made with regards to the pre-vocalic and pre-consonantal alternations of the ergatives is that this is an inherent characteristic of the ergative pronominals. Our own apprehension of the phenomenon is that it is noteworthy that one set of pronominals varies before the verb whereas the other does not; either this is because of the fact that ergatives (as is generally taken for granted) are inherently sensitive to the nature of the element they precede—in which case investigation stops,—or—there is something else present in the case of the ergatives but not in the case of the absolutes which is causing the alternation.

Leaving the question of whether that assertion is true, or whether perhaps there is some other factor that may be playing a part, for the moment we will turn our attention to the question of environment in general. Having stated that ergative and absolute affixes appear in different environments (with one exception) we must now ascertain and then evaluate these environments. We have already referred to the Mayan verbal complex; any discussion of the different positions in which pronominal affixes are situated must include a description of this verbal complex. The Mayan verb is always obligatorily accompanied by other morphemes; it never appears alone. These other morphemes include, as already mentioned, aspect

morphemes, directional verbs, derivational affixes, the pronominals, the verb root or stem itself, classifiers, and clitics. Each language is slightly different in terms of the composition and ordering of its verbal complex, but in general the aspect, directional verbs (if present), ergative pronominals, and absolutive pronominals (in highland languages) precede the verb, and following the verb occur the absolutive pronominals (in lowland languages), derivational affixes, classifiers and clitics. The verb is always the centrepiece and does not change with regards to the addition or subtraction of any of its surrounding morphemes. The verbal complex of Mayan, in other words, is well named; it is a complex of morphemes and therefore of morpheme boundaries.

Where the pronominal affixes are concerned, the environments are, in a larger sense, pre-verb vs. post-verb. In a finer sense, we must also take into account the possible effects of other morphemes on the pronominals. At this point, having ascertained the different environments of the pronominal affixes, we must determine if the fact that absolutives and ergatives appear in different places is significant; in other words we must evaluate environments in Mayan. The best way of doing this is to observe the phonological processes which take place in the various environments. Presumably, if the same processes occur both pre- and post-verb, this would be evidence that there is no significance in the position of a morpheme; the inference being that if the same morpheme either preceded or followed the verb the same things would happen to it. Of course, the opposite inference is that if different phonological processes take place pre- as opposed to post-verb, then the same morpheme could conceivably have different shapes depending upon where it was situated. In Mayan, the phonological processes which occur before the verb are different from those that occur after it. Before the verb, cluster simplification, vowel elision, and metathesis affect ergatives; metathesis,

occasional cluster simplification, and morphological fusion affect absolutes. The post-verb position is characterized by vowel lengthening, changes in vocalic quality, and again morphological fusion (these processes all necessarily applying to absolutes which are post-posed to the verb). Most pre-verb processes affect the structural integrity of the pronominal affixes; elements are lost or rearranged. After the verb nothing is lost; in fact, if anything, the opposite occurs: for example, vowel lengthening. In terms of theoretical phonology we would evaluate the pre-verb phonological processes, particularly those occurring to ergatives, as weakening processes, while the post-verb processes are strengthening ones.

To sum up our observations briefly, we have so far:

1. two sets of pronominal affixes which are quite similar in appearance
2. these pronominals appear in different positions within the verbal complex
3. in the one environment they both share, immediately pre-verb, the ergative affixes have pre-vocalic vs. pre-consonantal variants while the absolutes do not
4. the phonological processes which take place before the verb are different from those that take place after the verb, both quantitatively (in that more processes appear to occur pre-verb) and qualitatively (in that the pre-verb changes are generally weakening ones).

Given these observations, the strong possibility emerges that, rather than two separate pronominal paradigms (originally), there was once only one paradigm whose eventual splitting into two took place as a result of phonological processes governed by the unique morphological structure of Mayan itself. However one puzzling fact remains to be resolved: before the verb or noun, ergative pronominal affixes vary according to whether the verb

begins with a consonant or a vowel, whereas absolutes (with a few exceptions) do not. Since this is the one environment both sets of pronominals share, the different behaviours need explanation. Either, as we have already mentioned, this is something native to ergatives or there is some other factor involved, perhaps another morpheme which is present in ergative constructions but not in absolutes.

In considering the ergative one notices that throughout the paradigms from first person singular to third person plural, and within all the languages, the most common way of separating the ergative pronominal from the vowel of a vowel-initial verb is through the use of w. The presence of w prevocally within the ergative paradigm of Mayan is a fact whose potential significance has hitherto been ignored. It is commonly assumed by Mayan scholars that it is an insert whose function is to separate the ergative pronominals from vowel-initial verbs and nouns. In fact, it is true of Mayan phonology in general that vowel clusters are separated. This is achieved by various means in the different languages. For instance, Chol inserts glides, ʔ, or h between vowel sequences, or else one vowel is elided, e.g.:

- “ (1) mi-a [ma] UNMARKED TENSE/ASPECT  
 (2) a-ikot [a.wi.kot] BOUND PRONOUN “with you”  
 (3) i-alobil [i.ya.lo.bil] BOUND PRONOUN “his son”  
 (5) obispo-ob [o.bis.po.hoʔ] LOAN WORD “bishops”  
 (7) ca-is [ca.ʔis] COMPLETIVE TENSE/ASPECT ”

(Attinasi 1973 p. 70)

Lakandon inserts the glottal stop or, at word-initial position, h: eg. “baʔik “como” (like); toʔan “donde” (where); wi-h-en [wihen] “tengo

hambre" (I'm hungry) (Bruce 1968 p. 35) from ?en, the absolutive first person singular.

Jakaltek optionally inserts h after some suffixes and clitics of the form -V and -VC: eg. "co sinta - an > co sintaan, co sintahan our ribbon" (Day 1973 p. 18).

Mam separates vowel clusters through synthesis of the vowels in question, y-insertion, or (less commonly) ʔ-insertion. E.g.: "ma čook 'they entered' from čĩ-+-ook" (absolutive third plural + enter; i + o:>o:) or ma čĩʔook 'they entered'"; "jaa 'house' / njaaya 'my house'" (ergative first singular = n-...-a). (England 1983 p. 45-46).

The Yukatekan languages break up a sequence of long vowels by inserting ʔ: VV/VʔV. This occurs in the absolutive plural morphemes of these languages (discussed further in Chapter Three, in the section on vowel lengthening).

In other words, there are many ways in which vowel clusters can be separated in Mayan. Thus it is curious that within the ergative paradigm, the usual method (if we are to believe those who maintain that w, when it occurs after a pronominal affix, is a "sandhi form" (Nida and Romero, 1950 p. 194) is to insert w.<sup>7</sup> Considering the fact that in many cases the choice of a vowel-separator seems to be phonologically conditioned (cf. Chol, above) it is

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7. Some languages (e.g. the Kanjobalan group, having e(y) in the ergative second plural, and the Yukatekan languages, with their ergative third singular u(y)) appear to have inserted y instead. As we shall see later on, the y of Kanjobalan is representative of a tendency to insert \*r in front of vowels; whereas the y of Yukatekan is a secondary development where ergative w / wy / uy [\_\_V]. In any case, w is the only 'vowel separator' which is present in every language somewhere within the ergative paradigm.

remarkable too that w appears in the ergative paradigms after front vowels (eg. K'iche' ergative second plural i(w); Tzutujil e(w)) and before front vowels (eg. Lakandon ?in w-itzin "mi hermanito" (my little brother) Bruce 1968 p. 46, ergative first person singular + noun). Other curious facts concerning w are the following: in many languages, the w which occurs with ergatives is reinforced by the prefixation of g or k (this also sometimes occurs with w in general, as in Q'eqchi'), e.g.:

Lakandon:        "?in wol [?in.g<sup>w</sup> or]  
                  "mi ánimo"  
                  (my spirit)

< \*in + w + ol<sup>8</sup>  
      1sg        animo  
      erg

and:            a wok [?a.g<sup>w</sup> ok<sup>h</sup>]  
                  "tu pie"  
                  (your foot)

(Bruce 1968 p.22)

< \*at + w + ok  
      2sg        pie  
      erg

The change w/g<sup>w</sup> occurs consistently in Lakandon in the ergative first and second person singular; Bruce also gives examples of w/g<sup>w</sup> in word-initial position, eg. "wol [g<sup>w</sup> or] "redondo" (round) and "wakaš [g<sup>w</sup> a kaš] "ganado", (cattle) though: "weč "armadillo", "?u wič "su ojo" (his eye) (ibid p. 22). In other words, this manifestation of w as g<sup>w</sup> only occurs after n and a in the ergative paradigm, and before rounded vowels elsewhere, though he says

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8. The starred sentences appearing beneath examples from the different languages represent our reconstructions of the pronominal morphemes, and include ergative w. The aspect morphemes, verbs, nouns, or any other affixes have not been reconstructed; they are included to place the pronominal affixes into context.

"No se han podido precisar las reglas fonéticas que determinan la aparición de este alófono" [g<sup>w</sup>] (ibid, p. 22). (It has not been possible to determine the environment of this allophone; our translation).

Fought states that g<sup>w</sup> (a possible form of the pre-vocalic insert, in his system) occurs after n, in alternant-final position in Chorti (1967 p.109). We shall be discussing the other forms this insert can take below, in Chapter Two.

Eg.:

Chorti: " 'in'gui"ra  
I see it" (Fought 1967 p. 110)

< \*in + w + ir + a  
1sg see  
erg

For Chontal, Bricker 1986 p.22 lists a(gw)- as the ergative second singular. In Q'eqchi', both w and y have been reinforced by the addition of (respectively) k and t before vowels, in the Carchá, Cobán, and Chamelco dialects (half the dialects of Q'eqchi'), eg.:

Q'eqchi': "tinkw - aw.  
" I will sow" (Campbell 1977 p. 25)

< \*t + in + w + aw  
asp. 1sg sow  
erg

Also, Eachus and Carlson (1980 p. 70) list the pre-vocalic first and second singular pronominal affixes for Q'eqchi' as ku and aka respectively, with ku in each case coming from w: w/kw/ku.

England (1983, p. 29) gives examples of the same process in Mam, after n and word-initially, e.g.:



Mam:            "[gwo: ] / woo?/  
                  'toad'

                  [nɣwi:ʃə] /nwiiša/  
                  'my cat'

                  < \*in + w + wiiša  
                  1sg        cat  
                  erg

This prefixation of w with g or k we consider to be a strengthening of w. As this process is important in our derivation of the first plural pronominals of Mayan, we shall leave a longer explanation of the phenomenon to that section, and Chapter Three. As one final example of w-strengthening, Uspantek vu (as in ergative first singular vu[\_C], second singular avu[\_V]) corresponds to Kaqchikel and K'iche w. In this case, the evolution of w seems to have been as follows:  $w/w^+w/vw/vu$ .<sup>9</sup>

Also notable with regards to w is the shape of the ergative third singular morpheme which in most languages either is or contains u. (The absolutive third singular is  $\emptyset$  in all Mayan languages). With w appearing in most languages in the ergative first and second singular it is difficult to

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9. The presence of + above a vowel or consonant indicates that that element is undergoing a strengthening process. Robertson (personal communication) suggests that vu may be a result of stress, which apparently falls on the pronominals in monosyllabic forms (presumably possessed-noun constructions). However, we note that the vu form in Uspantek appears in exactly the same environments as gw or kw in languages such as Lakandon and Q'eqchi', namely in the ergative first and second singular. We therefore propose that rather than  $w^+$  becoming gw or kw, it doubled to ww, with the subsequent development of the two w's being subject to the phonotactic constraints of Uspantek itself.

disregard the possibility that this u originates from w. Latin provides an Indo-European example of the relationship between u and w. Latin y was interpreted as u in some environments and as w in others. We have just seen an example of the change from w to u in Uspantek; this w/u change also takes place in Kaqchikel, Tzutujil and K'iche', in the pre-noun (possessive) first singular forms. (We examine this in detail in the section on first singular).

This proposed evolution of w to third person singular morpheme is made plausible by developments within the third plural. There is good evidence that the third plural pronominal affix (in both the absolutive and ergative paradigms) originated as a plural morpheme. In some languages, these former plural morphemes became thoroughly incorporated into the pronominal paradigms, thus plural / third person plural. If such incorporation of a non-pronominal form is possible within the third plural, there is no reason why the same sort of thing could not have happened in the third singular.

In addition, we note that in some languages, the pre-vocalic ergative first singular consists of w by itself (hence, both Kaufman's and Robertson's reconstruction \*w for ergative pre-vocalic first singular). Yet in others, notably the Yukatekan languages but also Classical Cholti, Chorti, and some of the K'ichean languages, the ergative first singular before vowels takes the form inw. Robertson (1977) holds the opinion that the inw form of Itza (a Yukatekan language) is a later formation, where "the original prevocalic w was reinforced with the preconsonantal in, giving the new form inw" (p. 203). Yet this is not supported by data from Classical Yukatek, which had inw [\_\_V], written inu (Bricker 1986 p. 21). If we infer from this that inw (like second singular pre-vocalic aw) preceded w as pre-vocalic ergative first

singular, it appears doubtful that w originally marked first person at all: the question arises- what did it mark?

Further, there is the point to be made that nowhere in the absolutive paradigm of those languages which prefix their absolutive pronominals is w to be found, either before ergative affixes beginning with a vowel, or preceding vowel-initial verbs. That is, in a language such as Kaqchikel, one might expect that in a case such as absolutive first singular in (<\*in) + ergative second singular a (<\*at) a form such as  $\text{ʔ inwa}$  might result: after all, the ergative first singular has the form inw before vowels, e.g.:

Kaqchikel: "tinwukusaj  
¡Que le use o que le entre!"  
(yo a él/ella)  
(Let me use him!) (Rodriguez et al 1988 p. 58)

< \* t + Ø + in + w + uku + saj  
asp 3sg 1sg use aff  
abs erg

However, no w appears between the two pronominals: eg.:

"šinakanoj  
me buscó (usted)"  
(You looked for me) (ibid p.56)

< \* š + in + at + w + kan + oj  
asp 1sg 2sg look for aff  
abs erg

In fact, if two vowels come into conjunction between the absolutive and ergative pronominals, Kaqchikel often fuses the vowels, like Mam:<sup>10</sup> eg.:

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10. These examples necessarily involve the absolutive third plural e(') , < \*eb', which can retain its glottal stop or, as in the example above, lose it and merge the two vowels.

Kaqchikel: "šenkanoj  
 los busqué (a ellos)"  
 (I looked for them) (ibid p. 56)

< \*š + eb' + in + w + kan + oj  
       asp 3pl    1sg            look for aff  
               abs    erg

(...with other changes as well, which will be discussed in the appropriate sections).

In intransitive constructions where the absolutive pronominal precedes a vowel-initial verb, no w appears anywhere. For instance, in contrast to the ergative inw + uku sequence above, in the absolutive only in + verb occurs, eg.:

yinatin  
 'I bathe, am bathing'

< \*y + in + atin  
       asp 1sg    bathe  
               abs

Of course, this could be explained by the fact that absolutive pronominals tend to end in consonants (on the face of things), and are reconstructed as such by both Kaufman and Robertson. Thus there is less 'need' for a pre-vocalic w. However, as we have seen, some of the K'ichean and all of the Yukatekan languages have inw as a pre-vocalic ergative first singular, with w in this instance following a morpheme-final consonant. Considerations such as these make it difficult to predict the occurrence of w; hence Robertson and Kaufman have had to postulate separate pre-consonantal and pre-vocalic ergative pronominals.

Similarly, Jakaltek, which is a language that adds h to its vowel-initial pronominals but generally loses this h after consonants (Day 1973 p. 30) fails to lose h and add w in a sentence such as:

Jakaltek: "č̣-hin ha mak'an  
chin ha mak'an  
you hit me" (ibid p. 35)

< \*č̣ + in + at + w + mak' + an  
asp 1sg 2sg hit aff  
abs erg

This could conceivably occur, since w appears regularly before vowel-initial verbs (that is, č̣ č̣in wa mak'an, a logical possibility, never appears).

Finally, in Lakandon, the w of a pre-vocalic ergative can be separated from the ergative pronominal by an adjective: "in witzin "mi hermanito" (my little brother) / ?in mehen witzin "mi pequeño hermanito" (my small little brother) (Bruce 1968 p. 46.) Thus, there is a separation, in this language at least, between the pronominal and w, even though they are generally considered to be a unit.

All of the above observations about w can be summarized by the following statements:

- w is only one of many possible vowel-separators, yet it appears quite consistently within transitive sentences, after ergatives and before vowel-initial verbs;

- it does not occur between absolutive and ergative pronominals or in intransitive sentences following the absolutive pronominals;

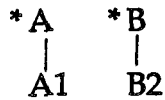
- it commonly undergoes strengthening, particularly after n and a, and word-initially;

- in Lakandon w can be separated from the ergative pronominal of which it is supposedly a part;

- w has become a separate ergative first singular morpheme in several languages, and appears to play the part of ergative third singular (in some form) in the languages of our study.

Separately, these observations mean little, but together they paint a picture of a morpheme that does not appear to be a mere insert meant to keep a vowel-initial verb separate from a precedent ergative pronominal. In other words—this w which is generally ignored and treated as part of the ergative pre-vocalic pronominal affixes in many cases and in many languages—for reasons of distribution, and for reasons of its behaviour and the various changes which occur to it, does not act like a mere part of another morpheme. Accordingly, the w could conceivably explain the earlier observation that ergative pronominals have pre-vocalic and pre-consonantal forms whereas absolutes do not. If we assume that w, rather than being part of the ergative pronominals, has an existence of and by itself and is always present before the verb or noun in an ergative construction, this would account for the changes which occur to the ergatives but which do not occur to the absolute pronominal affixes. The proposal made here is that ergatives have variants before the verb or noun not because of any inherent property of theirs but as a result of the presence of another morpheme, w. This brings together a number of the observations made above. The similarity of the two paradigms, their different distribution, the unique properties of the Mayan verbal complex and of w itself all contribute to the formation of the hypothesis presented in this thesis: historically there were not two paradigms of pronominal affixes in Mayan, but one. Differences in the environments of the morphemes as well as the presence of ergative w have resulted in today's diverse paradigms. In a general sense the development of the pronominals took place as follows:

usual conception:



here:



Our proposed set of Proto-Mayan pronominal affixes is as follows:

1 sng	*in
2	*at
3	∅
1 pl	*oŋ
2	*eš
3	∅

This approach is a new one, particularly the w hypothesis (which is designated an ergative marker). The changes imputed to w are many, and are detailed in the pages ahead. It should be mentioned that the existence of an ergative marker is recognized in other ergative languages. For example, Inuktitut (Eskimo) marks ergative nouns with an ergative suffix while absolutive nouns go unmarked (E.g.:

"inu-up	qimmiq-∅	takuvaa	
person-erg	dog	abs	saw
'A/the person saw the dog'			(Givón, 1984, p. 161).

In addition, some of the Australian aboriginal languages (e.g., Guugu Yimidhirr) do the same. So, although this may be a new idea in Mayan, it is by no means without precedent in the domain of ergativity.

Along with phonological processes, morphological processes also occur extensively within the pronominal paradigms. The fusion of an aspect marker (or other morpheme) with an absolutive pronominal occurs relatively commonly; for example the absolutive paradigm of Mam is a product of the fusion of k, a potential aspect marker, with the absolutives—yielding:

1 sng	č̃in	(+a~ya)
2	k	(~ tz,tz',∅) (+a~ya)
3	"	"
1 pl	qo	
2	č̃i	(+a~ya)
3	"	

Also, a phenomenon which is here denominated replacement also occurs very commonly: this is when one pronominal affix actually takes over the space of another—either a plural replaces a singular or vice versa (within the same 'person'). For example, in both the absolutive and ergative paradigms of the Greater Tzeltalan languages Chol, Chontal, Tojolabal, Tzeltal and Tzotzil, the first person plural morpheme is also used to denote first person singular. In other words, the expected development of Proto-Mayan first person singular simply does not occur. There are also many instances of reanalysis, both phonological and morphological: for instance the suffixed absolutive first person singular in Mam acquired a q from the 'wrong' segmentation of the participial marker naq (this is an example of phonological reanalysis). Likewise, Mam is one of the few languages for which one finds absolutive third singular forms listed. Originally, it can be demonstrated, these were aspect markers. Ultimately, third person ∅ was replaced by these aspect markers which came to be conceived of as absolutive third person (this is an instance of morphological reanalysis). So, all in all, both phonological and morphological processes have acted upon the pronominal paradigms of the Mayan languages to produce the various forms in existence today.

Most clearly, of the above three proposed reconstructions of the Proto-Mayan pronominal system the last is the most abstract. We believe that our reconstruction is justifiable in that it reveals and relates features of Mayan

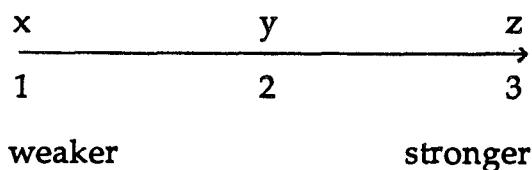


phonology and morphology which have hitherto been ignored or downplayed. Our approach is that of theoretical phonology (as explained and demonstrated by Foley, 1977 and 1979). Applied to reconstruction, this approach has various implications. Primarily, emphasis is placed on explanation rather than description; this translates into our concern to ascertain the system which gave rise to the present-day diversity among the Mayan pronominals (rather than simply describing the proposed changes). Change, within theoretical phonology, is regarded as a constant. Since it is basic, we tend not to classify one type of change or rule as more or less natural than another, hence the concept of 'natural' vs. 'unnatural' or 'marked' vs. 'unmarked' has no place within the system. We do, however, regard certain types of change as more expected, depending on the phonological elements involved and the environment in which the change occurs. The stress we have placed on processes such as cluster simplification, etc. within this thesis reflects this. Indeed, historical data on the Mayan languages have proved relatively difficult to obtain (and in any case, we are hampered, unlike the Indo-Europeanists, by the lack of the equivalent of Latin or Greek or Sanskrit in well-documented and readable form). Therefore, at times we have relied on our knowledge of phonological processes and evidence of their application in modern Mayan to help us in our analysis. We have also made use of the concept of strength (inherent, positional, and assimilated). In order to make references to these concepts clearer, a brief explanation follows (for a fuller exposition of the principles and tenets of theoretical phonology, Foley (1977) should be consulted).

We should mention at the outset that a full theoretical analysis of Mayan has not been attempted in this work. In order to determine the relative strengths of the consonants and vowels more data is needed on more

languages. However, we believe that this study constitutes a first step along the road to a fuller, more theoretically-based understanding of Mayan phonology.

Theoretical phonology is a system in which the phonological elements of a language are established through their behaviour in phonological processes; thus a phonological element can be defined in relation to other elements of a system or language by its participation or non-participation in a process. Processes themselves are defined as being strengthening or weakening. (A list of these is to be found in Chapter Three). An element is defined as stronger or weaker than another when their behaviours are compared; thus a particular element is considered stronger than another when it undergoes a strengthening process in a particular environment, if the other element does not undergo the same process in the same environment. (Likewise, weaker elements will undergo weakening processes in a given environment). By measuring the inherent strength of elements this way, parameters can be set up showing the relationship between the phonological elements of a language:

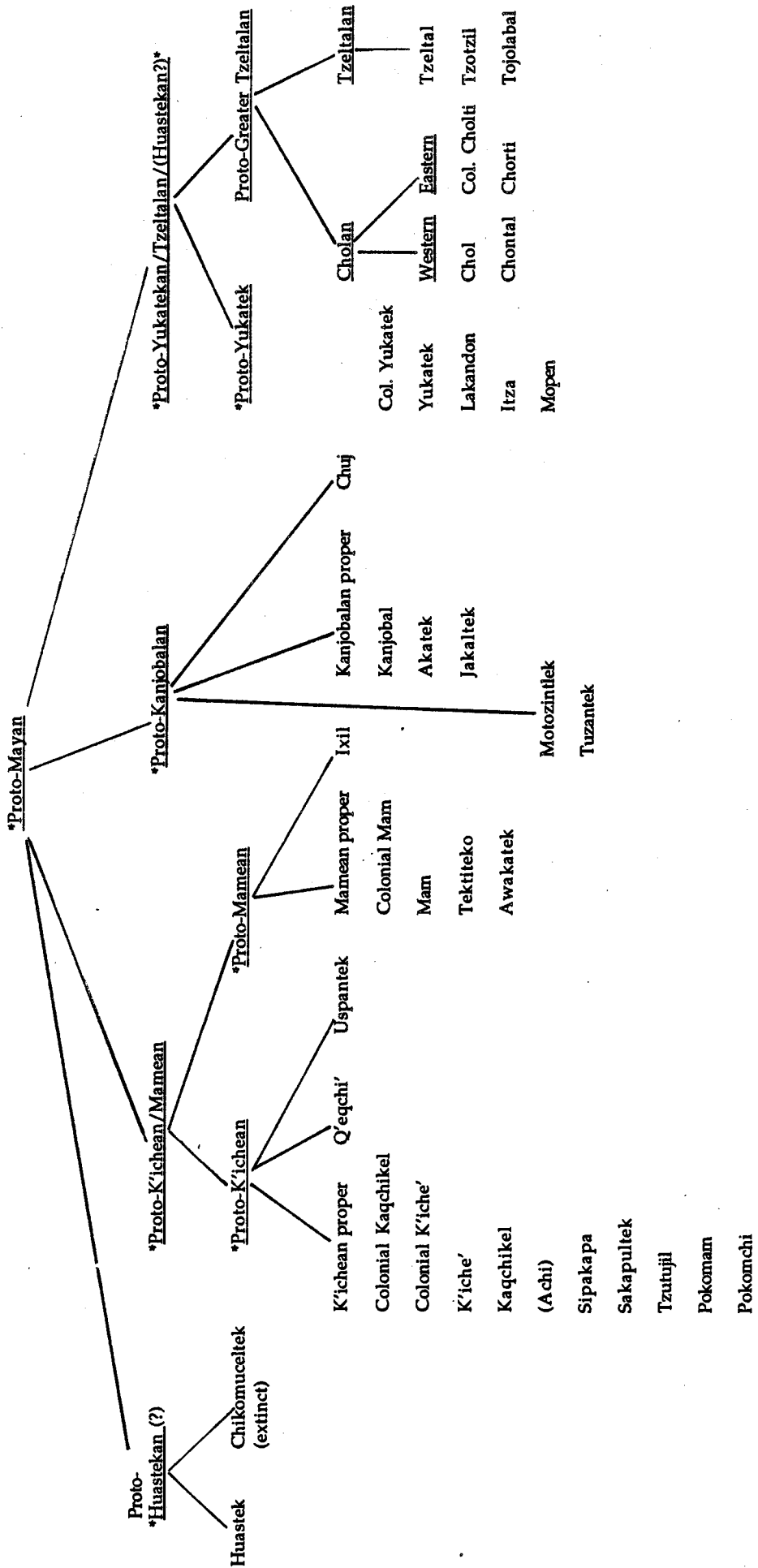


Elements can also undergo strengthening or weakening according to their environment. Again using phonological processes as an evaluative matrix, environments can be designated as strong or weak. For example, in Indo-European, since ienition, a weakening process, occurs in word-medial position but not in word-initial position, we may consider medial position to be weaker than word-initial. In Mayan, we shall present evidence that pre-verb is weaker than post-verb.

One final way in which elements may strengthen is through contiguity with another strong element. This is called the assimilation of phonological strength. Often, the expected occurrence of a process may be blocked if the element to which the process may be expected to occur is situated next to a strong element. An example of the assimilation of phonological strength within our analysis of the pronominal affixes of Mayan is found in bonding. Bonding is a process which takes place between resonants in Mayan: for instance, we propose herein that it is the formation of a bond, based on the strength of the resonants involved, which 1) prevents the loss of n (of \*in) in the ergative first person singular of many languages, 2) sometimes forestalls the loss of w itself, and 3) precipitates the loss of i in some circumstances.

In the overall framework of theoretical phonology one ideally determines the relationship first between elements, then details their participation in phonological rules whose operation is governed by principles. In this thesis it was not possible to fully exploit the system, mainly because of the relative lack of historical data. Hence, our emphasis on phonological processes. If one lacks the type of examples as seen in *Foundations of Theoretical Phonology* (Foley, 1977), for example, where the development of an original Latin consonant can be clearly traced through Old French to Modern French, then one must look at the phonological processes which today take place, determine where and how they work, and extrapolate backwards using all the historical information available, as well as the correspondences, etc. noted by others. Without direct historical proof one is constrained to build one's arguments with circumstantial evidence. The picture that emerges as a result of this analysis is that of an ancient system whose vestiges still remain, though obscured in some cases by modern developments of both a phonological and morphological nature. Where

theoretical phonology is really in evidence in this thesis is in the evaluation of environments, which have been crucial to the development of the Mayan languages; and in the use of the concept of the assimilation of strength which appears in the guise of bonding within the Mayan verbal complex.



\*Campbell (1977) maintains that there is reason to group Huastekan with Tzeltalan and Yukatekan, as the three sub-families share certain phonological innovations (p. 100-101).

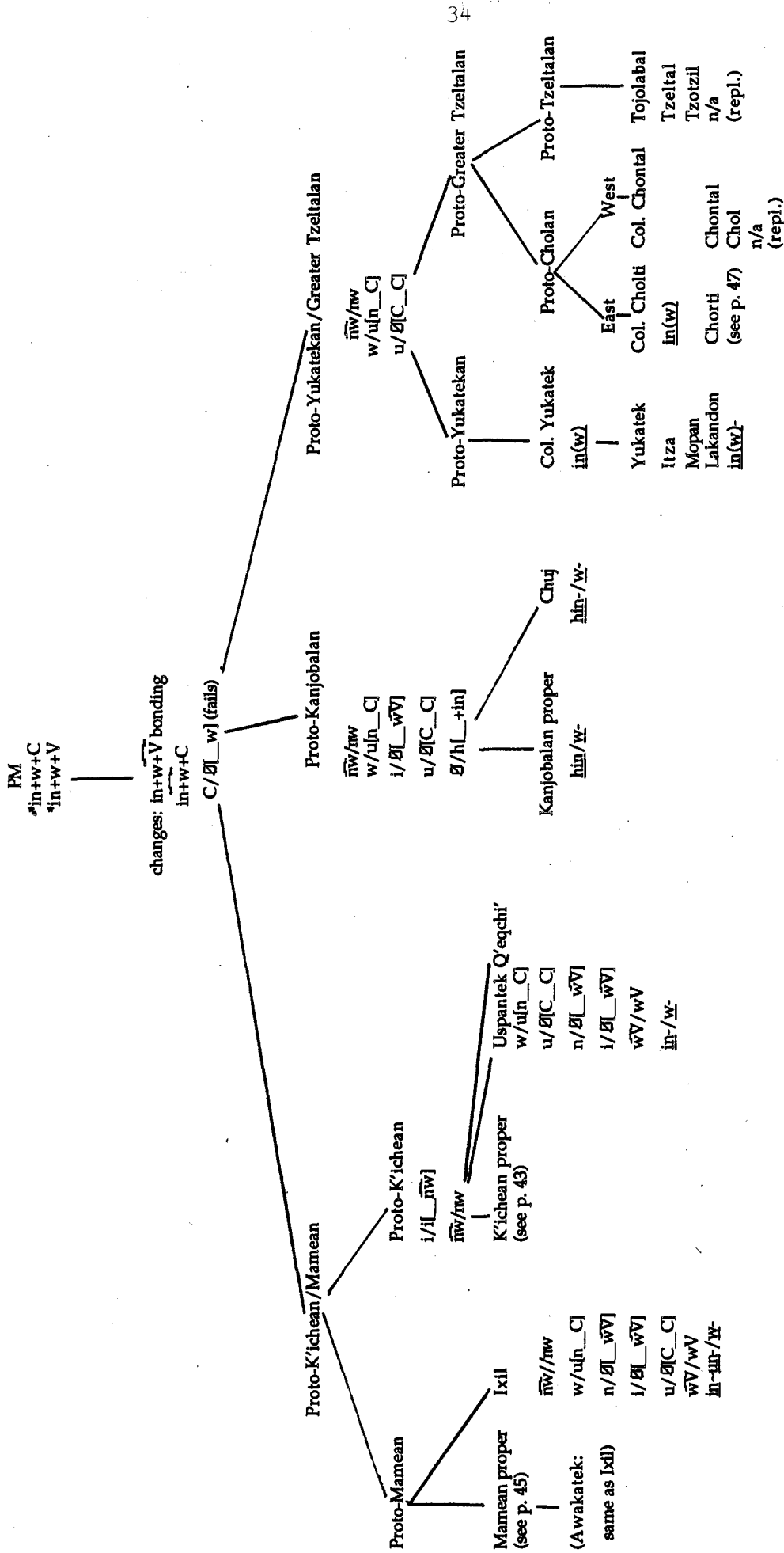
## CHAPTER 2

### Introduction

In Chapter One, we introduced the hypothesis that the two paradigms of pronominal affixes present in modern Mayan originated from one set. Clearly this approach entails many phonological changes. In this chapter we show the changes which we believe to have taken place to produce the various contemporary forms of the pronominal affixes in the different languages. Judging from the fact that they seem to appear in all the languages, some of the changes must have occurred at a very early stage, others at intermediate stages and still others at the level of individual languages, serving to distinguish them one from another. At the beginning of each section, a diagram indicates the changes and the stage at which they occurred. (Insufficient room has in some cases prevented us from listing all of the rules for each individual language in the diagram. These are included in the more detailed discussion of each pronominal affix, which follows).

The groupings indicated in the diagrams are basically those to be found in the chart given at the beginning of Chapter One, with modifications attributable to Robertson (1977, 1980). In the diagrams accompanying each section those languages for which data are scarce are not included, though these are shown in the general diagram preceding this chapter.

Developments of PM \*in—Ergative Paradigm



LEGEND:  
 n/a = not applicable  
 repl. = replacement  
 Col. = Colonial

## 2.1 First Person Singular

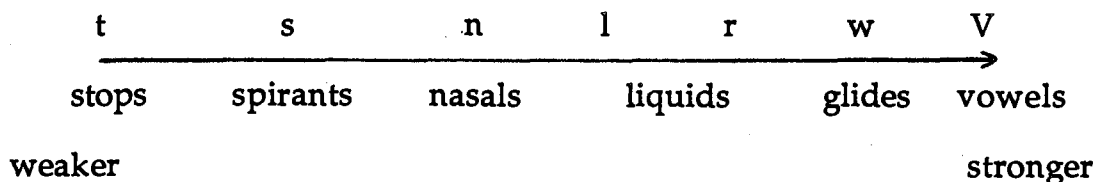
Of the primordial pronominal affixes, the first person singular is one of the easiest to reconstruct. Our chosen form \*in actually appears in most languages in at least one paradigm, and sometimes in both. Notwithstanding, there is plenty of variation on which to focus our attention. The lowland languages differ from the highland in that the vowel of their suffixed absolutive is not the same as the vowel in their prefixed ergative. For example: Yukatek ergative first singular = in(w)-; whereas the absolutive form is -en. On the other hand, some of the highland languages lose the vowel completely in certain environments. (E.g.: Kaqchikel ergative first singular, possessive = nu-). In our treatment of the first singular, we will first discuss the general changes which have taken place in the Mayan family as a whole. We then examine the developments of \*in in the ergative paradigms of the various languages, and then the absolutive changes. In the section on ergatives, our discussion will necessarily include the role and effect of ergative w on the pronominal. Much of the elaboration of the changes wrought by w, however, is to be found in the next chapter. In the sections on ergative and absolutive affixes, we shall proceed from one language group to the next (as defined in Chapter One). This is the procedure we will follow for all of the pronominal reconstructions.

\*in, followed by ergative w, is the basis of the ergative first singular. In this pronominal, we note that the n generally fails to elide before w + C (in contrast to for example the t of second singular \*at, and the s of second plural \*eṣ̌). Rather, the w itself elides. (An exception to this occurs in certain environments in some K'ichean languages, as detailed below). On the other hand, before a vowel-initial verb or noun, in in many cases does not appear, the morpheme being represented only by the ergative w. These phenomena



we attribute to the action of bonding, a process introduced in the first chapter. Between the resonants n and w a phonological bond is created, based on the resonant strength of these consonants.<sup>1</sup> This bond prevents the usual loss of the pre-w consonant, n in this instance. Before vowels, in contrast, the w bonds with the vowel of the verb or noun. In several languages this causes the loss of both n and then i. Bonding by its very nature involves an assimilation of the phonological strength of the two elements involved, so that in the case of  $\widehat{nw}$ , for instance, the weaker n temporarily acquires strength from the stronger w. The resulting cluster is a strong one, weakening the elements around it, specifically the i of in in the case of K'ichean. However, as indicated, the bond is a temporary one; with its relaxation come further changes, involving for instance the change of w to u and its loss in some environments.

- 
1. The relative resonant strength of consonants is measured on the rho parameter in theoretical phonology. Though, as explained in the first chapter, the phonological parameters for Mayan have not been exactly determined, it appears at this point, from the evidence of the ergative pronominal paradigms but also from evidence from final devoicing strengthening, etc. that the Mayan rho parameter is similar if not identical to that of Indo-European:



All of the languages appear to share the bonding phenomenon of  $in+w+C$  /  $in\bar{w}C$  and  $in+w+V$  /  $in\bar{w}V$ .<sup>2</sup> Subsequent phonological developments differ among the subfamilies. Yukatekan retains inw prior to vowels, and elides w before consonants, resulting in the ergative first singular morpheme in(w)-. Judging by developments in Eastern Cholan, where Colonial Cholti also had in(w)-, the Yukatekan/Tzeltalan branch probably shared this lack of innovation (as compared, for example, with the K'ichean languages), although evidence is scarce since the Western Cholan languages and all of the Tzeltalan languages replaced their first singular morphemes with first plural morphemes. Kanjobalan shares the loss of w before consonants with Yukatekan and Tzeltalan, but also loses in before  $\bar{w}V$ , as does K'ichean. The languages which have undergone the most phonological change in the ergative first singular are the K'ichean languages. Accordingly, we will commence our more detailed examination of the development of primordial \*in + w in the K'ichean languages.

The K'ichean languages are unique in Mayan in that some possess different ergative first singular forms before verbs and nouns, respectively. Before a vowel-initial verb within the verbal complex, Kaqchikel, Tzutujil and K'iche' all 'preserve' in + w, either dialectally or in certain environments.

- 
2. It is in the nature of strengthening operations that they occur first and preferentially to strong elements, just as weakening processes occur first and preferentially to weak elements; this is known in theoretical phonology as the Inertial Development Principle—see Foley, 1977, pp. 107-129. Therefore, we would expect the bonding process to apply first to  $wV$ , then to  $nw$ . Conversely, we would expect debonding to occur first to  $n\bar{w}$  then to  $\bar{w}V$ . This indeed seems to represent the sequence of events within the pronominal paradigms.

E.g.:

Kaqchikel: "šatinwukusaj  
lo usé o lo entré (a usted)"  
(I used you) (Rodriguez et al, 1988, p. 58)

< \*š + at + in + w + uku + saj  
asp 2sg 1sg erg use aff  
abs erg

However, the other K'ichean languages replaced in + w with w only, before vowels: e.g.:

Q'eqchi': "šatwil  
le miré (a Ud.)"  
(I looked at you) (Cuc Caal, 1988, p. 38)

< \*š + at + in + w + il  
asp 2sg 1sg erg see

The loss of in before w + V occurred as a result of a sequence of phonological processes. The bonding of  $\bar{w}\bar{V}$  caused the weakening of n, causing it to elide; this stage is attested in Colonial Kaqchikel, in Torresano's 1692 grammar where the ergative pre-vocalic first person singular forms are given as xiu and xu (x [š] = completive aspect marker).<sup>3</sup> This same data shows also the loss of i in the same environment (before  $\bar{w}\bar{V}$ ). We thus suggest that the sequence of events was as follows:

*in+w̄V	
i $\bar{w}\bar{V}$	n/∅[ $\bar{w}\bar{V}$ ]
$\bar{w}\bar{V}$	i/∅[ $\bar{w}\bar{V}$ ]
wV	$\bar{w}\bar{V}$ /wV
—	
wV	

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3. Robertson, personal communication.

As we shall see in our discussion of the other language groups, these rules appear to be common within Mayan.

Upon comparing the pre-vocalic ergative first singular morphemes above, we must now ask why some languages (e.g., Kaqchikel, K'iche') have in + w seemingly unchanged, whereas others (e.g., Pokomam, Uspantek) undergo the processes described above, ending up with only w. At first glance it appears that the languages possessing in + w are conservative, simply preserving the original \*in + w; however, this is not borne out by data from the Colonial languages. Robertson (personal communication) states that in Colonial times the pre-vocalic ergative first singular morpheme within K'ichean was w; he has been unable to find any examples of in + w. We must therefore agree with him that these forms are most probably later formations where the pre-consonantal in has been added to the w.

These developments before vowel-initial verbs also take place in the ergative first singular forms occurring before vowel-initial nouns (in possessive constructions) in the K'ichean languages. All of the languages have w-, with the exception of Uspantek which has yu- (which we hypothesize to be a strengthened manifestation of w; see Chapter One). E.g.:

Kaqchikel:	wač̣jil	
	'my husband'	(Osborne, field notes)
	< *in + w + ač̣jil	
	1sg   erg   husband	
	erg	

Here in was elided as above, because of its proximity to wV; however, as we shall see in our discussion of the pre-consonantal ergative first singular, there is also a rule in K'ichean eliding initial vowels, in particular those which have been weakened before strong clusters.

Before consonant-initial verbs, the w was lost in K'ichean leaving most members of this subfamily with the pre-consonantal form in. Pokomchi and Pokomam are exceptions to this. Pokomam has the form nu (< \*in + w), which as we shall see is the common K'ichean possessive-ergative affix used before nouns commencing with a consonant. An example from Pokomam is:

Pokomam: "na hat nu-sik'-om nahat nusik'om  
 'I am looking for you'" (Smith-Stark, 1983, p. 317)

< \*na + h + at + in + w + sik' + om  
 asp 2sg 1sg erg look aff  
 abs erg for

Pokomchi has ni (from earlier Colonial nu) but older in is still found in some environments, e.g.:

Pokomchi: "ni - k'uš  
 'I eat [it]'" (Ramirez and de Ramirez, 1988, p. 45)

< \*∅ + ∅ + in + w + k'uš  
 asp 3sg 1sg erg eat  
 abs erg

and:

"š - in - k'uš  
 'I ate [it]'" (ibid., p. 46)

< \*š + ∅ + in + w + k'uš  
 asp 3sg 1sg erg eat  
 abs erg

The Pokomchi alternants seem to be conditioned by the nature of the morpheme preceding in. They are examined in more detail in Chapter Three, section 3.3.2.

Before nouns, the shape of the pre-consonantal ergative first person affix (used as a possessive in this context) remains in in Q'eqchi' and Uspantek. For example:

Q'eqchi': "in b'aqel  
mi hueso"  
(my bone) (Cuc Caal, 1988, p. 23)

< \*in + w + b'aq + el  
1sg erg bone aff  
erg

However, Pokomam, Pokomchi, Tzutujil, Kaqchikel and (optionally) K'iche' all have nu or ni before consonants, e.g.:

Tzutujil: "nute'  
'my mother'" (Butler and Butler, 1977, p. 24)

< \*in + w + te'  
1sg erg mother  
erg

Pokomchi: "ni - punet  
my hat" (Ramirez and de Ramirez, 1988, p. 49)

< \*in + w + punet  
1sg erg hat  
erg

As previously mentioned, to have different forms for the ergative first person pre-nominal as opposed to pre-verbal affix is unusual within Mayan. Again, as was the case with the pre-vocalic forms, Colonial data helps us to understand the development of the different allomorphs. Torresano in his Colonial grammar of Kaqchikel gives xin and xinu (completive aspect) tin and tinu (optative/imperative aspect) as the pre-consonantal ergative first singular forms. Brinton gives identical forms in his Grammar of the Kaqchikel Language of Guatemala.<sup>4</sup> For K'iche', Brasseur de Bourbourg in his 1862 grammar supplies xin, xnu or xinu for the preterite (completive) aspect (p. 70). In these forms resides the explanation for the different pre-nominal

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4. The Torresano and Brinton data were supplied by Robertson.

and pre-verbal allomorphs of the pre-consonantal ergative first singular of today. Clearly in Colonial times change was taking place, perhaps best illustrated by Brasseur de Bourbourg's K'iche' data: \*in + w / inu / in ~ nu.<sup>5</sup> In modern K'iche', Kaqchikel, and Tzutujil, the in ultimately became the pre-verb ergative first singular, whereas the nu became the pre-noun form for this person. (Pokomam and Pokomchi had slightly different though similar developments; Uspantek and Q'eqchi' behaved much more conservatively on the whole than the other K'ichean languages. These differences are discussed below, and in Chapter Three). The phonological reasons for these changes are as follows: within K'ichean, we believe, the i of in became weakened prior to  $\bar{n}w$ . Evidence for this weakening is the eventual elision of i which occurred in this subgroup, though nowhere else. When the weakened  $\bar{i}$  was word-initial in K'iche', Kaqchikel, and Tzutujil, it elided; hence pre-nominal nu. In Pokomam, the elision of i was generalized, so that even in Colonial times the ergative first singular for this language was nu in every environment. (Pokomchi's ni, <nu, and in were also conditioned by environmental factors. These are detailed in section 3.3.2 of Chapter Three). After the debonding of  $\bar{n}w$  to nw, a vocalization of w to u occurred before another consonant. The vocalization of a glide in the proximity of another consonant is not unusual; in this case, where the w was surrounded by consonants, its occurrence is to

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5. Robertson accounts for the present-day alternation between in and nu in K'ichean differently. He reconstructs \*nu as pre-consonantal ergative first singular for Proto-Mayan, and explains the presence of in by means of analogical replacement (the in originating from the absolute paradigm). Our approach, within this thesis, is phonological insofar as that is possible. We therefore resist using analogy when we can, believing that phonological solutions are preferable. Indeed, it does not seem necessary to invoke analogy within our analysis of the ergative first singular.

be even more expected. This i, morpheme-final and situated immediately before the verb, was in weak position (a discussion of positional strength is found in Chapter Three). It therefore elided rather than i (which, though weakened, was not in initial position) within the verbal complex. Thus through the application of these processes, many of which also took place within other Mayan languages, the K'ichean group ended up with in (in conservative Q'eqchi' and Uspantek), in ~ nu (in Kaqchikel, K'iche', Tzutujil and Pokomchi) and nu (in Pokomam). A derivation of the ergative first person for this subfamily follows:

pre-noun		pre-verb		
*#in+w+C	*#in+w+V	*in+w+V	*in+w+C	*PM changes:
"	inwV̄	inwV̄	"	wV/wV̄
iñwC	"	"	iñwC	nw/nw̄
"	"	"	"	C/∅[_w] (fails)
				K'ichean changes:
iñwC	"	"	iñwC	i/[i_nw̄]
inwC	"	"	inwC	nw̄/nw
inuC	"	"	inuC	w/u[n_C]
"	iwV̄	iwV̄	"	n/∅[_wV̄]
nuC	wV̄	wV̄	"	i/∅[#_] [_wV̄]
"	"	"	nuC	i/∅ (Pokomam)
"	"	"	inC	u/∅[XC_+C]
"	wV	wV	"	wV̄/wV

---

nu	w	w	in ~ nu
----	---	---	---------

Though Q'eqchi' and Uspantek, as K'ichean languages, presumably share the weakening of i before nw̄, the i fails to elide in these two languages. We attribute this to conservatism; as in the rest of the Mayan languages outside of the K'ichean/Mamean group, the w is the element that elides,





Tektiteko: "∅ ʃ̣ -el n- q'oma -n  
 3sg Ir pot 1st contar refD 'Lo contaré'"  
 (I will tell it) (Stevenson, 1987, p. 60)

< \*∅ + ʃ̣ + el + in + w + q'oma + n  
 3sg go pot 1sg erg tell aff  
 abs asp erg

The derivation of the ergative first singular for the Mamean languages is very similar to that of K'ichean:

*in+w+C	*in+w+V	*PM changes:
"	inw̄V	wV/w̄V
iñwC	"	nw/n̄w
"	"	C/∅[_w] (fails)
		Mamean changes:
inwC	"	n̄w/nw
inuC	"	w/u[n_C]
"	iw̄V	n/∅[_wV]
"	w̄V	i/∅[_wV]
nuC	"	i/∅ (Mam, Tektiteko)
(i)nC	"	u/∅ (general) <sup>6</sup>
"	wV	w̄V/wV
<hr/>		
(i)n	w	

The Greater Tzeltalan languages, with the sole exceptions of Cholti and Chorti, replaced original PM first singular \*in with the first plural morpheme, generally h-/k- (<\*oŋ), k̄a-/k in Chontal. (The morphological process of replacement is discussed in Chapter Three.) Cholti, ancestor of

6. Robertson (personal communication) cites Reynoso's Colonial grammar of Mam as having ergative first singular na, ne, ni, no, nu, the vowel agreeing with that of the following root. From this we surmise that prior to the loss of u it underwent these changes though no trace remains today.

Chorti, like the Yukatekan languages had in[C], inw[V], hence no change from PM \*in + \*w. Chorti, however, underwent several unique changes in the first person. As it is the only language which demonstrates change from the original \*in, it is the only Greater Tzeltalan language which will be discussed here.

Before vowels, the Chorti ergative first singular changed according to the nature of the vowel. Before non-round vowels, \*in+w+V / iŋgwV. For example:

Chorti:	<p>“ iŋ' guah" ?ku I give it”</p>	(Fought, 1967, p. 110)										
<p>&lt; *∅ + in + w + ah?ku + ∅</p> <table style="margin: auto; border: none;"> <tr> <td style="padding: 0 10px;">asp</td> <td style="padding: 0 10px;">1sg</td> <td style="padding: 0 10px;">erg</td> <td style="padding: 0 10px;">give</td> <td style="padding: 0 10px;">3sg</td> </tr> <tr> <td></td> <td></td> <td style="padding: 0 10px;">erg</td> <td></td> <td style="padding: 0 10px;">abs</td> </tr> </table>			asp	1sg	erg	give	3sg			erg		abs
asp	1sg	erg	give	3sg								
		erg		abs								

In yet another example of the interaction between n and w, here the w, rather than bonding with n, was reinforced with g, a common manifestation of glide strengthening.<sup>7</sup> (England, 1983, p. 29 reports that w acquires a g onset after n in Mam as well and see other examples given in Chapter One.) The n then assimilated to ŋ[g]. Before rounded vowels, however, different developments took place, e.g.:

---

7. Glide strengthening is accomplished by prefixing a consonant (usually homorganic and voiced) to a glide: an example from Indo European is Holtzmann's Law, where in north and east Germanic y and w became gy and gw in Old Norse, dy and dw in Gothic after a short stressed vowel (Foley, 1977, p. 91). Similarly, word-initial w is commonly strengthened to gw in modern dialectal Spanish, as happened in Old French (which borrowed OGmc warten (OE weardian), added g and changed it to garde, and gave it back to English as guard (Partridge, p. 795). Also note the earlier changes to Latin y in both Spanish and French: y/dy/dzy/dž/ž/ž/j- p. 92, Foley, 1977.

Chorti: " 'u?un"?tš̃i  
I drink it"

(ibid., p. 110)

< \*∅ + in + w + u?tš̃ + i + ∅  
asp 1sg erg drink aff 3sg  
erg abs

Here, \*in+w+u / u?un+. The differences between the pre-rounded vowel and pre-non-round vowel forms are explained by the fact that the w contracts with round vowels. This triggers a series of other changes, as follows (an example before a non-rounded vowel is also included, for comparison:)

*in+w+a	*in+w+u	
"	inu	contraction wu/u
ingwa	"	glide strengthening
"	unu	vocalic assim.i/u[___Cu]
"	uun	metathesis nu/un
"	u?un	?-insertion
iŋg w a	"	assim. n/ŋ[___g]

---

iŋg w a                      u?un

The contraction of w with u or o prevents strengthening of w: at the same time, the strengthening of w after n and before a, i, e blocks the vocalic assimilation to which i is subject (we will see more instances of this process in the pre-consonantal ergative first singular, and in the absolutive first person affixes as well). The metathesis which takes the vowel of the stem (in this case, u) out of the verb and into the prefix is somewhat mysterious, yet there is no other explanation for the configuration un; metathesis often occurs in Mayan, though as we observe elsewhere (see Metathesis, below) its occurrence is usually connected with velar/uvular combinations. The insertion of ? between the resulting VV sequence is a common method of breaking up vowel combinations in Mayan, as previously mentioned (Chapter One). The Yukatekan absolutive plural morphemes also demonstrate this process.

Before consonants, w elided: e.g.:

Chorti: " 'iŋ'?'ka"ni  
I want it" (Fought, 1967, p. 108)

< \*∅ + in + w + ?kan + i + ∅  
asp 1sg erg want aff 3sg  
erg abs

However, the i of \*in assimilated to a preceding peak vowel so that for example o + in / on:

Chorti: " 'o?om"?'pi  
I wrap it" (ibid., p. 108)

< \*∅ + in + w + ?pi + i + ∅  
asp 1sg erg wrap aff 3sg  
erg abs

The rules for vocalic assimilation are: "Within a pause group, V alternates so as to assimilate to the preceding peak vowel, whether in the same or the preceding syllable...If no peak precedes V in a pause group, V is I" (Fought, 1967, p. 107). The rules necessary to derive the two examples above are:

*in+w+?kani	*o+in+w+?pi	
in?kani	oin?pi	w/∅[__C]
"	oon?pi	vocalic assim.
"	o?on?pi	?-insertion
iŋ?kani	o?om?pi	consonant assim.

---

iŋkani	o?om?pi
'I want it'	'I wrap it'

The changes undergone by o?om?pi closely parallel those of u?un?tši, described above. Both demonstrate vocalic assimilation—in the first instance, because of the preceding peak vowel, and in the second, because of the root vowel u. Both then had their vowel clusters separated by ?-insertion. These changes were blocked in iŋ?kani because of the lack of a preceding peak

vowel within the pause group, and in iŋgwa because of lack of similarity between w and the following vowel. In any case, it is not difficult to derive all of the surface forms of the ergative first singular, either pre-vocalic or pre-consonantal, from underlying \*in. (As derivations have already been given for Chorti, and as it is the only Greater Tzeltalan language to have a modern-day development of \*in+w, no derivation for the subfamily is appended).

The Kanjobalan family adopted w as ergative first person, prevocalically (as did numerous languages, already mentioned). We assume that the procedure for changing \*in+w/w[\_V] was the same as for K'ichean and Mamean. Before consonants, in changed very little. w was elided before consonants; h was added to the beginning of the morpheme, yielding hin. This 'h-insertion' rule was applied to all vowel-initial pronominals. In Kanjobal and Jakalteq the h added by this rule drops after a consonant "in normal transition" (Day, 1973, p. 30). E.g.:

Jakalteq:        "š-hin mak'a  
                     šin mak'a  
                     I hit s. th."

(ibid., p. 34)

< š + Ø + in + w + mak'a  
   asp 3sg 1sg   erg hit  
                  abs erg

V-initial:        "š-w-ila  
                     šwila  
                     I see s. th."

(ibid., p. 35)

< š + Ø + in + w + il + a  
   asp 3sg 1sg   erg see aff  
                  abs erg

Thus original \*in was preserved virtually intact in Kanjobalan, at least before consonants.

The derivation for this subfamily is:

*in+w+C	*in+w+V	*PM changes:
"	inw̄V	wV/w̄V
inw̄C	"	nw/n̄w
"	"	C/∅ [_w] (fails)
		Kanjobalan changes:
inwC	"	n̄w/nw
inuC	"	w/u[n_C]
"	iw̄V	n/∅[_w̄V]
"	w̄V	i/∅[_w̄V]
inC	"	u/∅[C_C]
hinC	"	∅/h[_+in]
"	wV	w̄V/wV

---

hin

w

The language family that maintained PM \*in best in both pre-vocalic and pre-consonantal position was Yukatekan (and Cholte, as mentioned). All four languages, Yukatek, Mopan, Itza, and Lakandon, have in with retention of w before vowels: e.g.:

Lakandon: " k-in w-il-ik  
 'lo veré'  
 (I will see it)

(Bruce, 1968, p. 94)

< \*k + in + w + il + ik + ∅  
 asp 1sg erg see fut 3sg  
 erg asp abs

Before consonants, w became u and was dropped: e.g.:

Mopan: " tan in pük -kint -ik -eč  
 prog I face-dn plce inf you  
 'I am placing you face down' (Ulrich and Ulrich, 1986, p. 34)

< \*tan + in + w + pük + kint + ik + at  
 prog. 1sg erg pos. loc aff 2sg  
 erg abs

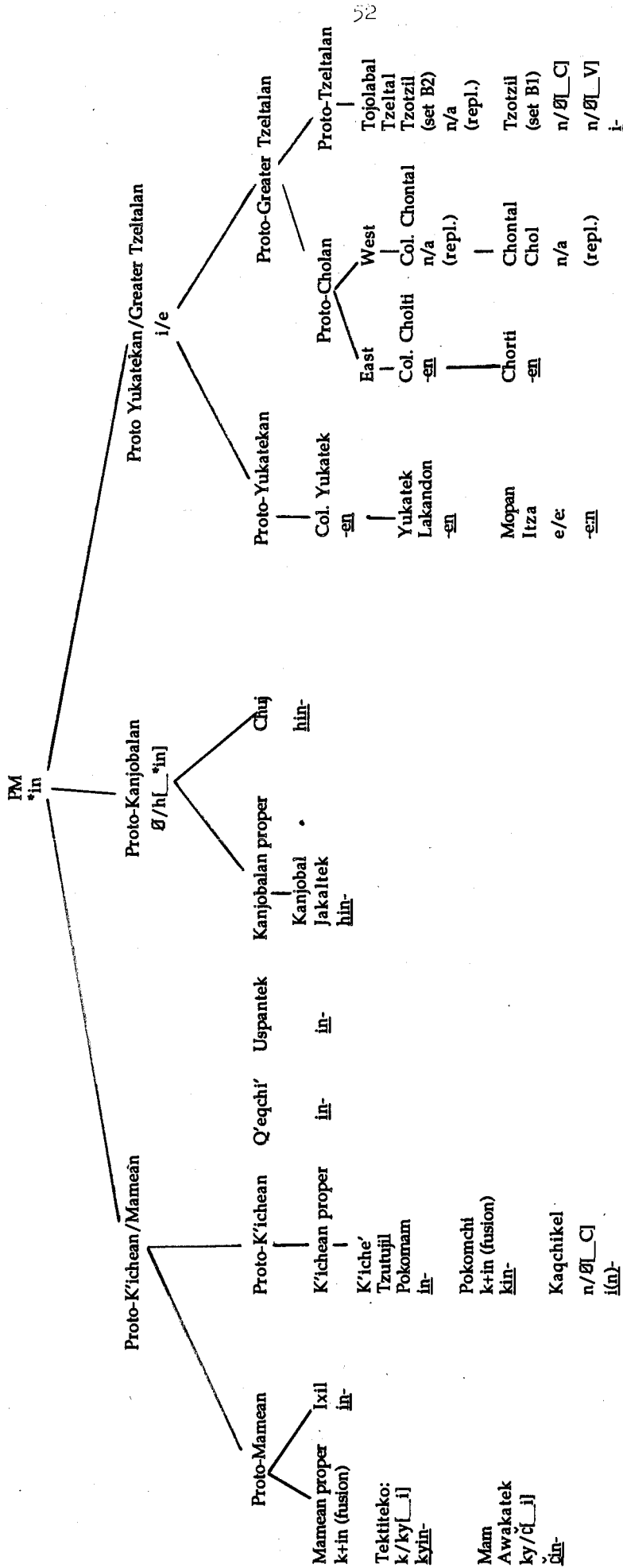
Thus we consider the Yukatekan languages to be the most conservative of all with respect to the ergative first singular. The various pre-vocalic changes noted above for the other subfamilies do not occur; only the pre-verb w elides, after going through the weakening stages also noted above:

*in+w+C	*in+w+V	*PM changes:
"	inwV̄	wV/wV̄
inw̄C	"	nw/nw̄
"	"	C/∅[_w] (fails)
		Yukatekan changes:
inwC	"	nw̄/nw
inuC	"	w/u[n_C]
inC	"	u/∅[C_C]
"	inwV	wV̄/wV
<hr/>		
in	inw	

Despite their perfect preservation of PM \*in in the ergative paradigm, however, the Yukatekan languages are among the few to have undergone changes in the first person singular in the absolutive. Accordingly, we shall open our discussion of the developments of \*in in the absolutive paradigm within these languages, working backward through the language families in opposite order until we finish with K'ichean. (Since little change occurs to the absolutive morphemes, derivations are only given when unusual developments warrant).



Developments of PM \*in—Absolute Paradigm



The absolutive first singular affix in Yukatekan is -en in all four languages (with lengthening of the vowel in Mopan and Itza: e:n). As in all lowland languages, the absolutives are suffixed to the verb stem. E.g.:

Mopan: "čüd -e:n  
damp I  
I got wet' (Ulrich and Ulrich, 1986, p. 12)

< \*∅ + čüd + in  
comp damp 1sg  
asp abs

Yukatek: "lup 'en  
I fell' " (Nida and Romero, 1950, p. 195)

< \*∅ + lup + in  
comp fall 1sg  
asp abs

There is no variation in the shape of the morpheme regardless of the nature of the sound to which \*in is appended, which indeed is common in the absolutive paradigm in general. This is no surprise, as -en is suffixed, in the case of this particular family; we contend that less change takes place after the verb than before it (see below for further discussion). Also, ergative w is of course absent. Given the number of changes caused by and/or participated in by w, this is bound to be a significant factor in the development of \*in in its absolutive role. The only change with which we are faced in Yukatekan is the i of \*in becoming e (as well as the lengthening of e, which is discussed in the Vowel Lengthening section of Chapter Three). At present, there is no satisfactory explanation for this phenomenon. We note that the absolutive second person singular, from \*at, has also changed its vowel, becoming e in eč, so there seems to have been a general change of the vowels in the singular absolutive affixes, to e. Given the 'strong' environment of the pronominal, the change may represent a positional strengthening of i and a to e. This

possibility cannot be confirmed or disconfirmed at this point, however; the relative strengths of the vowels in Mayan remain to be worked out. (This is a difficult, though not impossible task since a single older language to fill the analogous role of Latin, Greek, or Sanskrit in Indo-European reconstruction does not exist in Mayan. The "Classical" versions of the various languages are not old enough to help much in this way). Another possibility is that the e of en is original (i.e., that PM first person singular = \*en), and that all in manifestations are a result of the raising of the vowels before a nasal. Foley (1977, p. 57) points out that before nasals (and liquids) a vowel is often raised: e.g., English wind is cognate with Latin ventus and Breton gwent, all from PIE \*W $\bar{E}$  (Skeat, 1963, p. 611). The process through which this is achieved is glide epenthesis:

wend <sup>8</sup>	
wenʏd	glide epenthesis
winyd	assim.
wind	deletion of glide

---

wind

We recall that the ergative first person in is followed by a glide (ergative w). However, there are problems with this analysis: for one, usually it is a palatal glide (y) that raises front vowels such as e; ergative w is (labio)-velar. Secondly, this proposed raising of e/i[\_\_n] also takes place in the absolutes in most languages of our study, where no glide is present (cf. Kanjobalan and

---

8. Derivation from Foley, 1977, p. 57. Skeat (p. 611) cites Teutonic type \*wendoz (the proper starting point of this derivation). However, the changes necessary to elide the -oz ending are not pertinent to this discussion and it has therefore been left off.

K'ichean in, below). Finally, original a of \*at in the absolutive second person also changes to e in Yukatekan, with no nasal, liquid, or glide nearby. Thus though the \*en/in approach is tempting, there are too many difficulties associated with it to adopt it at present. At this point, we must leave the \*i/e change in the Yukatekan absolutive first singular as a puzzle, to be worked out at a later date.

The Kanjobalan absolutive first singular is hin in Chuj, Jakaltek, and Kanjobal, e.g.:

Chuj:            "tz - hin - hey - ak' tzaljok  
                   present 1st 2pl make happy  
                   'you make me happy"     (Maxwell, in England, 1978, p. 128)

< \*tz + in + eš + w + ak'  
           asp 1sg 2pl erg make  
           pres abs erg

Identical to the pre-consonantal hin in the ergative, h has been added in the absolutive; in Jakaltek and Kanjobal it again is lost, in the same circumstances as in the ergative, after a consonant. This does not occur in Chuj, as evidenced in the example above.

In Greater Tzeltalan, most of the languages have replaced the original absolutive first singular with the first plural -on, just as occurred in the ergative paradigm. Exceptions are Chorti again, which has -en like the Yukatekan languages, with the same unexplained change from i to e; and Tzotzil, which has -on like the other Tzeltalan languages in one set of absolutives, but prefixed i- in another. (The two sets of absolutives are used in different aspects). The Tzotzil suffixed -on is a product of replacement and does not interest us here; the prefixed i on the other hand is a development from \*in and is unusual in its loss of n. Loss of any part of the morpheme is uncommon within the absolutive paradigm; however, Tzotzil is not the only

language to do so. Kaqchikel also loses the n of in, though only before consonants. (Awakatek also has different pre-vocalic and pre-consonantal variants of the absolutive morphemes, but through reanalysis rather than through cluster simplification as is the case with Kaqchikel). Indeed, we assume that the final consonant of \*in first was elided before consonants in Tzotzil as well, followed by a generalized loss in all environments. (The same process also took place in the second singular.) It is notable that all instances of cluster simplification, whether occurring to ergative affixes (usual) or absolutive affixes (unusual), happen before the verb, to prefixed pronominals. This is no accident, as we shall explain in the section on the relative strengths of environments.

The Mamean languages Awakatek, Mam and Tektiteko illustrate a process here denominated fusion in their absolutive paradigms (described more fully below in Chapter Three). Fusion consists of the combining of a former aspect marker—in this case, potential k—with a pronominal. The reason why fusion occurs to the Mamean absolutive affixes as opposed to their ergatives is readily apparent when we examine the anatomy of the Mayan verbal complex. The aspect morpheme is generally first; the absolutive morpheme follows, in both transitive and intransitive sentences, in OSV languages such as Mam, Tektiteko and Awakatek. (This explains why no fusion took place in Ixil, the fourth member of the Mamean group. Ixil is a bit of an oddity within Mamean in that it suffixes its absolutives. This means that they never came into contact with aspectual k—hence, no fusion). The development of the absolutive first person in the four languages was as follows:

Mam k + \*in / kʲin / čin<sup>9</sup>  
 Tek k + \*in / kyin  
 Ag k + \*in / kʲin / čin  
 Ix -in (no change)

## Examples:

Mam: " n čin qeelana  
 estoy corriendo"  
 (I am running) (Ortiz, 1988, p. 35)

< \*n + k + in + qeelana + a  
 asp 1sg run aff  
 prob abs

Tektiteko: " n cyin po -n  
 cont 1st llegar sufC1  
 'iba(yo) llegando alli'"  
 (I was arriving there) (Stevenson, 1987, p. 39)

< \*n + k + in + po + n  
 asp 1sg arrive aff

Awakatek: " činčib'iy  
 they hit me" (McArthur and McArthur  
 in Mayers, 1966, p. 158)

< \*∅ + k + in + ki + w + b'iy  
 asp 1sg 3pl erg hit  
 abs erg

Original in still appears in all of these languages in restricted environments. in is found in Mam and Tektiteko for example in constructions having ∅ aspect markers, e.g.:

Mam: " in ooka  
 entré"  
 (I entered) (Ortiz, 1988, p. 37)

< ∅ + in + ook + a  
 asp 1sg enter cl  
 abs

---

9. Foley (1977) proposes several steps in the assibilation process; a full derivation of Mam čin should read kin / kʲin / ktyin / ktsyin / tsyin / tšin. We have shortened it since assibilation is not our focus here.

Tektiteko: " in ṣ̌ -ik  
 'fui'"  
 (I went) (Stevenson, 1987, p. 39)

< \*∅ + in + ṣ̌ + ik  
 asp 1sg go aff  
 abs

Also, in locative constructions: e.g.:

Mam: " (a)t - iin - a"  
 'I am (in a place)'" (England, 1983, p. 76)

< \*∅ + (a)t + in + a  
 asp loc 1sg cl

In Awakatek, in does not occur before a verb, though a shorter form, n, does. The conditioning factors in this instance are not aspectual but phonological and morphological: č̣in is used in transitive sentences as an object, and before consonant-initial stems in intransitive sentences. n only appears before vowel-initial stems in intransitive sentences (examples from McArthur and McArthur, in Mayers, 1966):

Awakatek: " č̣inč̣ib'iy they hit me" (loc. cit., p. 158)  
 " č̣in ya'b'i'ṣ̌ nin in I am very sick" (p. 164)  
 " no'k I enter " (p. 158)

However, in does appear in stative constructions: e.g.:

Awakatek: " sikt-naq-in 'I am tired'" (Robertson, 1980, p. 63)  
 tired ptc.1sg

Since Awakatek does not lose the i of in in the ergative or in statives, it is not likely that the n form is a result of vowel elision. Rather, n probably comes from a reanalysis of č̣in as č̣i + n; that is, the n was separated from the rest of the morpheme and interpreted as its pre-vowel variant.

One interesting consequence of fusion is that it prevents the loss of i in Mam and Tektiteko, as occurred in the ergative paradigm. The most obvious reason for this is an overall strengthening of the morpheme through fusion.

The bonding which must take place when morphemes fuse implies a great deal of phonological energy, which is manifested in this instance through retention of the vowel.

Mam has one more form of the first person which bears mentioning, since it has also been shaped through fusion. In stative constructions, the first person is qiin, e.g.:

Mam: "šjaal qiin-a  
 'I am a person' (England, 1983, p. 76)

<\*šjaal + in + a  
 person. 1sg cl

Robertson (1980, p. 63) identifies the q in this form as originating from the participial marker \*naq: i.e., naq + in > na + qiin. In this form the i has not dropped—in fact, it has lengthened. However, playing a role in the retention of the vowel in this case is not only fusion, but the position of the morpheme in question—it is always suffixed. It is the suffixation and, hence, placement in strong position which has resulted in the lengthening of the vowel (and c.f. the locative form -iin, above).

The K'ichean languages on the whole maintain the original PM first person singular \*in in their absolutive paradigms. Some languages have introduced a few changes. Kaqchikel, as previously mentioned, loses n before a consonant within the verbal complex, e.g.:

Kaqchikel: "širukanoj  
 'me buscó (él,ella)'  
 (He looked for me) (Rodriguez, et al., 1988, p. 56)

<\*š + in + rw + kan + oj  
 asp 1sg 3sg look for aff  
 abs erg

Pokomchi, like Mam, Awakatek, and Tektiteko, has fused k with its absolutive pronominals: in the first person k + in / kin, e.g.:



Pokomchi: "na - kin - a - tobem  
You will help me" (Ramirez and de Ramirez, 1988), p. 46)

<\*na + k + in + at + w + tob + em  
asp 1sg 2sg erg help asp  
abs erg

As was the case in the Mamean languages, in still shows up in limited environments, in this case after the completive aspect marker x: e.g.:

Pokomchi: "š - in - k'ulik  
I came" (ibid., p. 47)

<\*š + in + k'ulik  
asp 1sg come  
abs

Otherwise, the K'ichean absolutive first person singular is in, e.g.:

K'iche': "šinčakunik  
trabajé"  
(I worked) (Suy Tum, 1988, p. 46)

<\*š + in + čak + un + ik  
asp 1sg work aff aff  
abs

Q'eqchi': "ninb'EEK  
camino"  
(I walk) (Cuc Caal, 1988, p. 30)

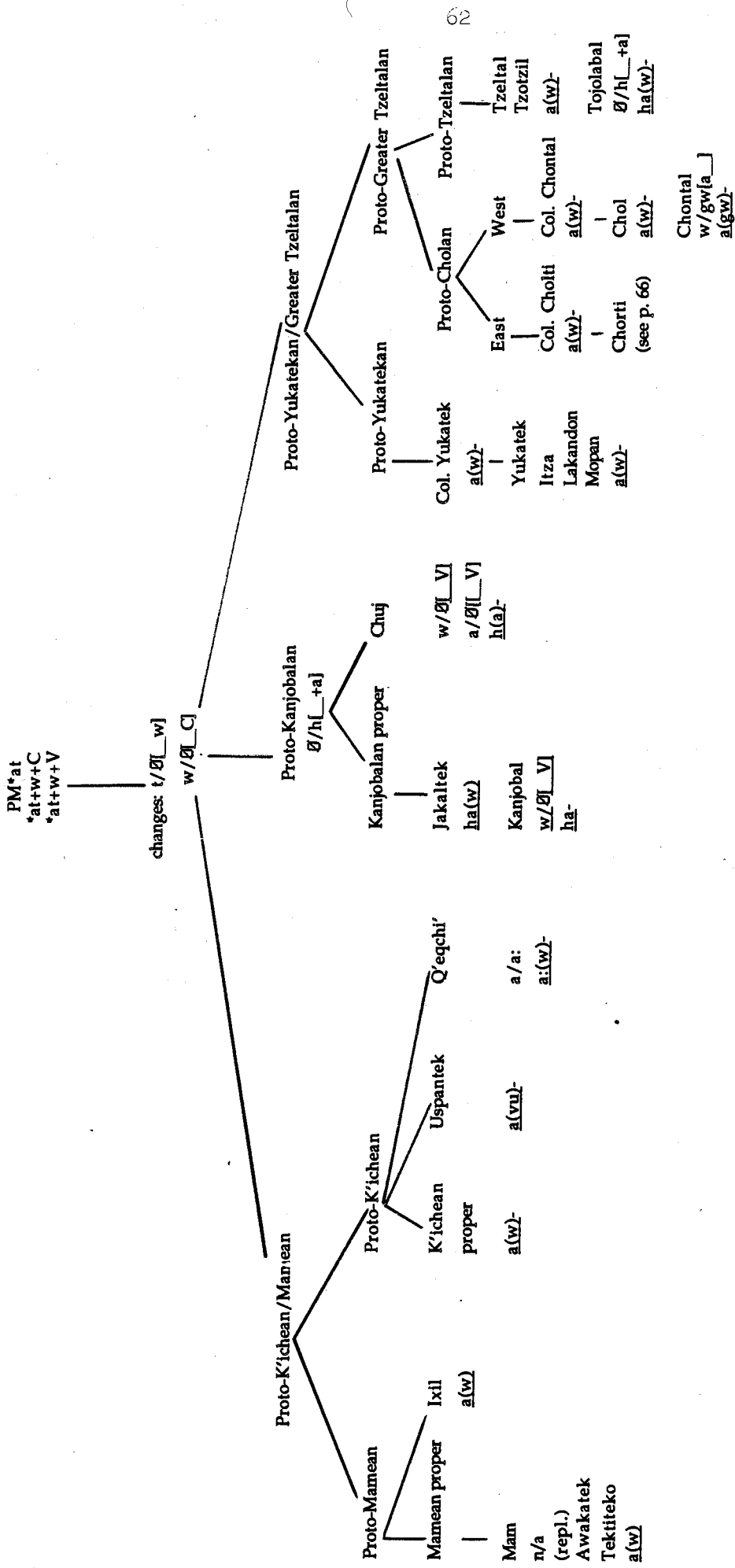
<\*n + in + b'EEK  
asp 1sg walk  
abs

\*in provides the first example of the various processes and environmental features that can act upon the original pronominal morpheme to produce the many surface variants that now exist. Most of these processes and environmental factors will become familiar as we progress through the PM pronominal paradigm.

## 2.2 Second Singular

The form we have reconstructed for the second person singular is \*at. As far as the ergative paradigm is concerned, unlike the first person singular there is no overt evidence of this morpheme in this particular shape in any of the languages of this study. This comes as a result of general changes within the ergative paradigm, namely the loss of t before w, and the loss of w itself before a consonant. In this case, since the t is not sufficiently resonant it failed to bond with w. In consequence, the subtle changes brought about by bonding, which affected w as well as in in the first person, do not take place here. Thus development of Proto-Mayan \*at + w is much more uniform within the ergative paradigm. In the absolutive paradigm, no change has taken place general to the Mayan family as a whole, though there are several variations at the subfamily and individual level. Once again, we will commence our discussion with the ergative second singular and end with the absolutive.

Developments of PM \*at—Ergative Paradigm



The K'ichean family all have a(w) in the ergative second singular, with minor variations: Q'eqchi' has lengthened the a to a:, and Uspantek rather than w has yu before vowels (seemingly its usual development of ergative w since yu is also to be found in the first singular). In all cases, the original t of \*at has been lost in the environment before w; w itself is subsequently lost before consonant-initial stems, e.g.:

Pokomam: "k - in - a - tok  
you hit me" (Smith-Stark, 1983, p. 308)

< \*k + in + at + w + tok  
asp 1sg 2sg erg hit  
abs erg

Q'eqchi': "šoa:sik'  
nos buscó (usted)"  
(you looked for us) (Cuc Caal, 1988, p. 37)

< \*š + oŋ + at + w + sik'  
asp 1pl 2sg erg look for  
abs erg

Pre-vocally, ergative w is retained yielding a+w for all members of the K'ichean group, e.g.:

Q'eqchi': "šawil  
le miró (Ud a el[los][sic])"  
(You looked at him) (Cuc Caal, 1988, p. 38)

< \*š + Ø + at + w + il  
asp 3sg 2sg erg look at  
abs erg

Kaqchikel: "šojawukusaj  
nos usó o nos entró(usted)"  
(You used us) (Rodriguez et al., 1988, p. 58)

< \*š + oŋ + at + w + uku + saj  
asp 1pl 2sg erg use aff  
abs erg

Thus the changes to \*at + w in K'ichean were as follows:

*at+w+C	*at+w+V	PM changes:
awC	awV	t/∅[_w]
aC	"	w/∅[_C]
<hr/>		
a	aw	

The ergative second singular of the Mamean languages behaves identically to that of the K'ichean languages. (The original second singular in Mam was replaced by the third singular, so Mam does not figure in this discussion).<sup>10</sup> Tektiteko, Awakatek, and Ixil all have a[\_C], a+w[\_V], e.g.:

Ixil: " "pek sa - tz - a - sa?..  
'But/well, do you want?..' (Townsend and Met, in  
Townsend, 1980, p. 96)

< \*pek sa + tz + at + w + sa? + ∅  
but asp Q 2sg erg want 3sg  
erg abs

Tektiteko: " matš ∅ ka aw- e -n  
PsdI 3sg 2sg ver RefD  
abs QUEDAR erg  
'Acabas de dejarla'  
(You just left it) (Stevenson, 1987, p. 45)

< \*matš + ∅ + ka + at + w + e + n  
3sg dir 2sg erg see aff  
abs erg

Since the forms of the ergative second singular are identical to those of the K'ichean languages, we assume that the changes are the same too:

*at+w+C	*at+w+V	
awC	awV	t/∅[_C]
aC	"	w/∅[_C]
<hr/>		
aC	awV	

10. For the mechanism involved in this change see England, 1976.

One point of interest is that the a of \*at fails to elide in Tektiteko, although i did in the first person singular. This suggests that the a is less subject to elision than i, which implies its greater strength. However, we cannot draw any firm conclusions on relative vowel strength until more data have been collected in Mayan as a whole.

The Greater Tzeltalan languages also mainly have a(w) as ergative second singular, although as in the K'ichean group there are minor deviations from this pattern. Tojolabal for instance has affixed h to \*at, and thus has ha[\_C], ha+w[\_V]; in this way Tojolabal acts like the Kanjobalan languages. (The h, along with other h's in Tojolabal, is deleted in certain environments, cf Furbee-Losee, 1976, p. 174). In Chorti the pre-consonantal ergative second singular is a; however, before a vowel similar changes to those described above for the first singular occur. Before a, e, and i, w is maintained as we would expect, e.g.:

Chorti: " 'a'vah"?ku  
you(sg) gave it" (Fought, 1967, p. 10)

< \*∅ + at + w + ah?ku + ∅  
asp 2sg erg give 3sg  
erg abs

Before o and u, w again disappears through contraction and a subsequently assimilates, e.g.:

Chorti: " 'o?o"tot  
your(sg) house" (ibid., p. 110)

< \* at + w + otot  
2sg erg house  
erg

and

" 'o?oi'?tši  
you(sg) drink it"

(ibid., p. 110)

< \*Ø + at + w + u?tš + i + Ø  
asp 2sg erg drink aff 3sg  
erg abs

The rules to derive these forms are very similar to those given above for the first singular—we shall repeat them here for completeness' sake:

*at+w+otot	*at+w+u?tši	
awotot	awu?tši	t/Ø[_w]
aotot	ao?tši	wu/o;wo/o contr.
ootot	oo?tši	a/o[_o] voc. assim.
o?otot	o?o?tši	?-insertion
"	o?oi?tši	"breaking" <sup>11</sup>

---

o?otot	o?oi?tši
'your house'	'you drink it'

The rest of the Greater Tzeltalan languages, as mentioned above, have the common forms a[\_C], a+w[\_V], e.g.:

Tzotzil: " š - av - il - on  
'you see me'"

(Bricker, 1977, p. 21)

< \*š + at + w + il + oŋ  
asp 2sg erg see 1pl  
erg abs

Tzeltal: " // a<sub>A</sub>pàs //  
'you do [it]'"

(Kaufman, 1963, p. 178)

< \*Ø + at + w + pas + Ø  
asp 2sg erg do 3sg  
erg abs

---

11. See Fought, 1967, p. 133. Apparently certain combinations of vowels induce this change, which judging by the number of examples, is quite common.

h is prefixed to \*at in Kanjobalan, as it was to ergative first singular hin. As do most of the other languages in our study, the Kanjobalan languages elide \*t[\_w], and then w itself drops, before consonants in Jakalteq and generally in Chuj and Kanjobal. E.g.:

Jakalteq:        " š-ha mak'a            ša mak'a  
  you hit s.th."   (Day, 1973, p. 34)

< \*š + Ø + at + w + mak'a  
       asp 3sg 2sg erg hit  
             abs erg

Chuj:                " š - Ø - ha - suk sakok  
                          pres 3rd 2nd rub lose  
                               nom erg  
                          you erased it"   (Maxwell, in England, 1977, p. 128)

< \*š + Ø + at + w + suk sakok  
       asp 3sg 2sg erg rub lose  
             abs erg

Chuj goes one step further than either Jakalteq or Kanjobal in eliding even the a of the morpheme before a vowel-initial stem, e.g.:

Chuj:                " tz - Ø - h - ak' - takjok  
                          pres 3rd 2nd make dry  
                               nom erg  
                          you dry it"   (ibid., p. 128)

< \*tz + Ø + at + w + ak' + takjok

In Chuj, the generalized loss of ergative w resulted in a ha+V situation, which was dealt with by the language reanalyzing the added h as an integral part of the morpheme. h consequently became the pre-vocalic ergative second person for Chuj. Thus in the prevocalic environment, Jakalteq is the most conservative of the three languages, followed by Kanjobal which loses w, and Chuj which loses both a and w:



$\bar{\_} \bar{\_} V$   
 Jakaltek: ha+w  
 Kanjobal: ha  
 Chuj: h

The rules needed to derive the Kanjobalan forms of the ergative second singular from \*at are as follows:

*at+w+C	*at+w+V	*PM changes:
awC	awV	t/∅[_w]
aC	"	w/∅[_C]
		Kanjobalan changes:
ha	haw	∅/h[_+a(w)] (Jakaltek)
"	ha	w/∅[_V] (Kanjobal)
"	h	a/∅[_V] (Chuj)
<hr/>		
ha	haw	
	ha	
	h	

The Yukatekan languages also lose \*t[\_w], but in the case of this subfamily w remained before vowel-initial stems (though it was still lost pre-consonantly); e.g:

Lakandon: "tan a w - il - ik  
 "lo estás viendo" "  
 (You are seeing it) (Bruce, 1968, p. 93)

< \*tan + at + w + il + ik + ∅  
 asp 2sg erg see aff 3sg  
 erg abs

and: "k - a kin - s - ik  
 "lo matarás "  
 (You will kill it) (ibid., p. 95)

< \*k + at + w + kin + s + ik + ∅  
 asp 2sg erg kill aff 3sg  
 erg abs

Mopan: "a bensaj  
 (usted) lo llevó"  
 (You carried it) (Ulrich and Ulrich, 1976, p. 14)

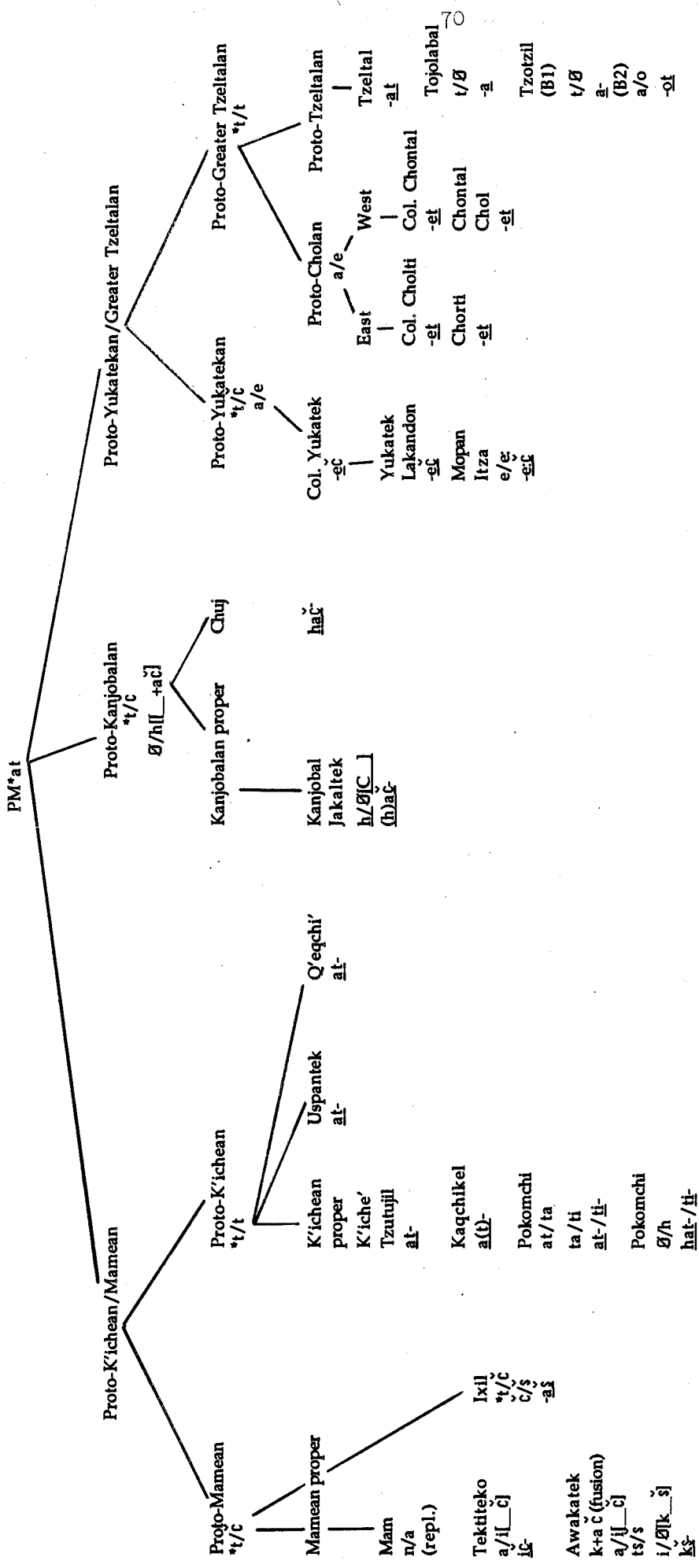
< \*Ø + at + w + bensaj + Ø  
     asp 2sg erg llevar 3rd  
           erg                   abs

and: "a wotoč  
 tu hogar"  
 (your house) (ibid., p. 9)

< at + w + otoč  
     2sg erg house  
           erg

Again, the rules are presumed to be the same as those already given above.

Developments of PM \*at—Absolute Paradigm



The Yukatekan absolutive second singular form, -eč in all four languages, demonstrates a change from PM \*t to č in Yukatekan. In addition, the vowel change mentioned above in the first person singular section, a/e, has taken place. As in the first singular, Mopan and Itza lengthen the vowel of this morpheme (we consider this to be a manifestation of strengthening, as explained below in Chapter Three section 3.1.4). E.g.:

Yukatek: "lúp'eč  
'you (sg) fell'" (Nida and Romero, 1950, p. 195)

< \*Ø + lúp' + at  
asp fall 2sg  
abs

Mopan: "nak'eeč  
tú has subido"  
(You have gone up) (Ulrich and Ulrich, 1971, p. 266)

< \*Ø + nak' + at  
asp subir 2sg  
abs

A derivation of the rules involved is:

*at	
ač	*t/č
eč	a/e
e:č	e/e: (Mopan, Itza)
—	
e:č	

The absolutive second singular in Kanjobal, Jakaltek, and Chuj is hač, with the trademark Kanjobalan prefixation of h and change from PM \*t to č. There is little or no variation in the form of hač, except for the elision of h after consonants in Jakaltek and Kanjobal, e.g.:

Jakaltek: "(š) - k - hač - ok'i (š)kač ok'i  
you cried" (Day, 1973, p. 34)

< \*(š) + k + h + at + ok'i  
asp asp 2sg cry  
(opt) abs

Kanjobal: "ay - in š - ač - w - il - a?  
it-Abs1pfct Abs2Ergl see aff  
"It was I who saw you"" (Robertson, 1977, p. 111)

< \*ay + in š + at + in + w + il + a?  
it 1sg asp 2sg 1sg erg see aff  
abs abs erg

Again, the h is not elided in Chuj:

Chuj: "tz - hač - ?at - i  
pres 2nd go frase  
nom final  
I want you to go" (Maxwell in England, 1978, p. 130)

< \*tz + h + at + ?at + i  
asp 2sg go aff  
abs

The derivation for this subfamily is:

*at	
ač	*t/č
hač	Ø/h[___+ač]
ač	h/Ø[C___] (Jakaltek, Kanjobal)
—	
(h)ač	

The Cholan languages of the Greater Tzeltalan group have all changed the vowel of \*at to e; all (including Classical Cholti), have -et as the second singular, in the absolutive paradigm, e.g.:

Chol: "/k'išin - et/  
"You are drunk" " (Attinasi, 1973, p. 142)

< \*k'išin + at  
drunk 2sg  
abs

Chorti: "nu"mue?et  
you (sg) passed" (Fought, 1967, p. 132)

< \*num + u + at  
pass aff 2sg  
abs

Again, as in the case of the absolutive first singular of Cholan and Yukatekan, there does not seem to be a phonological motivation for this change, unless we consider a strengthening to have taken place, a/e. (However, as mentioned above, we must know more about the relative strengths of Mayan vowels before we venture to make such a claim.) Certainly no raising of the vowel can be explained by the nature of t. We are left with a phenomenon for which as yet we can find no explanation.<sup>12</sup>

The Tzeltalan languages Tojolabal and Tzeltal have altered \*at comparatively little. Tzeltal in fact has -at unchanged as its absolutive second singular; Tojolabal has elided the final consonant, having -a. E.g.:

Tzeltal: " // anč̣ - at//  
'you are a woman'" (Kaufman, 1963, p. 183)

< \* anč̣ + at  
woman 2sg  
abs

Tojolabal: "Ø - k - il - aw - a  
completive-1p. to see-tv 2psg  
erg marker nom  
'I saw you'" (Furbee-Losee, 1976, p. 131)

< \*Ø + oŋ + w + il + a + at  
asp 1pl erg see aff 2sg  
erg abs

---

12. Robertson, 1982 considers the e to be a product of analogical change, with e coming to represent 'singular' in the absolutive paradigm, o 'plural.' This article is discussed in more detail in the section on the second plural, below.

Tojolabal's loss of the final t is unusual, particularly in an absolutive form. We can only conclude that there was once a conditioning factor, perhaps an utterance-final ʔ, that provided the environment for the elision of t.

Tzotzil possesses two absolutive second singular pronominals: prefixed a- in set B1, and suffixed -ot, in B2. Both are ultimately derived from \*at. Robertson (1982) mentions a rule that changed PM \*a / Tzotzilan o. This accounts for the suffixed absolutive second singular, -ot. Campbell (1977) states that the Tzotzil o became a (again) in non-final syllables; this accounts for prefixed a-. The only unusual change is the loss of t in the prefixed form, probably due to loss first before consonants (as occurs in Kaqchikel) then its general loss before vowels as well. E.g.:

Tzotzil: "s - mah - oh - ot  
'He has hit you'" (Bricker, 1977, p. 22)

< \*s + mah + oh + at  
asp hit aff 2sg  
abs

and: "l - a - k - il  
'I saw you' " (ibid., p. 22)

< \*l + at + oŋ + w + il  
asp 2sg 1pl erg see  
abs erg

Therefore, within this subfamily there is a clear progression from the conservative, represented by Tzeltal, to the innovative Tzotzil, with Tojolabal falling somewhere in between. The rules for the various languages are:

Tzeltal and Tojolabal:	*at	(Tzeltal)
	a	t/∅ (Tojolabal)
	---	
	at~a	

Tzotzil:	B1	B2	
	*at-	*at	
	ot-	-ot	*a/o
	at-	"	o/a[ <u>  </u> %X] (in non-final syllables)
	a(t)-	"	t/∅[ <u>  </u> C]
	a-	"	t/∅[ <u>  </u> V]
	—	—	
	a-	-ot	

The Mamean languages (Mam excluded once again, for its lack of a second singular form) illustrate several unique developments of the absolutive second person singular \*at. The original change of PM \*t, according to Kaufman (1969, p. 163) was to  $\check{c}$ ; Tektiteko has retained this  $\check{c}$  but Awakatek and Ixil both possess  $\check{s}$  at the present time. Ixil, with its suffixed absolutives, has undergone no more changes, hence its absolutive second singular is a $\check{s}$ . Tektiteko and Awakatek, on the other hand, have lost the vowel a in most environments. (In fact, in Tektiteko, even in those environments in which a is maintained, it has been reduced to i). The loss of a in most circumstances is somewhat anomalous, given the developments in the first singular. The expected fusion of k with \*at in these cases has not produced  $\epsilon$  ka $\check{c}$  or ka $\check{s}$ ; in fact, fusion does not appear to have occurred at all in Tektiteko.

In statives, where the absolutive is suffixed in both languages, Awakatek has -(k)i $\check{s}$  or -a $\check{s}$ , Tektiteko -i $\check{c}$ . Beginning with the assumption that the suffixed forms most faithfully represent the original morpheme,<sup>13</sup> we propose the following development of the original \*at in Mamean in the absolutive paradigms: first, the change from PM \*t to Proto-Mamean  $\check{c}$

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13. We make this assumption based on our observations on the effect of environment on pronominal affixes, which are explained below in Chapters Three.



prefixation of the aspectual k (except in Tektiteko); this must occur before the following change, a/i, as the k/č change that took place in the first person singular fails here;<sup>14</sup> an assimilation of a/i before the palatal č; loss of i; change of č/š, followed by individual changes due to the surrounding morphemes. The loss of the vowel i only happens before the verb. Here it is in pre-stress position, which is a vulnerable position in Mamean. Moreover, it is situated between two similar consonants, which is also an unstable position in Mayan in general. Therefore a derivation of the Ixil, Awakatek, and Tektiteko absolutive second person would look like this:

Ixil	Awakatek	Tektiteko	
*at	*at	*at	
ač	ač	ač	*t/č
"	kač	"	ač/kač fusion
"	kič	ič	a/i[ <u>  </u> č] (fails post-v)
aš	kiš	"	tš/š
"	kš	"	i/∅[k <u>  </u> š]
<hr/>			
aš	kš	ič	

The Mamean languages participate in the rules to varying degrees. Ixil, for instance, fails to assimilate a or prefix aspectual k (not surprising, as this only occurred to absolutes in the pre-verb position, as discussed above in the section on first person singular). č ([tš]) did lose its t-onset in Ixil, however, as it did in Awakatek. All in all, as already noted, \*at changed comparatively little in Ixil. In addition, -aš does not vary in Ixil, but always has the same shape: e.g.:

14. Kaufman (1969, p. 161) mentions that in cases of 'secondary palatalization' of k (before non-original i) Awakatek failed to develop č; in this case the vowel was elided because of its position, before any change occurred to k.

Ixil: "sa - ?at - in ?aš čī  
 def be absltv you there (Townsend and Met T, in  
 'You will be right there'" Townsend, 1980, p. 97)

< \*sa + ?at + in + at čī  
 asp be aff 2sg there  
 abs

In contrast, Awakatek kš is a product of all of the changes. Further change takes place depending on the nature of the morpheme following the absolutive second singular (either an ergative pronoun or the verb): before a consonant, k elides through cluster simplification, reducing a three-consonant sequence to two. E.g.:

Awakatek: "kšo'k (McArthur and McArthur in  
 'you enter'" Mayers, 1966, p. 159)

< \*k + at + o'k  
 asp 2sg enter  
 abs

but: "k-šom (McArthur, McArthur and Yok  
 'you go along'" in Townsend, 1980, p. 63)

< \*k + at + šom  
 asp 2sg go along  
 abs

(In this case, since šom commences with š, not k but š was elided). Concerning suffixed second person singular forms, it is interesting that Awakatek has two: -aš and -kiš. The aš form is clearly the more conservative of the two; as we would expect it demonstrates little change from the original \*at. -kiš on the other hand, with its prefixed k and assimilated a, appears to be a 'borrowing' from the pre-verbal paradigm.

Tektiteko for some reason fails to prefix the aspectual k to the ič form resulting from the PM \*t / Mamean č and a/i changes; at least there is no evidence of it now, as there is in the other Tektitekan absolutive

pronominals. It is possible that, like Awakatek, k was appended and then lost, first when the second singular followed consonant-final morphemes and then generally. However, the persistence of the ič̣ form with the vowel i before the verb would appear to argue against such developments in Tektiteko (even though pre-verbal ič̣ is only found in free variation with č̣ after Ø aspect: e.g.:

Tektiteko:       *"ič̣    po   -n*  
                   2sgAb llegar SufC1  
                   alla  
                   'Llegaste allá' "  
                   (You arrived there)                                     (Stevenson, 1987, p. 40)

< \*Ø + at + po + n  
       asp 2sg arrive aff  
       abs

and:               *"č̣    na:j   -el*  
                   2sgAb die Pot  
                   'Morirás' "  
                   (You will die)   (ibid., p. 40)

< \*Ø + at + na:j + el  
       asp 2sg die asp  
       abs

There is of course no k to be found in suffixed -ič̣: e.g.:

Tektiteko:       *"a: -'ič̣ tškup alo*  
                   'Tal vez tú'eres animal' "  
                   (Perhaps you are an animal)                             (ibid., p. 87)

< a: + at tškup alo  
       be 2sg animal dub  
       abs

(Suffixed -ič̣ is invariant as is the case with the other suffixed absolutives already mentioned). For now we must leave the absence of k unexplained. Pre-verb č̣ in Tektiteko goes through one more change, to t before s and ṣ̌: this

is another instance of cluster simplification, where  $\check{c}$  ([tš]) + s,  $\check{s}$  becomes  $\underline{t}\check{s}$  or  $\underline{t}\check{s}$ . E.g.:

Tektiteko: " t      š -ik  
 2sgAb ir SufC1  
 'Fuiste'"  
 (You went) (ibid., p. 40)

< at + š + ik  
 2sg go aff  
 abs

Most of the K'ichean languages have changed \*at very little: the absolutive second singular of Tzutujil, Uspantek, K'iche', and Q'eqchi' is at, with no variation. Examples:

Achi: " kat u k'ato (Shaw and Neuenswander,  
 'it burns you'" in Mayers 1966, p. 31)

< \*k + at + w + k'ato  
 asp 2sg 3sg burn  
 abs erg

K'iche': " šatčakunik  
 trabajaste"  
 (You worked) (Suy Tum, 1988, p. 45)

< \*š + at + čak + un + ik  
 asp 2sg work aff aff  
 abs

Kaqchikel elides  $\underline{t}$  before a consonant in certain circumstances. For example,  $\underline{t}$  drops before a consonant-initial verb, e.g.:

Kaqchikel: "yawa'  
 come (usted)"  
 (you eat) (Rodriguez et al., 1988, p. 48)

< \*y + at + wa'  
 asp 2sg eat  
 abs

In transitive sentences, preceding an ergative pronominal affix,  $\underline{t}$  elides only before third person singular ru:

Kaqchikel: yarukanoj  
'he is looking for you' (Osborne, field notes)

< \*y + at + rw + kanoj  
asp 2sg 3sg look for  
abs erg

but: "šatqakanoj  
le buscamos (a usted)  
(we looked for you) (Rodriguez et al., 1988, p. 56)

< \*š + at + on + w + kanoj  
asp 2sg 1pl erg look for  
abs erg

In statives, t remains:<sup>15</sup>

- 
15. Robertson (personal communication) has pointed out that the t of absolutive second singular at, as well as the n of absolutive first singular in, elide in quite specific environments in Kaqchikel. Both t and n elide before consonant-initial verbs in intransitive constructions, and before third person singular ru in transitive constructions. Elsewhere, for example before the other ergative pronominals, this elision fails to occur. The common morphosemantic features shared by these two environments (referring to the morphemes following the pronominals) are that they are non-vowel, non-plural, and non-person. In other words, these morphemes are unmarked in that they are consonant-initial, singular, and do not refer to a speech participant (third person commonly being regarded as a 'non-person'). According to Robertson, the elision of t < at and n < in occurs before these morphemes because they are unmarked. We prefer an explanation based on the amount of time which the absolutives in question have spent in the environments in which cluster simplification occurs. A fuller explanation of this is available in Chapter Four; however, in a nutshell, the longer a morpheme has occupied a position, the more change it may be expected to undergo. Absolutives were probably first pre-posed to the verb in intransitive constructions, then in transitive constructions, then in stative constructions, in Kaqchikel. We may thus be witnessing a change in progress; the n and t elide generally before a consonant-initial verb, so far only before the resonant r in transitive sentences, and not at all in statives.

Kaqchikel: "at č'a'al  
Usted es amable"  
(You are nice) (Rodriguez, et al., 1988, p. 81)

< \*at + č'a'al  
2sg nice  
abs

and: at winaq  
'you are a man' (Osborne, field notes)

< \*at + winaq  
2sg man  
abs

Pokomchi and Pokomam have more than one form of the second singular preceding the verb, the use of which is governed by the morphemes surrounding them. Pokomam uses hat < h + \*at in the perfect and incompletive aspects; ti is found after the other aspect markers. E.g:

Pokomam: "hat wilom  
'I have seen you'" (Smith-Stark, 1983, p. 321)

< \*∅ + h + at + in + w + il + om  
asp 2sg 1sg erg see aff  
abs erg

and: "na hat wuay'iem  
'I am waiting for you'" (ibid., p. 318)

< \*na + h + at + in + w + uay'i + em  
asp 2sg 1sg erg wait asp  
abs erg

but: "tinutok  
'I hit you'" (ibid., p. 308)

< \*∅ + at + in + w + tok  
asp 2sg 1sg erg hit  
abs erg

'hat' according to Gonzalo Benito, a native speaker of Pokomam,<sup>16</sup> is actually the second person independent pronoun; according to him, ti is the 'usual' form of the absolutive second singular. In fact, the dialect of Palin uses ti in the incompletive aspect: e.g.:

Pokomam: " natiničapam  
(Palin) "I am grabbing you"

< \*na + at + in + w + čap + am  
asp 2sg 1sg erg grab asp  
abs erg

ti we assume to have developed from \*at through metathesis and vowel reduction: \*at / ta / ti. Though the original circumstances for these changes have been obscured in Pokomam they are less opaque in Pokomchi.

The forms of the absolutive second singular in Pokomchi are similar to those of Pokomam: ti, at, and kat. ti is found in the simple/habitual aspect which is marked by Ø, and after probable action aspect marker e; at occurs after completive aspect x; and kat appears in the progressive aspect, which is marked by the word k'ahčič' + suffix Vm and in future constructions, marked by prefix na- and suffix -Vm (obviously related to Pokomam's progressive aspect, above). Examples are:

Pokomchi:	" Ø	ti-	ni-	sek'	I hit you (simple/habitual action)
	e-	ti-	ni	sek'	I might/would hit you
	š-	at-	ni-	sek'	I hit you (completed action)
	na-	kat-	ni-	sek'em	I will hit you"
	k'ahčič'	kat-	ni-	sek'em	I am hitting you"

(Rodriguez and de Rodriguez, 1988, p. 44)

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16. Gonzalo Benito of Palin, personal communication.

Observation of the sentences above reveals that ti is always found after a vowel or after  $\emptyset$ , whereas at follows a consonant. Assuming once again that ti < \*at, the conditions for metathesis are as follows:

$$\begin{array}{c} \text{at/ta} \text{ [ \{V\} \_ ]} \\ \text{\{ \# \}} \end{array}$$

(followed by vowel reduction, a/i). In the progressive and future aspects, another form of at has been recruited, not from the independent pronominal paradigm this time as occurred in Pokomam but from the suffixed absolutes of Pokomchi itself. These are composites of k + absolute (k probably originated as a Proto-Mayan incompletive marker). Given that Pokomam and Pokomchi are closely related, a likely explanation of Pokomam is that at (still seen in suffixed form a:t, in stative constructions) metathesized to ta and subsequently became ti, in the same circumstances as those of Pokomchi. However, original at disappeared before the verb in Pokomam even after the completive aspect, e.g.:

Pokomam: " ?ihtinutok  
I hit you " (Smith-Stark, 1983, p. 313)

$$\begin{array}{l} < *š + at + in + w + tok \\ \text{asp 2sg 1sg erg hit} \\ \text{abs erg} \end{array}$$

(Completive aspect marker  $\check{s}$  becomes ?ih before consonants). Why 'extra-paradigmatic' forms hat (< h + \*at) and kat (< k + \*at) would have been introduced in the progressive and future aspects in Pokomchi, and the progressive in Pokomam, is unknown (though we note that in all cases the aspect morphemes are discontinuous, XX-...-XX). It is reasonably certain though that they are 'intrusive' variants, still formed from \*at but with a consonantal appendix derived from outside the pronoun paradigm.



Hence \*at, like \*in, can be seen to be the foundation of the various forms of the ergative and absolutive second person singular pronominal affixes of the different Mayan languages of our study. Surface appearances notwithstanding, the two paradigms are reducible to one.

### 2.3 Third Singular

Our reconstruction for the third singular is the most controversial yet. Most of the languages in our study have a zero morpheme for the absolutive third singular. In the ergative paradigms, however, a profusion of forms exist. This state of affairs has hitherto caused some difficulties for Mayan scholars; it is impossible to posit one form for the ergative third singular (either preconsonantal or prevocalic) without consigning the morphemes of some languages to the "exceptions" pile. For example, Robertson 1977 proposes \*ru as the preconsonantal ergative third singular morpheme for Proto-Mayan. This forces him to suggest an irregular sound change from ru to u in K'iche', Yukatek and Itza. He also must consider the i of Chol and Ixil an exception. Our own approach is quite different. Since we assume the underlying person morpheme to be identical whatever the paradigm, it falls to us to explain why there is no morpheme in the absolutive third singular whereas there is in the ergative third singular. The reason is, we suggest, that no third singular morpheme existed in Proto-Mayan. The forms found in the ergative paradigm are developments of the ergative marker w, augmented

with \*r (either prefixed or suffixed). For instance, K'ichean has \*r+\*w.<sup>17</sup> This is a radical departure from the traditional way of looking at the third person, but in the Proto-Mayan system outlined in this thesis it follows logically. Ergative w must be present even if the person morpheme is  $\emptyset$ . It makes sense that the ergative w in some guise would then be reanalyzed as third person. (We offer no explanation as to why third person is or was  $\emptyset$  in Mayan—beyond analyzing the phonological and morphological implications of this fact). Since no absolute third person affixes exist, we shall discuss only the ergative forms in this section.<sup>18</sup>

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17. While the presence of w as an ergative marker and its subsequent reanalysis as third singular is readily understandable (within the analysis presented here), the origins of \*r are more obscure. We note that in some K'ichean languages the definite article ri is added to the absolute pronominal affixes to form the independent pronouns: for example Kaqchikel has ri+yin / yin; ri+at / rat; ri+ja / rija; ri+oj / roj; ri+iš / riš; and ri+e / rije. It seems plausible that a definite article of some sort might be appended to ergative w as a reinforcement. However, judging from the fact that all Mayan languages possess different correspondences of this augment (e.g., \*r / Yukatekan y), it must have occurred very early. It is therefore unlikely that K'ichean influenced the rest of the Mayan languages. Further, the definite articles in most of the other languages are not ri and do not resemble ri. Accordingly, for now we simply note that \*r very early was added to ergative w to fill the role of third singular in the ergative paradigm.
18. Some authors list forms in the absolute paradigms which supposedly represent the third singular. For instance, England (1983) lists various forms for Mam. In this case, all of these putative third singular morphemes originated as tense/aspect markers (see Chapter Three for further discussion). Itza, Lakandon and Mopan -ih, i are not pronominal affixes either. Bricker (1986) claims that -i was once a perfective marker, and now serves as a phrase terminal marker, in Yukatek. She draws the conclusion that the -ih and -i of the other Yukatekan languages is the same morpheme and not third person singular as it is commonly regarded.

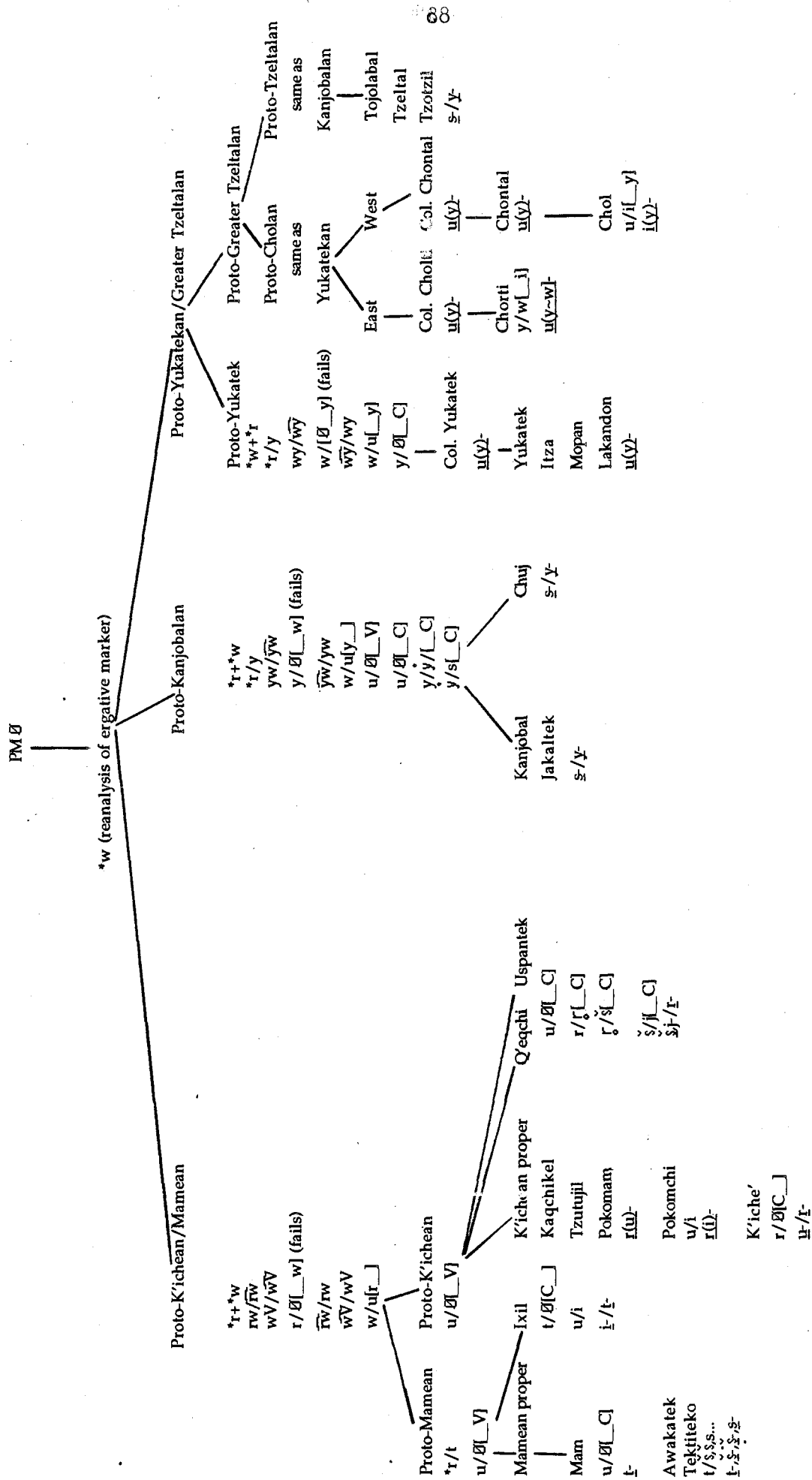
Because \*r was prefixed to ergative w in some languages, suffixed in others, we assume that it was added after Proto-Mayan had split into subfamilies, though still very early. Evidence for this comes from the fact that \*r appears even in the oldest data available to us in its various manifestations, which differ from subfamily to subfamily. The correspondences are (cf. Campbell, 1977, Robertson, 1977b): PM \*r : K'ichean r; Mamean t; Kanjobalan y; Greater Tzeltalan y; and Yukatekan y.<sup>19</sup> In all of the subfamilies, bonding subsequently takes place between w and the various developments of r, all of them highly resonant (with the exception of Mamean t, which we assume to have developed at the proto-Mamean stage as opposed to the earlier proto-K'ichean/Mamean stage). This bonding, as in the ergative first singular, prevents the elision of r before w (in K'ichean/Mamean); y before w (in Kanjobalan and Tzeltalan); and w before y (in Yukatekan and Cholan). The debonding which follows results in the change w/u. The subsequent developments of w (now u) and r in its various forms depend mainly on the configuration of these two elements. In those subfamilies where \*r has been prefixed to \*w (K'ichean/Mamean, Kanjobalan, and Tzeltalan) u generally elides before a vowel (and sometimes even before a consonant). In contrast, in Yukatekan and Cholan where \*r was suffixed to the \*w, the y (<\*r) elides, though only before consonants. Thus in effect one group of languages ends up with the reflex of w before consonants, and the other ends up with the reflex of \*r in the same environment (and also before vowels). In addition, several languages have innovated further, as individuals. All in all the developments of the ergative third singular are

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19. Motozintlec (in the Kanjobalan subfamily) has  $\check{r}$  from \*r.

complicated at best, tortuous at worst. As before, we will commence our discussion with the K'ichean/Mamean subgroup.

Developments of PM Third Singular—Ergative Paradigm





K'iche' has innovated more than the other members of the 'K'ichean proper' group.<sup>20</sup> In K'iche', u<w was lost before vowels, but conversely r was lost before consonants, so that these languages have r[  V], u[  C]. Robertson (1977) points out that even in languages such as Kaqchikel and Tzutujil having ru before consonants, the r often elides after a preceding consonant: e.g.:

Kaqchikel:      "ṣ̌ - oj - u - č̣ey  
                  'He hit us'"   (Robertson, 1977, p. 203)

< \*ṣ̌ + oŋ + rw + č̣ey  
      asp 1pl 3sg hit  
      abs  erg

He suggests that in K'iche' this post-consonantal loss of r was generalized, leaving only u[  C]. For example:

K'iche':         "kinutijoj  
                  él me enseña"  
                  (He teaches me)   (Fox, 1987, p. 41)

< \*k + in + rw + tij + oj  
      asp 1sg 3sg teach aff  
      abs  erg

In Q'eqchi' and Uspantek on the other hand, the loss of u<w before vowels is the rule that was generalized to pre-consonantal position as well. The r that remains before consonants was then devoiced, leading to an r̥ / ṣ̌

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20. In this section we are greatly indebted to Robertson's article, "A Reconstruction of the Ergative Third Person Singular Pronoun of Common Mayan," *IJAL*, vol. 43, 1977, pp. 201-210. We concur with most of the phonological arguments advanced by him. The main difference between his approach and ours is that he reconstructs separate pre-vocalic and pre-consonantal ergative pronouns; whereas we claim that ergative w was originally pressed into service as third singular, before the verb (and noun); but its ultimate origin—and that of the absolutive—was Ø.

change (documented in Sipakapa K'iche'; Robertson, 1977, p. 204). According to Robertson, this accounts for the Q'eqchi' pre-consonantal  $\check{s}$ ; the Uspantek  $j$  form he claims evolved from  $\check{s}$ . In support of this theory, he cites Stoll's 1884 work on Uspantek, in which two forms of the third person affix were listed:  $\check{s}[\_ \check{c}]$ , and  $j$  elsewhere. On the basis of this evidence, an historical  $\check{s}/j$  change is suggested (since today only  $j$  remains). Presumably, the progression was as follows:  $*r/\check{r}, \check{r}/\check{s}, \check{s}/j$  in an uncertain environment, with retention of  $\check{s}$  before  $\check{c}$ ; finally, complete loss of  $\check{s}$ .

A derivation of the K'ichean developments of the ergative third singular is as follows: (Because of the number of individual changes, the last part of the derivation is given in sections showing these changes more clearly):

$*r+*w+C$	$*r+*w+V$	K'ichean/Mamean changes:
"	$r\overline{wV}$	$wV/\overline{wV}$
$\overline{r}wC$	"	$rw/\overline{r}w$
"	"	$r/\emptyset[\_w]$ (fails)
$rwC$	"	$\overline{r}w/rw$
"	$rwV$	$\overline{wV}/wV$
$ruC$	$ruV$	$w/u[r\_]$
		K'ichean changes:
"	$rV$	$u/\emptyset[\_V]$ (Kaq, Tzut, Pmam)
$riC$	"	$u/i$ (Pokomchi)
<hr/>		
$\underline{ru-}$	$r-$	
$\sim \underline{ri-}$		
$ru$	$r$	K'iche
$(r)u$	"	$r/\emptyset[C\_]$
$u$	"	$r/\emptyset$
<hr/>		
$\underline{u-}$	$r-$	



ru	r	Q'eqchi'/Uspantek:
r	"	u/∅[C]
ɾ	"	r/ɾ[C]
ɣ	"	ɾ/ɣ(Q'eqchi')
j	"	ɣ/j (Uspantek)

---

ɣ	r-
~j	

The ergative third singular of Mamean, having undergone the K'ichean/Mamean changes outlined above, then changed the Proto-Mayan \*r to t. u was lost before vowels as in K'ichean, then before consonants as well in Mam, Awakatek, and Tektiteko in yet another manifestation of the Mamean tendency to elide unstressed vowels. An example from Mam is:

Mam: "ma č̣i ok tki'n  
miró a ellos"  
(He looked at them) (Ortiz, 1988, p. 40)

< \*ma + ki + ok + rw + ki'n  
asp 3pl dir 3sg look at  
abs erg

Tektiteko also basically has t, which assimilates or dissimilates to the consonant following: e.g. t/ṣ̌ ~ s[č̣, č̣']; t/ṣ̌[č̣tṣ̌, tṣ̌']; t/s[t, t', tz, tz']. E.g.:

Tektiteko: "in etz t- pilq'u'  
1SgAb 3SgErg empujar  
PARTIR;VENIR  
me empujó"  
(He pushed me) (Stevenson, 1987, p. 45)

< \*∅ + in + etz + rw + pilq'u + '  
asp 1sg come 3sg empujar  
abs erg

and: "∅        tzaj     s-        tzyu     -n  
 3SgAb VENIR 3SgErg agarrar RefD  
 lo tomó"  
 (He took it)

(ibid., p. 45)

< \*∅ + ∅ + tzaj + rw + tzyu + n  
       asp 3sg dir     3sg take aff  
       abs            erg

Awakatek, like Tektiteko, changes basic *t̥* in various environments, though McArthur and McArthur report in Mayers 1966 that most often no third person singular affix is present before consonants. In other words, pre-consonantal *t̥* usually elides. According to the McArthurs, the ergative third singular form is s[*\_\_tz, tz'*]; š[*\_\_č, č'*]; and ž[*\_\_č, č'*]. E.g.:<sup>21</sup>

Awakatek: "tal  
           'he says it'"

(op. cit., p. 158)

< ∅ + ∅ + rw + al  
       asp 3sg 3sg say  
       abs erg

and: "stzma'  
       'his gourd'"

(ibid., p. 156)

< \*rw + tzma'  
       3sg gourd  
       erg

Finally, Ixil has i[*\_\_C*], t[*\_\_V*]. Robertson (1977) explains the *i* as a loan from Chol, which also has *i* as ergative third person singular both pre-vocally and pre-consonantly. Borrowing is a possible explanation for Ixil

21. According to Robertson, these sibilant reflexes arose through assimilation of *t̥* before sibilants, e.g., t/tz[*\_\_tz*], followed by loss of onset: tz/s. Even though pre-consonantal *t̥* has been lost elsewhere, Robertson cites a "fossilized" example of ergative third singular *t̥* before the verb ky'ah 'to carry': "na - ∅ - t - ky'ah - ka:ʔn "He brought it" (1977, p. 207).

i, though given the third singular developments of K'iche' it is also plausible that Ixil went through these same (general) developments: \*r+\*w / tw / tu; the u being lost before vowels, yielding pre-vocalic t, and conversely, in pre-consonantal position, the t being lost, first after consonants and then generally, with concomitant unrounding of u/i. The unrounding rule may well have Chol as its provenance (though this occurred in Pokomchi as well) but the other changes—w/u, loss of u before another vowel, and loss of t—are in evidence in other languages not too distantly related to Ixil.<sup>22</sup> Therefore the solution proposed here, that Ixil's third person singular evolved as did the third person singular of K'iche' and Achi, is preferable. Examples of the ergative third person singular for Ixil are:

Ixil:                    "i - kaba u k'oy                    (Townsend and Met T., in  
                              "He found the monkey"                    Townsend, 1980, p. 87)

< \*∅ + rw + kaba + ∅  
      asp 3sg    find    3sg  
              erg                abs

and:                    "?a:k t-al u balam  
                              "So the jaguar said"                    (ibid., p. 83)

< \*∅ + rw + al + ∅  
      asp 3sg    say    3sg  
              erg                abs

Thus in the Mamean languages \*rw developed as follows:

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22. Kaufman (1972), Campbell (1977), Robertson (1977), etc. all group Mamean and K'ichean together as a macro-group (sometimes called Eastern Mayan).

*r+*w+C	*r+*w+V	K'ichean/Mamean changes:
"	rwV̄	wV/w̄V
r̄wC	"	rw/r̄w
"	"	r/∅[ <u>  </u> w] (fails)
rwC	"	r̄w/rw
"	rwV	w̄V/wV
ruC	ruV	w/u[r <sub>  </sub> ]

## Mamean changes:

tuC	tuV	*r/t
"	tV	u/∅[ <u>  </u> V]
tC	"	u/∅[ <u>  </u> C] (Mam, Tek, Awa)
sC...	"	t/s, š, š̄. (Tek, Awa)

---

t̄-	t̄-	
š̄-, š̄̄-, š̄̄̄-		
tuC	tV	Ixil
(t)uC	"	t/∅[C <sub>  </sub> ]
uC	"	t/∅
iC	"	u/i

---

i-                      t̄-

As noted above, Greater Tzeltalan is split in its treatment of third singular. The Cholan languages Chol, Chorti, and Chontal suffixed \*r̄ to original \*w, like Yukatekan; the Tzeltalan languages on the other hand have third person singular forms identical to those of Kanjobalan. Accordingly, we will examine developments in the Cholan and Yukatekan languages first, then discuss the Tzeltalan languages along with the Kanjobalan.

The four Yukatekan languages, Yukatek, Itza, Mopan, and Lakandon, all have u[  C], uy [  V] as ergative third person (in addition, Bricker, 1986 reports u(y) in Classical Yukatek). Chontal and Chorti have u[  C], Chol has

i[\_C]; before vowels, Chontal and Chol have uy, while Chorti has either uy or uw (explained below). E.g.:

Lakandon: " ?u k'ok -ik  
 "lo termina" "  
 (He finishes it) (Bruce, 1968, p. 65)

< \*∅ + wr + k'ok + ik + ∅  
 asp 3sg finish aff 3sg  
 erg abs

Mopan: "u - yil - ah  
 "he saw..." " (Ulrich and Ulrich, 1986, p. 37)

< \*∅ + wr + il + ah + ∅  
 asp 3sg see asp 3sg  
 erg abs

Chorti: " u'ier"pes  
 'he worsens it'" (Fought, 1967, p. 110)

< \*∅ + wr + erpes + ∅  
 asp 3sg worsen 3sg  
 erg abs

and: " u'ui"ra  
 'he sees it'" (ibid., p. 110)

< \*∅ + wr + ir + a + ∅  
 asp 3sg see aff 3sg  
 erg abs

These forms came about as a result of the suffixation of \*r to \*w. In these languages, the change of \*r to y provoked a bonding between w and y; the w accordingly did not elide, though, after debonding, it underwent vocalization to u. Before consonants, the y dropped, leaving u as the pre-consonantal form. The Yukatekan languages and Colonial Cholti did not change the ergative third singular further: Chorti however has adopted a

dissimilation rule which changes y to w before i. The rules for these two subfamilies are:

*w+*r+C	*w+*r+V	Proto-Yukatekan/Cholan
wyC	wyV	*r/y
w̄yC	w̄yV	wy/w̄y
"	"	w/∅[_y] (fails)
wyC	wyV	w̄y/wy
uyC	uyV	w/u[_y]
uC	"	y/∅[_C]
"	uwV	y/w[_i] (Chorti)

---

<u>u-</u>	<u>uy-</u>
	<u>uy-~uw-</u>

Finally, there remains the development of the ergative third singular in Kanjobalan and Tzeltalan. All of these languages (Chuj, Jakaltek, Kanjobal, Tzotzil, Tzeltal and Tojolabal) have s[\_C], y[\_V]. Robertson claims that the prevocalic y is the normal, expected development of PM \*r for Kanjobalan. Since his proposed reconstruction of pre-vocalic ergative third singular is \*r, a simple change from \*r/y accounts for Kanjobalan and Tzeltalan y[\_V]. The pre-consonantal ergative third singular for these languages, s, he derives from \*ru (his PM pre-consonantal ergative third singular) via the processes of syncope (u/∅) and devoicing (r/ɾ̥). (He gives examples of these processes in a variety of K'iche'). The change from ɾ̥ to s (and the other developments of pre-consonantal ergative third singular in the rest of the Mayan languages) he describes as being "typologically justified." He gives no direct evidence for ɾ̥>s in Kanjobalan or Tzeltalan, though he does give examples of š/s ('simplification') in Tzotzil. We are left to draw the conclusion that ɾ̥>š in Tzotzil, then š/s.

Since the hypothesis we are working with at this point states that both s and y developed from \*r, in our scheme of things we must assume that this \*r was added to \*w. (The options of having separate pre-consonantal and prevocalic protoforms is not open to us, so we cannot postulate, as for instance Robertson did, \*r[\_V] and \*ru[\_C]). Since \*r became Kanjobalan and Tzeltalan y in a regular sound change, we would expect it to occur first: \*r + \*w / yw. yw then bonds together just as wy did, in Yukatekan and Cholan. Because of this bonding, y does not elide before w. After debonding, w becomes u after y identical to the K'ichean/Mamean change of w/u[r\_]. As we might expect, u was then lost before vowels, resulting in the prevocalic ergative singular for these languages, y-. However, the loss of u was also generalized to the pre-consonantal position (as in Q'eqchi' and Uspantek) and y became devoiced to ỵ[\_C]. Thus, rather than deriving pre-consonantal s from r as does Robertson, we derive it from ỵ, in this case agreeing with Kaufman: "A sibilant \*s- or \*š- is found in Tzeltalan, Kanjobalan, Awakatek and Q'eqchi'. In the first three cases, this may be a devoicing of \*y.." (1969, p. 162). A derivation of the Kanjobalan/Tzeltalan ergative third singular affix follows:

*r+*w+C	*r+*w+V	
ywC	ywV	*r/y
<u>yw</u> C	<u>yw</u> V	yw/ <u>yw</u>
"	"	y/∅[_w] (fails)
ywC	ywV	<u>yw</u> / <u>yw</u>
yuC	yuV	w/u[y_]
"	yV	u/∅[_V]
yC	"	u/∅[_C]
<u>ỵ</u> C	"	y/ <u>ỵ</u> [_C]
sC	"	<u>ỵ</u> /s[_C]

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<u>s-</u>	<u>y-</u>
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The different treatments of \*w are really not too surprising when we consider that \*w was originally not a pronominal affix at all, but an ergative marker. In other words, its origin as far as the pronominals are concerned is extra-paradigmatic; so one might expect different languages to treat it differently. We cannot speculate at this point as to why K'ichean, for instance, added r to the w; we simply note its presence and chart its subsequent course as a 'new' third singular. The third singular provides an example par excellence of the extraordinary effect that the presence of ergative w has had on the formation of the Mayan pronominal affixes.

#### 2.4 First Plural

In most Mayan languages, the first person plural varies in form between the ergative and absolutive paradigms.<sup>23</sup> For instance, Kaqchikel has ergative qa(v)-, absolutive oj-. Despite this surface variation we maintain that all first person plurals (except, of course, for those which are developments of other morphemes, e.g., first person singular) originate from \*oŋ. In general, the first plural morpheme undergoes some unusual changes occurring within the ergative paradigm, for the most part. These are mainly caused by the juxtaposition of ŋ with w. Our discussion of the general changes are particularly necessary in the case of the first plural, as alone among the pronominals, different consonants have developed from the same original consonant.

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23. Only the inclusive first person plurals will be discussed here. Many languages have exclusive and/or dual first person plurals as well. These generally consist of the inclusive form (<PM\*oŋ) + a plural morpheme of some sort; therefore it is the inclusive morphemes which reflect the Proto-Mayan developments.



The usual development of Proto-Mayan \*ŋ is as follows:

- \*ŋ / n      in Cholan/Tzotzilan (Campbell, 1977; Robertson, 1977)  
                   in Kanjobal, and "all Western Mayan languages"  
                   (Yukatekan, Greater Tzeltalan) (Robertson, 1977)
- /j              in Mam (Campbell, 1977, Fox 1978) K'ichean (Fox, 1978)—  
                   except Q'eqchi'
- /h             Huastecan (Campbell, 1977) Q'eqchi'

In illustration, Fox's reconstruction of the Proto-Mayan word for 'avocado' and its developments (taking one language from each group as representative) are: (Fox, 1978, p. 105)

	*o:ŋ	'avocado'
K'iche'	oj	
Q'eqchi'	oh	
Tektiteko	o:j	
Kanjobal	on	
Tojolabal	on	
Chorti	un	
Yukatek	òn	

These developments are exactly paralleled in the absolutive first plural of the Mayan languages, which is why both Kaufman and Robertson have reconstructed \*o?ŋ as PM absolutive first plural. In the ergative, however, the situation is quite different, as demonstrated in the table below (the absolutive first plurals are also included for comparison):

	Abs. 1 pl	Erg 1 pl	
		__C	__V
K'iche'	oj-	qa-	a-
Q'eqchi'	o-	q̣a-	q̣-
Tektiteko	qo-	q̣-	q̣-
Kanjobal	hon-	ko-	j-
Tojolabal	-otik	h-	k- -tik
Chorti	-on	ka-	ka-
Yukatek	-o?on	k-	k-

Since Kanjobalan, Greater Tzeltalan, and the Yukatekan languages all 'fronted' PM \*q / k, the usual reconstruction of the ergative first plural involves \*q (Kaufman proposes \*q(ʌ), Robertson \*q(a)).<sup>24</sup> Fox (1978) argues that in Proto-Mayan there was no k/q distinction. He gives convincing evidence that supposed PM \*q's and \*k's are actually in complementary distribution most of the time, with q appearing after back vowels in morpheme-final position, and k appearing either initially or in final position after front vowels (p. 80). For instance, Fox reconstructs the PM word for 'leg' as \*o:k. The developments of this original k look exactly like the ergative first plural pronominal affix in each language. Some examples are: (from Fox, 1978, p. 147)

*o:k	ʼlegʼ
Qʼeqchi	oq
Tektiteko	o:q
Chuj	ok
Tzeltal	ok
Chorti	ok
Yukatek	ok

The consequence of this as far as the pronominal affixes are concerned is that it is possible to posit \*k as the consonant from which all ergative first plurals are derived, providing that we posit a back vowel for the morpheme as well. That is, from \*ok, all the forms of the ergative in the table above are derivable, given vowel-changing rules, metathesis rules, etc. To demonstrate this we shall derive the ergative first plural for Kaqchikel and Chorti:

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24. Cf. Robertson 1977b: "It is significant that Common Mayan \*q, preserved in Mamo-Quichean, became k in Yucatecan, Tzeltalan, and Cholan, which means the old ergative first-person plural \*qa- would be realized as ka in these languages" (p. 209).

Kaqchikel:	*ok	
	oq	k/q[o__#]
	qo	metathesis ([__w]
	qa	o/a dissimilation
	—	
	qa	
Chorti:	*ok	
	ko	metathesis
	ka	o/a dissimilation
	—	
	ka	

However, this leaves us in a quandary, for if all first plural forms are ultimately descended from \*oŋ as we claim, we must either choose somehow between \*oŋ and \*ok, or reconcile the two. (The third option, that of choosing both—the former as absolutive, the latter as ergative ancestral forms—is antithetical to the avowed purpose of this thesis, which is to derive all forms of the pronominal affixes from one underlying set). A reconciliation is effected when we take into account a few facts:

- 1) the ergative pronominals are always followed by w;
- 2) the combination of a nasal + w is often strengthened.

We have seen several examples so far of n + w sequences becoming ngw: e.g., in Mam (cf. England, 1983, p. 29) and in Chorti, where g was inserted between n and w in the first singular before non-round vowels. Given these examples, it is not unreasonable to propose that in Proto-Mayan, the sequence of ŋ + w (consisting of two resonant consonants, and also two velar consonants) was strengthened to ŋgw or ŋkw. (An example of w becoming kw is found in Q'eqchi', where w and y become kw and ty before a

vowel. E.g.: yak 'fox' > tyak; winq 'man' > kwi'nq (Campbell, 1977, p. 25).<sup>25</sup> Regardless of the nature of the original epenthetical velar consonant, the subsequent merging of  $\eta + g \sim k$  resulted in voiceless  $k$ . We propose the merging of  $\eta + g \sim k$  for two reasons: 1) both are velar; 2) as we witnessed in the first and third singular, the combination of a nasal or liquid consonant +  $w$  is a strong one. For example, in the first singular,  $\underline{n}$  does not elide in most languages because of this fact, even though almost all of the other morpheme-final consonants do. The strength of the cluster is in turn due to the resonance and similarity of the two constituent consonants. This strength was manifested through bonding in the first and third singular; in the first plural, epenthetic  $k$  is added instead. To summarize developments so far,  $*o\eta + w / o\eta kw$  (we shall adopt  $k$  from here on in, as  $k$  is the end result in any case);  $o\eta kw / okw$ . At this stage,  $k$  becomes  $q$ , the common reflex of PM  $*k$  in morpheme-final position after a back vowel. The subsequent combination of the uvular  $q$  and velar  $w$  then caused metathesis to occur (see the Dissimilation section for a discussion on velar/uvular phenomena in Mayan), hence the CV structure of the ergative first plural. Finally, in some languages the rounded vowel  $o$  changed to  $a$ , another manifestation of dissimilation ( $o$  becoming unrounded before rounded  $w$ ). In others it was completely lost, as we shall observe in the forthcoming discussion of the language-specific developments of  $*o\eta$ . Thus, in a sense our derivation of the evolution of  $*o\eta$  in the ergative paradigms reaches back earlier than either Kaufman or Robertson's; their  $*q(\Lambda)$  and  $*q(a)$  forms constitute a later stage in

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25. As mentioned in the first chapter, this occurs in the dialects of Carchá, Chamelco, and Cobán (which constitute one of the two main groups of Q'eqchi' dialects). This tendency is also found among younger speakers in Cahabón (Campbell, 1977).

our rule schemata. To illustrate our proposed rules we will derive the Kaqchikel and Kanjobal absolutive and ergative first plural forms:

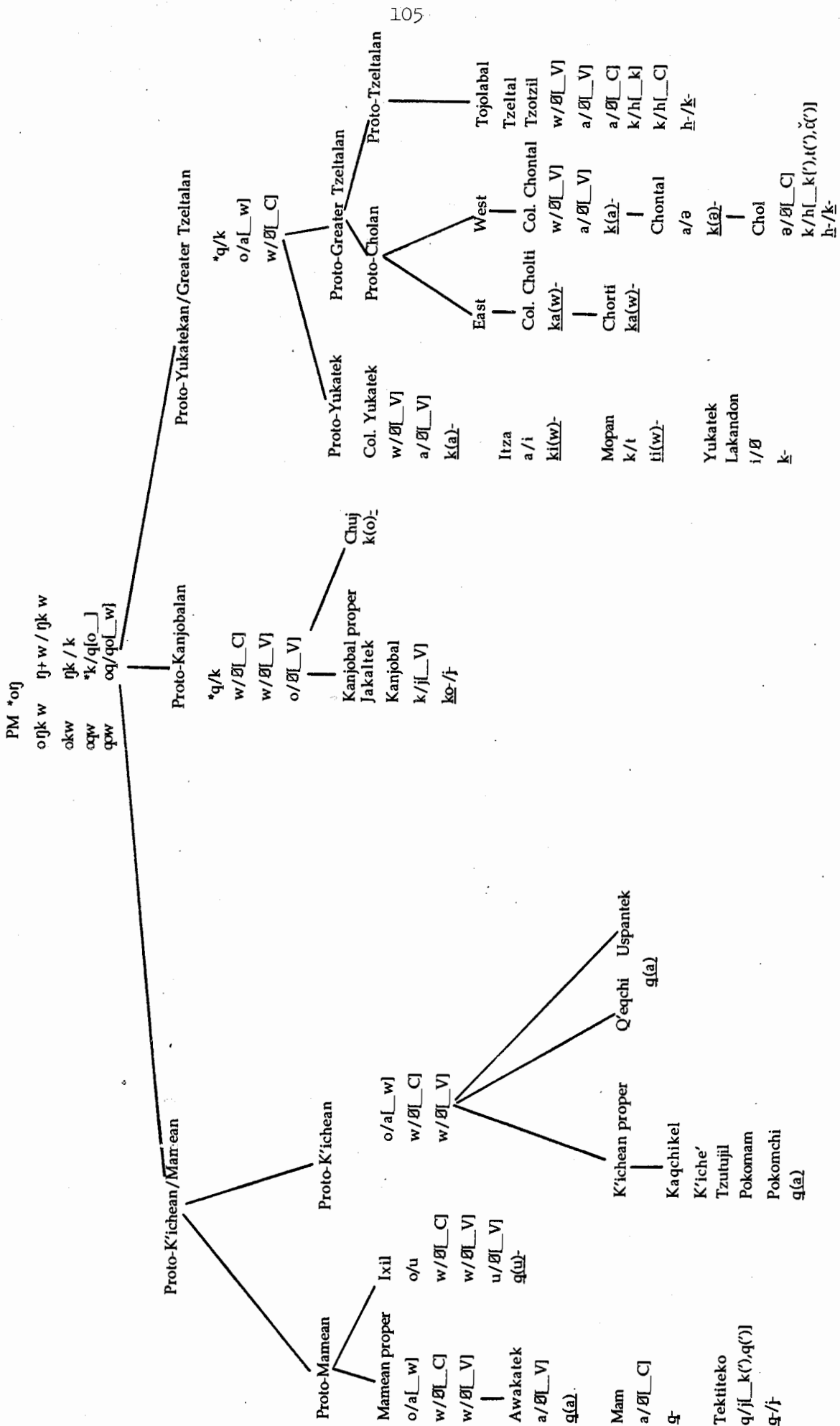
Kaqchikel		Kanjobal			
Abs	Erg	Abs	Erg		
* o η	* o η+ w	* o η	* o η+ w		
"	o ηk w	"	o ηk w	1.	η+ w / ηk w
"	okw	"	okw	2.	ηk / k
oj	oqw	on	oqw	3.	*k/q; *η/n,j..
"	qow	"	qow	4.	metathesis
"	qaw	"	"	5.	o/a[_w]
"	qa/q/qaw	"	ko/j	6.	MR

---

oj            q(a)/qaw    on            ko/j

(The Miscellaneous Rules consist of the individual rules applying to each particular language to derive that language's individual form). With these changes in mind we now turn to our scrutiny of the individual languages' developments of \*oη (beginning with the ergative and progressing to the absolutive).

Developments of PM \*oŋ—Ergative Paradigm



Most of the K'ichean languages have qa[  C], q[  V] as ergative first singular.

Pokomam: "Ø - qa - ?il - om qilom  
'we have seen him/her/it/them" (Smith-Stark, 1983, p. 321)

< Ø + Ø + oŋ + w + ?il + om  
asp 3sg 1pl erg see aff  
abs erg

K'iche': "šatqač'ayoh  
te pegamos"  
(We hit you) (Suy Tum, 1988, p. 53)

< \*š + at + oŋ + w + č'ay + oh  
asp 2sg 1pl erg hit aff  
abs erg

In most cases, ergative w has been lost in K'ichean, even before vowels. Kaqchikel alone preserves it, within the verbal complex though not in possessed-noun constructions: e.g.:

Kaqchikel: "šišqawukusaj  
los usamos o los entramos (a ustedes)"  
(We used you) (Rodriguez, et al., 1988, p. 59)

< \*š + eš + oŋ + w + uku + saj  
asp 2pl 1pl erg use aff  
abs erg

but: "qišim  
nuestro maíz"  
(our corn) (ibid., p. 37)

< \*oŋ + w + išim  
1pl erg corn  
erg

In the Patzun dialect of Kaqchikel, either the 'long' (qa + w) form or 'short' (q-) forms may be used within the verbal complex.<sup>26</sup> The retention of w before the vowel is probably a later (modern) reformation; as we shall see, w is more often dropped than retained in Mayan in the ergative first plural. This is either because of a generalization of the loss of w [\_\_C] (w/Ø[\_\_C], then w/Ø[\_\_V]), or because of the metathesis of oq + w (<\*oŋ + w) to qow with weakening of the w. (It is tempting to posit a contraction of ow/o, except that in Kaqchikel qaw this did not occur; so instead we must assume dissimilation of o/a[\_\_w], and loss of w.) As far as the weakening of w is concerned, it is thought-provoking that within K'ichean, where w is usually retained before vowels, it consistently elides only where metathesis has taken place, i.e., in the first and third plurals. This weakening of w would have facilitated its loss not only before consonants but also before vowels. The following derivation illustrates the K'ichean developments of the ergative first plural:

*oŋ + w + C	*oŋ + w + V	Proto-Mayan changes:
oŋk w C	oŋk w V	ŋw / ŋk w
okwC	okwV	ŋk / k
oqwC	oqwV	*k/q[o__]
qowC	qowV	oq/qo[__w]
		K'ichean changes:
qawC	qawV	o/a[__w]
qaC	"	w/Ø[__C]
"	qaV	w/Ø[__V]
"	qV	a/Ø[__V]
<hr/>		
<u>qa-</u>	<u>q-</u>	

26. Lorenzo Magzúl of Patzun, personal communication.



In terms of development, the K'ichean languages are actually among the most conservative of all the Mayan languages, as far as the ergative first plural is concerned. As we shall see, most other languages have innovated even further away from original \*oŋ+w.

Developments within the Mamean group are similar to those of the K'ichean in the ergative first plural, except that in Mam and Tektiteko the vowel elides completely yielding q- both pre-consonantly and pre-vocally. (Awakatek and Ixil both retain the vowel pre-consonantly, though Awakatek has a, Ixil u with no dissimilation). E.g.:

Mam: "ma č̣i ok qki'n  
miramos a ellos (con usted)"  
(We (incl.) look at them) (Ortiz, 1988, p. 40)

< \*ma + k + ik + ok + oŋ + w + ki'n  
asp 3pl dir 1pl erg look at  
abs erg

Tektiteko: "∅ ṣ̌i q- si- ' na  
3SgAb IR 1PIEr dar RefD Excl  
'Lo dimos'"  
(We gave it) (Stevenson, 1987, p. 46)

< \*∅ + ∅ + ṣ̌i + oŋ + w + si + ' + na  
asp 3sg dir 1pl erg give aff excl  
abs erg

Awakatek: "qa - č̣um (McArthur, McArthur and Yok,  
our-thought" in Townsend, 1980, p. 62)

< \*oŋ + w + č̣um  
1pl erg thought  
erg

The elision of the vowel in Mam and Awakatek is yet another example of the loss of an unstressed vowel before a stressed one. The loss of ergative w in all four languages occurred as in K'ichean, through the weakening of w

as a result of metathesis and its subsequent loss before first consonants and then in general. In Tektiteko, there is a pre-consonantal variant of the usual *q*, which appears before *k*, *k'*, *q*, and *q'* as an obvious result of dissimilation: *j*.

E.g.:

Tektiteko: "o- Ø qe j- q'a:na -' na  
 resultat 3SgAb 1PIEr tratar RefD excl  
 DESCENDER

"Lo tratamos"  
 (We treat it)

(Stevenson, 1987, p. 45)

< \*o + Ø + qe + oŋ + w + q'a:na + ' + na  
 asp 3sg dir 1pl erg treat aff excl  
 abs erg

This is an interesting development, for it further emphasizes the dissimilatory tendencies of uvular *q* prior to a velar or another uvular. In this case, metathesis is not possible as both the vowel and ergative *w* have already elided; hence the *q* resulting from all the changes enumerated above changes to a velar fricative. A derivation showing the development of the Mamean ergative first plural for Mamean follows:

*oŋ+w+C	*oŋ+w+V	Proto-Mayan changes:
oŋk w C	oŋk w V	ŋw / ŋk w
okw	okw	ŋk / k
oqw	oqw	*k/q[o_]
qow	qow	oq/qo[ w]
		Mamean changes:
qaw	qaw	o/a[ w] (Mam, Awa, Tek)
qaC	"	w/Ø[ C]
"	qaV	w/Ø[ V]
"	qV	a/Ø[ V]
qC	"	a/Ø[ C] (Mam, Tek)
jC	"	q/j[ k('),q(')] (Tek)
<hr/>		
qa-	q-	
q-		
j-		

qowC	qowV	Ixil:
quwC	quwV	o/u[_w]
quC	"	w/Ø[_C]
"	quV	w/Ø[_V]
"	qV	u/Ø[_V]

---

qu-

q-

In Greater Tzeltalan, q resulting from the PM \*k/q change was fronted to k again, so that all of these languages possess k in the ergative first plural. In the Cholan branch of this family, Chorti alone has retained the vowel, and has ka- before consonants and ka+w~y before vowels. (Colonial Cholti had ka[\_C], ka+w[\_V]). Chontal is in the process of losing the vowel completely, having kä[\_C] (ä= [ə]), k[\_V],<sup>27</sup> and Chol has lost it, having only h before certain consonants, k elsewhere + plural -la. All the Tzeltalan languages have h[\_C], k[\_V], with a discontinuous plural morpheme appended to the verb. These additional plural morphemes are necessitated by the replacement of the ergative first singular by the first plural: see the Replacement section in Chapter Three. E.g.:

Tzeltal:           "/ya hkántik hà? ìle/  
                      'we want that one'"                               (Kaufman, 1963, p. 225)

< \*ya + oŋ + w + kan + Ø + tik + ha? + ile  
    asp 1pl  erg want  3sg aff  dem.pro  
          erg                          abs

Chol:               "/mi-k-bon-la/ > [mi.kbon.la], [mik.bon.la]  
                      "we paint"[it]"                               (Attinasi, 1973, p. 31)

< \*mi + oŋ + w + bon + la + Ø  
    asp 1pl  erg paint plur 3sg  
          erg                          abs

---

27. Bricker, 1986 lists Classical Chontal's ergative first plural as k(a), so in Classical times the vowel had not yet reduced to a.

These developments describe a progression in Greater Tzeltalan, with Chorti as the most conservative and the Tzeltalan languages as the most innovative (using variance from the conservative K'ichean languages as the criterion):

	__C	--V
Classical Cholti	ka	ka+w
Chorti	ka	ka+w
Chontal	kə	k
Chol	k,h	k
Tojolabal, Tzeltal, Tzotzil	h	k

As this table shows, the overall developments characterizing this sub-family are the q/k change, loss of the ergative w, loss of the vowel and dissimilation of k. Of the unusual, language-idiosyncratic changes, the Chol and Tzeltalan k/h change before consonants stands out and demands elucidation.

Chol represents an intermediate stage between the developments of the Cholan languages and those of the Tzeltalan, in that it has elided the vowel of the morpheme but has only effected the changes k/h or k/∅ before certain consonants. According to Attinasi (1973) these consonants are high stops, which he lists as k, k', t, t', and č, č' (p. 29). The western dialects of Chol are more likely to delete k; the eastern dialects, to change it to h. E.g.:

Chol (western): "k- k'aš-el-la [ / ] la-k'aš-el  
 " "k-k'aš-el-la [ / ] k'aš-el-la  
 (eastern): "k-kaš-el-la [ / ] la-h-k'aš-el  
 "We-all pass through"

(Attinasi, 1973, p. 140)

< \*∅ + oŋ + w + k'aš + el + la + ∅  
 asp 1pl erg pass aff plur 3sg  
 erg abs<sup>28</sup>

28. -la, the plural morpheme which accompanies the first plural, is fronted obligatorily in possessed-noun phrases, frequently in utterance-final

In contrast, the rule in Tzeltalan is a general one:  $k/h[\_C]$ . However, as Robertson (1985) points out, originally the only environment where Tzeltalan  $\underline{k}$  became  $\underline{h}$  was before  $\underline{k}(\prime)$  itself. In a sixteenth-century dictionary of Tzeltal, in every instance where  $\underline{k} + \underline{k}(\prime)$  was expected,  $\underline{h} + \underline{k}(\prime)$  appeared. Thus, Robertson concludes, originally  $\underline{k}$  became  $\underline{h}$  through dissimilation, and this change subsequently spread (due, according to Robertson, to analogical pressure from third and second person, both of which had pre-consonantal and pre-vocalic forms). While agreeing with his overall argumentation, that the  $\underline{k}/\underline{h}$  change began pre- $\underline{k}(\prime)$ , we argue that it spread as a result of generalization:

- 1)  $k/h[\_k(\prime)]$  dissimilation
- 2)  $k/h[\_C]$  generalization

This Tzeltalan example sheds light on the Chol examples above: the Chol  $k/h \sim \emptyset$  change may be in progress. Since Attinasi defines high stops as  $\underline{k}$ ,  $\underline{k}'$ ,  $\underline{t}$ ,  $\underline{t}'$ , and  $\underline{\check{t}}$ ,  $\underline{\check{t}}$ , the  $k/h$  change may have begun in the pre- $\underline{k}(\prime)$  position, and may now be spreading throughout all pre-consonantal positions.

Overall, the Greater Tzeltalan changes are:

$*o\eta + w + C$	$*o\eta + w + V$	Proto-Mayan changes:
$o\eta k w C$	$o\eta k w V$	$o\eta w / o\eta k w$
$okwC$	$okwV$	$\eta k / k$
$oqwC$	$oqwV$	$*k/q[o\_]$
$qowC$	$qowV$	$oq/qo[\_w]$

---

verb phrases, and optionally elsewhere. The first two examples of western Chol show 1) the fronted version and 2) the non-fronted.

## Greater Tzeltalan changes:

qawC	qawV	o/a[_w]	
kawC	kawV	*q/k	
kaC	"	w/∅[_C]	
<hr/>			
<u>ka-</u>	<u>kaw-</u>	(Cholti, Chorti)	
ka-	kaw-	Western Cholan:	
"	ka	w/∅[_V]	
kə	kə	a/ə	(Chontal)
"	k	ə/∅[_V]	"
k	"	ə/∅[_C]	(Chol)
h	"	k/h[_k(')t(')č(')]	"
<hr/>			
<u>k-</u> (Chontal)	<u>k-</u>		
<u>k-,h-</u> (Chol)			
ka-	kaw-	Tzeltalan:	
"	ka	w/∅[_V]	
"	k	a/∅[_V]	
k	"	a/∅[_C]	
h	"	k/h[_k]	
h	"	k/h[_C]	
<hr/>			
<u>h-</u>	<u>k-</u>		

The development of the ergative first plural in the Kanjobalan languages is characterized by the non-adoption of the vowel dissimilation rule which changes o/a in so many of the other languages; and by the unusual development of \*ŋ/k/q/j in Jakalteq and Kanjobal. E.g.:

Chuj: "tz - Ø - k - ak' kopnok  
 present 3rd 1pl make shine  
 nom erg  
 we polish it" (Maxwell, in England, 1978, p. 128)

< \*tz + Ø + oŋ + w + ak' + kopnok  
 asp 3sg 1pl erg make shine  
 abs erg

and: "Ø - ko - kyére - čawanök - munlajum  
 3rd 1pl want two workers  
 nom erg  
 We want 2 workers..." (ibid., p. 132)

< \*Ø + Ø + oŋ + w + kyere...  
 asp 3pl 1pl erg want...  
 abs erg

Jakaltek: "č-j-ila čjila  
 we see s.th." (Day, 1973, p. 35)

< \*č + Ø + oŋ + w + il + a  
 asp 3sg 1pl erg see aff  
 abs erg

and: "š-ko- mak'a ško mak'a  
 we hit s.th." (ibid., p. 34)

< \*š + Ø + oŋ + w + mak' + a  
 asp 3sg 1pl erg hit aff  
 abs erg

The Jakaltekan change of an earlier *q* to *j* is well-documented; other examples are Jakaltek *k'ej* 'black' corresponding to K'iche *q'eq*, Chuj *k'ik'*, etc., all from \**éhVk'w* / *éhVk'* (Fox, 1978, p. 111); also Jakaltek *winaj* 'man', corresponding to Kaqchikel *winaq*, Lacandon *winik*. What is interesting is the alternation between *j* and *k* in the pre-vocalic *j* vs. the pre-consonantal form *ko*. However, if we examine the Jakaltek word for 'red,' *kaj*, which corresponds to Kaqchikel *kyaq*, Tektiteko *kaq*, we notice that Jakaltek did not

change initial \*k's before back vowels. So, after metathesis had occurred, giving oqw/qow, the preconsonantal ergative first plural was changed from qo to ko with no further change. The prevocalic k, however, proceeded to j before a morpheme boundary followed by a vowel; the k/j change probably occurred first before front vowels and then before back vowels. The complicated development of PM \*k (which originated from \*ŋ in pre-w position, in this case) is discussed in Fox (1978) chapter 5.

The changes for this subfamily are as follows:

*oŋ + w + C	*oŋ + w + V	Proto-Mayan changes:
oŋk w	oŋk w	oŋw / oŋk w
okw	okw	ŋk / k
oqw	oqw	*k/q[o_]
qow	qow	oq/qo[_w]
		Kanjobalan changes:
kow	kow	*q/k
ko	"	w/ø[_C]
"	ko	w/ø[_V]
"	k	o/ø[_V] (Chuj)
"	j	k/j[_+V] (Jak, Kanj)

---

<u>ko-</u>	<u>k-</u> (Chuj)
	<u>j-</u> (Kanjobal, Jakaltek)

The Yukatekan languages demonstrate more variety than is usual (for them) in the ergative first plural. Yukatek itself has lost the vowel completely in both pre-consonantal and pre-vocalic position, having only k-; however, Bricker 1986 reports that in Classical Yukatek the morpheme was c(a) ([ka]), evidence that the vowel was once there. Itza, Mopan, and Lakandon all still have vowels, i in the case of Mopan and Itza, a in the case of Lakandon. In Yukatek and Itza the development from \*oŋ + w proceeded



along fairly ordinary lines, with the addition of a vowel reduction rule for Itza. However, Mopan and Lakandon have undergone some unique changes, as seen below, e.g.:

Mopan: " ti jantaj  
nosotros lo comimos"  
(We ate it) (Ulrich and de Ulrich, 1971, p. 12)

< \*Ø + oŋ + w + jan + taj + Ø  
asp 1pl erg eat aff 3sg  
erg abs

and: " ti wotoč  
nuestro hogar"  
(our house) (ibid., p. 9)

< \*oŋ + w + otoč  
1pl erg house  
erg

Lakandon: " he? ək č'a?-ik  
"ahora lo tomaremos (dual)"  
(Now we (dual) will take it) (Bruce, 1968, p. 96)

< \*he? + oŋ + w + č'a? + ik + Ø  
asp 1pl erg take aff 3sg  
erg abs

and: " k- əh kin-s-ik/k- əh kin-s-eh  
"lo mataremos o cuando lo matemos (dual)" "  
(We will kill it or when we (dual) kill it) (ibid., p. 95)

< \*k + oŋ + w + kin + s + ik + Ø  
asp 1pl erg kill aff 3sg  
erg abs

and: " tz'ok əh k-uk'-ik  
"acabamos de beberlo (dual)" "  
(We just drank it) (ibid., p. 93)

< \*tz'ok + oŋ + w + uk' + ik + Ø  
asp 1pl erg drink aff 3sg  
erg abs

In Lakandon the a precedes k; Bricker comments that "it is possible that Classical Yukatek ca- was metathesized to ak- in Lakandon..." (1986, p. 22-23). Since ka itself was a product of metathesis in our scheme of things, we assume that the Lakandon form either did not undergo metathesis, or else did, with a second metathesis occurring later on, as follows:

## Lakandon

*oŋ+ w	
oŋk w	ŋw / ŋk w
okw	ŋk / k
oqw	*k/q[o_]
qow	oq/qo
qaw	o/a
kaw	q/k
kaw	a/ə
ək	kə/ək
ək	loss of w 1) [ _C ] 2) [ _V ]
---	
ək	

Given that all the other Yukatekan languages did metathesize their ergative first plurals, it is more reasonable to assume that metathesis originally occurred and that the modern-day ək form is a later development. We note further concerning Lakandon that ək/əh[ \_k,k' ] (another example of dissimilation, similar to the first plural developments in some of the Greater Tzeltalan languages). Furthermore, before vowel-initial stems ak > ah k. Unlike Itza and Mopan which both retained ergative w before vowels, Lakandon lost it; accordingly the pre-consonantal k form was appended to the stem and the original ək form then underwent dissimilation to əh[ \_k]: ək + V / ək + kV / əh + kV.

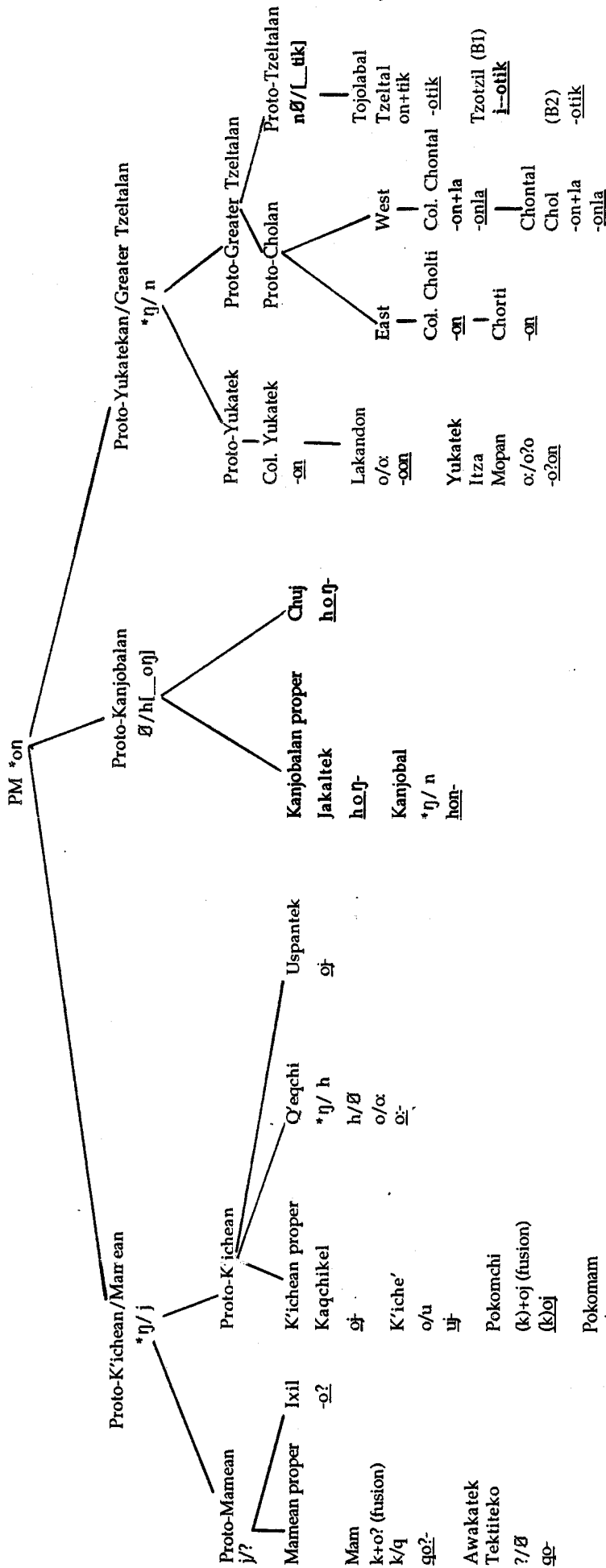
Mopan's ergative first plural ti(w) is a curious form; Bricker 1986 claims that this form has no obvious cognate in Classical Yukatek (p. 23). Eve

Danziger<sup>29</sup> states however that whenever ti(w) is followed by the preposition ti ('at, in, to') it becomes ki(w). Unless this change is an instance of dissimilation, which is not usual with t, this hints at an earlier form ki(w). We assume then that through a change that has occurred nowhere else in Mayan, ti(w) must have evolved from a ki(w) form identical to that of Itza. The developments for the subfamily are:

*oŋ + w + C	*oŋ + w + V	Proto-Mayan changes:
oŋk w	oŋk w	oŋw / oŋk w
okw	okw	ŋk / k
oqw	oqw	*k/q[o_]
qow	qow	oq/qo[_w]
		Yukatekan changes:
kow	kow	*q/k
kaw	kaw	o/a[_w]
ka	"	w/Ø[_C]
	ki	kiw a/i (Itza)
<hr/>		
<u>ki-</u>	<u>kiw-</u>	
ki-	kiw-	Mopan:
ti	tiw	k/t
<hr/>		
<u>ti-</u>	<u>tiw-</u>	
ka-	kaw-	Yukatek:
"	ka	w/Ø[_V]
"	k	a/Ø[_V]
k	"	a/Ø[_C]
<hr/>		
<u>k-</u>	<u>k-</u>	

29. Personal communication.

Development of PM \*oŋ—Absolutive Paradigm



The development of the first plural in the absolutive paradigms of the Mayan languages is on the whole more regular, which, given the absence of ergative w is not to be wondered at. (Because of this relative lack of innovation, fewer deviations are given in this section.) In general terms, the Yukatekan, Greater Tzeltalan and Kanjobalan languages changed \*oŋ / on (with individual differences, noted below). The Mamean and K'ichean groups developed oj. Both reflexes of PM \*ŋ - n and j- are expected, as mentioned above. The Yukatekan languages, after the initial \*oŋ/on change, lengthened the vowel (after Classical Yukatek, which had -on). Lakandon today has -oon; Yukatek, Itza and Mopan all inserted glottal stops between the vowels, yielding -oʔon. There is thus a progression:

Classical Yukatek:	-on
Lakandon:	-oon
Mod. Yukatek, Itza, Mopan	-oʔon <sup>30</sup>

The lengthening of the vowel, whose occurrence is indicated by Lakandon -oon, we interpret as a strengthening of the vowel; the absolutive pronominals in these languages are suffixed to the verb, which we consider a strong position and therefore conducive to strengthening. (See below, Chapter Three, for more on the relative strength of environments). E.g.:

Mopan:	"jano'on comimos" (We ate)	(Ulrich and de Ulrich, 1971, p. 15)
	< *ŋ + jan + oŋ asp eat 1pl abs	

---

30. For further discussion of this, see the section on Vowel Lengthening in Chapter Three.

Yukatek: " h tàal-ó?on  
'we (incl) came'" (Bricker, 1977, p. 6)

< \*h + tàal + oŋ  
asp come 1pl  
abs

Lakandon: " winik- oon  
"somos humanos" "  
(We are human beings) (Bruce, 1968, p. 49)

< \*winik + oŋ  
man 1pl  
abs

As is usually the case with the absolutive manifestation of a pronominal, there is no variation in the shape of the first plural. The Yukatekan changes are thus as follows:

* o ŋ		
on	*ŋ/ n	
o:n	o/o:	(Lakandon)
o?on	o:/o?o	(Yuk, Itza, Mopan)
<hr/>		
- <u>o:n</u>		
- <u>o?on</u>		

The Kanjobalan absolutive first plural is remarkably conservative in the case of Chuj and Jakaltek, both of which have retained -oŋ, e.g.:

Chuj: "Oŋ'at pinko oŋ (Williams and Williams, in  
We went to the finca" Mayers, 1966, p. 232-233)

< \*Ø + oŋ + 'at + pinko + oŋ  
asp 1pl go-to ranch 1pl  
abs abs

Jakaltek: " (š-)k-hoŋ ok'i (š)koŋ ok'i  
we cried" (Day, 1973, p. 34)

< \*(š) + k + oŋ + ok' + i  
asp asp 1pl cry aff  
abs



plural -tik is appended to on, the n drops: on+tik / otik. Originally, tik was a numeral classifier, specifying "types, classes, species, varieties" (Furbee-Losee, 1976, p. 121). E.g.:

Tzeltal: "s mah -otik  
'he hits us' (Kaufman, 1963, p. 184)

< \*rw + mah + oŋ + tik  
3sg hit 1pl pl  
erg abs

Tzotzil: "helav - em - otik  
'we (incl) have passed' (Bricker, 1977, p. 23)

< \*helav + em + oŋ + tik  
pass aff 1pl pl  
abs

Tzotzil also has another absolutive first plural form, used in the completive and incompletive aspect, which consists of first person singular i (<\*in) prefixed to the verb, -otik suffixed. E.g.:

Tzotzil: "š - i - s - mah - otik  
'he hits us'" (ibid., p. 21)

< \*š + in + rw + mah + oŋ + tik  
asp 1sg 3sg hit 1pl pl  
abs erg abs

The Mamean languages, like the K'ichean, generally develop  $j < *ŋ$ , as in Tektiteko o:j, Awakatek and Mam oj 'avocado' (reconstructed as \*o:ŋ by Fox, 1978, p. 105). However, various developments have intervened so that Mam, Tektiteko and Awakatek have q: Mam qo('), Tektiteko qo', Awakatek q(a)~qo'. Ixil seemingly has dropped  $j$  (<\*ŋ) and has -o?. In addition, the first three languages have metathesized versions of \*oŋ despite the absence of ergative w. These anomalous developments probably came about as a result of a combination of factors: one, general replacement of  $j$  with ? in Mamean;



and two, the presence of the aspect marker k, which as we have seen fused with the other pronominals to one degree or another in the different languages. The replacement of j by ʔ in this particular pronominal is somewhat of a mystery,<sup>32</sup> yet Ixil, normally quite conservative in the absolutive paradigm, gives us evidence of this change. In Mam, Awakatek and Tektiteko, the subsequent prefixation of k to the vowel gives koʔ, which then became uvular qoʔ, probably through assimilation to the glottal stop. The glottal stop has remained in some dialects of Mam and Awakatek, but has dropped elsewhere. E.g.:<sup>33</sup>

* o η	
o j	*η/j (Mamean)
oʔ	j/ʔ
koʔ	k-affixation
qoʔ	assimilation
qo(?)	loss of ?
---	
qo(?) <sup>34</sup>	

- 
32. Robertson (personal communication) reconstructs \*oʔη as absolutive first plural; presumably, he simply drops word-final η for Mamean and fronts ʔ to q, along with metathesis of oq/qo. However, since we have derived all of the pronominals from one form and there is no evidence for the ʔ in the various forms of the ergative paradigm, we have reconstructed \*oη instead.
33. Bricker, 1977 (p. 2) lists an optional glottal stop following the absolutive first plural: qu(ʔ) (from Canger, 1969). According to Kaufman, Canger worked in Northern Mam; this variety of Mam seems to have retained the glottal stop.
34. The Awakatek q(a) form seems to be a direct 'import' from the ergative paradigm—it is identical to the ergative first plural.

Examples of the Mamean first plural in the absolutive paradigm are:

Mam: "tej šqo eš (Sywulka in Mayers, 1966, p. 186)  
'when we went out recently'"

< \*tej + š + oŋ + eš  
when asp 1pl go  
abs

and: "šjaal qo' (Ortiz, 1988, p. 66)  
somos gente (in.)"  
(We (incl.) are people)

< \*šjaal + oŋ  
people 1pl  
abs

Ixil: "Poro tambien la šo'v o' (Elliot and Elliot in Mayers, 1966, p. 138)  
But also we're afraid"

< \*poro tambien la + šo'v + oŋ  
but also asp afraid 1pl  
abs

Most of the K'ichean languages demonstrate the expected changes from \*oŋ to oŋ in the absolutive: Pokomchi, Pokomam, K'iche', Achi, Uspantek and Kaqchikel all have oŋ with some minor variations (uŋ in the case of K'iche, and aŋ in Pokomam)<sup>35</sup> E.g.:

K'iche': "kujitijoj (Fox, 1987, p. 41)  
vosotros nos enseñáis"  
(you (pl) teach us)

< \*k + oŋ + eš + w + tij + oŋ  
asp 1pl 2pl erg teach aff  
abs erg

35. Pokomam and Pokomchi both have first plural forms with q ~ k prefixed: Pokomchi koj vs. oŋ is discussed elsewhere, in Chapter Three; and similarly Pokomam's qaj form is a composite of q + aŋ which only appears in aorist constructions (Smith-Stark, 1983, pp. 205-210).

Kaqchikel: "šojrukanoj  
nos buscó (él/ella)"  
(He looked for us) (Rodriguez et al., 1988, p. 56)

< \*š + oŋ + rw + kan + oj  
asp 1pl 3sg look for aff  
abs erg

Tzutujil presents a variation on this general theme. Tzutujil has oq as its first plural in the absolutive. oq, when acting as subject of an intransitive verb, and preceded by either k (imperative) or šk (impending) apparently metathesizes to qo. The k of the tense/aspect morpheme then drops. Quoting from Butler and Butler (1978): "When šk precedes oq 'we,' the oq metathesizes to qo-, and the /k/ elided when next to a /q/, e.g., šk-oq-be > šqobe 'We will go'" (p. 4). "When k- precedes oq-, the oq- metathesizes to form qo and then the /k/ is elided because it is next to a /q/, e.g., k-oq-be ? qobe "let's go!" (p. 5). Only these aspect markers cause this apparent metathesis; it does not occur with other aspect morphemes or in stative constructions, e.g.:

Tzutujil: "ma šqowari ta  
"We won't sleep" (Butler and Butler, 1978, p. 10)

< \*ma + šk + oŋ + war + i + ta  
neg asp 1pl sleep aff neg  
abs

but: "ma šoqwarita  
"We didn't sleep" (ibid., p. 10)

< \*ma + š + oŋ + war + i + ta  
neg asp 1pl sleep aff neg  
abs

However, despite appearances, it is not the metathesis of oq/qo we are dealing with here, but rather qo/oq. Robertson (personal communication) states that early Tzutujil had oj, as did the rest of the K'ichean languages. qo

resulted from the fusion of the incomplete aspect marker q with oj: q + oj / qoj. Final j then elided, leaving qo. Thus, after ṣ̌k (impending aspect) and k (imperative), rather than metathesis, k + q / q occurred: ṣ̌k + qo / ṣ̌qo; k + qo / qo. Metathesis takes place after the other aspect markers (ṣ̌, n, etc.) through analogy with the rest of the absolutive pronominals which are all VC in structure, according to Robertson. Whatever the reason for metathesis, it is noteworthy that the combination k+q prevented it from taking place; this is an example of the enigmatic relationship between velars and uvulars in Mayan (further discussed in Chapter Three).

The final change to the first plural morpheme in the absolutive paradigm of K'ichean that we shall examine is the Q'eqchi' development of \*oŋ, o:. E.g.:

Q'eqchi':	"ṣ̌ojsak' nos pegó" (He hit us)	(Cuc Caal, 1988, p. 33)
	< *ṣ̌ + oŋ + rw + sak'	
	asp 1pl 3sg hit	
	abs erg	

The length of the vowel is unusual in K'ichean; therefore we surmise that the h which is the normal development of PM \*ŋ in Q'eqchi' was lost, perhaps first before a following consonant and then generally, with compensatory lengthening of the vowel. E.g.:

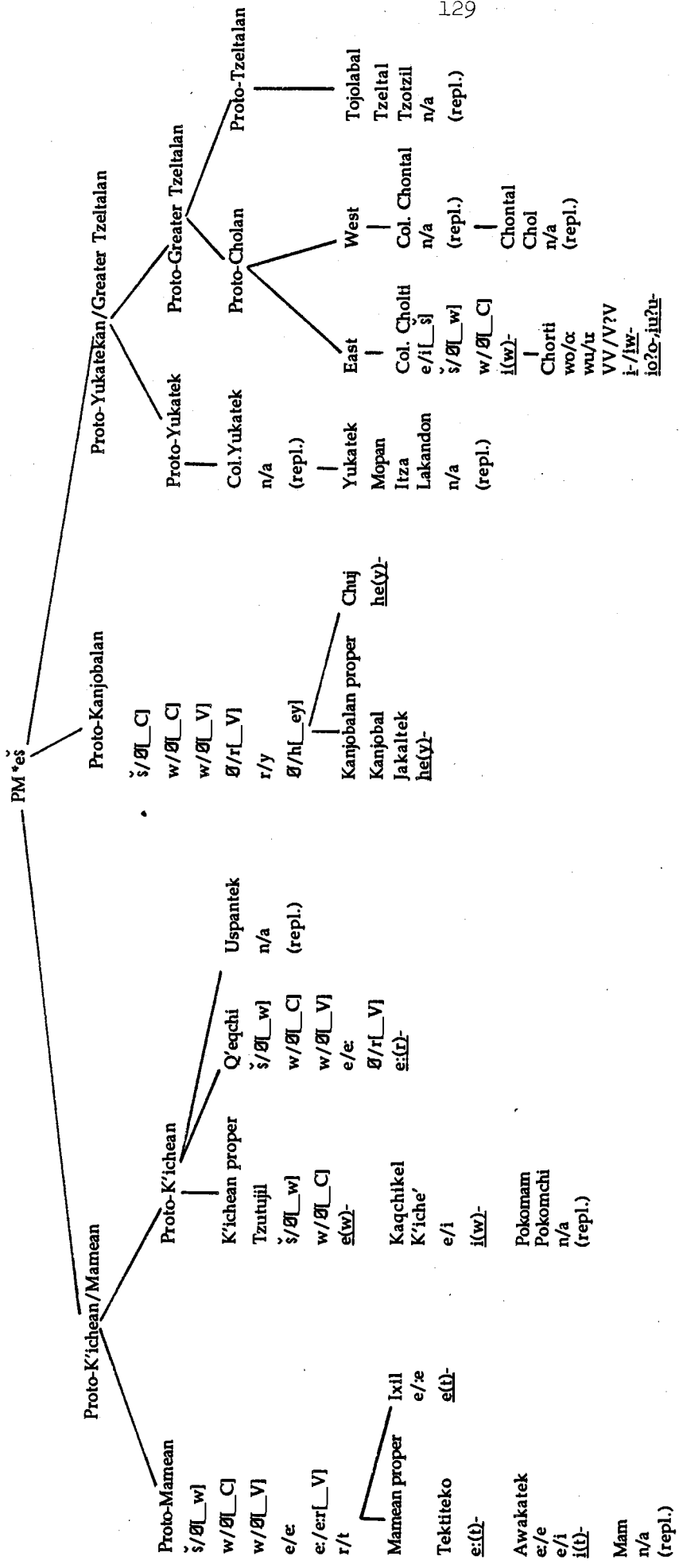
* o ŋ	
oh	*ŋ/h (Q'eqchi')
o	h/∅[_C] then [_V]
o:	compensatory lengthening
--	
o:	

As will be seen in the section below on cluster simplification, many languages in Mayan have h-dropping rules; it does not appear to be a very strong consonant.

The many manifestations of the first plural of Mayan—both in the ergative and absolutive paradigms—demonstrate once again the complex of factors which must be taken into account in tracing the development of the pronominal affixes of Mayan. The developments within the first plural are more complicated than most, but as we have seen (and will see in the remaining sections on second and third plural) they are by no means out of the ordinary.

## 2.5 Second Plural

The form we have reconstructed to represent the second person plural morpheme is \*eṣ̌. Like the second person singular, in most languages it has lost its final consonant before the ergative w but retains it in the absolutive paradigm. In some languages it has been replaced by a combination of the second singular morpheme plus a plural morpheme (these instances will be mentioned, but not discussed since they represent replacements rather than developments of \*eṣ̌). As with the other person morphemes, we shall commence with the manifestations of \*eṣ̌ in the ergative paradigms in the various languages.



Within the K'ichean group, K'iche, Kaqchikel, and Tzutujil begin with \*eš + w in the ergative; K'iche and Kaqchikel change e/i through assimilation before the palatal š. All of the four drop š in the ergative before w, and the w itself is lost before consonants. E.g.:

K'iche: "šiniwelaq'aj  
me robaron ustedes"  
(You (pl) robbed me (Suy Tum, 1988, p. 58))

< \*š + in + eš + w + elaq' + aj  
asp 1sg 2pl erg rob aff  
abs erg

Tzutujil: "ak'ala ma- k- # - in - e - sok"  
"children pl not not cont me you hurt (Butler and Butler,  
"Children, don't you (plural) hurt me" 1978, p. 4)

< \*ak'ala + ma + k + Ø + in + eš + w + sok  
children neg neg asp 1sg 2pl erg hurt  
abs erg

The basic evolution of this pronominal in the ergative in K'ichean is as follows:

*eš+w+C	*eš+w+V	
išwC	išwV	e/i[ <u>  </u> š] <sup>36</sup>
iwC	iwV	š/Ø[ <u>  </u> C]
iC	"	w/Ø[ <u>  </u> C]

i

iw

Pokomam, Pokomchi, and Uspantek, however, replaced their second person plurals in the ergative with the second singular forms (in addition, Pokomchi adds plural—tak). E.g.:

36. The fact that Tzutujil has e in the ergative, iš in the absolutive for second plural, indicates that the e/i change took place quite late in this language, later for example than in Kaqchikel or Achi where e/i[  š] in the ergative before the consonant was lost pre-w.

Pokomchi: "š-a-k'uš-tak  
you (pl) ate" [it] (Ramirez and de Ramirez, 1988, p. 46)

< \*š + Ø + at + w + k'uš + tak  
asp 3sg 2sg erg eat pl  
abs erg

Q'eqchi' on the other hand illustrates some unique developments. This pre-consonantal Q'eqchi' second plural in the ergative is ee-, the prevocalic, eer-. E.g.:

Q'eqchi': "šineesik'  
me buscaron (ustedes)"  
(You (pl) looked for me) (Cuc Caal, 1988, p. 37)

< \*š + in + eš + w + sik'  
asp 1sg 2pl erg for  
abs erg

and: "šineeril  
me miraron (ustedes)"  
(You (pl) looked at me) (ibid., p. 39)

< \*š + in + eš + w + il  
asp 1sg 2pl erg look at  
abs erg

What occurred here, we hypothesize, is an insertion of r after e: before vowels, after all the changes such as losing š[  w], etc.:

\*eš+w  
ew š/Ø[  w]  
e w/Ø[  C] then [  V]  
e: compensatory lengthening  
er r-insertion [  V]  
--  
e:(r)

This also appears to have happened in the Q'eqchi' third plural, as well as in the Mamean ergative second plural, as we shall see. With this



exception, the K'ichean languages demonstrate very regular changes in the ergative second plural.

The Mamean languages behave very much like Q'eqchi' in that they too have lost original  $\check{s}$  and  $w$ , and inserted  $t$  before vowels (from PM \*r). The fact that  $t$ , a development of PM \*r, appears here argues for an early insertion of \*r in Q'eqchi' and the Mamean languages, and hence a very early loss of  $\check{s}$  and  $w$  in these languages. (Mam is again excluded, as its second person plural was replaced by the third plural forms plus a clitic, as happened in the second singular). Examples in Mamean are:

Tektiteko: " ma Ø tzaj e:t- i -n  
 Prx 3SgAb VENIR 2PIEr llevar RefD  
 'Lo trajisteis'"  
 (You (pl) brought it) (Stevenson, 1987, p. 46)

< \*ma + Ø + tzaj + eš + w + i + n  
 asp 3sg dir 2pl erg bring aff  
 abs erg

and: " Ø š -el e: si -'  
 3SgAb IR pot 2PIEr dar RefD  
 'Lo traeréis'"  
 (You (pl) will bring it) (ibid., p. 46)

< \*Ø + š + el + eš + w + si + '  
 3sg dir asp 2pl erg give aff  
 abs erg

Ixil: " netule?  
 'están viniendo'"  
 (They are coming) (Ayres, 1980, p. 245)

< \*n + eš + w + ul + e?  
 asp 2pl erg come aff  
 erg

and: " neb'ena?  
'están yendo"  
(They are going) (ibid., p. 245)

< \*n + eš + w + b'en + a?  
asp 2pl erg go aff  
erg

Awakatek: " tz - it - etz - woq (McArthur, McArthur and  
'to you both'" Yok in Townsend, 1980, p. 66)

< \*tz + eš + w + etz + woq  
rel 2pl erg to plural  
erg

The usual loss of a short, unstressed vowel before a stressed one, which occurred in the rest of the ergative paradigm in Tektiteko (except for the second singular, q.v.) was prevented in this instance by the lengthening of the vowel consequent to the loss of š and w. A derivation of the ergative second plural for Mamean illustrates these changes:

*eš+w+C	*eš+w+V	
ewC	ewV	š/∅[_w]
eC	"	w/∅[_C]
"	eV	w/∅[_V]
e:C	e:V	e/e:
"	e:rV	∅/r[_V]
"	e:tV	r/t

---

<u>e:-</u>	<u>e:t-</u>	(Tektiteko)
------------	-------------	-------------

e:-	e:t-	Ixil:
e	et	e/e

---

<u>e-</u>	<u>et-</u>
-----------	------------

e-  
iet-  
itAwakatek:  
e/ii-it-

In Greater Tzeltalan, every language except Chorti has replaced the ergative second plural with the second singular form. Indeed, the replacement of plural forms by singular, and vice versa, is general in Cholan and in the ergative paradigm of Tzotzilán. Bricker 1986 puts it, "this distinction [between singular and plural first and second person] has been neutralized in the western Cholan languages (Classical and Modern Chontal and Chol) by extending the first person plural to the first person singular and the second person singular to the second person plural. Plurality is then marked with suffixes" (p. 23). Chorti has i from original \*eš, with retention of w before vowels (except before rounded vowels when w contracts with the vowel, thus causing other changes as seen above in the sections on first, second, and third singular). Examples:

Chorti:

"'i'uah"?ku"  
(you (pl) give it)"

(Fought, 1972, p. 30)

< \*Ø + eš + w + ah?k + u  
asp 2pl erg give aff  
erg

and:

"'io?oh"ri "  
(you fell)"

(ibid., p. 30)

< \*Ø + eš + w + ohr + i  
asp 2pl erg fall aff  
erg

Classical Cholti also had i(w). The changes prior to Chorti's manipulations of w we assume to be identical to those of K'ichean, since the results are the same:<sup>37</sup>

*eš+w+C	*eš+w+V		
išwC	išwV	e/i[_š]	
iwC	iwV	š/Ø[_w]	
iC	"	w/Ø[_C]	(Cholti)
"	io:iu:	wo/o:wu/u:	(Chorti)
"	io?o	VV/V?V	

i-                    iw- (Cholti, Chorti)  
                          io?o-, iu?u- (Chorti)

Kanjobalan shows some unique changes in the ergative second plural.

All three languages have he(y), as seen in the following examples:

Chuj:            "tz - hin - hey - ak' tzaljok  
                    present 1st    2pl    make happy  
                                       nom    erg  
                    you (pl) make me happy" (Maxwell, in England, 1978, p. 128)

< \*tz + in + eš + w + ak' + tzaljok  
       asp 1sg 2pl erg make happy  
           abs erg

Jakaltek:        "š- he y-ila            še yila  
                    you-all saw s.th."                                    (Day, 1973, p. 35)

< \*š + Ø + eš + w + il + a  
       asp 3sg 2pl erg see aff  
           abs erg

37. We are aware that this does not necessarily follow; it would be perfectly possible to have two identical morphemes which are the products of completely different rules. However, since we are dealing with one language family, and because no evidence to the contrary has presented itself, we suggest that the rules for changing the vowel and eliding š and w are indeed the same for Chorti and K'ichean.

and: "š-he mak'a      še mak'a  
 you-all hit s.th." (ibid., p. 34)

< \*š + Ø + eš + w + mak' + a  
 asp 3sg 2pl erg hit aff  
 abs erg

The pre-vocalic *y* in this case seems again to be a development of PM \**r*; in other words, once again, after the loss of *š* and *w*, PM \**r* was inserted before a vowel and subsequently became *y* in the Kanjobalan languages.<sup>38</sup> We reconstruct the sequence of events as follows:

*eš+w+C	*eš+w+V	
ewC	ewV	š/Ø[_C]
eC	"	w/Ø[_C]
"	eV	w/Ø[_V]
"	erV	*r-insertion [_V]
"	eyV	*r/y
heC	heyV	Ø/h[_ey]

---

he                      hey

The Yukatekan languages all replaced the second plural with the second singular in the ergative paradigm. Rather than suffixing a simple plural morpheme to the second person plural as did the Tzeltalan languages, though, they suffixed *e?eš* (<\*eš). We have suggested below that this came about through a reanalysis of *eš* as plural rather than second person plural

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38. Another possibility is that the *y* represents unrounded *w*; Justeson (1985) discusses the palatalization of *w* before front vowels in some of the dialects of Chontal. However, since *w* in this case followed the front vowel *e*, and in addition was separated from it by a consonant (until its loss), we find the insertion of \**r* theory more plausible at this point. Its occurrence in other languages (Q'eqchi', Mamean) gives it weight as well.

(for a fuller discussion of this and other replacement phenomena see the section on Replacement). As an example:

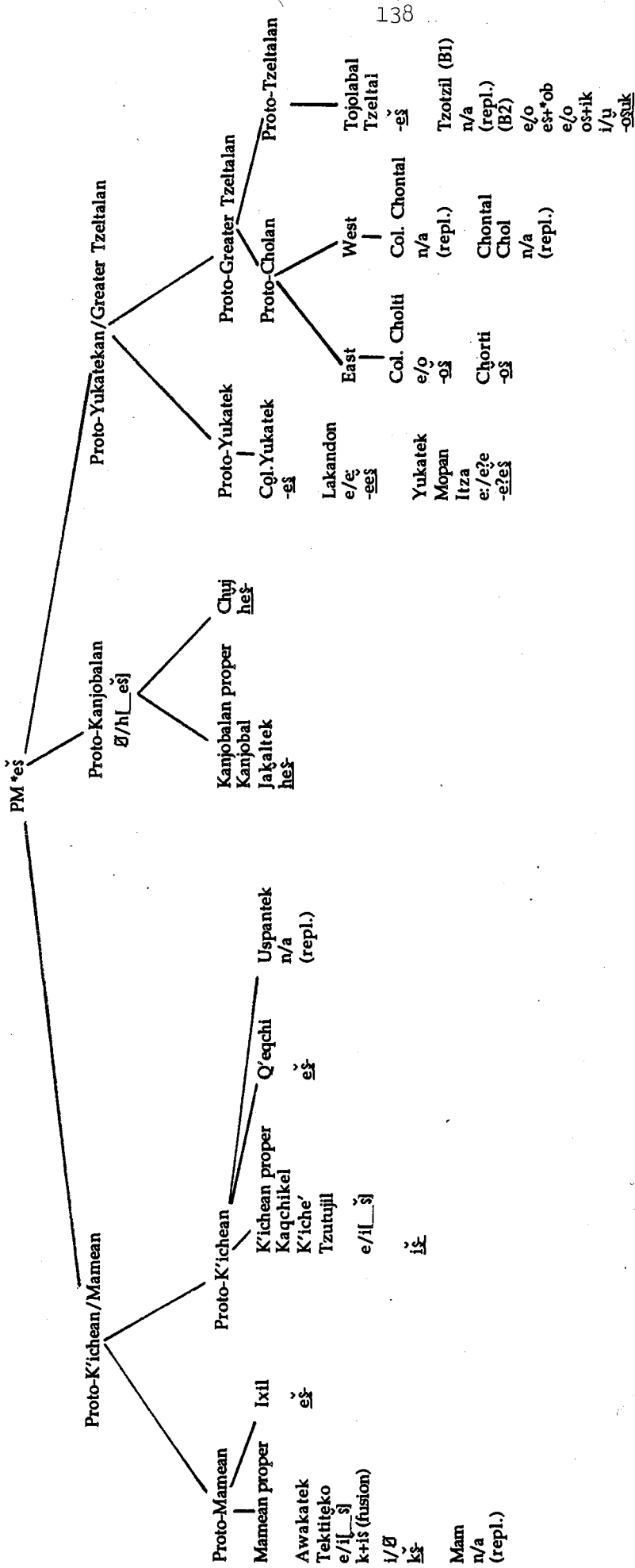
Mopan: " a jantaje'eš  
ustedes lo comieron"  
(You (pl) ate it) (Ulrich and de Ulrich, 1976, p. 12)

< \* Ø + at + w + jan + taj + eš + Ø  
asp 2sg erg eat aff 2pl 3sg  
erg erg abs<sup>39</sup>

---

39. In the progressive and future aspects, the plural is suffixed to the aspect marker and thus actually precedes the singular person marker in Mopan. E.g.: "tane'eš a jantik (ustedes) están comiéndolo" (You (pl) are eating it) (Ulrich and de Ulrich, 1976, p. 12).

Developments of PM \*eš—Absolutive Paradigm



Overall, the absolutive forms of \*eš show little change. In Yukatekan, expected \*eš appears, though in the form e?eš (eeš in Lakandon). Like the first plural, the vowel first lengthened, then was separated by ?-insertion everywhere but in Lakandon:

## Yukatekan

*eš		(Classical Yukatek)
eeš	e/e:	(Lakandon)
e?eš	?-insertion	(Yukatek, Itza, Mopan)

---

e?eš

These rules were discussed above in the section on first plural and need not be examined further here. Examples:

Yukatek: " h tàal - é?eš  
'you-all came'" (Bricker, 1977, p. 6)

< \*h + tàal + eš  
asp come 2pl  
abs

Lakandon: " tal(-en) in w-il-eeš  
"He venido a verlos"  
(I have come to see you (pl)) (Bruce, 1968, p. 47)

< \*tal + (en) + in + w + il + eš  
asp asp 1sg erg see 2pl  
erg abs

Kanjobalan, too, has changed original \*eš but little, only prefixing h as usual for these languages:

Jakaltek: "(š)-k-heš wayi (š)keš wayi  
you-all slept" (Day, 1973, p. 34)

< \*š + k + eš + way + i  
asp asp 2pl sleep aff  
abs



Chuj: "š-heš-y-ak' telwok ?iš Malin  
past 2pl 3rd make fall n.cl. Mary  
"Mary made you (pl) fall" (Maxwell, in England, 1978, p. 129)

< \* š + eš + rw + ak'  
asp 2pl 3sg make  
abs erg

The Greater Tzeltalan languages are divided in their development of the second plural in the absolutive paradigm. Within the Cholan branch, there is again a split between Chorti (and Classical Cholti) on the one side, and Chol and Chontal on the other, just as there was in the first plural. Chol and Chontal in this case have replaced the plural with second person singular + plural -la. (Because the absolutives in these languages are suffixed, the la is affixed directly to et, yielding -etla). E.g.:

Chol: "mi - k - sub - en - et la  
"I [BOUND] tell you [ERGATIVE HEARER PLURAL]"  
(Attinasi, 1973, p. 144)

< \*mi + oŋ + w + sub + en + et.+ la  
asp 1pl erg tell aff 2sg pl  
erg abs

Chorti has, and Classical Cholti had, -oš as representative of \*eš. The rounding of e in this instance is an anomaly; although Tzotzil has a rounding rule in the second person (to be examined shortly) Chorti does not. Robertson explains the change \*eš/oš in Chorti/Cholti as follows: a change in all of the vowels in the absolutive singular paradigm resulted in e marking 'singular'; this change was paralleled by a shift in the plural paradigm such that all vowels in the plural became o which then marked 'plural.' This is illustrated by means of a diagram: (Robertson, 1982, p. 441):

Third Person Singular	Second Person Singular	First Person Singular
--------------------------	---------------------------	--------------------------

Stage I: ∅

Stage I: \*at

Stage I: \*in

Stage II: ∅

Stage II: et

Stage II: en

Third Person Singular	Second Person Singular	First Person Singular
--------------------------	---------------------------	--------------------------

Stage I: \*ob'

Stage I: \*eš

Stage I: \*on

Stage II: ob'

Stage II: oš

Stage II: on

For lack of purely phonological motivation, we must accept Robertson's explanation for now. Indeed, if ergative w can be reanalyzed as third person (discussed below in the Reanalysis section) then it is perhaps conceivable that a vowel could be 'reanalyzed,' in a sense, as representing singular or plural. An example of the Chorti second person plural in the absolutive paradigm is:

Chorti: " 'in 'guak''to?oš  
I leave you (pl)" (Fought, 1967, p. 120)

< \*∅ + in + w + akt + a + eš  
asp 1sg erg leave aff 1pl  
erg abs

The Tzeltalan languages Tojolabal and Tzeltal have preserved \*eš, e.g.:

Tzeltal: " // bà - eš//  
'you all went'" (Kaufman, 1963, p. 185)

< \*∅ + bà + eš  
asp go 2pl  
abs

Tojolabal: " wa - š<sub>2</sub> - k --ab' - iy<sub>1</sub> - eš  
pres. prog. 1p erg to hear 2p.pl  
incompl tv mkr nom  
'I am hearing you all" (Furbee-Losee, 1976, p. 133)

< \*wa + š + orŋ + w + ab' + iy + eš  
asp asp 1pl erg hear aff 2pl  
erg abs

However, Tzotzil has two different manifestations of second plural, one in its set B1 consisting of the prefixed second singular plus suffixed plural ik, and the other in its set B2, -ošuk. The set B1 form is a replacement of the original plural \*eš; the set B2 form on the other hand is a development from \*eš + plural ik. Robertson (1982) claims that the rounding of \*eš + ik to ošuk took place through analogy with the B2 second singular (-ot, < \*at). In his own words, "The semantically marked second-person plural (ešik) incorporated the additional mark of roundedness (yielding ošuk), precisely reflecting the newly acquired roundedness of the semantically less-marked second-person singular (ot)" (1982, p. 440). As in the case of Chorti and Colonial Cholti -oš, again a strong phonological motivation for the change \*e/o is lacking; Robertson himself suggests the only possible phonological solution. This is that a plural -\*ob' may originally have been suffixed to eš, causing the vowel to round, through assimilation, to oš. Then, ik could have replaced ob' and subsequently undergone rounding to uk: hence eš + ob / oš-ob / oš-ik / oš-uk. Robertson rejects this solution, as he points out that in Tzotzil and Tzeltal the only extant Vb' plural is -ab' which shows up only in kinship terms.<sup>40</sup> Franckle however in her 1985 note on plural markers in the Mayan languages indicates that -ab' has a slightly wider distribution. She notes that in Tzeltal -ab' is used for terms pertaining to people in general, and that in the Zinacantecan dialect of Tzotzil -ab (although archaic) is used as a collective plural on possessed nouns. Moreover, -ob', or o', is definitely present in the Cholan languages, which are closely related to the Tzeltalan languages; Franckle's examples are Chol, which according to dialect uses ob'

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40. Tojolabal today has only -tik or -ik as plural markers. -ab, 'ob and 'eb exist, but only in other roles (cf. Furbee-Losee, 1976).



in the section on second singular, the vowel was undoubtedly lost as a result of its position pre-stress and between k and š). Optionally, the vowel can appear, though in unusual position: ikš. (Kaufman lists the 'Teco' reflex as (k)iš so the loss of this vowel, and its unusual position at times, are probably dialectal). E.g.:

Tektiteko: " n kš 'o:q  
 Cnt 2PIAb llorar  
 'Estáis llorando'"  
 (You (pl) are crying) (Stevenson, 1987, p. 43)

< \*n + eš + 'o:q  
 asp 2pl cry  
 abs

and: " ikš b'et  
 2PIAb caminar  
 'Caminasteis'"  
 (You (pl) walked) (ibid., p. 43)

< \*∅ + eš + b'et  
 asp 2pl walk  
 abs

The rules for Mamean are as follows:

*eš	(Ixil)
iš	(e/i[ <u>  </u> š])
kiš	fusion
kš	i/∅

kš- (Awakatek and Tektiteko)

The K'ichean languages, with the exception of Pokomam, Pokomchi and Uspantek, changed second plural \*eš very little. Pokomam, Pokomchi, and Uspantek all replaced \*eš with the second singular prefix: Pokomchi in addition suffixed plural -tak to the verb, while Uspantek suffixes tak directly to second singular -at, yielding atak. Of the rest of the languages, the only

notable change to \*eš was the vowel change e/i, already noted in the ergative second plural. (Q'eqchi' however retained eš). E.g.:

Kaqchikel: " yišintzu'  
I see you (pl)'"

< \*y + eš + in + w + tzu'  
asp 2pl 1sg erg see  
abs erg

Q'eqchi': " šeqsasik'  
los buscamos (a ustedes)"  
(We looked for you (pl))

(Cuc Caal, 1988, p. 37)

< \*š + eš + oŋ + w + sik'  
asp 2pl 1pl erg look for  
abs erg

K'iche': " kiškatijoj  
nosotros os enseñamos"  
(We teach you (pl))

(Fox, 1987, p. 41)

< \*k + eš + oŋ + w + tij + oj  
asp 2pl 1pl erg teach aff  
abs erg

We noted above in the section on the ergative manifestation of the second plural that Tzutujil had not changed the vowel of eš in that case, because of the early loss of š[  w]; here we note that with the retention of the consonant, the usual K'ichean change e/i did indeed take place, e.g.:

Tzutujil: " ma k-iš - paj -(i) ta  
(not)imp-you fall class (not)  
'Don't you (plural) fall'"

(Butler and Butler, 1978, p. 6)

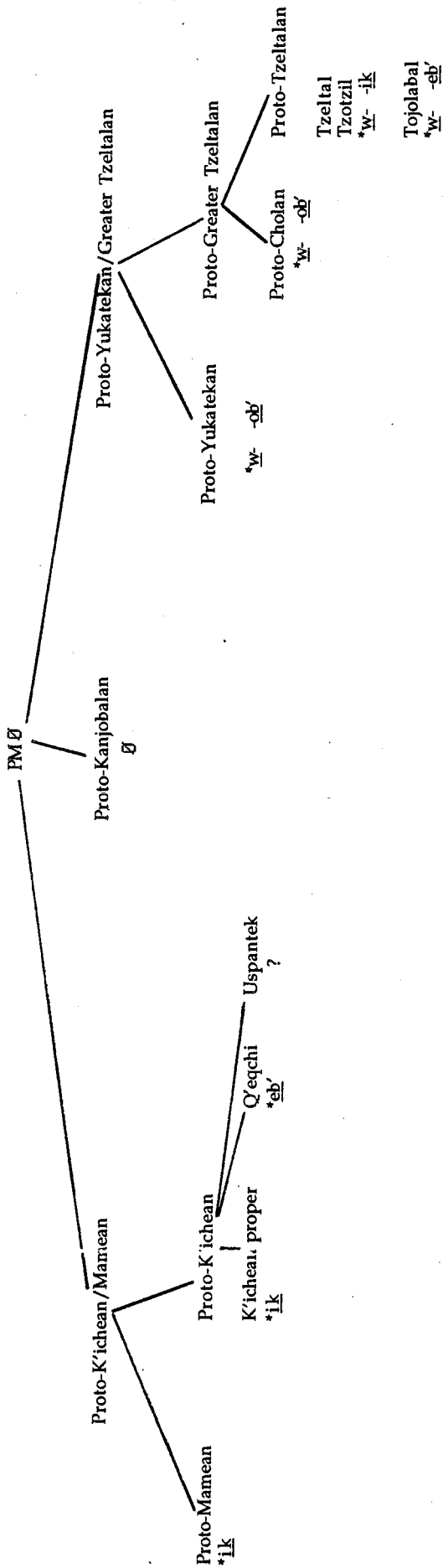
< \*ma + k + eš + paj + i + ta  
neg asp 2pl fall aff neg  
abs

All in all, the K'ichean languages, and Mayan in general, performed few changes on \*eš in the absolutive (as we have seen to be the normal state of affairs).

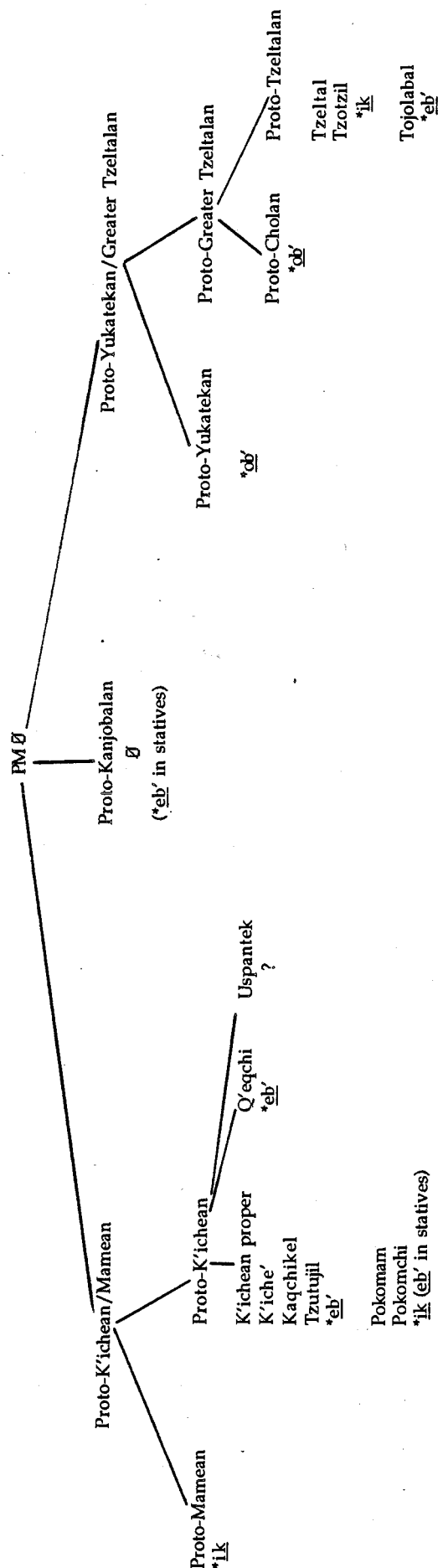
## 2.6 Third Plural

The third plural represents a curious case. We propose that, like the third singular, originally it did not have a person morpheme associated with it (this is still the case in some languages, e.g., Kanjobalan). Our hypothesis is that the various forms it takes in the Mayan languages are all descended from plural morphemes. The first, \*ik, is to be found in the form ki in the Mamean and K'ichean languages, and in the form ik in the Tzeltalan languages. The second, \*Vb', is found virtually everywhere else in the form eb', with the exception of Yukatekan and Cholan which have adopted plural ob'. Because of the unusual nature of the third plural morpheme, rather than proceeding from one language-group to another as we have done with the other person/number morphemes, we will discuss each language group under the particular plural morpheme found in its paradigms. Also, as no one morpheme can be cited as the ancestral third plural for the ergative and absolutive paradigms, our diagram in this case is very general, indicating only the plural morpheme of origin from which a subfamily (or individual language) obtained its third plural. Details of the subsequent development of the plural morphemes are found within the text.

Origin of PM Third Plural—Ergative Paradigm



Origin of PM Third Plural—Absolutive Paradigm





### Third Plural from \*ik

-ik is in a sense the most unusual plural morpheme to have been adapted for use as a third plural. It is unique in that it is the only plural morpheme to undergo changes when prefixed to the verb, as opposed to suffixed. Like first plural \*oŋ, ik/ki before the ergative w. Metathesis in this case was caused by the conjunction of two velar consonants, rather than uvular + velar. ik is also unusual in that it is the only plural morpheme not to appear as a plural affix on nouns, which is a characteristic of the other two plurals discussed in this section. Nonetheless, it does appear with other person morphemes in the plural of both absolutive and ergative paradigms: for example, it is suffixed to both Tzeltal and Tzotzil's second plural in the ergative paradigm, where singular \*at has replaced \*eš, e.g.:

Tzeltal: " //a postay -ik//  
'you all cure'" (Kaufman, 1963, p. 176)

< \*at + w + postay + ik  
2sg erg cure pl  
erg

In Tojolabal, ik shows up in places where normally one would expect second plural eš. For instance in incompletive constructions, second person singular is not marked at all, but second person plural may be marked not by eš but by ik. We thus consider ik in this case to be a simple indicator of plural.

E.g.:

Tojolabal: " la - siw - iy - ik  
incompletive to be afraid independent 2p.pl  
'You all are afraid'" (Furbee-Losee, 1976, p. 125)

< \*la + siw + iy + ik  
asp be afraid aff pl

ik is also very similar to another plural morpheme, tik, which is found in all the Tzeltalan languages. In Tojolabal, tik is listed as being a 'collective

plural' (Furbee-Losee, p. 126). Since -ik has such a wide distribution in Tzeltalan, we will examine the Tzeltalan languages first.

ik shows up in Tzeltal and Tzotzil in both the ergative and the absolutive third plural. In the ergative paradigm, it is suffixed while the development of \*r+w of third singular (s[\_C], y[\_V] in these languages) is prefixed. In the absolutive, it is suffixed as sole indicator of third person.<sup>41</sup>

For example:

Tzeltal: " //tal ik//  
'they came'" (Kaufman, 1963, p. 176)

< \*∅ + tal + ik  
asp come 3pl  
abs

and: " //s na ik//  
'their houses'" (ibid., p. 176)

< \*rw + na + ik  
3sg house pl  
erg

Tzotzil: " h- mah - ok -ik  
'I have hit them'" (Bricker, 1977, p. 22)

< \*∅ + oŋ + w + mah + oh + ik  
asp 1pl erg hit aff 3pl  
erg abs

and: " l - i - y - il - ik  
'They saw me'" (ibid., p. 22)

< \*l + in + rw + il + ik  
asp 1sg 3sg see 3pl  
abs erg erg

---

41. Sets B1 and B2 in Tzotzil have in this case the same indicator for third plural: -ik.



Tektiteko: " in 'ok ky- q'o:ji -'  
 1SgAb ENTRAR 3plEr pelear RefD  
 "Pelearon conmigo"  
 (They fought with me) (Stevenson, p. 46)

< \*∅ + in + 'ok + ik + w + q'o:ji + '  
 asp 1sg dir 3pl erg fight aff  
 abs erg

(Tektiteko ky becomes k before s, š, ž, tš, and tṣ̌ (fricatives) according to Stevenson. This loss of palatalization is optional before affricates).

Awakatek: " ko'čičoj (McArthur and McArthur in  
 'they pay us'" Mayers, 1966, p. 158)

< \*∅ + oŋ + ik + w + čoj  
 asp 1pl 3pl erg pay  
 abs erg

In the absolutive paradigm, Mam alone has a reflex of ik, namely či. In this instance the superficial form of the morpheme is due to the prefixation of aspectual k, with loss of the second k: k+ik / kik / ki. This loss probably took place as a result of dissimilation: kik / <sup>+</sup>kīk̄ / ki. The k+i combination then underwent palatalization and assibilation: ki / kyi / čī. The fusion of k with the pronominal again prevented the loss of i. In total, the changes were:

Mam

*ik	
k + ik	affixation of k
+ -	
kjk	dissimilation
ki	loss of k
kyi	k/ky[ <u>i</u> ]
čī	assibilation
—	loss of unstressed V (fails)
či	

E.g.:

Mam: "ma č̣i ok tki'n  
miró a ellos"  
(He looked at them) (Ortiz, 1988, p. 40)

< \*ma + ik + ok + rw + ki'n  
asp 3pl dir 3sg look at  
abs erg

(Ixil will be discussed below, as an example of a Mayan language with no manifestation of third plural).

Most of the K'ichean languages have ik as third plural in their ergative paradigms; in addition, Pokomchi and Pokomam have incorporated it as their absolutive third plural, though not in statives. Exceptions to this general trend are Q'eqchi' which has adopted various forms of \*Vb' in both paradigms, and Uspantek whose third plurals are unrecognizable. (Unfortunately, for lack of data, no further comment can be made on these forms, ti in the absolutive and reč̣ in the ergative).

Within the ergative paradigm, changes to ik (besides metathesis before w) are minimal. Kaqchikel is the only language to retain w prevocally, e.g.:

Kaqchikel: "ṣ̌kiwukusaj  
lo usaron o lo entraron"  
(They used it) (Rodriguez, et al., 1988, p. 59)

< \*ṣ̌ + Ø + ik + w + uku + saj  
asp 3sg 3pl erg use aff  
abs erg

Even within Kaqchikel, ki+w[\_V] can optionally be 'shortened' to k[\_V], and usually is. (Like first plural qaw, this form is probably a later reformation). Thus the loss of ergative w both preconsonantly and prevocally is almost complete in K'ichean. Examples of k(i) < \*ik+w:

K'iche': "kakesaj  
sacan (ellos)"  
(They take it out) (Fox, 1987, p. 40)

< \*k + Ø + ik + w + esaj  
asp 3sg 3pl erg take  
abs erg

Pokomchi: "š - ki - k'uš  
they ate" [it] (Ramirez and de Ramirez, 1988, p. 46)

< \*š + Ø + ik + w + k'uš  
asp 3sg 3pl erg eat  
abs erg

Tzutujil: "# - # - ki - k'ayi - j ja kišoral  
comp it they sell class their land  
"They sold their land" (Butler and Butler, 1978, p. 19)

< \*Ø + Ø + ik + w + k'ayi + j  
asp 3sg 3pl erg sell class  
abs erg

The changes to \*ik within the K'ichean ergative paradigm are as follows:

*ik+w+C	*ik+w+V	
kiwC	kiwV	ik/ki[_w]
kiC	"	w/Ø[_C]
"	kiV	w/Ø[_V]
"	kV	i/Ø[_V]

---

ki-

k-

Again, we note that w elides generally in the third plural, as it did in the first plural. We interpret this as an indication that w is weakened as a result of metathesis.

Pokomchi and Pokomam, as stated above, have developments of \*ik in their absolutive paradigms as well. Both languages have lost the final k, as

happened in Mam in the absolutive third plural. Pokomchi in addition has fused k (origin unknown, as mentioned in the first person section) to i < \*ik in certain environments, notably after aspect markers ending in vowels and word-initially. E.g.:

Pokomchi: "ki - k'ulik  
they come" (Ramirez and de Ramirez, 1988, p. 46)

< \*∅ + ik + k'ul + ik  
asp 3pl come aff  
abs

and: "š - i - k'ulik  
they came" (ibid., p. 47)

< \*š + ik + k'ul + ik  
asp 3pl come aff  
abs

Pokomam: "š - i - kimi  
'they died'" (Smith-Stark, 1983, p. 243)

< \*š + ik + kim + i  
asp 3pl die aff  
abs

The loss of final k in these two languages may be explained by elision before a consonant followed by generalized elision before vowels as well. In Pokomam, in fact, before a vowel even the i (unsupported in this case by fused k) can elide, e.g.:

Pokomam: "š - i - ?oki      šo?ki  
'they entered'" (ibid., p. 243)

< \*š + ik + ?oki  
asp 3pl enter  
abs

Plural \*Vb'

This morpheme shows up in many Mayan languages, in the forms \*eb', \*ab', and \*ob'. Of the three forms, only ab has not been incorporated by any language as third plural; as mentioned in the section on the second plural, its use and distribution seem to be relatively restricted in modern Mayan. Our scrutiny of \*Vb' will begin with examples of \*eb'.

Franckle (1985) lists e (in the forms e-, -e, and -e? as a plural prefix in Mam and Kaqchikel: e.g., juyu 'hill' / ejuyu 'hills' (Kaqchikel) and as a plural suffix in Tuzanteko (a Kanjobalan language): labtaso:m 'witch' / labtaso:me 'witches' (p. 408-409). In Tojolabal, e? is mentioned as being a general cardinal numeral classifier (Furbee-Losee, 1976). She notes that in constructions involving possessed forms of numerals: "No plural is marked for third person; perhaps e? "third person plural" and e?1 "general cardinal numeral classifier" derive historically from the same source" (p. 122-123). We of course argue that this is indeed the case, and that the original meaning of e? was 'plural.' Kanjobal and Jakalteq also have a numeral classifier, -eb meaning 'things' (Robertson, 1980). The original form of all of the plural morphemes just mentioned, we suggest, was \*eb'. Some languages, e.g., Kanjobal and Q'eqchi' (in the ergative paradigm and in stative constructions) have eb' in more or less original form, but more often this morpheme appears as e? especially when prefixed, as in the case of the absolutive paradigms of most of the K'ichean languages. However we would expect changes to occur in this position, as the many examples we have given above will attest.

Tojolabal is unusual among the Tzeltalan languages in having e? < \*eb' as third plural, both in the ergative paradigm (though only as a suffixed



plural adjunct to the prefixed s/y developments of \*rw third singular) and in the absolutive, also in the form -e?. E.g.:

Tojolabal: "kak -e? ta  
"They are already strong" (Furbee-Losee, 1976, p. 212)

< \*kak + e? + ta  
strong 3pl already  
abs

and: " % skokVw --e?%  
"They knocked on it" (ibid., p. 180)

< \*∅ + ∅ + rw + kokVw + e?  
asp 3sg 3sg knock 3pl  
abs erg erg

The only change to original \*eb' in this case is the loss of b', a not uncommon development in morpheme-final environment. There are several examples of either loss of a final b' or its alternation with ? (cf. the Yukatekan languages, discussed below).<sup>42</sup>

The Kanjobalan languages, like Tojolabal, suffix -eb' in the form heb' in the ergative third plural, (prefixing their s/y third singular forms). E.g.:

Jakaltek: "s-mam heb naj  
"their father" (Craig, 1977, p. 107)

< \*rw + mam + eb' + naj  
3sg father pl class  
erg

In the absolutive paradigm, heb is again suffixed, though no person morpheme is prefixed in this case. Craig (1977) states, "The third person absolutive is a ∅ morpheme. As mentioned earlier, it will always be

42. For instance, Kaqchikel and Tzutujil both changed b' to ? in final position in polysyllabic words (Campbell, 1977, p. 69).



glottalization in some languages, but not in others) 2) loss of glottalization even pre-vocalically. E.g.:

Q'eqchi': "šqileb'  
los miramos (a ellos)"  
(We looked at them) (Cuc Caal, 1988, p. 38)

< \*š + oŋ + w + il + eb'  
asp 1pl erg look at 3pl  
erg abs

and: "še'yaab'ak  
lloraron (ellos)"  
(They cried) (ibid., p. 29)

< \*š + eb' + yaab'ak  
asp 3pl cry  
abs

Tzutujil: "š - e - (e) - 'a - tz'at - a - '  
comp them go you see go class  
"You went and saw them" (Butler and Butler, 1978, p. 13)

< \*š + eb' + (e) + at + w + tz'at + a + '  
asp 3pl dir 2sg erg see go aff  
abs

Kaqchikel: ye'ič'ay  
'You (pl) hit them' (Osborne, field notes)

< \*y + eb' + eš + w + č'ay  
asp 3pl 2pl erg hit  
abs erg

K'iche': "kebitijoj  
vosotros les enseñáis"  
(You (pl) teach them) (Fox, 1987, p. 41)

< \*k + eb' + eš + w + tij + oj  
asp 3pl 2pl erg teach aff  
abs erg

and: "čė'welaq'aj  
que los robe yo a ellos"  
(That I rob them) (Suy Tum, 1988, p. 59)

< \*č + eb' + in + w + elaq' + aj  
asp 3pl 1sg erg rob aff  
abs erg

Q'eqchi' also has \*eb in its ergative paradigm, in two different forms. Either the third singular (š[  C], r[  V] < \*rw) is prefixed and -eb' suffixed, or eb' in the form e? is prefixed to the third singular, giving e'š[  C], e'r[  V].

For example:

Q'eqchi': "šė'šsik'  
le buscaron (ellos a él/ella)"  
(They looked for him) (Cuc Caal, 1988, p. 37)

< \*š + Ø + eb' + rw + sik'  
asp 3sg 3pl 3sg look for  
abs erg erg

and: "jsik'aqeb'eb'  
¡que los busquen! (ellos a ellas)"  
(Let them look for them!) (ibid., p. 38)

< \*rw + sik' + aq + eb' + eb'  
3sg look for imp 3pl 3pl  
erg erg abs

and: "šė'ril  
le miraron (ellos a él/ella)"  
(They looked at him) (ibid., p. 39)

< \*š + Ø + eb' + rw + il  
asp 3sg 3pl 3sg look at  
abs erg erg

and: "šė'rileb'  
ios miraron (ellos a ellas)"  
(They looked at them) (ibid., p. 39)

< \*š + eb' + rw + il + eb'  
asp 3pl 3sg look at 3pl  
abs erg erg

Q'eqchi' provides us with a portrait of a language which is between stages as far as the incorporation of \*eb' (originally a plural suffix) into the verbal complex is concerned. It is interesting moreover that when \*eb' is incorporated into the verbal complex it is affixed to the third singular—as if to re-affirm its original status as plural rather than person marker.

Not unexpectedly, -eb' also appears as third plural in statives, in those K'ichean languages which suffix their stative pronouns (Q'eqchi', Pokomam and Pokomchi). In Pokomchi aspectual k is prefixed to eb', giving keb'. E.g.:

Q'eqchi': "winqeb'  
son hombres (ellos)"  
(They are men) (Cuc Caal, 1988, p. 48)

< \*winq + eb'  
man pl

Pokomchi: "wil - keb ayu'  
they are here" (Ramirez and de Ramirez, 1988, p. 47)

< \*wil + (k) + eb' + ayu'  
loc 3pl here

Pokomam -ie? features loss of the final b', and the change e:/ie (this also occurs before the suffixed first plural -uaj; o:/ua, Smith-Stark, 1983, p. 69).

### Plural ob'

-ob' is used in the Yukatekan and Cholan languages to pluralize nouns. According to Franckle, -ob' is the basic form of this morpheme, though it can sometimes take the form o? "when the final consonant is suppressed" (1985, p. 409). Yukatek adds ob' to nouns in general: na 'house' / naob 'houses.' Lakandon has o?: ma?as 'spider monkey' / ma?aso? 'spider monkeys.' Mopan has lengthened the vowel of this suffix, to o:?, and adds it only to animate nouns. In addition, it is attached to the verb or noun preceding the

noun carrying the pluralization (unless none is present, in which case o? is added to the pluralized noun itself). E.g.:

Mopan: " Bini u yiloo? a tzimini  
El fue a ver los caballos"  
(He went to see the horses) (Ulrich and de Ulrich, 1971, p. 9)

< \*bini + rw + il + ob' + a + tzimin + i  
went 3sg see pl art horse pl

Chol uses -ob to pluralize nouns that refer to people, e.g., winik 'man' / winikob 'men,' although some dialects have broadened its use to include animals, and some dialects have -o?. Chontal has the variants -o? and -ho?, the first appearing after stem final consonants, the second after vowels: otot 'house' / ototo? 'houses' (Franckle, *ibid.*, p. 409).

Given the above information, it is not surprising that it is exactly these language groups, the Yukatekan and Cholan, which have variations of ob' as their pronominal third plural. In the ergative paradigm, both groups prefix the singular morpheme and suffix ob' in its various shapes. In the absolutive they simply suffix -ob'. In both paradigms the shape of the third plural is exactly the same since they appear in the same environment.

The Cholan languages change -ob' the least. Classical Chontal and Classical Cholti had -ob (Classical Chontal) and -ob' (classical Cholti). Modern Chontal and Chorti have devoiced final b to p, and in addition Chorti has infixes a glottal stop: o?p. E.g.:

Chorti: " 'u'ui're"to?p  
they see you" (Fought, 1967, p. 125)

< \*ʔ + w + ir + a + at + ob'  
asp 3sg see aff 2sg 3pl  
erg abs erg

and: " 'a'kor''mo?p  
they hunt" (ibid., p. 125)

< \*a + korm + ob'  
asp hunt 3pl  
abs

Chol suffixes either -o? or -ob after third singular i(y). E.g.:

Chol: " an y - u: -il -ob  
There are those who know" (Attinasi, 1973, p. 158)

< \*an + w + u: + il + ob'  
there 3sg see 3pl  
erg erg

The Yukatekan languages for the most part have lengthened the vowel of -ob' (-ob in Classical Yukatek). Yukatek breaks up the vowel sequence with ?, as occurred in the first and second plurals in the absolutive: \*ob' / oob' / o?ob'. In this case, however, Itza and Mopan simply retain the long vowel. Lakandon has not lengthened the vowel at all, having simply -o? (this probably indicates a late addition of ob' > o? to the paradigm and its continued analysis as a plural rather than a person morpheme). Examples:

Mopan: " u jantajoo?  
ellos lo comieron"  
(They ate it) (Ulrich and de Ulrich, 1971, p. 12)

< \*∅ + ∅ + w + jan + taj + ob'  
asp 3sg 3sg eat aff 3pl  
abs erg erg

and: " janoo?  
(ellos) comieron"  
(They ate) (ibid., p. 15)

< \*∅ + jan + ob'  
asp eat 3pl  
abs

Lakandon: " t - u təl -ah - o?  
 "lo tocaron"  
 (They touched it) (Bruce, 1968, p. 93)

< \*t + Ø + w + təl + ah + ob'  
 asp 3sg take aff 3pl  
 3sg erg  
 abs erg

and: " tal - iho?  
 "llegaron"  
 (They arrived) (ibid., p. 98)

< \*Ø + tal + ih + ob'  
 asp arrive aff 3pl  
 abs

The various developments of \*ob' in the absolutive paradigm of Yukatekan are summarized in the following derivations:

*ob'	
oob'	o/o:
o?ob'	VV/V?V
-----	
- <u>o?ob'</u>	(Yukatek)
*ob'	
oob'	o/o:
oo?	b'/?[_#]
"	VV/V?V (fails because of final ?)
-----	
- <u>oo?</u>	(Mopan, Itza)
*ob'	
o?	b'/?[_#]
-----	
- <u>o?</u>	(Lakandon)

The loss of final b' in Yukatekan is still in progress: Fisher (1973) reports that final b alternates with ? in both Yukatek and Itza, e.g., "Itza [ʔah k'ulub] or [ʔah k'uluʔ] 'mapache'" (raccoon) (p. 62). Franckle says of the plural -ob "The basic morphemic element is -ob, which results in -o' when the final





discussing the third person plural he says: "But the Imperson has no special morpheme. Instead it makes use of the usual pluralizer for human referents /ob/, [o?]" (p. 133). Our findings again demonstrate the unique interaction of phonology, morphology, and even semantics, in a sense. In both singular and plural in the ergative paradigm, and in the plural in the absolutive paradigm, morphemes have been recruited from outside the pronominal paradigm to serve as pronominal affixes. However, within the pronominal paradigms of Mayan, there is no doubt that the morpheme in question, no matter what their origin, are nowadays perceived as, and refer to, third person.

## CHAPTER 3

The proto-Mayan pronominal affixes proposed above developed into their modern forms as a result of various processes, some phonological and some morphological. The first part of this chapter is devoted to discussing each of the more important phonological processes (cluster simplification, dissimilation, vowel elision, and vowel lengthening) in more detail. Examples of the application of each both within and outside of the verbal complex will be given. Secondly, we will examine the two morphological processes which have been instrumental in shaping the Mayan pronominals: reanalysis and replacement. The last section deals with phenomena attributable to the unique nature of the Mayan verbal complex.

### 3.1 Phonological Processes

#### 3.1.1 Cluster Simplification

Many of the Mayan languages lose a consonant which has come into contiguity with another. Without exception this process, commonly called cluster simplification, occurs at morpheme boundaries. In some languages cluster simplification is restricted to sibilants. For example, Lakandon simplifies č [tš] to š[\_t], and t[\_s]; naáč + toh / naštóh 'lejos aún' (still far away) (Bruce p. 36); hač + sok'ol / hatsok'or 'muy cerca' (very near) (ibid., p. 26). Jakaltek has a similar rule: tš/t[\_s]: mač + swalil/matzwalil 'he has no character' (Day p. 17); tš/∅[\_tz] yič + tzow / yitzow 'under the amate tree (placename) (ibid., p. 17). In addition, Jakaltek and Tojolabal reduce clusters of identical consonants: in Jakaltek clusters of resonant consonants and of the bilabial implosive/ejective are excluded: tzet + taj / tzetaj 'what?' (plural) (ibid., p. 17). Both Jakaltek and Tojolabal also lose the consonant h. Jakaltek

drops it after another consonant, optionally in word-initial position and obligatorily in noninitial position: *šo'* ~ *so'* 'fifth' (ibid. p. 17); *ṣ̌ + hitṣ̌ + h + oni / šhitṣ̌oni ~ šitṣ̌oni* 'it made the noise of wind blowing in the trees' (ibid., p. 17). Tojolabal deletes *h* after *š* or *ṣ̌*, and optionally when it follows other consonants. Classical Chontal lost the first consonant of an 'impermissible' sequence: *och + çan / oçan* 'place within' (Smailus, p. 186).

The most interesting examples of cluster simplification, from the point of view of this thesis, take place within the verbal complex and concern the pronominal affixes. The clearest instance of the loss of a consonant in conjunction with another in this context is to be found in Kaqchikel, within the absolutive paradigm. The first and second person singular, and third plural, *in*, *at*, and *e'* respectively, lose their final consonants before a consonant-initial verb root or stem, e.g.: *yiwa* < \**y + in + wa* 'I am eating' as opposed to *yinatin* < \**y + in + atin* 'I am washing'. First and second person plural *oj* and *iṣ̌* do not change.<sup>1</sup>

While clear examples of the synchronic loss of a consonant in the pronominal affixes such as the above are rare, Tzotzil with its two sets of absolutives (one suffixed, one prefixed) provides an example of the same pronominals both with and without consonants. For instance, the first person singular in set B1 (prefixed absolutives) is *i-*; in set B2 (suffixed absolutives) it is *-on*, both from \**in*. The second person singular in set B1 is *a-*; in B2, it is *-ot*, both from \**at*. The plural morphemes in the two sets are formed differently. Set B1 prefixes the singular morpheme and suffixes

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1. This is presumably due to the inherent strength or propensity to change of the consonants in question. We notice though that in the ergative the second plural *ṣ̌* does drop before \**w*. (First plural *qa* has undergone metathesis in lieu of dropping).

plural -(t)ik, with accompanying o in the first plural. Set B2 suffixes the plural morphemes but appends plural (t)ik to them as well. Both suffix -otik in the first plural, < \*oŋ + tik; this, in our analysis, is an instance of the loss of n(<\*ŋ)[\_C].

Bricker (1977) claims that the two B sets in Tzotzil come from diverse sources: according to her, B1 forms are cognate with the absolutive pronouns of OSV languages (such as Jakaltek, Mam, K'iche), and the set B2 forms are cognate with the absolutive forms of Tzeltal (an SVO language). The implicit assumption is that the set B pronouns of the two language groups are quite different (though she does not go so far as to say that they are not related). It is certainly true that languages can affect each other's grammars, including each other's pronoun paradigms, through contact.<sup>2</sup> Since, however, we consider all pronominal affixes, whether ergative or absolutive, to have issued from one original set, Tzotzil's absolutive morphemes demonstrate the loss of final consonant of the pronominal before the verb, and its retention after. (For further discussion of the importance of environment, see below.) In Tzotzil's case, unlike that of Kaqchikel, the loss of the consonant has generalized to pre-vocalic as well as preconsonantal environments.

As a final example of cluster simplification and of a process which often accompanies it, we shall examine the ergative paradigm of Q'eqchi'. The vowels of those pronominals which have lost their final consonants have long vowels:

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2. The incursion of Scandinavian pronouns into the English pronominal system is a good example of this.

## Q'eqchi' - Ergative Paradigm

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person:	reconstructed forms	__ V	__ C
1 sng.	*in	w	in
2 sng.	*at	a:w	a:
3 sng.	*Ø (rw)	r	š
1 pl.	*o ŋ	q	qa
2 pl.	*eš	e:r	e:
3 pl.	*Ø (eb')	r-eb' (e'r)	š-eb' (e'š)

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The loss of an element from a word, whether consonantal or vocalic, very commonly has some phonological effect. For instance, the loss of a consonant, which is the case here, often results in the lengthening of a vowel. This process, called Compensatory Lengthening, occurs elsewhere in Mayan as well.<sup>3</sup> Bruce reports that in Lakandon n is lost before s, accompanied by the lengthening of the preceding vowel: bin 'ir' + s 'hacer que' (to cause to) / bi:s - i - ik 'mandarlo'; (to send it) man 'pasar' (to pass) + s 'hacer que' / ma:sik (p. 36). For the second person singular in Q'eqchi' the following processes would have taken place:

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3. Further examples of this process in other languages may be found in for example J. Foley, *Phonological Analysis*, unpublished manuscript, 1986.

*at	
a	1. loss of t
<u>a:</u>	2. compensatory lengthening of <u>a</u>
a:	

(The loss of the final consonant probably first took place before another consonant, and then generalized to the prevocalic position as well). Developments in the second person plural are identical, except that this morpheme is a compound of two, consisting of \*eṣ̌ + r.

*eṣ̌	
e	1. loss of ṣ̌
e:	2. compensatory lengthening of <u>e</u>
<u>e:r</u>	3. addition of 3rd sng. <u>r</u>
e:r	

The r in this case is the intrusive third singular r, which devoices to ṣ̌ before consonants. In the third plural the r again shows up, sometimes as a prefix, followed by plural suffix eb': r ..-eb' [V], ṣ̌...-eb' [C], and sometimes suffixed to the plural eb' itself, identical to the second plural form: eb' + r/ e'r[V], e'ṣ̌[C]. Why the third singular r would have been incorporated into the second person plural morpheme is uncertain (though the effect of the third singular on the second is well documented in Mam, for example). That this did indeed take place is attested by the evidence of the ergative third plural morpheme. (When the ergative pronominals are serving as subjects of transitive verbs, the long vowel of the second person forms is sometimes shortened, seemingly after the Ø third person object morpheme: ṣ̌ineesik' < \*ṣ̌ + in + eṣ̌ + w + sik' , 'You(pl) looked for me', but ṣ̌esik' < \*ṣ̌ + Ø + eṣ̌ + w + sik' 'You(pl) looked for him/her' (Cuc Caal, 1988, p. 36). In any case, though no trace remains of the original final consonants of the ergative second person morphemes in Q'eqchi', the lengthening of the remaining vowel

testifies to their onetime presence. (We shall examine further examples of this phenomenon in the section on vowel lengthening below.)

### 3.1.2 Dissimilation Phenomena

Dissimilation is a phonological process which occurs when two sounds, placed in proximity to one another, become less similar to one another (the implication being that they are somewhat similar to one another to begin with). An example in Indo-European historical linguistics is that of Grassmann's Law, which occurred in Greek and Indo-Iranian. There, in a sequence of two aspirated stops (separated by a vowel) the first lost its aspiration: Sanskrit dadhā́ti and Greek τιθητι 'places' both came from Proto-Indo-European \*dhc-dhē.<sup>4</sup> There is plenty of evidence for dissimilation in Mayan as well. In Mayan, however, rather than aspirated consonants it is usually velar and uvular consonants (often, a combination of both) that trigger dissimilation (though, note the example below involving n in Kaqchikel). When either a velar or uvular consonant comes into contact with another at a morpheme boundary, one of two things generally happens: 1) change of the first consonant of the series (which, being morpheme-final, is in a weaker position (see below for further discussion of this); 2) metathesis, to which the next section is devoted. (Traditionally, dissimilation and metathesis have been treated as separate processes. In fact, in the section which follows we will give examples of metathesis within the Mayan languages which do not involve velars and uvulars, where it is not so certain that what has occurred is a result of dissimilation. However, within the

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4. Lehmann, 1955 p.1. Similarly, a syllable ending in an aspirated consonant lost its aspiration.



context of the Mayan verbal complex, many of the instances of metathesis do involve velars and uvulars. Accordingly, though we mention other examples, it should be kept in mind that insofar as the pronominal affixes are concerned metathesis often appears to be a manifestation of a dissimilatory tendency.) In this section, we shall focus on the changes which take place when uvulars and velars come into close proximity with each other.

### 3.1.2i Changes Caused by Dissimilation

As we mentioned above, most of the examples of dissimilatory change that we shall be examining take place at morpheme boundaries. However, there is one well-known example, that of velar palatalization, which takes place within morphemes. This particular change palatalizes velar k (glottalized or not) before a non-round vowel - i, e, or a- followed by uvular q, q' or fricative j. Palatalization before the vowels i and e is a common phenomenon in the world's languages; palatalization before a is not, although it does occur (for instance, French *champs* [ʃɑ̃] from Latin *campus* [kampus]). However, in the Mayan languages having this rule (some of the K'ichean and Mamean languages), the palatalization of k only occurred before an a when it was followed by q, q', or j. England (1983) in discussing the origin of present-day phonemes /ky, ky'/ in Mam, states that "In general, /ky, ky'/ are found next to back vowels and before /a/ when followed by a uvular stop or velar fricative, while /k, k'/ occur next to back vowels and before /a/ not followed by a uvular stop or velar fricative. Thus the conditioning factors once included both assimilation and dissimilation" (p. 26). She thus rightly separates the palatalization of k(') before front vowels, which she would call assimilation, from the palatalization of k(') before a+q, q', or j (dissimilation).

Campbell,(1977) on the other hand, lumps them together in one rule, (for K'ichean): "k<'>→ky<'> / \_\_ V {q(')} "(p. 122)..  
 [- round] {j }

In this instance we are in agreement with England; though the result is the same in both cases, k(')/ky(')[\_i,e] and k(')/ky(')[\_a{<sup>q</sup>(')}] the cause of change is different for each. The addition of the y-glide before a velar or uvular is a manifestation, albeit an unusual one, of the tendency of velars and uvulars to change in each other's presence and become less similar.<sup>5</sup> Examples of this phenomenon are:

Mam	Kaqchikel (western dialects)
	kyaq 'red'
ky'aq	'flea'

Another example of dissimilation, again involving k, is to be found in the Tzeltalan and Chujean groups as well as Chol, Lakandon, and Yukatek. In these languages, a k before another k becomes h. In Lakandon and Yukatek, the change occurs at morpheme boundaries: e.g. Lakandon sək + kimin / səh kimin 'ataque epiléptico'; (epileptic seizure) k'ak' + k'in / k'ahk'in 'el calor del sol' (the heat of the sun) (Bruce, p. 36); Yukatek /sak-kun-t-e/ 'whiten it' – sahkunte.<sup>6</sup> In Chuj, Tojolabal, Tzeltal, Tzotzil and Chol, the k of first person plural (<\*ŋ) becomes h before consonants in general; but for Tzotzil and Tzeltal at least, there is good historical evidence

5. Occasionally, velars and uvulars can assimilate: e.g. in Mam the velar fricative j assimilates to q: q + jaa 'our house' / qʔaʔ (England 1983, p. 28).

6. Robertson 1985, p. 556, quoting from Blair 1964:33. Fisher 1973, p. 36 also mentions one example from Mopan: ʔohk'in 'midday' <ʔok + k'in.

that the change *k/h* originated before *k*, then generalized to pre-C (see Robertson, 1985).

Finally, in other languages velar *k* simply elides before another velar or uvular. This often takes place after metathesis, though not always.

Examples are:

Tzutujil:           ma + šk + oq + war + (i) + ta / ma šqowarita  
not impend.abs sleep class.not  
  1 pl  
  ‘We won’t sleep’                                   (p. 10, Butler and Butler)

Jilotepequeño Pokomam:           k + ik / kki / ki  
  aorist abs  
  3 pl.     (Smith-Stark, 1983, p. 205)  
  (our analysis)

Mam:                k + oq / kqo / qu~qo  
  pot. abs  
  1pl                                   (our analysis)

Fisher (1973: p. 18) also mentions that in Yukatek, ergative first plural *k* drops after the aspect marker *k*: “k + k + kan + ik / kkanik we learn it”. In this example we notice that the *k* in Yukatek does not always become *h* before another *k*. Since the middle *k* has been lost we assume that its elision (*k/∅+σ*) sufficiently strengthened aspectual *k* to prevent the change from taking place.

(The above four examples could be construed as instances of assimilation or degemination, e.g. Tzutujil *kq/qq/q*. However, because all except the last Yukatek example originate in metathesis, itself a dissimilatory process, we include them as further illustrations of the sorts of things that happen when velar/velar or uvular combinations come about).

The next section deals with metathesis, which, as far as the verbal complex of Mayan is concerned, represents the ultimate manifestation of

dissimilation. Given the examples above, it is not surprising that ergative w, a labio-velar glide, should cause the changes it does.

### 3.1.2ii Metathesis

Metathesis, the changing of the position of two elements, takes place within both nouns and verbs in various Mayan languages. In Mam and Ixil, for example, the process occurs within nouns: in Mam, metathesis is the result of the shifting of stress within a word, usually caused by the addition of affixes: q'apooj 'young woman' / tq'opajil 'youth of women'; čekoš 'fine thread' / nčookaša 'my fine thread' (England, 1983, p. 50). Ixil has the occasional loan from Spanish which has undergone metathesis, e.g. turaansa 'peach' from Spanish durazno (all data from Ayres, 1980, p. 46). There are dialectal differences based on metathesis between the Ixil of Chajul on the one hand and Nebaj on the other:

<u>Chajul</u>	<u>Nebaj</u>	<u>gloss</u>
amilka?	almika?	'sky'
lay	yal	'chichicaste' (thorn)

(The last example is perhaps more of a palindromic reversal than an example of metathesis proper). Both dialects have two related words differing only in the ordering of the first two elements: intša' 'child' and nitša' 'offspring': Elliott (in Ayres, 1980) has proposed that one is derived from the other, so that in this instance at least metathesis has been a derivational process.

Within the verbal complex, some of the ergative and absolutive affixes of Pokomchi undergo metathesis in certain contexts. For instance, the absolutive second singular appears as both at and ti, e.g.:

∅ + ti + ni (+w) + sek'	'I hit you' (habitually)
ṣ̌ + at + ni (+w) + sek'	'I hit you' (completive)
e + ti + ni (+w) + sek'	'I might/would hit you'

(p. 44, Ramirez &amp; de Ramirez)

(The same thing happens with the absolutive second person plural, which consists of the second person singular plus the plural suffix -tak). The tendency in the literature is to treat the different representations as 'belonging' to the various aspects in which they appear. Hence Ramirez and de Ramirez list two sets of absolutive pronominals, one denominated set B, one set C. However, the distribution of these forms can be explained very simply from a phonological point of view. In this case, the absolutive second person has undergone metathesis in one particular environment. It remains to determine which form is original, and which the metathesized. The vowel-initial allomorph is found after ṣ̌, the only aspect morpheme ending in (in fact, consisting of) a consonant. The consonant-initial allomorphs are found after either ∅ or e. Therefore, either metathesis occurred 1. when two consonants came into conjunction (ṣ̌ and t), or 2. when two vowels or ∅ + vowel came into conjunction, (∅ + a, or e + a):

1.	*ti:	∅ + ti/idem e + ti/idem	ṣ̌ + ti/ṣ̌at
2.	*at:	∅ + at/ti e + at/eti	ṣ̌ + at/idem

Given the evidence of the other languages presented in Chapter Two, proposing \*at as original is preferable. The rules entailed in adopting this form in Pokomchi are also quite justifiable. A situation in which two vowels become contiguous is generally avoided in Mayan (for more on this, see Chapter One). Pokomchi in this case has chosen metathesis as opposed to epenthesis. In addition, many languages avoid vowel-initial words (or verbal

phrases). Some (e.g. Ixil, Lakandon, Yukatek, etc.) insert glottal stops before the vowel; Pokomchi metathesizes instead. (Of course those phrases beginning with the probability aspect e begin with a vowel in Pokomchi. However, we do not know the origin of e; it may have come from a longer form- or perhaps vowel-initial constraints are more relaxed for aspect markers). The metathesis of at/ti probably took place in two steps: at/ta, ta/ti, though why a/i in this one case is unclear. We note that the form of the ergative first singular is determined by the nature of the preceding aspect marker too. After š in appears; after e and Ø, ni (< nu) appears. Thus, the aspect morpheme in this case directly affects the development of original \*in + w. (We shall comment further on this phenomenon in Pokomchi in Section 3.3.2 below.)

There is also evidence of metathesis in the absolutive first person plural, though the data here are a little more problematic. Mayers and Mayers (1966) list the absolutive first plural as ko in the present tense (aspect morpheme Ø), and oj after past tense š. Additionally they give the absolutive forms appearing after statives as "-kin I, -kat you, -ik he/she/it, -koj we, -kat -tak you(pl), -keb they" (p. 104). According to this data the same developments occur with the first plural as did above in the second singular and plural, and ergative first plural, namely, metathesis.

However, Ramirez and de Ramirez (1988) list the absolutive forms as koj in the present and probable aspects (Ø and e) and oj in the completive (š). -Koj is also to be found in their data in stative sentences, as well as serving as first person plural objects in transitive sentences in the anticipated action aspect (na) and probable aspect (e). Examples from Ramirez and de Ramirez:

š + oj + k'ulik	'we came' (oj form)	
wil + koj ayu'	'we are here' (stative: koj)	
koj + k'ulik	'we come'	
e + koj + a + tobej	'you could help us'	
na + koj + a + tobem	'you will help us'	(p. 46-47)

The problems here are 1. that Ramirez and de Ramirez have no ko form, and 2. the origin of the koj form found in both sets of data, albeit in different distribution.

It is impossible, using these two sources, to make a thorough study of the distribution of the different forms of the absolutive first person plural. The actual number of sentences given in which they appear is very small.<sup>7</sup> However, speaking in generalities, koj only appears in the Mayers' data in stative constructions; in the Ramirez' data it appears everywhere except after past tense š. Since the Mayers' data predates the Ramirez' data by some twenty years, it is possible that the form koj, originally confined to stative sentences, expanded its distribution at the expense of ko:

#### Distribution of Absolutive First Plural in Pokomchi

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Mayers	Ramirez and de Ramirez
1. present tense: ko	present (subj), probable(e), anticipated aspect: koj
2. past tense: oj	completive: oj
3. statives: koj	statives: koj

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7. The Mayers data in particular are very scanty; very few examples are given. In all fairness though the article contains only a brief grammatical sketch.

In origin, koj appears to be a composite of k + oj (originally, k + \*oŋ). Referring back to the list of absolutive suffixes appearing in statives given by Mayers, the same prefixed k shows up everywhere except in the third singular: kin < \*k + in; kat < \*k + at; kat tak < \*k + at + tak; keb < \*k + eb'. The k in this case, according to Robertson (personal communication) is probably the same as that appearing in Mam. (The Mam developments are discussed in the reanalysis section, below). In Robertson's opinion the k was originally an incompletive tense/aspect morpheme. Thus we contend that this k was not originally a part of the absolutive morphemes but rather was an adjunct; and that in the case of the first person plural this composite form came to replace original metathesized ko in all positions in which ko appeared. The same thing happened in the absolutive first person singular, where original \*in nowadays shows up only after completive ǰ and is elsewhere kin (< k + in).

Why velars and uvulars should share this odd relationship in Mayan is not certain. The answer may lie in the respective strengths of the different consonants, which remain to be worked out. Whatever the cause, however, this velar/uvular interrelation has had several important phonological consequences within Mayan. The palatalization of velars before q, q' and j for instance is significant in Mayan typology. More important, at least within this study, is the impact of the velar/uvular relationship upon the pronominal affixes of Mayan. As seen above, it has been instrumental in the development of the affixes, and particularly in the shaping of the ergative affixes which always precede w. Many of the surface differences between absolutive and ergative morphemes can be attributed to this "k/q" phenomenon.



### 3.1.3 Vowel Elision

Vowel phenomena abound within the Mayan languages. In particular, rules dropping vowels in conjunction with other vowels, or before stressed vowels, are quite common. The Mamean languages are perhaps the best known for losing vowels: the classic example is Mam itself, where "in roots and stems a short unstressed vowel preceding the stressed vowel and following a consonant tends to be dropped" (England, 1983, p. 33). Of course, vowel elision is not the only device employed by the Mayan languages to 'break up' vowel sequences. Other strategies include vowel fusion or synthesis, and the insertion of a consonant. Nonetheless, our chief interest is in elision, as it more than any other vocalic process has 'shaped' some of the Mayan pronominals. In Mam, this tendency to lose unstressed vowels has resulted in widespread loss of the vowels of the ergative pronominals, though not of those of the absolutive paradigm where the vowels are protected by the fused aspectual k morpheme. Ixil, another member of the Mamean group, loses its vowels in neither the ergative nor the absolutive paradigm, with the exception of ergative first plural; however it does have various vowel-dropping rules, which serve to emphasize the ubiquitousness of this process. In Ixil, when certain suffixes are added the vowel of the root to which they are added elides, e.g., čelem 'young' / ičelmil 'his youth'; atza'am 'salt' / atz'imi'm 'throw salt' (Ayres, p. 42). In addition, Ixil shortens a long vowel before another, which is in a sense equivalent to losing a vowel: e.g., ii 'delicious' / ial 'the delicious thing'; kaačil 'stay' / kai 'he stayed'; noočil 'full' / noel 'full' (Ayres, p. 44-45, our translation). Chorti, of the Cholan group, loses the first vowel of a two-vowel cluster which arises when two morphemes are conjoined: akormao?p 'they hunt' / akormo?p; (Fought, 1972, p. 26) a?k?pareij 'night had fallen' / a?k?parij (Fought, 1967, p. 126).

Even the K'ichean languages, which as a rule do not lose vowels as easily as some other Mayan languages, do so in certain circumstances. The Chichicastenango dialect of K'iche', for instance, loses short vowels preceding a stressed syllable: e.g., rb'a:j (from r-ab'a:j) "his rock" (Campbell, 1977, p. 14). Las Pacayas dialect of Uspantek also drops unstressed short vowels, in final syllables: e.g., "in-wč "my face" < wač; in q'b' "my hand" < q'ab'" (Campbell, *ibid.*, p. 24). In dialectal Kaqchikel, (Patzun, Comalapa), it is common to shorten the first person ergative (possessive) nu / η: nučaq lašel / ηčaq lašel 'my younger sibling.' K'ekchi' and Uspantec have shortened their third person ru (<\*w/rw) to r, which subsequently developed to r̥ then š (Q'eqchi') or š~j (Uspantek). Tzeltalan, and some of the Cholan and Yukatekan languages have lost the vowel of the ergative first plural. In this instance, going on the evidence of the other languages, the vowel must have been lost first before vowel-initial verbs, and then before consonants as well. As mentioned above in the second chapter, in Yukatekan at least this was preceded by a weakening of the vowel to i (as suggested by Itza first plural ki and Mopan tj, < \*oη). In short, the loss of vowels in Mayan is mainly governed either by the position of stress in relation to the lost vowel, or by the vowel's position; vowels that are morpheme-final drop before those that are morpheme-initial. It has been suggested by Foley (1977) that final position (syllable-final, in his study) is weaker than syllable initial. It thus may be the result of positional strength that V1+V2/V2, in Mayan. Both of these phenomena, stress and the strength of various environments, will be discussed below in the last section of this chapter, entitled Verbal Complex Phenomena.

### 3.1.4 Vowel Lengthening

Vowel lengthening occurs in various circumstances in Mayan. We have seen examples of compensatory lengthening in Q'eqchi' in the section above on cluster simplification, where the loss of the consonant in the second person singular and plural in the ergative paradigm resulted in the lengthening of the vowel. (Campbell (1977) also reports that a vowel is lengthened in the Cobán dialect of Q'eqchi' before a resonant consonant followed by another, e.g., "sa:nk 'ant,'" ke:nq' 'bean'" (p. 25). However, we note that in many of the examples he gives, a vowel has also been lost: for instance, Cobán Q'eqchi' sa:nk 'ant' corresponds to Kaqchikel sanik; ke:nq' 'bean' to Kaqchikel kinaq'; etc. Thus, in these cases the loss of the second vowel probably also played a part in the lengthening of the vowel. Further, Smith-Stark (1983) states that Jilotepeque Pokomam has a rule dropping an h before j, followed by lengthening of a preceding vowel: "Vh→V: / \_\_j" (p. 155). Kaqchikel also possesses a rule eliding pre-consonantal h which results in compensatory lengthening, as shown in the following examples:

" Kaqchikel	Tzutujil	
a:q	ahq	"pig"
si:k	sihk	"hawk"
saq'u:l	saq'uhl	"banana" "

(Campbell, 1977, p. 29)

The type of lengthening we are most concerned with here, however, is the type that occurs in the absolute pronominals of the Yucatekan languages, and in the suffixed statives of Pokomam. We have assumed that the vowels of the Proto-Mayan pronominal affixes were short: therefore, we consider the Modern Yucatekan and Pokomam forms to be a product of

lengthening. We will commence with a discussion of the Yukatekan absolutive pronominals, which are given below:

	Yukatek	Mopan	Itza	Lakandon
1sg	-en	-een	-(e)en	-en
2	-eč	-eeč	-(e)eč	-eč
3	∅	∅	∅	∅
1pl	-o?on	-o'on	-o'on	-oon
2	-e?eš	-e'eš	-e'eš	-eeš
3	-o?ob'	-oo'	-oo'	-(ih)o?

(Bricker, 1986, p. 21)

It is also possible that all pronominal vowels were long to begin with, and subsequently shortened. However, the historical evidence available to us within the Yukatekan family, as well as the evidence of other languages which suffix their absolutes, seem to support the opposite conclusion. Bricker (1986) gives the Classical Yukatek plural absolutes as -on, -ex, and -ob (p. 21); Classical Chontal and Classical Cholti also had short vowels in their suffixed absolutes. We therefore assume that the vowels of the pronominal affixes of Proto-Mayan were short. Note that McQuown in his 1967 article on Classical Yukatek cites -en, -eč, ∅, -oon, -eex, -oob' as the absolutive pronominals (p. 230). There is therefore some uncertainty as to the original length of the plural vowels, in Yukatek; however, since Bricker's data were drawn directly from her concordances of The Books of Chilam Balam and Tizimin, we consider it to be authoritative, and thus are considering the vowels in question to have been short in Classical Yukatek. Assuming that the vowels were originally short, Lakandon gives an illustration of the intermediate step of lengthening, (except in the third plural; as mentioned in Chapter Two, we theorize that lengthening has not yet taken place in the Lakandon third plural -o? because of its comparatively

late addition to the pronominal paradigm). Although Lakandon stops here, ? was subsequently added to break up the sequences of vowels in Yukatek, Mopan and Itza.

The only other possible process besides lengthening which could explain the shape of the Yukatekan plural absolutes is reduplication. Reduplication is much less likely an alternative, though, for two main reasons. First, as we shall see, lengthening also takes place within the singular absolute affixes in some of the languages. Second, reduplication in the Mayan languages is generally used as a derivational device to express intensification or the repetitive nature of events—e.g., Ixil “q’os ‘pegar’ (to hit) / q’oso’san ‘pegar varias veces,’” (to hit repeatedly) Ayres, 1980, p. 53; Lakandon “k’an “amarillo”; (yellow) k’ank’an “amarillento” (yellowish)” (Bruce, 1968, p. 37).

The reason for the lengthening of the vowels of the absolutes of Yukatekan is not as evident as its method. Lengthening of the vowel before a voiced consonant would account for \*oŋ / o?on and \*ob’ / o?ob’ ~ oo’, but not \*eš / e?eš. In the absence of immediate causes in the environment, we must consider the general environment: which in the case of the absolute pronominals is post-verb. We have seen many examples of change occurring to pronominals before the verb, all of them weakening. As we shall discuss below, we take this as evidence that the pre-verb is a weak position as compared to post-verb. We thus consider the lengthening of vowels in the absolute plurals to be a strengthening process, due to the nature of the environment in which they are situated.

Other examples of lengthening occur also within the absolute singular pronominal affixes of Mopan and Itza (though not in Yukatek or Lakandon). The reason that lengthening has only occurred sporadically in

the singular affixes may be connected with the vowel change that has also taken place (\*i/e in the first singular, \*a/e in the second singular). If these changes also constitute a strengthening, as suggested in Chapter Two, it is possible that these vowels do not lengthen because they have manifested the strengthening process in another way. The lengthening that does occur in Itza and Mopan is then a further strengthening.<sup>8</sup>

As another example of lengthening in suffixed position we have Pokomam, which post-poses its absolutes in stative constructions indicating location or position. The post-stative verb forms are as follows (the pre-verbal absolutes are given as well for comparison):

Pokomam - Absolute Pronominals

	pre-verb	post-verb
1sg	in,hin-	-i:n
2	ti,hat-	-a:t
3	∅	∅
1pl	aj,qoj-	-uaj
2	hat,ti (-ta)	-a:t (-ta)
3	∅,i-	-ie?

(Smith-Stark, 1983, pp. 210-211)

Evidently, the vowels of the suffixed absolutes have undergone lengthening, like those of Yukatekan (o:/ua and e:/ie in Jilotepeque Pokomam, as mentioned above in Chapter Two). Again, the most plausible reason for lengthening in this instance is the post-posed position of the pronominal. Mam also has lengthening in its post-posed absolutes, though only in the first person singular (which is -qiin for statives and in emphatic

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8. It appears that the lengthening of the singular forms in Itza only takes place in certain environments, judging by the -(e)en notation used by Bricker (1986). Unfortunately these environments are not known.

use, -iin in locatives; England, 1983, p. 76). We conclude that lengthening, as it pertains to the vowels of pronominal affixes, is generally of the compensatory type in the pre-verbal position (as in the Q'eqchi ergatives) and when post-verb, a result of strengthening (as in the case of Yukatekan and Pokoman).

### 3.2 Morphological Processes

#### 3.2.1 Reanalysis

Reanalysis is usually described as the redefining or re-placement of a morpheme or sometimes even of a word boundary. It is a process that has occurred numerous times in English, often involving the indefinite article a/an: e.g., Modern English *adder*, from Middle English *naddre*, the word having lost its initial n through confusion of the placement of the word boundary when contiguous to the indefinite article: a#naddre / an#adder. The opposite, addition of an initial n also occurred: Modern English *nickname* is from Middle English *ekename*, hence an#ekename / a#nickname.<sup>9</sup> In terms of the bare phonological/morphological description, when reanalysis occurs, part of a morpheme becomes detached, and is subsequently reattached to another. In our discussion below, we shall suggest that reanalysis can also apply to the meaning of a morpheme; that is, a morpheme may acquire part of the meaning of a contiguous morpheme, particularly, as is the case here, when that morpheme has no phonetic body (either in itself or as a result of phonological processes). We will begin,

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9. Examples from James Foley. Confirmed by Partridge's *Origins: A Short Eytmological Dictionary of English*.

though, with examples of the more familiar type of reanalysis involving the moving of phonological boundaries.

The best example of reanalysis having to do with pronominal affixes is to be found in the Mamean languages Tektiteko, Awakatek and Mam itself. To give again the example of Mam:

#### Mam—Evolution of Absolutive Pronominals

1 sng: k+in / kin / kyin / čin  
 3 sng: k+∅ / k\*<sup>10</sup>  
 1 pl : k + oŋ / k + oq / kqo / qo  
 3 pl : k+ik / kki / ki / kyi / čī

If one looks up the absolutive paradigm in a grammar of Mam, the above forms, čin, k + clitic a, k, qo, čī + clitic a, and čī are to be found. In other words, these fused forms are now considered the basic absolutive pronominal affixes of Mam. The original absolutives do appear, in slightly different form, in dependent clauses after the ∅ past aspect marker:

" ∅ + čin -- in  
 ∅ + tz,tz' -- ∅  
 ∅ + qo --o  
 ∅ + čī -- i" (England, 1983, p. 59).

The fact that England states that the above are special forms serves to emphasize how completely reanalysis has effaced the original pronominals. The absolutives of one dialect of Mam, spoken in San Pedro Necta, show a further example of reanalysis. In the San Pedro Necta dialect, third singular

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10. k is used for third singular (or second singular, with enclitic -a) in the potential aspect; in the nonpotential aspects, ∅ is used before C; tz', which originates from a different aspect marker, is found before vowels. Robertson suggests that the tz' is from Common Mayan optative \*t (unpublished manuscript, 1989, Brigham Young University). tz is also found, before two verbs only, in nonpotential aspect (England, 1983, p. 56).



was re-reanalyzed as  $\emptyset$  (from whence it started!) This meant that third singular k reassumed its role as potential aspect marker, and it was subsequently re-inserted into the paradigm, this time after the absolutive pronominal rather than before, which is usual:

original Mam future/potential: k + abs. + V intrans. + al

#### Development of San Pedro Necta Dialect

stage 1	stage 2	stage 3
1 k+in / čin	čín	čín + k
3 k+ $\emptyset$ / k	$\emptyset$ + k	$\emptyset$ + k
1 k+oq / qo	qo	qo + k
3 k+ik / čí	čí	čí + k

The present-day paradigm of San Pedro Necta as compared with another dialect, that of San Ildefonso Ixtahuacan, is as follows:

#### Potential Aspect of Two Dialects of Mam

San Ildefonso Ixtahuacan	San Pedro Necta	
čín-o:q'-el-e	čín-k-?o:q'-al-a	'I will cry'
k-o:q'-el-e	$\emptyset$ -k-?o:q'-al-a?	'you will cry'
k-o:q'-el	$\emptyset$ -k-?o:q'-al	'he will cry'
qo-o:q'-el	qo-k-?o:q'-al	'we will cry' (incl.)
qo-?o:q'-el-e	qo-k-?o:q'-al-a?	'we will cry' (excl.)
čí-?o:q'-el-e	čí-k-?o:q'-al-a?	'you will cry'
čí-?o:q'-el	čí-k-?o:q'-al	'they will cry' <sup>11</sup>

England (1983) also mentions another instance of reanalysis in Mam, involving the marking system of verbs in certain environments. In dependent clauses, under certain conditions, the subjects of intransitive verbs and objects of transitive verbs are marked with ergative pronominals rather

11. Data and analysis from Robertson, 1980, p. 61. We have added the first table above to clarify.

than the expected absolutive ones. It is not unusual for the subject of an intransitive verb to be marked ergatively under certain conditions (this is called a 'split' ergative system). Mam however has innovated in extending the use of ergative pronominals to the objects of transitive verbs. England suggests that this is because the directional verbs which precede the main verb in Mam also carry the pronominals (absolutives) which refer to the patient. These absolutives were reanalyzed as referring to subjects and were thus replaced with ergative affixes. Subsequent to this even transitive verbs without directionals began to mark their patients ergatively. This type of reanalysis, which concerns a change in the role of a member of the verbal complex, is quite different from the 'phonological' type of reanalysis just seen. However, as our next example will show, it is by no means uncommon within Mayan.

In the section on third singular in Chapter Two, we noted that the original, underlying form of the third singular in Mayan is  $\emptyset$ . We claim that the various third singular forms which appear in the ergative paradigm are the reflexes of ergative w (sometimes reinforced by r, etc.) Since these various reflexes are today perceived as third person singular, however, a reanalysis of w has taken place along the same lines as the reanalysis of the role of directional verbs in Mam as discussed above. Rather than simply indicating 'ergative,' the w also acquired the role of third person singular; this was made possible by the fact that third singular was  $\emptyset$ :

third person + ergative marker / ergative third person singular
$\emptyset$ + w / w

This development was subsequently obscured in most languages by various processes. For instance, K'ichean prefixed r to the w. The Yucatecan

languages and some of the Cholan groups suffixed the r to the w. These were examined above in Chapter Two.

Similarly, the Mayan third plural began as  $\emptyset$ , then various plural morphemes were reanalyzed as third plural (either ergative or absolutive). In this instance,

third person + plural (+w) / third person plural		
$\emptyset$	Vb'	Vb'
	ik	ik~ki (before w)
	etc.	

We will examine Vb' as an example of reanalysis in the third plural.

The origin of Vb' as a plural morpheme is well documented, as is its incorporation into the pronominal paradigms of several languages. In fact, one language, Kanjobal, persists in treating Vb' in the form eb' as a plural, not a pronominal affix: while it is suffixed in the ergative, reinforcing third plural s/y (<\*rw), it does not appear in the prefixed absolutes at all (absolutive third plural =  $\emptyset$ ) as it does for instance in the K'ichean languages. Thus in Kanjobal (as well as Jakalteq and Chuj) eb' has not been reanalyzed as a third plural, but has retained its original status as plural morpheme only.<sup>12</sup> In the K'ichean languages on the other hand, Vb' (in the form e' or eb'/ep') has been fully incorporated into the absolutive paradigm as third person plural.

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12. While -eb' does not appear in ergative third plural verb constructions in Chuj as it does in Kanjobal, it shows up on third plural possessed nouns in the form hep': s+pat+hep' 'their house,' s+kej+hep' 'their animal' (Hopkins, p. 133). It is also prefixed to indicate the plurals of specifier nouns: hep'+win 'they (male animate beings),' hep'+?is+y+?iskil 'his or their wives' (ibid., p. 134). In Jakalteq eb' is a numeral classifier referring to things (Day, 1973, p. 40).

As a final example of reanalysis within the pronominal paradigms, we will consider the unusual development of the ergative first singular before vowel-initial verbs. We assume that the original state of affairs was that which still remains in the Yucatecan languages, for example: in with retention of ergative w before vowels, hence in + w. Yet in many languages all that is left of the prevocalic ergative first singular is w. Aside from the ergative third singular, which consists as mentioned above of w plus or minus some augment, the ergative first singular is the only morpheme where ergative w appears by itself. (In fact, both Kaufman and Robertson reconstruct pre-vocalic "ergative first singular" as \*w). What has happened here we propose to be the result of a series of phonological developments, culminating in the reanalysis of w as first singular. The phonological developments (detailed above in Chapter Two) comprised the loss of n [wV] in some languages (not, obviously, in the Yucatecan group) which have the prevocalic form inw. This was followed by the loss of i, leaving only the ergative w which failed to elide before vowels. The w remaining after the loss of in, though originally an ergative marker, came to fulfill the role of first singular before vowels; and was consequently reanalyzed as such.

There is also an example of this type of reanalysis in Tojolabal, involving aspect and mood markers instead of pronominals. Furbee-Losee states that there exists an alternate aspect morpheme in Tojolabal, la which indicates incompletive aspect for first and second persons in intransitive constructions (the usual aspect marker is ǰ). In addition, second person in the subjunctive can be marked with an alternate -an. According to Furbee-Losee, "In both of these cases, some part of the meaning of person has been acquired by non-pronominal verb inflection" (1976, p. 125). Seemingly, pronominal

affixes are not the only morphemes to add or subtract components of meaning.

In a larger sense reanalysis plays a part not only in morphological but also in phonological change. Every time a morphological reanalysis takes place, the language's perception of the shape or the reference of a morpheme or word has changed. On a subtle, subconscious level, each time a phonological change takes place, a shift in the perception of the shape of a word must occur too. In this way reanalysis involves perception, though not involving the five senses or even conscious thought; rather reanalysis happens on a different and deeper level. As we shall see, reanalysis also plays a role in the next morphological process to be studied, that of replacement.

### 3.2.2 Replacement

Morphological replacement, within the context of this thesis, is what happens when the reflex of an original pronominal affix is replaced by another form. This has occurred very extensively within the Mayan languages. A common type of replacement is for a plural pronominal to be replaced by a combination of the singular plus a plural morpheme (either a plural suffix, or a plural pronominal affix). Also not unusual is the opposite situation, where a singular morpheme is replaced by a plural morpheme. Examples of both types of replacement are to be seen in the paradigms below.

The first type of replacement, where the plural morphemes of a paradigm are represented by singular affixes followed by a plural suffix, takes place in most Mayan languages, with only K'iche, Kaqchikel, Tzutujil, and the

Mamean languages excepted.<sup>13</sup> In every case save that of Tzotzil and the absolutive second person of Pokomchi the replacement takes place within the ergative paradigm. In some languages, only one or two morphemes are affected; in others, all three plural morphemes are replaced. Examples:

Pronominal Paradigms of Various Mayan Languages

		<u>person</u>		<u>PM</u>	<u>source</u>	
Tzotzil	(ergative)	1 sng	h-/k-	*in	first plural	
		2	a(v)-	*at	--	
		3	s-/y-	∅	--	
		1 pl	h/k	-tik	* o η	--
		2	a(v)	-ik	*eš	second sng
		3	s/y	-ik	∅	third sng
			(-tik and -ik are plural suffixes).			
	(Abs. B1)	1 sng	i-			--
		2	a-			--
		3	∅			--
1 pl		i	-otik		first sng	
2		a	-ik		second sng	
3		∅	-ik		--	

(Bricker, 1977, p. 2)

Jakaltek	(ergative)	1 sing	hin-/w-		--
		2	ha(w)-		--
		3	s-/y-		--
		1 pl	ko-/j-		--
		2 pl	he(y)-		--
		3 pl	s-/y-		third sng

(Day, p. 30)

13. In Ixil, the third singular has been substituted for the third plural, in the ergative.

		<u>person</u>		<u>source</u>	
Pokomchi (ergative)	1	sng	ni-/w-	--	
	2		a(w)-	--	
	3		r(i)-	--	
	1	pl	k(a)-	--	
	2		a(w)-	-tak	second sng
	3		k(i)-		--

Ramirez and de Ramirez, p. 43)

Mopan (ergative)	1	sng	in(w)-		--
	2		a(w)-		--
	3		u(y)-		--
	1	pl	ti(w)-		--
	2		a(w)-	-e'eš	second sng
	3		u(y)-	-oo'	third sng

(Ulrich and Ulrich, pp. 9-10)

Chol (ergative)	1	sng	h-/k-		first plural
	2		a(w)-		--
	3		i-		--
	1	pl	h-/k-	-la	--
	2		a(w)	-la	second sng
	3		i-	-ob	third sng

(Attinasi, p. 132)

Tojolabal (ergative)	1	sng	h-/k-		first plural
	2		ha(w)-		--
	3		s-/y-		--
	1	pl	h-/k-	-(ko)tik	--
	2		ha(w)-	-eš	second sng
	3		s-/y-	-e?	third sng

(Furbee-Losee, p. 144)

('Source' in the above table indicates the morpheme which is substituted for the expected development from Proto-Mayan. If a morpheme is a development from the PM original, this is indicated by --).

Examples of the replacement of singulars by plurals are also available in the table above (e.g., first and third singular in the case of Tojolabal, and Chol's first singular).

Establishing why replacement occurs is an interesting problem. Robertson (1985) has an explanation for the substitution of a plural form for a singular one. In discussing the replacement of the ergative first singular morpheme by the ergative first plural in Tzeltalan, he invokes the example of the English plural chickens < original plural chicken (table taken from p. 557):

	Stage I	Stage II
sing.	chick	chicken
plur.	chicken	chickens

When chicken assumed singular status a new plural was formed from the old by adding -s. similarly, Robertson argues, in Tzeltalan the former first plural replaced the first singular, and a new first plural was then fashioned consisting of the old one plus suffixed plural -tik (with addition of exclusive ko in -kotik for the exclusive first plural). The general principle behind these developments, according to Robertson, is that a 'marked' form will often take over the domain of an 'unmarked' one; when this happens the old, unmarked form is restricted to a much smaller domain, or can disappear (as in the case of the ergative first singular). 'Marked' features as far as pronominals are concerned are:

<u>marked</u>	<u>unmarked</u>
plural	singular
ergative	absolutive
1,2 person	3 person

'Markedness' is basically determined by range of occurrence, and, insofar as the first and second person vs. third person opposition is concerned, the fact that languages tend to somehow distinguish between the first and second



persons as opposed to third. (For example, the absolutive third singular in most Mayan languages is  $\emptyset$ , while first and second persons have a morpheme to represent them). 'Range of occurrence' refers to the number of environments in which a given attribute occurs. For instance, in several Mayan languages the expression of plurality is optional; the use of the singular is therefore much more common. In a similar manner, the absolutive pronouns appear in more roles—as subject of intransitive sentences and object of transitive sentences; in stative constructions, etc.—than ergatives. Hence both singular and absolutive have a greater range of occurrence than plural and ergative. The substitution of a plural for a singular, then, is for Robertson the replacement of an unmarked form with a marked one, with effacement of the former. His portrayal of the Tzeltal first singular replacement is (table taken from Robertson 1985, p. 557, his reconstructions);

	Stage I	Stage II
sing	*n u	*ka-> k-/h-
plur	*qa-> *ka	*h-/k...(ko)tik

As far as the replacement of original plural pronominals with singular forms plus plural suffixes goes, Robertson mainly notes the nature of the changes and lists them. For instance, in discussing Tojolabal and Kanjobal, he first compares the two in terms of the composition of their ergative plural paradigms:<sup>14</sup>

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14. Robertson, 1980, pp. 101-102. Only the plural part of his diagram is included.

Kanjobal	Tojolabal
erg 1 pl	erg 1 sng...Abs inc erg 1 sng...Abs exc
erg 2 pl	erg 2 sng...Abs 2 pl
erg 3...Abs 3 pl	erg 3 sng...Abs 3 pl

He then states that "Watkin's Law," actually a statement that the third person often will impose its form on other pronominals, explains why the paradigmatic restructuring in the above two languages took place. Assuming that the replacement of the original plural first occurred in the third plural, he proposes that the substitution of singular-plural combinations in the second and first plurals happened as generalizations of this first change in the third plural. Thus Kanjobal illustrates the initial change and Tojolabal the generalized change. (Robertson also cites the example of Yukatek, which has replaced its original second and third plural with singular plus plural dual morphemes). The implications of this (though not explicitly stated) are that if any morpheme changes in this way, it will be the third plural: therefore we would expect the following scenarios:

- 1) third plural replaced (first and second remain the same) e.g., Kanjobal
- 2) third plural plus one of either first or second plural replaced (other remains unchanged) e.g., Yukatek
- 3) third plural and other two plural pronominals replaced, e.g., Tojolabal

However, there is one language which only replaces its second plural pronominal with the usual singular plus plural combination: Pokomchi. Smith-Stark (1983) lists the second person plural as a(w) in the ergative, ti in the absolutive (both identical to the singular forms in their respective paradigms). Plural is marked by suffixing -ta (this is optional). Therefore, if the replacement of an original plural morpheme by a singular is a process that begins with the third plural and then generalizes then Pokomchi is an

exception. Neither the first nor third person plural morphemes (in either the absolutive or ergative paradigm) have undergone replacement. Perhaps Robertson is referring specifically to the replacement of a unitary morpheme with a bipartite one (his terms) consisting of an ergative singular and an absolutive plural morpheme. Even on this basis, though, his explanation of this phenomenon fails to really explain anything. It is not clear why the third person should influence the development of other pronominals. Though it seems to be true in a few cases (for example, the replacement of Mam second singular by the third singular)<sup>15</sup> we have just seen an example of a change taking place in second person but not in third. In fact, as we shall see shortly, replacement within the pronominal paradigms seems to take place more extensively within the second person than in the third.

Insofar as Robertson's explanation of the replacement of singular morphemes by plurals is concerned, we remark that 'unmarked' forms change to 'marked' forms. If unmarked forms are more common and 'natural' (as they are referred to, in some contexts) then indicating that morphological change proceeds from unmarked to marked seems to point to an underlying philosophy that change is unnatural, and represents an upsetting of the status quo.<sup>16</sup> However, in morphology as in phonology,

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15. In this case, the third singular was originally adapted for use (with a clitic) as a second person formal form; this second person formal gradually superseded the former second person familiar form, from the original Proto-Mayan \*at (see England, 1976, p. 260). So, this is not, strictly speaking, an example of the third person influencing another person.

16. These arguments were first advanced against the application of the theory of markedness in *Foundations of Theoretical Phonology*, by James Foley, Cambridge University Press, 1977, Chapter Two.

change is the status quo. Languages (at least living ones) never remain static. Thus, appealing to the marking theory to explain replacement is philosophically unsatisfactory as well as unnecessary.

In terms of the analysis to be presented here, there is no reason to treat the two types of replacement—that of a singular morpheme with a plural, or of a plural with a singular—as separate phenomena needing different explanations. It is our understanding that, fundamentally, the same thing is happening in both cases. We propose that replacement begins with reanalysis within the plural pronominals of a paradigm. This reanalysis involves the separation of the “person” part of the morpheme from the “plural,” so that for example ‘first person plural’ became first person + plural. In some cases, this resulted in the retention of the same, formerly plural morpheme in the plural, but never without an additional plural morpheme appended. In each of these cases the ‘new’ morpheme, now with singular denotation, replaced the ‘old’ singular one. For example, the Tzeltal present-day first singular *h/k-*, came from the first plural. The replacement proceeded as follows:

1. h/k (<\*oŋ) first person plural / first person + plural
2. first person h/k supplemented with plural suffix tik (kotik for excl.)
3. original first person \*in replaced with ‘new’ first person h/k

Expressed diagrammatically:

#### The Development of Tzeltal Ergative First Person

	Stage I	Stage II	Stage III
sing	*in	in	h/k
plur	h/k	h/k -(ko)tik	h/k -(ko)tik

Identical developments account for Tzeltal third person, Tojolabal's ergative first and third person, and the ergative third person of Chuj, Jakaltek and Kanjobal.

In other cases, the reanalysis of plural morphemes into person + plural resulted in the substitution of the former singular morpheme for the plural, with suffixation of the former plural. (We note that, in the case of the replacement of singular morphemes with plurals, the original plural lost its 'plural' denotation but retained its 'person'; in the case of the replacement of plural morphemes with singular, the original plural lost its 'person' denotation but retained 'plural'). Thus, for instance, Yucatec ergative second person morphemes underwent the following changes:

1. \*eš second person plural / second person + plural
2. eš reanalyzed as plural and moved to suffix position
3. replacement of former plural prefix eš with singular a(w)

#### The Development of Yucatec Ergative Second Person

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	Stage I	Stage II	Stage III
sing	a(w)	a(w)	a(w)
plur	eš	eš -eš	a(w) -eš

---

This analysis is only possible in a system such as the one we have reconstructed for Proto-Mayan, where all pronominals descended from one original set. Otherwise, it is necessary to account for the 'incursion' of the absolutive paradigm into the ergative. This 'incursion' seems superficially to have occurred, but in fact has not.

There are a few languages where the replacement of the former second person plural morpheme with a singular results in the loss of the former

plural. Pokomam and Pokomchi are examples of this. Their second person pronominals are:

Pokomam and Pokomchi Second Person Pronominals

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		Pokomam	Pokomchi
erg	sng	a(w)-	a(w)-
	pl	a(w)- -(ta)	a(w)- -tak
abs	sng	hat/ti-	ti/at-
	pl	hat/ti- -(ta)	ti/at- -tak
		(Smith-Stark, pp. 153,210)	(Ramirez and de Ramirez, p. 43)

---

We assume that what transpired in these languages is the replacement of suffixed \*-eš with the plural suffix -ta(k). We note that in Pokomam -ta is optional; in other words even this plural suffix is on its way to extinction. Similar developments in the second plural take place in Uspantek, Tzotzil, and Tzeltal; Tzotzil and Tzeltal have suffixed plural -ik instead of \*eš, and Uspantek has lost any plural suffix in the ergative, and has attached plural tak to the second singular form at to form atak in the absolutive. The fact that the reanalysis and replacement of second person plural has in some languages taken place even in the absolutive paradigm (most replacements take place in the ergative) and has progressed further, even to the point of losing any plural indicator, lends support to our contention that developments within the pronominal paradigms are not always initiated by the third person.

Reanalysis and replacement have an undeserved reputation as relatively trivial processes. While we do not claim to understand either in full, it is clear that there is more to them than at first meets the eye. They are uniquely morphological in nature, as their application and their outcome are

connected to not only the shape of a morpheme but also its meaning. Certainly, more than any other morphological process they are responsible for the present shape of the pronominal paradigms of the modern Mayan languages.

### 3.3 Verbal Complex Phenomena

The unique shape of the Mayan verbal complex is itself responsible for some of the changes undergone by the pronominal affixes. Indeed, the name 'verbal complex' is appropriate, for the Mayan verb is always accompanied by other morphemes. According to Robertson (1980), the basic constitution of the verbal complex is as follows: verb (transitive or intransitive), absolutive and ergative affixes; aspect; nominative or absolutive directional verbs; and other affixes. With regards to the verbal complex, changes observed in the pronominal affixes depend on two factors: the position of the affix in question, and the nature of the morphemes surrounding it. The position of the affix is important in that different changes occur before the verb than occur after. Consequently, those languages which suffix the absolutive prefix, or which possess two sets of absolutes, one pre- and one post-verb, afford us the unique opportunity to compare and assess these diverse developments. The nature of the morphemes bracketing a pronominal affix is significant as well. As we shall see, in many cases a morpheme may have various superficial shapes (allomorphs). In examining the environments in which these allomorphs appear, it is possible to determine the most basic form of the pronominal in question; and this in turn helps in the overall reconstruction of the original Proto-Mayan morpheme, which is the focus of this thesis. The two aforementioned factors will be discussed in the order presented.

### 3.3.1 The Position of the Pronominal Affix

The position of the pronominal affix within the verbal complex is significant, as it is clear that more types of change, and moreover different types of change, occur to pre-verbal pronominals as opposed to post-verbal pronominals. In the sections above, metathesis, cluster simplification, vowel elision, and dissimilation were discussed; all four processes occur only to pronominals positioned before the verb. In contrast, after the verb, on the whole, very little happens to pronominal affixes (always absolutes). As an example of this we will first take a brief look at Yukatek, a typical lowland AVB language which prefixes its ergatives and suffixes its absolutes.

The pronominal affixes of Yukatek are usually listed as follows:

#### Yukatek - Pronominal Affixes

---

Absolute		Ergative	
1 sng	-en	___C	___V
2	-eč	in-	inw-
3	-∅	u-	uy-
1 pl	-o?on	k-	k-
2	-e?eš	a- -e?eš	aw- -e?eš
3	-o?ob	u- -o?ob	uy- -o?ob

(Bricker, 1977, p. 4)

---

Traditionally, the difference between absolutes on the one hand and ergatives on the other has been thought to be that ergatives have pre-consonantal and pre-vocalic variants. However, if one considers that the w is not part of the pronominal affix itself (as has hitherto been supposed) but rather an ergative marker in its own right, then in most cases (Yukatek being



no exception) the 'difference' between pre-consonantal and pre-vocalic ergatives disappears:

### Yukatek - Ergative Pronominals

---

	---C	---V
1 sng	in	in (+ w)
2	a	a (+w)
3	(w)	(w) (+y)
1 pl	k	k (+w)
2	a -e?eš	a (+w) - e?eš
3	(w) -o?ob	(w) (+y) -o?ob

---

As discussed above, the ergative w disappears in preconsonantal environments, but fails to elide before a vowel.

With the 'traditional' pre-consonantal and pre-vocalic distinction seen to be largely illusory, we are free to consider more important questions. For instance, when we place the minimal ergatives next to the absolutes of Yukatek, and compare both with the reconstructed forms presented in the preceding chapter, it becomes obvious that certain changes have taken place which it behooves us to explain:

### Yukatek Pronominals and Proto-Mayan

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	Absolute	Ergative	Proto-Mayan
1 sng	-en	in-	*in
2	-eč	a-	*at
3	-∅	∅(w)	∅
1 pl	-o?on	k-	*oŋ
2	-e?eš	a- -e?eš	*eš
3	-o?ob	∅(w) -o?ob	∅

---

In a general sense, there are two sorts of change which have operated on the pronominal paradigms of Yukatek: phonological, and morphological.

The morphological changes in question involve a) a replacement of the 2nd and 3rd plural forms within the ergative paradigm; b) a reanalysis of ergative w as 3rd person singular. These developments have been treated above; accordingly we will direct our attention to the phonological changes which have taken place. In the absolutive morphemes, a change in vowel quality has occurred in the singular, and vowel lengthening and ?-insertion in the plural. In the ergatives, cluster simplification, vowel elision, q/k, and metathesis have all taken place. To elaborate:

Absolutive developments:

- 1 sng: \*in / en (i/e)
- 2 sng: \*at / eč (a/e, t/č)
- 1 pl: \*oŋ / on / oon / oʔon
- 2 pl: \*eš / eeš / eʔeš
- 3 pl: \*Vb' / ob / oob / oʔob

Ergative developments:

- 2 sng: \*at/a (at/ač, ač/a)
- 3 sng: w / u
- 1 pl: \*oŋ / oŋk / ok / oq / qo / ko / ki / k\*<sup>17</sup>
- 2 pl: --replacement-
- 3 pl: -- replacement-

Most of the processes in evidence have been discussed elsewhere, and they will not be examined further here. The nature of each process, either strengthening or weakening, will be treated in the last section of this chapter. For our present purposes, Yukatek has provided a good example of the different types of phonological change which take place before or after the verb. Examples from other languages will also be given as we consider the reasons for each type of change.

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17. For specifications of these changes, see the section on first plural in Chapter Two.

Given the data from Yukatek above, and evidence already seen from other languages, it is obvious that more changes occur before the verb than after it. The reasons for this are:

- 1) the presence and influence of ergative w, in transitive constructions
- 2) the interaction of k and q (velars and uvulars)
- 3) the position of stress within the Mayan verbal complex
- 4) the tendency to morphological change (e.g., fusion of aspect morphemes with pronominals) before the verb
- 5) the inherent weakness of the pre-verbal as opposed to post-verbal position.

In Chapter Two, many examples were given of change involving the ergative marker w. Mainly, it has been instrumental in the loss of consonants preceding it, and in causing metathesis in the first and third plural. Thus, even in those languages whose absolutes are pre-posed to the verb less change tends to occur to the absolutes than to the ergatives because of the absence of w. (This does not preclude the possibility of change to absolute morphemes in this position, however. There are some processes which apply to pre-verb absolutes as well—for instance, metathesis and cluster simplification. These phenomena will be treated later, in the section on morphemes surrounding the pronominal affixes and the section on the relative weakness of different environments, respectively). As an example of this we will consider Chuj. The following chart also includes a post-verbal set of absolutes, used in stative constructions:

## Chuj - Pronominal Affixes

<u>Absolutive</u>		<u>Ergative</u>	
<u>pre-verb</u>	<u>post-verb</u>	__ C	__ V
1 hin-	-in	hin-	w-
2 hač-	-ač	ha-	h-
3 ∅	∅	s-	y-
1 hoŋ-	-oŋ	ko-	k-
2 heš-	-eš	he-	hey-
3 ∅	∅	s-	y-

(Hopkins, 1967, pp. 60-61)

With the exception of the addition of h to the pre-posed absolutes (a general process which also took place in the ergative; this 'h-addition' is common to Kanjobalan and Tzeltalan) little has happened to the absolutes in Chuj. In the ergative paradigm on the other hand (concentrating on phonological change only), both consonant and vowel elision have taken place, as well as the q/k change typical of Yukatekan, Cholan, and Tzeltalan, and metathesis:

2 sng:	*at/h(a)	(at/ač /hač/ha/h(a))
3sg:	*rw/s-/y- <sup>18</sup>	
1 pl:	*oŋ/k(o)	*oŋ/oŋk/ok/oq/qo/ko/hko/ko/k(o)
2 pl:	*eš/he(y)	(eš/heš/he/he(y))

The phonological developments outlined above in the second singular, and first and second person plural, all were caused by the presence of ergative w. In the case of Chuj, the usual elision of the consonant before w extended to

18. For the various pre-vocalic and pre-consonantal changes to \*rw, see the section on third singular, above.

include the vowel of the second person singular and first person plural (though this did not occur in the second plural). w caused the metathesis of k (<\*ŋ). The effect of w in Chuj is by no means unique, as is to be seen elsewhere in this thesis.

The importance of ergative w stems from the unusual nature of the interaction between velar and uvular consonants in Mayan. Because the first plural morpheme contains the uvular q, (after its evolution from \*oŋ), and one common candidate for third plural contains velar k (\*ik), conditions are automatically ripe for metathesis when either of these are placed before velar w. Thus the very constitution of some of the person morphemes is sufficient to cause change before the verb, where w is always to be found, in transitive constructions. In addition, the nature of some of the tense/aspect morphemes themselves can cause change. An example of this is to be found in Tzutujil, where the future/impending aspect, šk, and imperative marker k both prevent metathesis of the absolutive first plural qo < \*oŋ.

Stress has long been known to have an effect on phonological change. An example is to be found in Indo-European philology, where the expected Indo-European/Germanic changes ("Grimm's Law") did not obtain before a stressed vowel. Gothic *fadar*, <\*pater, instead demonstrated a lenition or weakening of the dental consonant \*t (the usual reflex was θ, as in the example \*ten/Eng. thin). Though Fox (1978) reconstructs word-initial stress for proto-Mayan, most of the Mayan languages today have word-final stress. The exact when of the stress shift is of course very difficult to pinpoint—but the fact is that it took place, thus rendering the pre-verbal position pre-stress and therefore vulnerable to change. Certainly stress has directly affected the

shape of the pronominal affixes of Mam, which lost their vowels because of it.<sup>19</sup>

Another reason for some of the changes described above is the potential for morphological change before the verb. In this particular instance we are concerned with morphological fusion—or the combining of hitherto separate morphemes—and with reanalysis. Again Mam provides excellent examples of both. In the absolutive paradigm, the Mam pronominals fused with the former future/potential marker, k, yielding:

1 sng:	k + in /kin/č̣in
3 sng:	k + Ø/k
1 pl:	k + oq/kqo/qo
3 pl:	k + ik/kki/ki/č̣i

In the third singular, k by itself came to be perceived as the person marker and thus the former potential marker k became the third person singular k. Potential aspect was then marked only by the suffix -a. Other examples of reanalysis have already been mentioned above. The reason why there is so much 'morphological activity' before the verb is doubtless because of the number and diversity of the morphemes preceding the verb, as well as the relative weakness of the position, which we will examine next.

This brings us to the final reason for the greater amount of phonological (and morphological) developments in the pre-verb position, in Mayan. Some environments within the context of Language are stronger than others. Foley (1977) has postulated which environments might be

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19. Stress has been neglected, for the most part, in Mayan. Fox (1978) reports that many researchers fail to even indicate it in their field notes. We suspect that stress has probably played a larger part than we have indicated here, in the evolution of the pronominal affixes of Mayan; however, without more data our suspicions must remain unsubstantiated.

considered strong or weak, by examining where processes traditionally considered strengthening or weakening take place. For instance, if lenition, a weakening process, happens to a particular sound in one environment but not another, it is assumed that the first environment is weaker than the second. According to his findings, Foley classifies environments as follows:

<u>Strong</u>	<u>Weak</u>
initial/ #__	final/ __#
postnasal/ n__	intervocalic/ V__V
posttonic/ V__	pretonic/ V__ <sup>20</sup>

Unfortunately, Foley does not define strengthening processes as opposed to weakening ones, though he gives examples of both. Strengthening processes are e.g., gemination; palatalization (of s); monophthongization (both vocalic and consonantal) and diphthongization; lengthening; glide strengthening (insertion of a stop before a glide). Examples of weakening processes are elision, syncope and lenition. In general, we may say that any process which results in the elimination of a sound is a weakening one, whereas one that reinforces or augments a sound is a strengthening one. Using this rule of thumb we classify the processes we have encountered so far as:

<u>Strong</u>	<u>Weak</u>
vowel lengthening	cluster simplification
	vowel elision
	(metathesis)

(It is unclear whether metathesis is a strengthening or weakening process, as it changes only the order of sounds. However, often its occurrence seems to cause the elision of w in the first and third plurals of the ergative paradigm;

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20. Foley, 1977, p. 109. The 'weak' environment, word final, was modified to syllable final in class lectures delivered at SFU in 1980-1981.

for this reason we will group it with the weakening processes). Those processes which we consider weakening all occur before the verb; after the verb, a strengthening process, lengthening, occurs. To observe the different processes occurring to one morpheme we will examine the absolutive morphemes of Tzotzil.

Tzotzil possesses two sets of absolutives, one preposed and one postposed to the verb. The first set (which we call B1, after Bricker, 1977) is used in the completive and incompletive aspects, while the second, B2, is found in stative constructions and in perfective and subordinate phrases. One dialect, spoken in Huistan, uses both sets of absolutives in transitive sentences, thus marking the object twice. For example, in Huistan 'I know you' is

š + a + k + ohtikan + ot

incomp. abs2B1 erg1 know abs2B2

...whereas in Zinacantan, another dialect, the same sentence is

š + a + k + ohtikin

incomp. abs2B1 erg1 know <sup>21</sup>

Because of the two sets of absolutives, and for other reasons not important to this discussion, Tzotzil has been classified with different groups by various linguists. Kaufman and McQuown, for example, place it within the Tzeltalan group whereas Bricker prefers to include Tzotzil with BAV languages such as the Kanjobalan group. The absolutives of Tzotzil are the following:

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21. Data from Bricker, 1977, p. 21.



## Tzotzil - Absolutive Morphemes

	B1	B2
1 sng	i-	-on
2	a-	-ot
3	∅	∅
1 pl	i- -otik	-otik
2	a- -ik	-ošuk
3	∅ -ik	-ik

Bricker considers the first set to be cognate with the absolutive pronouns of BAV languages, such as K'iche' or Jakaltek, and set B2 to be cognate with the absolutive pronouns of AVB languages such as Yukatek and Tzeltal. While it is true that the resemblance is strong in both cases, we consider all sets of pronominals to have issued from one original set. Therefore, the difference between the two sets of absolutives is due not so much to divergent origins (though borrowing can play a part in the shape of morphemes) but to the different position of the morphemes involved. Set B1 in Tzotzil is prefixed, and precedes the ergative in transitive utterances. There is one exception. Curiously enough, in constructions involving the ergative second person singular and plural, both a(v) (+ ik in the plural), the absolutive morpheme is always suffixed, and this fact may explain how the prefixed absolutives lost their final consonants. The expected form, for 'you hit me' in the incomplete aspect is:

ʎ š + i + a + (w) mah  
 incomp abs1B1 erg2 erg hit

in Zinacanteco Tzotzil, but this does not appear. Instead, the form in use is:

š + a (w) mah + on  
 incomp erg2 erg hit abs1B2

(Compare 'I hit you': š+a+h+(w)+mah). In other words, every time we have the potential conjunction of two pronominals consisting only of vowels, it is avoided through use of the suffixed absolutive set.<sup>22</sup> In this way, B1 is always preconsonantal in transitive constructions in Tzotzil, as the other ergative pronominals all begin with a consonant. Presumably, the B1 pronouns also appear before vowel-initial verbs in intransitive constructions (although this needs to be confirmed; it is also possible that set B2 is used instead). Nonetheless it seems highly probable that the original final consonants of \*in and \*at (the plural morphemes having been replaced by combinations of the singular plus a suffixed plural morpheme) were lost before other consonants. Then, the i- and a- forms were dropped in favour of the suffixed B2 pronominals. Thus we gain yet another example of cluster simplification before the verb—in this case, involving absolutives not ergatives.<sup>23</sup>

Nothing of the sort has occurred with the suffixed absolutives, set B2. The only changes that have taken place after the verb are vocalic ones, of a type common to AVB languages. Robertson (1982) mentions a vocalic change in the Tzotzilan group of a/o. This accounts for the change in the second person singular, \*at/ot. He goes on to discuss the extension of the rounding process to the second person plural, which from \*eš+ik became ošuk. Aside from these vocalic changes, nothing else has happened to the suffixed set of

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22. According to Bricker, "This restriction may have something to do with avoiding vowel clusters" (personal communication, 1989).

23. Tzotzil is not the only language with cluster simplification in the absolutive paradigm. The absolutives of Kaqchikel also drop their final consonants prior to other consonants. Kaqchikel, however, retains its final consonants before vowels, unlike Tzotzil which has generalized their loss.

absolutives. Indeed, with the exception of Yukatekan vowel lengthening, it is typical for the structural integrity of suffixed absolutives to remain constant.

To sum up, the position of a pronominal affix has a demonstrably significant effect on its surface shape. Phonological facts of Mayan such as the interaction between velars and uvulars, the presence or absence of w, stress, the propensity of morphemes to fuse and otherwise change, and different inherent strengths of the positions in which they appear all have considerable influence on the surface diversity of pronominals. Yet position is not the only factor in this; in the next section we will look at the impact that different types of morphemes surrounding the pronominal affixes can have.

### 3.3.2 The Effect of Ambient Morphemes on Pronominal Affixes

Above, we compared and gave examples of changes that befall both absolutive and ergative morphemes in pre-verb and post-verb environments. In this section, we will focus on the specific changes that come about as a direct result of contact with other morphemes. The 'other morphemes' in the examples we will be discussing are either aspect morphemes or absolutive morphemes (affecting ergatives, in this case). Thus all of the phonological developments we are concerned with in this section take place before the verb. No examples of other morphemes affecting suffixed absolutives have been found. The first observations we will make about the effect of conjoining morphemes concerns the ergative paradigm of Tzutujil, a BAV language.

Ergatives in all Mayan languages are situated before the verb (or noun, in the case of possessive constructions). In BAV languages, the general order of constituents within the verbal complex is: aspect + absolutive + ergative + w + verb + other affixes. In AVB languages, the order is: aspect + ergative +

w + verb + absolutive + other affixes. Certain languages, of which Tzutujil is an excellent example, show some variety in the forms of their ergative morphemes. In most cases, this is due to the nature of the morphemes around them. In Tzutujil, whether the first person singular is in or nu before a consonant-initial verb depends on the absolutive (or, in the case of the Ø third person singular, the aspect marker) that precedes it. in follows a consonant, and nu follows a vowel:

*š	+	Ø	+	in	+	w	+	bi	+	j	/šinbij
comp.		abs3		erg1		erg		say		trans	'I said it'
*š	+	e	+	in	+	w	+	tz'at			/šenutz'at
comp.		abs3pl		erg1		erg		see			'I saw them'

(Butler and Butler, 1978, p. 18, 53)

Similar developments take place in dialectal Kaqchikel; in Comalapa it is customary to say yanč'ay 'I hit you'

< y	+	at	+	in	+	w	+	č'ay	'I hit you'
cont.		2sg		1sg		erg		hit	
		abs		erg					

and yenč'ay,<

y	+	e'	+	in	+	w	+	č'ay	'I hit them'
cont.abs		3pl		1sg		erg		hit	
		abs		erg					

...whereas in Tecpan the longer forms, yatinč'ay and ye'inč'ay are preferred.

In both languages, expected in [\_\_C] has been replaced, by nu in Tzutujil, n in Kaqchikel, after a vowel. The loss of i is readily explainable in this case. As discussed in the first chapter and elsewhere in this chapter, sequences of vowels are not tolerated in Mayan; if elision occurs within a vowel cluster it always affects the second vowel. We note that the usual loss of u between consonants is blocked in Tzutujil although it takes place in Kaqchikel. Looked at within the framework of theoretical phonology, the

elision of i explains the retention of u in Tzutujil, for wherever an element is lost a unit of strength is released with it:  $i/\emptyset+\sigma$  [V\_\_].<sup>24</sup> Since the u does not elide, the  $\sigma$  must be assumed to have been attached to it, preventing its loss. Even so, Kaqchikel has generalized the loss of u. The changes in both languages are as follows:

*C+in+w+C	*V+in+w+C	
Ci $\bar{n}$ wC	Vi $\bar{n}$ wC	nw/ $\bar{n}$ w
"	"	C/ $\emptyset$ [__w] (fails)
CinwC	VinwC	$\bar{n}$ w/nw
CinuC	VinuC	w/u[C_C]
"	V $u^+$ C	i/ $\emptyset$ + $\sigma$ [V__]
CinC	" (Tzutujil)	u/ $\emptyset$ [C_C]
"	VnC (Kaqchikel)	u/ $\emptyset$ (generalization)

---

in

nu~n

Returning for the moment to the situation which initiated the changes, namely the nature of the morpheme preceding the pronominal, we will now consider specific examples of aspect morphemes affecting the shape of pronominal affixes.

Aspect morphemes influence both absolutive and ergative pronominals. Generally, in order for an aspect morpheme to inflict change upon a pronominal, it must be contiguous to it. Accordingly, they are only likely to affect ergatives after  $\emptyset$  third person objects in BAV languages, since otherwise the ergatives are separated from the aspect by the absolutive

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24. The symbol  $\sigma$  represents a unit of phonological strength in theoretical phonology. It is assumed within the theory that when an element is elided as a result of a phonological process, a unit of strength is released too.

morpheme. In AVB languages the ergatives come into direct contact with the aspect morpheme and so are vulnerable to its influence. The absolutes are situated right beside the aspect in BAV languages; but even in AVB languages they are to be found next to the aspect in intransitive constructions.

As an example of aspect morphemes affecting the form of absolute morphemes we have chosen Pokomchi, whose second person singular appears as either ti or at, depending on the preceding aspect marker. Pokomchi has a  $\emptyset$  present/habitual marker, an e probability aspect marker and a completive marker  $\check{s}$ . After  $\check{s}$  appears at; after  $\emptyset$ , and e, ti. Assuming that at is original ti must have evolved through metathesis: at/ta/ti. The causative factor in this case appears to be a constraint operating in Pokomchi against vowel initial pronominals at the beginning of the verbal complex (as discussed elsewhere, p. 176-177).

Dialectal Kaqchikel again provides us with a further example of the effect aspect markers can have, this time on ergative morphemes. Again the affected pronominal is the first person singular. In Patzun, in a transitive sentence containing  $\emptyset$  third person as object, \*n+ $\emptyset$ +in+w+C ends up as syllabic n: \*ninwtz'at/ntz'at 'I see it.' Here, the proximity of two n's has caused the changes of expected in to  $\eta$ . We propose that in this case the aspectual n caused the n of the first singular to elide through dissimilation (cf. Grassmann's Law). A derivation of the proposed rule scenario is (we begin from the Proto-K'ichean stage, assuming the Proto Mayan changes—nw/ $\bar{n}\bar{w}$ , etc.—to have taken place):

*n+in+w+C	
ninuC	w/u[C_C]
ninC	u/∅[C_C]
niC	n/∅[n+_]25
<sup>+</sup> nC	i/∅[ <sup>+</sup> n_] ]
ηC	<sup>+</sup> n/η
--	
ηC	

Aspect markers can also prevent change to the pronominal morphemes. Our first example of this is the Pokomchi first plural morpheme discussed above, where the completive aspect marker  $\check{\xi}$  in a sense prevented metathesis from occurring (as happens in the present/continuous aspect which has no marker). Similarly, in Mam the usual loss of an unstressed vowel prior to a stressed one is prevented in the absolutive by the fusion of k with the pronominals: e.g., first person singular k+in/č̣in (ergative n); third plural k+ki/kyi (ergative ky). This process will be further discussed below. Finally, whether or not an aspect morpheme is present greatly affects the shape of the ergative first person singular in Kaqchikel and Tzutujil. Though, as we have seen above, the vowel of the first singular does elide in certain circumstances within the verbal complex, it always drops in nominal constructions (when the ergative is being used as a possessive pronoun). Examples of the possessives in both languages are:

25. It is probable that a polarization process takes place here, where  $nVn / \sup{+}nV\check{n}$ . This is in fact how dissimilation is usually conceptualized in Theoretical Phonology. Note that the strengthened n is manifested as η.

Kaqchikel		Tzutujil	
__C	__V	__C	__V
nu	w	n~nu	w
nutz'i'	waqan	nušal	wočoč
'my dog'	'my leg'	'my corn'	'my house'
<in+w+tz'i'	<in+w+aqan	<in+w+šal	<in+w+očoč <sup>26</sup>

In these possessives, it is not the presence of a vowel before the pronominal affix which has caused the elision of *i*, but the absence of an aspect morpheme or a supporting consonant. (Again, we begin from the proto-K'ichean stage where the Proto-Mayan changes have already taken place):

Kaqchikel		Tzutujil		
*#in+w+C	*#in+w̄+V	*#in+w+C	*#in+w̄+V	
#inuC	"	inuC	"	w/u[C_C]
"	iw̄V	"	iw̄V	n/∅[_w̄V]
nuC	w̄V	nuC	w̄V	i/∅[#_]
"	"	"	"	[_w̄V]
"	wV	"	wV	u/∅[XC_C]
				w̄V/wV

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nu	w	nu	w
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Thus, Tzutujil \*in+w+tz'i' 'my dog' becomes nutz'i', whereas

\*š+∅+in+w+bij

'I said it' becomes šinbij.

None of the rules above is unfamiliar, considering examples we have already encountered. However, when we compare the behaviour of the other ergative pronominals, it becomes obvious that the first rule must be refined. The vowels of the other pronominals do not elide in initial position: e.g., second person singular (examples from Kaqchikel) a(w) <\*at+w; second person plural i(w) <\*eš+(w). (Third singular r(u) <\*r+w does not begin with

26. Butler and Butler, 1978, pp. 48, 68.



a vowel, and first and third plural qa(w) <\*oŋ+w and ki(w) <\*ik+w have undergone metathesis.) From this we surmise that factors other than the mere lack of an aspect marker must be playing a role in the elision of first person i.

The solution to the apparent problem of when an initial vowel elides and when it stays is to be found in examining the nature of the consonant of the morpheme in question. The first singular n, being resonant, shares this property with ergative w, a glide and therefore also resonant. In contrast, the stop t and fricative ʃ of second singular and plural, respectively, are not resonant consonants and in fact are not even voiced. We know that all consonants are normally lost before w. Given the similarity of n and w and the dissimilarity of t and w and ʃ and w, it is conceivable, as presented above, that the n would resist eliding before w, at least at first. Being by far the weakest member of the cluster, the vowel i would then drop. The rules necessary to explain the surface manifestation of the various ergative pronominals in their possessive forms are thus (Proto-K'ichean):

*#in+w+C	*#in+w̄+V	*#at+w+C	*#at+w̄+V	*#iš+w+C	*#iš+w̄+V	
(fails)	(fails)	awC	aw̄V	iwC	iw̄V	C/∅[_w]
nwC	nw̄V	"	"	"	"	i/∅[_nw]
nuC	"	"	"	"	"	w/u[n_C]
"	"	aC	"	iC	"	w/∅[_C]
"	w̄V	"	"	"	"	n/∅[_w̄V]
"	wV	"	awV	"	iwV	w̄V/wV

---

ru            w            a            aw            i            iw

These rules represent an expansion of those presented in Chapter Two (particularly those for the first singular).

In this case it is not just the absence of an aspect marker which has caused the difference in the shapes of the ergative first singular, in~nu/w,

though this is certainly an important factor. (The developments discussed above do not take place within the verbal complex when an aspect marker is present). The fact that other phonological factors contributed to the formation of the pronominals is indicative of the intricate and complicated relationships between morphemes in the Mayan languages.

One of the ways in which aspect morphemes affect pronominal affixes is in fusing together with them. The example of the absolutive paradigm of Mam has already been cited. However, there are other languages, such as Pokomchi, Awakatek, Tektiteko, and Jakaltek which manifest this tendency as well. We shall draw a distinction here between what we shall call 'fusion' of morphemes (in this case, an aspect morpheme and a pronominal) and mere combining. Fusion consists of the melding together of two morphemes, so that what was formerly two morphemes becomes one. Combining, on the other hand, is the temporary merging of two morphemes. Examples of combination are to be found in Jakaltek, where both the absolutive and ergative pronominals merge together with the preceding aspect markers, providing that the latter are not independent words. (In the case of ergatives combining with the aspect marker, the preceding absolutive must naturally be the Ø third person). For example:

#### Absolutive Affixes of Jakaltek

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1 č̣ - hin - ok'i	/ č̣in ok'i	I cry
2 č̣ - hač̣ - ok'i	/ č̣ach ok'i	you cry
3 č̣ - Ø - ok' naj	/ č̣ok' naj	he/they cry/cries
1 č̣ - hoŋ - ok'i	/ č̣oŋ ok'i	we cry
2 č̣ - heṣ̌ - ok'i	/ č̣eṣ̌ ok'i	you-all cry

(č̣ - non-past aspect marker).

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## Ergative Affixes of Jakaltek

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1 ṣ̌ - w - ɪla	/ ṣ̌wɪla	I saw something
2 ṣ̌ - ha - w - ɪla	/ ṣ̌a wɪla	you saw something
3 ṣ̌ - y - ɪl naj	/ ṣ̌ɪl naj	he/they saw something
1 ṣ̌ - j - ɪla	/ ṣ̌jɪla	we saw something
2 ṣ̌ - he - y - ɪla	/ še yɪla	you-all saw something

(ṣ̌ - completive aspect marker).

(Day, p. 34-35)

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Combination is a phonetic phenomenon which, though interesting as the superficial counterpart of fusion, does not affect the permanent shape of the pronominals. (It does, however, give a model of how fusion comes about). In contrast, fusion does affect the permanent shape of the pronominals in question. The evidence for this is that the 'fused' pronominals are given as the cited form in lists of pronominal morphemes; also, in at least one case (Pokomchi) the fused form is used in other constructions, such as statives. Since the occurrence of fusion in Mam has already been discussed, we will pass it over in favour of discussing the other four languages which demonstrate this process.

Awakatek and Tektiteko, like their relative Mam, have incorporated k into their absolutive paradigms. (We assume, since these two languages are closely related to Mam, that the k in this case is again the incompletive marker). This incorporation of k is particularly obvious in Tektiteko, where only palatalization has taken place after the fusion of the two morphemes, as opposed to both palatalization and assibilation in Mam and Awakatek. The absolutive paradigms of the two languages follow:

## Awakatek and Tektiteko - Absolutive Paradigms

Awakatek		Tektiteko	
	---C	---V	
1	č̣in	n	kyin
2	ṣ̌	kṣ̌	č̣
3	∅	∅	∅
1	ka	k	qo
2	ṣ̌	kṣ̌	ikṣ̌
3	č̣i	č̣	kye

(McArthur and McArthur, in Mayers, 1966, p. 158)  
Stevenson, 1987, p. 39)

With the exception that assibilation of ky / č̣ does not occur, the developments in Tektiteko are almost identical to those of Mam. The only unique development in Tektiteko takes place in the second plural, where metathesis of the k has occurred, caused in this case not by another velar or uvular consonant but by palatal (retroflex) ṣ̌.<sup>27</sup> The Tektiteko developments are summarized below:

- 1 \*k + in / kin / kyin
- 2 \*k + at / kt / t / č̣
- 3 \*k + ∅ / ∅
- 1 \*k + oq / kqo / qo
- 2 \*k + eš / kiš / ikš
- 3 \*k + e / kye

Awakatek is slightly different from both Mam and Tektiteko in that it has pre-consonantal and pre-vocalic variants (an unusual state of affairs in the absolutive). In general, except for the first person singular, only the pre-

27. Kaufman gives kiṣ̌ as the Teko equivalent. According to Stevenson, Tektiteko is a 'variant' of Teko.

vocalic form clearly preserves the 'fused' k+pronominal. Although unusual (compared with Mam and Tektiteko), if k were to drop anywhere we would expect it to elide before a consonant-initial verb, as in most cases the sequence of Awakatek pronominal + C yields three consonants, e.g., kš + C. Apparently fusion is sometimes less strong a process in some languages as opposed to others. The developments of Awakatek are given below (assuming the forms with k) to be basic, as they temporally precede those without):

- 1 čin < \*k + in / kyin / čin
- 2 kš < \*k + at / kaš / kš
- 3 ∅
- 1 ka < \*k + oŋ<sup>28</sup> / kok / kko / ko
- 2 kš < \*k + eš / kš
- 3 či < \*k + ik / kki / ki / či

Pokomchi also shows evidence of the synthesis of a morpheme plus pronominal. Again, the morpheme in this instance is k, and the pronominals involved are the absolutives.<sup>29</sup> The absolute paradigm of Pokomchi is:

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28. See Chapter Two for preceding changes.

29. The provenience of k in this case is not certain (though, see p. 179); Ramirez and de Ramirez do not discuss it, nor indeed do they mention that the absolutives of Pokomchi are a product of fusion. Nevertheless it is obvious that they must be, given the evidence of the form of the absolutives after completive marker š (in, at, ∅, oj, at tak, i), comparison with the ergatives, and the evidence of other related languages. For the purposes of this discussion we are considering k to be a (former) incomplete aspect marker.

## Pokomchi - Absolutive Paradigm

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	B	C
1	kin-	-(k)in-
2	ti-/ti-	-(k)at-
3	in-/n-	-∅-
1	koj- (ko:Mayers)	-(k)oj-
2	ti-/t-	-(k)at- tak
3	ki-	-(k)i-/-(k)eb

(Ramirez and de Ramirez, 1988, p. 43)

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(Sets B and C are both absolutives—B is used with the simple or habitual aspect and with the probable aspect; C is used with the completive aspect in intransitive constructions, and with the anticipatory and continuative aspects in transitive constructions. C is also used in stative and locative sentences). Given that the two 'sets' appear in quite different environments, both in relation to the verb, and in reference to the shapes of the various aspect markers, it is not surprising that they should have different forms. Nonetheless they are patently of the same origin, formed by the same process that shaped the absolutives of Mam, Tektiteko and Awakatek above:

## Pokomchi - Absolutive Developments

- 1 kin < \*k + in
- 2 kat < \*k + at
- 3 ∅
- 1 koj < \*k + oŋ / koj
- 2 kat tak < \*k + at tak
- 3 ki < \*k + ki/kki / ki

The ti/at forms of the set B second person singular and plural (discussed above under 'metathesis') come from \*at; the ko form for first

plural found in the Mayers' data similarly comes from \*oŋ. In these instances, rather than use the forms with prefixed k, metathesized forms of the pronominals were chosen. The third singular in/n forms in set B are certainly anomalous, especially within the absolutive paradigm. Though little is known about these forms, their unusual shape (resembling the first singular) and their lack of resemblance to any other third singular morpheme indicates that either 1) they are a form of the first singular, co-opted for use as third singular, or 2) that their origin is extra-paradigmatic (like the Itza, Mopan and Lacandon third singular -i(h)). The first possibility is probably the stronger; as we have seen, the substitution of one morpheme for another within a pronominal paradigm is relatively common. In any case, in the absolutive paradigm fusion of former incompletive marker k with the pronominal affixes has occurred.

Our final example is that of Jakaltek. As mentioned at the beginning of this section, the tense/aspect morphemes of Jakaltek regularly combine with the pronominals, both absolutive and ergative (following a Ø object). However there is one case in which k appears, looking suspiciously like the k found in the Mamean languages above and Pokomchi: intransitive sentences in the past tense. Day (1973, pp. 33-34) analyzes these constructions as follows:

(š-) k - hin wayi	(š)kin wayi	I slept
(š-)k - hač wayi	(š)kač wayi	you slept
(š-)Ø way naj	šway naj	he slept [they slept]
(š-)k - hon wayi	(š)kon wayi	we slept
(š-)k - heš wayi	(š)keš wayi	you-all slept

(Where š and k are both considered past tense markers).

š is the usual past marker (witnessed by the fact that it appears with no other tense/aspect morpheme in the third person forms, and with the ergative pronominal affixes in transitive sentences). In fact it can optionally

be present in an intransitive sentence: hence škin wayi 'I slept' is possible. Within Jakaltek, past intransitive sentences are the only places where k appears. Day's hypothesis that k is a past tense morpheme is therefore plausible within the context of Jakaltek. However, the fact that when k occurs it appears fused to the following pronominal (Day's analysis notwithstanding) is reminiscent of the developments described above in Pokomchi, Mam, Awakatek and Tektiteko. In other words it looks as if fusion has occurred here in Jakaltek as well, though it is only in evidence within the past tense.

As a final example of the interplay between the tense/aspect morphemes and the pronominals of Mayan, we should mention that sometimes the aspect morphemes themselves can change to accommodate to the following pronominals. The present/habitual aspect of Q'eqchi provides a good example of this phenomenon. Before both absolutive and ergative affixes, the aspect assumes different shapes, whose vowels (usually a) can agree with those of the following pronominal:

Q'eqchi' - Present/Habitual Aspect and Pronominals

	<u>Ergative</u>				<u>Absolutive</u>	
	<u>__C</u>		<u>__V</u>			
	<u>aspect</u>	<u>pro</u>	<u>aspect</u>	<u>pro</u>	<u>aspect</u>	<u>pro</u>
1	n	in	na	ku	n	in
2	nak	a	nac	aku	nak	at
3	na	š	na	r	na	∅
1	na	ka	na	k	nok	o
2	nek	e	nequ	er	nek	eš
3	nek	e'š	nequ	e'r	nek	e' <sup>30</sup>

30. Eachus and Carlson, 1980, pp. 26, 111, 117-118.



The origin of the tense/aspect morpheme, which we will represent for convenience' sake as \*nak (the a being subject to vowel harmony before e and o) is presumably tan + k (with reduction to nk, then addition of the vowel; cf. Campbell, 1977, p. 126). The developments in most cases are quite straightforward: e.g., nak + a vowel initial pronominal remains basically the same, with possible vowel changes; before a consonant-initial pronominal the final k drops. There are a few exceptions. In the first person singular forms, there again appears to have been interaction between the n of the aspect marker and the n of the pronominal (cf. Kaqchikel first singular, discussed above), resulting this time in the loss of most of the aspect marker. In the absolutive third singular the k is elided, perhaps due to the reanalysis of k as third singular and then its re-reanalysis to  $\emptyset$  (as happened in the San Pedro Necta dialect of Mam). A similar state of affairs exists in Ixil, where the progressive marker is nik (the full form, which can always be used in place of the variants seen below, and which in fact is obligatory when directional verbs are present). In the dialect of Nebaj the following forms of the progressive exist (examples given are in transitive constructions with  $\emptyset$  object):

Forms of Progressive Aspect - Ixil

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		-- V		-- C	
	<u>aspect</u>		<u>pro</u>	<u>aspect</u>	<u>pro</u>
1	ni,nu,nun		w	n	un
2	n		a+w	n	a
3	ni		t	n	i
1	ni		q	ni,nu	ku
2	n		et	n	e

(Ayres, 1980, p. 245)

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Again, in the forms above it is not the pronominal which has adjusted to the aspect, but vice versa. The k present in the full form disappears in common use though, as mentioned above, nik can be substituted at any time for the listed forms. The general rule is that ni (<nik) drops its vowel prior to a pronominal beginning with a vowel and retains it before a consonant. In the table above, before prevocalic first person singular w, and preconsonantal first plural ku, the vowel i assimilates to u; according to Ayres (p. 247) nu is an acceptable variant of ni everywhere in the ergative paradigm, which we would expect given the presence of ergative w. The nun variant of ni occurs only before first person singular w. Ayres interprets it as n+un, as one finds in the pre-consonantal forms: compare nun wile? 'I am seeing' (verb il 'see') with nun b'ene? 'I am going' (verb b'en 'go'). This form could thus be a fossilized form of the original state of affairs previously postulated and discussed above in Chapter Two—first person \*in+w. In lxil, as in many languages, the in was subsequently lost in prevocalic constructions and the w was reanalyzed as first person (much as it also underwent reanalysis in most languages as third person singular). This one form preserves original \*ni(k)+un+w+ile?.<sup>31</sup>

The above examples emphasize the importance of the aspect morpheme insofar as the shape of the pronominal morphemes is concerned—as well as the fact that the aspect morphemes themselves can vary. In addition, in some BAV languages the ergative morphemes can be affected by neighbouring absolutes. Most of these changes are optional and

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31. It is also possible that nun comes from ni(k) / nu / nun, through a copying of the aspectual n, or that it is an analogical formation from the pre-consonantal form un.

do not affect the underlying shape of the ergative morpheme as opposed to the absolutive. Nonetheless they serve to point out that contiguous morphemes do cause changes to one another, and we therefore include a few examples.

Robertson (1987) points out that some dialects of Kaqchikel delete the r of ergative third person singular after a consonant (p. 203):

š + oj + u + č'ay    He hit us  
 perf.Abs erg hit  
 1pl 3 sng

but:

š + e + ru + č'ay    He hit them  
 perf.abs erg hit  
 3pl 3 sng

We have also heard *nukanoj* < *n+r+w+kanoj*<sup>32</sup> is 'He is looking for him,' where the aspectual n has caused the r of ru to elide. Also common in the Comalapa dialect is the loss of the initial vowel of the ergative first singular after vowel-final absolutives, e.g., *šenkanoj* < *š+e+in+w+kanoj*.<sup>33</sup> Another example is that of Tzutujil, seen above, whose ergative first singular also loses its vowel after absolutives ending in a vowel: e.g., *š+e+nu+tz'at* 'I saw them' < *š+e+in+w+tz'at*. Though not an example of change occurring to a pronominal, it is worth mentioning that Tzutujil also possesses a motion prefix, ur 'motion this way,' which undergoes change. In the Tzutujil verbal complex, it immediately precedes the verb, following the ergative (and,

32. In Comalapa it is also possible to delete the final t of the absolutive second singular before the ergative first and third singular, e.g., *yantz'u* < *y+at+in+w+tz'u* 'I see you' and *yaruč'ay* < *y+at+r+w+č'ay* 'He sees you.' However, an informant from Tecpan rejected these.

33. Rodriguez, et al., 1988, p. 56.

presumably, the ergative w), so that in this case it is the nature of the ergative before ur which effects the change. For instance, after second person singular a (<at+w), ur/r:

n - # - a - r - tz'at - a - '  
 cont. him you come see come class.  
 'You come see him' (Butler and Butler, p. 14)  
 (< \*n+∅+at+w+ur+tz'at+a+a+').

The many examples above point out the complexity of the interaction between the various members of the verbal complex in Mayan. Though conditions within each language vary slightly, it is clear that in very many instances the juxtaposition of morphemes causes phonological change. The reason why we have gone to so much trouble to outline these changes is that it is precisely these types of changes (as well as morphological change) which have acted in the past to obscure the original forms of the pronominal affixes. Not surprisingly, where these changes have not taken place, the pronominal affixes are left more or less in their original state. Going back to our original example of Yukatek, for instance, we note that the singular forms of the ergative pronominal affixes are very close to our reconstructions:

Yukatek	PM
1 in-	*in
2 a-	*at
3 u-	*∅ (/w)

No one language has preserved the pronominal affixes in their original form; rather each one, over time, has undergone a unique combination of the various processes described above to produce the pronominal paradigms they possess today. It is not possible at this point to predict where and when a

given phonological or morphological process<sup>34</sup> occurs, though it may be in the future with more research. That is, though we have noted that cluster simplification has taken place within the proposed set of absolutes in Tzotzil, and have explained why (the propensity of consonants to drop before ergative w, the position of the affix before rather than after the verb, and so on) we have devised no precise formula for Tzotzil, which could predict the dropping of n, t, etc. from the pronominals. This is theoretically possible. Foley has demonstrated (Foley, 1977) using mainly Indo-European examples that the application of a phonological rule or process may be predicted through the establishment of a universal rule (say, for cluster simplification) followed by a statement of universal conditions and then one of parochial conditions (cf. p. 29, *Foundations of Theoretical Phonology*). However, in order to do this, the phonological parameters of Mayan must be carefully worked out, which must be left to further research.

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34. However, see Robertson (1980), with regards to predicting the direction of morphological change (and our interpretation above).

## CHAPTER FOUR

In the preceding chapters, we have presented the hypothesis that the absolutive and ergative pronominal affixes of the modern Mayan languages are descended from one original set. Factors involved were both morphological and phonological. The factors conditioning the phonological changes which have produced the separate paradigms of today are mainly environmental, involving a morpheme's position with respect to the verb, the nature of the morphemes surrounding it, the influence of w on the ergative affixes, and to some extent the inherent strength and quality of the sounds comprising the affix.

Our approach is based, not on the direct evidence of any one language, but on bits of evidence gathered from all of the languages of our study. As though assembling a jigsaw puzzle, we have attempted to piece together a picture of the origins and development of the Mayan pronominal affix system using these bits of evidence. Pieces are missing, as many of the changes we have proposed predate written history. Therefore, our evidence is circumstantial. Of itself, there is nothing wrong with this type of evidence, especially when dealing with proto-languages, which are theoretical constructs anyway. With time and more exposure to data from more languages it is to be hoped that any discrepancies and gaps in knowledge will be rectified.

There is one point which we wish to clarify with respect to pre-verb versus post-verb position. In spite of the fact that the respective environments in which the ergative and absolutive pronominals appear always differ—more so in some languages than in others—we might expect more similarity between the morphemes of the two paradigms, in some cases.



accounted for by the principles of morphological change discussed above" (p. 86). Robertson's arguments are based on primacy of certain types of predication over others. For instance, citing Kurylowicz, he states that given the opposition verbal vs. nominal predication, verbal predication is primary. He then gives examples of languages where absolutes became prefixed to the verb in verbal predications, but remained suffixed in nominal predications. This he explains by means of Kurylowicz's fourth law of analogy which (paraphrased) states that when a morphological innovation occurs, the new form takes over the primary function whereas the old one is restricted to the secondary. Therefore, assuming that absolutes were originally suffixed, he conceptualizes the change to prefixes as follows:

" Stage I	Stage II	
asp - Pred - Abs N	asp - Abs - Pred N	
[+ Abs]	[+Abs]	
Pred - Abs N	Pred Abs N	
[+Abs]	[+Abs]"	(p. 89)

An interesting example is given from Chuj in which the absolute is found suffixed when an adverb of time is found within the sentence (eliminating the need for a tense/aspect marker) and prefixed when a tense/aspect marker is present:

" ?is - on - vay - i rpast - Abs 1pl - sleep - aff. today	
'We slept today'	
vay - on ?evi sleep - Abs 1pl - yesterday	
'We slept yesterday'	(P. 90)

(Apparently, the absolute is only suffixed with ?evi 'yesterday'). These examples illustrate that in this particular language, a fine distinction is made between sentences containing tense/aspect morphemes and those



which do not. In those not possessing tense/aspect markers the absolutive remains in suffixed position.

Finally, he gives examples of languages that sometimes prefix their absolutive pronouns in intransitive constructions, and suffix them in transitive (e.g. Awakatek, some dialects of Tzotzil). In these cases, we note that it is the absolutes serving as subjects which are prefixed, and those acting as objects that are suffixed. Again, this is explained by the fact that intransitive predication is the primary member of the opposition: intransitive vs. transitive predication, as it has a wider range of occurrence. Therefore, according to Robertson, the innovative prefixation of the absolutive would be expected to take place in intransitive predication; and this has in fact occurred.

Robertson's findings are in this case corroborated by our own, though ours are based on phonological evidence. We suggest that the reason why the prefixed absolutes have not undergone as many changes as the ergative in some languages, apart from the obvious environmental factors involved, is because the pronominals which eventually became known as 'ergatives' were prefixed before the 'absolutives' were. Thus, they have had more time in which to change. We visualize the evolution of the affixation pattern as:

- Stage:
- 1) all pronominals suffixed
  - 2) ergatives prefixed; absolutes suffixed
  - 3) " " ; absolutes prefixed in certain verbal constructions, suffixed in others
  - 4) ergatives prefixed: absolutes prefixed in verbal constructions, suffixed only in nominal constructions
  - 5) ergatives prefixed; absolutes prefixed

Stage 1 is our Proto-Mayan stage, where but one set of pronominals existed—i.e. first person singular, second person singular, etc. As evidence

towards proving the existence of this stage, we submit that all pronominals, whether absolutive or ergative, are fundamentally VC in shape. (Only ergative first and third plural forms, which have undergone metathesis before w, differ). This is the classic configuration for suffixes in most languages. Judging by the fact that some languages (Pokomam, Pokomchi) have metathesis rules affecting the shape of the pre-verbal pronominals, making them CV instead, VC is not the optimal shape for a prefix. (We note also that most aspect morphemes appear to be V,C, or CV).

Stage 2 is today represented by the lowland languages, Yukatekan and Greater Tzeltalan. Stage 3 is exemplified by Awakatek, some dialects of Tzotzil, Kanjobal, and Chuj; Stage 4 by e.g. Mam and Pokomchi; and Stage 5 by e.g. Kaqchikel, Tzutujil and K'iche'.

Not surprisingly, languages such as Kaqchikel and K'iche' which have prefixed their absolutives in all environments, thus being the most innovative in this respect, have absolutives which do go through some of the changes that ergatives do. If our theory about the time factor of phonological change is correct, given the progression of the prefixation of absolutives portrayed in the table above, we would expect: a) the most change to occur to absolutives acting as subjects of intransitive verbs; b) less change to occur to absolutives acting as objects of transitive verbs; and c) the least change to occur to absolutives in stative (nominal) constructions. Kaqchikel has pre-vocalic and pre-consonantal alternants in its first and second singular and third plural absolutive pronominal affixes. However, when we examine the various environments in which these affixes appear, we learn that the loss of the final consonant of these affixes does not take place in nominal constructions:

Kaqchikel:

Intransitive: "š<sup>h</sup>wa  
comí"  
(I ate)

(Rodriguez et al, 1988 p. 47)

< \*š<sup>h</sup> + in + wa  
asp 1sg eat  
abs

Transitive: "š<sup>h</sup>ruwukusaj  
me usó o me entró (él/ella)"  
(He used me)

(ibid, p. 59)

< \*š<sup>h</sup> + in + rw + uku + saj  
asp 1sg 3sg use aff  
abs erg

Nominal: in winaq  
'I am a man'

< \*in + winaq  
1sg man  
abs

In addition, McArthur and McArthur (in Mayers, 1966) report that for Awakatek, the subject prefixes for intransitive verbs have pre-vocalic and pre-consonantal variants. However, only some of the object forms do:

#### Awakatek - Absolutive Pronominals

Subject (intrans.constr.)    Object (trans.constr.)

	__C	__V	__C	__V
1sg	č <sup>h</sup> in	n	č <sup>h</sup> in	
2	š <sup>h</sup>	kš <sup>h</sup>	š <sup>h</sup>	kš <sup>h</sup>
3	∅	∅	∅	
1pl	ka	k		ko'
2	š <sup>h</sup>	kš <sup>h</sup>	š <sup>h</sup>	
3	či	č	č <sup>h</sup> e'	

- 
1. Unfortunately, in the McArthurs' short article, no lists of the absolutive forms used in nominal constructions are given. They would be suffixed in any case, however.

As suspected, progressively less change (at least in terms of cluster simplification) has occurred to absolutes which we theorize were prefixed latest. These data support our theory, that part of the reason that prefixed absolutes have not undergone as much change as the ergatives is because of the amount of time involved. Ergatives, having been the first to be prefixed, show the most changes which can be attributed to their pre-verb position. (The presence of w must be factored in as well). Next are those absolutes which were prefixed first; until finally we reach stative constructions, where prefixation would have occurred last, and which show the least amount of change of all. The fact that only the absolute first and second singular and third plural in Kaqchikel, and the third plural in K'iche' have pre-vocalic and pre-consonantal allomorphs we take as evidence that the pre-verbal changes to the absolutes are just beginning in these languages and could conceivably spread throughout the absolute paradigm. As mentioned elsewhere, languages never remain static.

It is ironic, given that languages such as Kaqchikel and K'iche' are more innovative in prefixing their absolutes than, for instance, Yukatek or Chol, that these aforementioned absolutes actually remain closer to the original form of the pronominal affix. Again the relevant factor here is time; whereas some prefixed absolutes have begun to go through some of the same changes as the ergatives, the suffixed absolutes, never having moved, have undergone changes themselves (though, as noted in the previous chapters, changes characteristic of their different environment).

Besides using the later prefixation of absolutes as a reason for the relative lack of change on the part of absolute as opposed to ergative morphemes, there are other implications. By force of logic we are compelled to regard the affixational pattern AVB as older than BAV. This is contrary to

Bricker (1977) and Kaufman (1972); here again we seem to be in agreement with Robertson. We note that the actual order of constituents in most Mayan languages is VSO in Greenberg's terms, which is "probably the word order of common Mayan" (Robertson 1980 p. 37). It is possible that, parallel to this, the verb root itself was once 'first' in the verbal complex, with all pronominals suffixed. Much more research must be done in this area before such claims can be made, however.

For the most part, our findings do not conflict with the groupings of Mayan languages suggested by Campbell and Kaufman 1985 (as presented in the first chapter). However, like Robertson, we see no reason to group Chuj and Tojolabal on their own as a separate sub-family. As far as pronominal affixes are concerned, as demonstrated in Chapter Two, those of Chuj conform closely, both in form and in the processes they undergo, with those of Jakaltek and Kanjobal; those of Tojolabal, with the Tzeltal and Tzotzil pronominals. (If anything, Tzotzil is the oddity within the Tzeltalan group, with its two sets of absolutes<sup>2</sup>). In addition, Robertson (1977a) presents ample syntactic evidence to complement the phonological and morphological evidence pointing to the grouping of Chuj with Kanjobalan and Tojolabal with Tzeltalan.

The approach to the reconstruction of the Proto-Mayan pronominal affixes taken in this thesis gives evidence of the close relationship between phonology and morphology. Whereas phonological change can happen independent of morphological influence (the English Vowel Shift and the Proto-Mayan/Mayan correspondences are examples of this) certainly in many

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2. In fact, Bricker (1977) argues for the inclusion of Tzotzil with the highland languages.

cases it is due to morphological factors. Many of the changes documented above would not have taken place had the character of the Mayan verbal complex, with its numerous morphemes and morpheme boundaries, been otherwise.

## APPENDIX ONE

## Pronominal Affixes

## 'Highland' Languages

## K'ichean subfamily:

## Ergative

	<u>Kaqchikel</u>	<u>Tzutujil</u>	<u>K'iche'</u>	<u>Achi</u>
1sg	in(w),n(w),w	n(u),in(w)-	in,nu-/w-	in-/w-
2	a(w)-	a(w)-	a(w)-	a(w)-
3	r(u)-	r(u)-	u-/r-	u-/r-
1pl	q(a),qa(w)-	q(a)-	q(a)-	k(a)-
2	i(w)-	e(w)-	i(w)-	i(w)-
3	k(i),ki(w)-	k(e)-	k(i)-	ki-/k-

## Absolutive

1sg	i(n)-	in-	in-	in-
2	a(t)-	at-	at-	at-
3	∅	∅	∅	∅
1pl	oj-	oq,qo-	oj-	oj-
2	iš-	iš-	iš-	iš-
3	e(')	e-	e(')-	e-

Rodriguez et al  
1988Butler and  
Butler 1978Suy Tum  
1988Bricker  
1977

## K'ichean continued

## Ergative

	<u>Pokomchi</u>	<u>Pokomam</u>	<u>Uspantek</u>	<u>Q'eqchi'</u>
1sg	in,ni-/w-	nu-/w-	vu-/in-*	in-/w-
2	a(w)-	a(w)-	a(vu)-	a:(w)-
3	r(i)-	r(u)-	š-/j-/r-	š-/r-
1pl	k(a)-	q(a)-	k(a)-	q(a)-
2	a(w)- -tak	a(w)-(-ta)	a(vu)-	e:(r)-
3	k(i)-	k(i)-	reč-	š-/r- -eb' ~ e:š-/e:r-

## Absolutive

1sg	(k)in-	in-	in-	in-
2	at,ti-	hat,ti-	at-	at-
3	∅/in-/n-	∅	ti-	∅-
1pl	(k)oj-	qoj,aj-	oj-	o:-
2	at,ti--tak	at,ti-(-ta)	atak-	eš-
3	ki-	∅,i-	ti-	e'-

## 'B2 or C'

-(k)in	-i:n
-(k)at	-a:t
∅	∅
-(k)oj	-uaj
-(k)at tak	-a:t (ta)
-(k)i-	-ie?
/-(k)eb'	

Ramirez and  
de Ramirez, 1988

Smith-Stark  
1983

Bricker  
1977

Cuc Caal  
1988

\* The order of these morphemes should be reversed, to in-/vu- (in[  C], vu[  V]).



## Mamean Subfamily

## Ergative

	<u>Mam</u>	<u>Tektiteko</u>	<u>Aguakatek</u>	<u>Ixil</u>
1sg	n-/w-	n-/w-	in-/w-	in~un-/w-
2	t-	a(w)-	a(w)-	a(w)-
3	t-	t,x,s,xh-	∅,t,s,š,š-	i-/t-
1pl	q-	q,j-	k(a)-	ku,qu-/q-
2	ky-	e:(t)-	i(t)-	e(t)-
3	ky	ky,k-	či-/ki-	i-/t-

## Absolutive

1sg	čin-	in,kyin-	čin,n-	-in
2	∅,tz,tz',k-	čt,šč,ič-	š-/kš-	-aš
3	∅,tz,tz',k-	∅,tz,tz',w-	∅	∅
1pl	qo-	qo,o-	k(a)-ko'-	-o?
2	či-	kš,ikš-	š-/kš-	-eš
3	či-	kye,e-	č(i),če'-	∅

## 'B2 or C'

-(q)iin

-∅,-a?

-∅,-a?

-q(o?)

-∅/e?

-∅/e?

England  
1983Stevenson  
1987McArthur and  
McArthur in  
Mayers 1966Ayres  
1980

## Kanjobalan Subfamily

## Ergative

	<u>Chuj</u>	<u>Kanjobal</u>	<u>Iakalteq</u>
1sg	hin-/w-	hin-/w-	hin-/w-
2	h(a)-	ha-	ha(w)-
3	s-/y-	s-/y-	s-/y-
1pl	k(o)-	ko-/j-	ko,ku-/j-
2	he(y)-	he(y)-	he(y)-
3	s-/y-hep'	s-/y-	s-/y- -heb

## Absolutive

1sg	hin-	(h)in-	hin-
2	hač-	(h)ač-	hač-
3	∅	∅	∅
1pl	h o ŋ-	(h)on-	h o ŋ-
2	heš-	(h)eš-	heš-
3	∅	∅	∅ -heb +class.

## 'B2 or C'

-in	-hin
-ač	-hač
∅	∅ + class.
- o ŋ	- h o ŋ
-eš	-heš
∅	∅ -heb +class.

Hopkins  
1967Bricker  
1977Craig  
977

## Lowland' Languages

## Yukatekan Subfamily

## Ergative

	<u>Classical Yukatek</u>	<u>Yukatek</u>	<u>Mopan</u>	<u>Itza</u>	<u>Lakandon</u>
1sg	in(u)-	in(w)-	in(w)-	in(w)-	?in(w)
2	a(u)-	a(w)-	a(w)-	a(w)-	?a(w)-
3	u(y)-	u(y)-	u(y)-	u(y)-	?u(y)-
1pl	c(a)-	k-	ti(w)-	ki(w)-	?h(k)-
2	a(u)- -ex	a(w)--e?eš	a(w)--e'eš	a(w)--e?eš	a(w)-eeš
3	u(y)- -ob	u(y)-o?ob'	u(y)--oo'	u(y)--oo'	?u(y)-o?

## Absolutive

1sg	-en	-en	-een	-(e)en	-en
2	-ech	-eč	-eeč	-(e)ech	-eč
3	∅	∅	∅	-(ih)	-i?/∅
1pl	-on	-o?on	-o'on	-o'on	-oon
2	-ex	-e?eš	-e'eš	-e'eš	-eeš
3	-ob	-o?ob'	-oo'	-oo'	-iho?/∅

Bricker  
1986Bricker  
1986Ulrich and  
de Ulrich  
1971Bricker  
1986Bruce  
1968

## Cholan Subfamily

## Ergative

	<u>Classical Chontal</u>	<u>Chontal</u>	<u>Chol</u>	<u>Classical Cholti</u>	<u>Chorti</u>
1sg	c(a)-	k(a)-	h-/k-	in(w)-	Vn&-
2	a(v)-	a(gw)-	a(w)-	a(w)-	a&-
3	u(y)-	u(y)-/uh	i(y)-	u(y)-	u&
1pl	c(a)- -la	k(a)- -la	h-/k- -la	ka(w)-	ka&
2	a(v)- -la	a(gw)-la	a(w)- -la	i(w)-	i&
3	u(y)- -ob	u(y)/uh -op'	i(y)- -ob	u(y)- -ob'	u& -o'p

## Absolutive

1sg	-on	-on	-on	-en	-en
2	-et	et/eh	-et	-et	-et
3	∅	∅	∅	∅	∅
1pl	-onla	-onla	-onla	-on	-on
2	etla	-etla	-etla	-oš	-oš
3	-ob	-(l)op'	-ob	-ob'	∅

## 'B2 or C'

un-

i-

a-

ka-

iš-

a-

Smailus  
1975Bricker  
1986Attinasi  
1973Bricker  
1986Fought  
1972

## Tzeltalan Subfamily

## Ergative

	<u>Toholabal</u>	<u>Tzeltal</u>	<u>Tzotzil</u>
1sg	h-/k-	h-/k-	h-/k-
2	ha(w)-	a(w)-	a(v)-
3	s-/y-	s-/y-	s-/y-
1pl	h-/k- -tik	h-/k- -tik	h-/k- -tik
2	ha(w)- -eš	a(w)- -ik	a(v)- -ik
3	s-/y- -e?	s-/y- -ik	s-/y- -ik

## Absolute

1sg	-on	-on	i-
2	-a	-at	a-
3	∅	∅	∅
1pl	-otik	-otik	i- -otik
2	-eš	-eš	a- -ik
3	-e?	-ik	∅ -ik

## 'B2 or C'

-on  
-ot  
∅  
-otik  
-ošuk  
-ik

Furbee-Losee  
1976

Kaufman  
1963

Bricker  
1977

## Huastec and Proto-Mayan Reconstructions

## Ergative

	<u>Huastec</u>	<u>Kaufman</u>	<u>Robertson</u>	<u>Osborne</u>
1sg	u-	*in-/*w-	*nu-/*w-	*in
2	a-	*a:-/*a:w-	*a-/*aw-	*at
3	in-	*u-}*y- *s-}	*ru-/*r-	∅
1pl	i-	*j-}/*q- *q-}	*qa-/*q-	* o η
2	i-	*e-/*ew-} y-}	*e-/*er-	*eš
3	in-	*ke-/*k-	*ki-/*k-	∅

## Absolutive

1sg	in-	*in	*in	
2	it-	*ʌt	*at	
3	u-/∅	∅	∅	
1pl	u-	* o ? η	* o ? η	
2	it-	*eš	*eš	
3	u-/∅-	*eb'	*eb?	
	Bricker 1977	Smith-Stark 1983	Robertson 1977b, 1980 1982a, 1984c 1985, Personal Communication	Osborne 1989

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