

Ergativity in Mayan languages: a functional-typological approach¹

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1. Introduction

The ergativity of Mayan languages is one of the major features of the family and merits being placed in the context of some other linguistic characteristics of that family in order to give it perspective. The Mayan family is a large family that resembles in many ways the family of Indo-European languages, by its time depth, its number of branches and sub-branches, and its distinct languages. It is made up of around 30 languages spoken in a relatively contiguous area in Guatemala, and in the regions of Yucatan and Chiapas in the south of Mexico, with the exception of the Wastekan branch spoken in central Mexico near the Pacific coast.

Since the 1970s the family has been meticulously reconstructed and several divisions and sub-branches of the family have been identified (see for example Kaufman (1974), Robertson (1977), Campbell and Kaufman (1985)). The Mayan languages can be traced back to a proto-language, Proto-Maya, which was spoken approximately 4,000 years ago. Below we present the Mayan family tree, adapted from Kaufman (1974) as reproduced in England (1996).

¹ This chapter is partly based on material extracted from Professor Grinevald’s courses on Mayan Linguistics taught as part of the Mayan Program in the Department of Amerindian Linguistics at the “Institut National des Langues et Cultures Orientelles” (INALCO) in Paris, France.

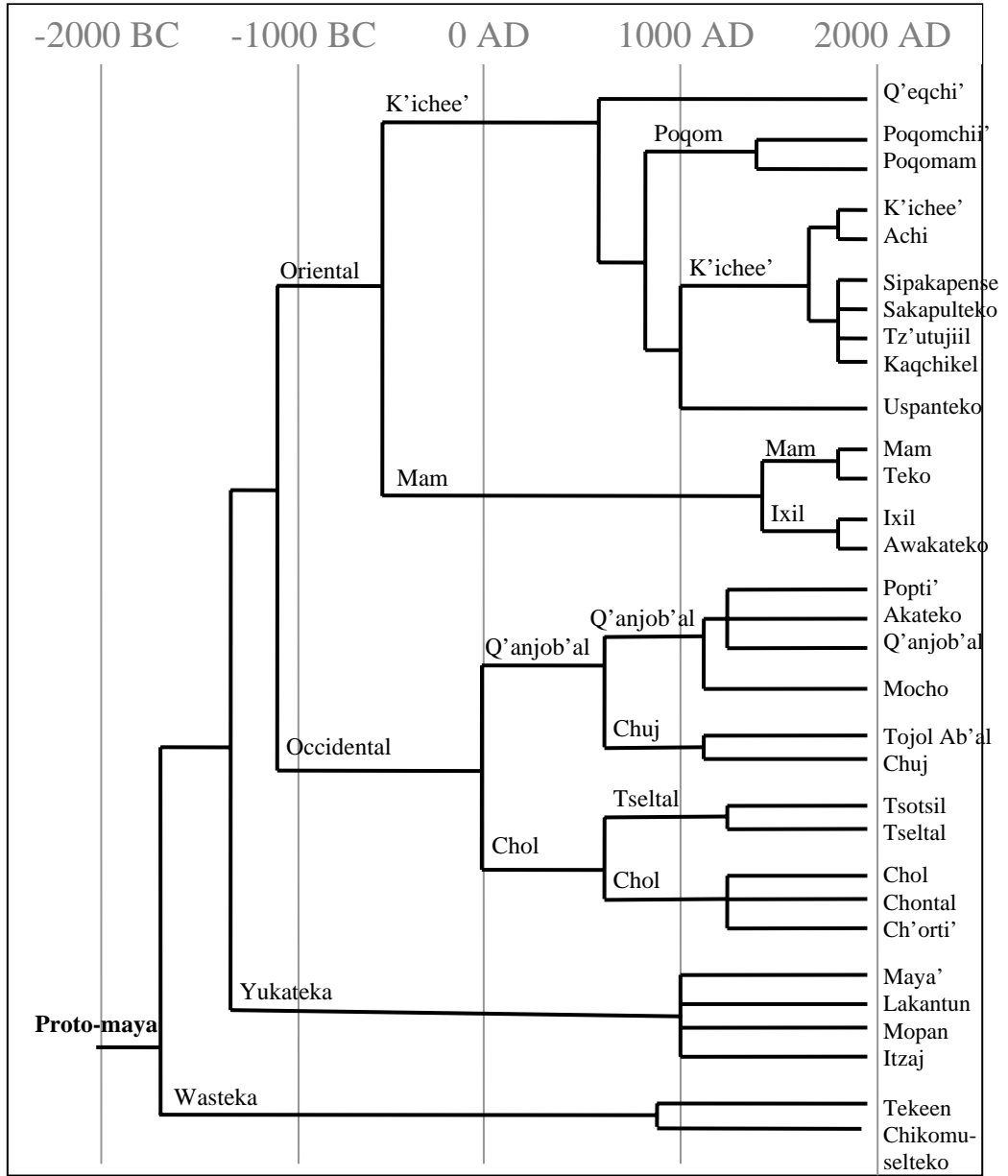


Figure 1: The Mayan Family Tree according to Kaufman (1974)

This family has been relatively well studied, and is one of the earlier and better known of the American continent. A tradition of ‘Mayan Linguistics’ has developed in the second half of the 20th Century, especially from the 1970s onwards, when a group of Mayanists began to form a network of field linguists who met on a regular basis to work on diverse and pre-determined subjects of particular interest for the linguistics of the family (see Grinevald (2002).² More recently efforts have been concentrated on the training of native Mayan linguists with the novel contributions they can make to the studies of their own languages. In Guatemala, this work was initiated by the pioneering work of Terrence Kaufman with the Proyecto Lingüístico Francisco Marroquín (PLFM) in the seventies, and has been primarily continued by the “Oxlajuuj Keej Maya’ Ajtz’iib” (OKMA) organisation founded and directed by Dr. Nora England (e.g. England 1983), and in Mexico by the “Centro de Investigación y Estudios en Antropología Social” (CIESAS). All these developments are traced in Grinevald (2007).

Because of this groundbreaking work, today we have a fairly good understanding of both pan-Mayan traits, and branch and language-specific variations. In this chapter we will place the study of ergativity in this Mayan linguistics context, presenting it from a functional-typological perspective. Section 2 offers an overview of the Mayan family and its general features, paying particular attention to Mayan verbal morphology, while section 3 sketches out preliminaries necessary for the study of ergativity in these languages, in particular the issue of terminology. Section 4 presents the forms and functions of the person markers in Mayan languages, noting in particular the possibility of reconstructing them in Proto-Mayan and the greater variation in plural marking. Section 5 follows with three language-specific case studies exemplifying the preceding discussion of ergativity marking in the Mayan family. To close, section 6 considers Mayan ergativity in its syntactic context, first with the types of split ergativity found across the family, and then with an overview of the very elaborate voice systems of Mayan languages, casting it into a functional-typological ap-

² The group coordinated the *Mayan Newsletter*, created *The Journal of Mayan Linguistics*, organized numerous Mayan sessions at the annual meetings of the American Anthropological Association (AAA) and summer workshops alternating between Guatemala and Mexico (los talleres mayas). Publications from that active period spanned from morphosyntactic, syntactic, to comparative, sociolinguistic and historic studies on the whole of the family, such as Aissen (1979; 1987), Brody (1982), Campbell (1978), Campbell & Kaufman (1985), Craig (1977), Dayley (1985), England (1978; 1983b), Furbee-Losee (1976), Haviland (1981), (Hopkins 1967), Kaufman (1971; 1972), Laughlin (1975; 1977), Martin (1977), Robertson (1977), Smith-Stark (1978), (Ayres 1991), among others.

proach and including an evaluation of the role of person marking in assessing the transitivity of the verb constructions concerned.

The examples given in this chapter have been adapted from original sources, where appropriate, to either the official standardized orthographies proposed by the Academia de las Lenguas Mayas de Guatemala (ALMG) and adopted by the Guatemalan government in 1987 (see I.I.N (1988) for example) in the case of the Mayan languages spoken in Guatemala, or the unofficial but now widely used practical orthographies developed by the various speech communities in Mexico. Language names and orthographies have also been updated to correspond to those employed by the language communities themselves where known. The ALMG system has been reproduced in the Annex, along with an explanation of some the variations found in the orthographic systems of Mayan languages spoken in Mexico.

2. Overview of the Mayan family

2.1. Family traits and contributions to general linguistics discussions

The study of the Mayan family of languages took a leap forward with the major contributions of Terrence Kaufman (see in particular Kaufman 1986, Campbell and Kaufman 1985) whose work in historical linguistics laid the ground for much of the coordinated descriptive effervescence of the period mentioned above.

Over time, discussions and analyses of a number of Pan-Mayan linguistic features have made significant contributions to general linguistics. Some of the major themes of morphology and syntax involved are listed below.

2.1.1. Roots

Mayan languages are known for their rich system of roots of the form CVC, or less commonly CV'C or CVhC. These roots, of which there are many in each language, participate in a large number of highly flexible morphological processes which derive lexical items in the language. The same root, for example, could be used to derive a transitive verb, an intransitive verb, a non-verbal postural predicate, a numeral classifier or a noun. See in particular Lois and Vapnarsky (2003a, b) for a discussion of the lability of many of those roots in Yukatek Maya.

2.1.2. *Word Order*

Almost all Mayan languages are basically verb-initial. While some are predominantly and rigidly VSO, others allow a variation between VSO and VOS (and other yet more or less pragmatically marked orders). Interestingly, Mayan languages offer cases of varying word order determined by different types of hierarchies: either a semantic one of person, or one of definiteness and animacy. See England (1992) for a good overview of this question of word order across the family. It is also worth noting in passing that the concept of ‘preferred argument structure’ (which accounts for the fact that the great majority of sentence structures in natural discourse are mono argumental, and therefore not conducive to the establishment of a ‘basic word order’) was originally developed by du Bois (1987), specifically on the basis of data from a Mayan language, Sakapultek, and in the context of a search for a motivation for the ergative pattern of the language!

2.1.3. *Classifier systems*

The classifier systems of Mayan languages have also amply contributed to the discussion of a typology of such systems (Grinevald 2000). Some of the first thorough descriptions of a numeral classifier systems in America are Berlin (1968) for Tseltal, and de León (1988), for an early description of classifier use with the case of Tsotsil. More recently, descriptions of the special classifiers of the Q’anjob’alan languages (Craig (1986, 1987) Zavala (1989)) have contributed to the identification of a distinct type of ‘noun classifiers’. Finally, ‘possessive classifiers’ have also been identified and analyzed in Yukatek (Lehmann (1998), Maldonado (1994)) although these have not been as yet fully integrated in a general typology of classifier systems in their specificity.

2.1.4. *Space*

The expression of space is omnipresent in Mayan languages and has been the theme of a pionniring project on the expression of space at the Max Planck Institute of Nijmegen directed by Steve Levinson. For instance, the

use of positionals as predicates of basic locative constructions in Tseltal is detailed in a seminal paper by Brown (1994), attracting attention away from the centrality of adpositions in these constructions to this rich set of locative predicates. This subset of “positionals” roots semantically associated with the position, shape or arrangement of objects typically counts between 250 and 500 items in a Mayan lexicon. See for instance an early inventory of those of Kanjobal in Martin (1977), or the study of the very detailed semantics of the ‘sitting’ positionals of Tsotsil in Haviland (1992). Another spatial morphosyntactic category of many Mayan languages is a closed set of verbal suffixes or particles derived from grammaticalised motion verbs, known as “directionals”. For a discussion of directionals in the Q’anjob’alan languages, see for example Craig (1993) for Jakaltek Popti’ and Zavala (1993, 2000) for Akateko. Grinevald (2006) considers how languages of two branches of the family sharing the same obsession for space expression, and, crucially, the same morphosyntactic inventories, opt in the end for different static locative construction strategies (positionals for Tseltal and directionals for Jakaltek Popti’).

2.1.5. Verbal Morphology

Mayan languages, despite their nearly 4000 years of separation, also show remarkable coherence in a rich verbal morphology at the origin of important studies in the area of ergativity and voice marking. This verbal morphology is the topic of the following section.

2.2. Morphosyntax of the verb form in Mayan: an overview

Mayan languages have an inflectional-type system with agglutinating morphology. There is, by and large, very little in the way of morphophonemics, which facilitates the argumentation of descriptions in syntax. The functional subsystems identified in the verbal morphology include a Tense-Aspect-Mode (TAM) system, a person marking system (sets A and B), a voice system (passives, antipassives, applicatives) and a spatial marking system (directionals).

From a formal perspective, the domain of the verbal complex counts bound morphology and free morphemes. The bound morphology comprises the verb and a number of stacked prefixes and suffixes, the verb being ei-

ther a radical (underived) and a derived stem, with the verbal morphosyntax often sensitive to this particular distinction. Multiple affixation in Mayan languages obeys a fixed order, unlike what happens in Kechua or many other Amerindian languages. Free morphemes include auxiliaries, which are found in all languages, as well as aspectual particles and directionals in some languages. The auxiliaries can express movement with goal (“motion cum purpose”) as in Tsotsil, path (as in Mam), or aspectual notions (as in Yukatek and many other languages).

2.2.1. Verb template and marked transitivity

The verb templates below show the maximal verbal extensions for two different Mayan languages, giving some indication of the kind of variation that can be found across languages.

Table 1 Jalkatek Popti’ Maximal Verb Extensions

<i>T/A-</i>	<i>-set B</i>	<i>set A-</i>	<i>VERB</i>	<i>-voice</i>	<i>-mood</i>	<i>-dir</i>	<i>-mood</i>	<i>-theme</i>
		<i>_C</i>	radical	passive	irrealis	set 1-2-3	irrealis	trans.
		<i>_V</i>	derived	antipassive		vs. pre- verb aux		intrans.
ch- ICP	-in -B1	haw- A2S	il <i>see</i>					-a VT
				‘I see you’				
ch- ICP	-onh -B1PL		tzuj <i>follow</i>	-cha PASS				
				‘We are followed (by you)’				
		y- A3	a <i>put</i>	-n AP	-oj IRR	-k DIR	-oj IRR	
			‘(Nobody wants)... to put...(his hands on the dead)’ (Craig 1993)					

Table 2 Tojol Ab'al Maximal Verb Extensions

<i>T/A-</i>	<i>set A-</i>	<i>VERB</i>	<i>-voice</i>	<i>-mood</i>	<i>-theme</i>	<i>-set B</i>	<i>-set A</i>
	<i>_C</i>	radical	passive	irrealis	transitive		plural
	<i>_V</i>	derived	antipassive		intransitive		
x- ICP		'il- <i>see</i>	-j PASS		-y VI	-e' B3PL	
			'They are seen'				
		il- <i>see</i>	-wan AP	-uk IRR		-e' B3PL	
			'(That) they (will) see'				
x- ICP	aw- A2	il- <i>see</i>			-aw VT	-on B1S	-ex A2PL
			'You (pl) see me'				

2.3. General remarks: pan Mayan vs language specifics

This section surveys the different elements of the verbal complex, considering in which way they are characteristic of the family as a whole and in which way they vary across branches or languages of the family.

2.3.1. Verb roots

In all Mayan languages there is a very productive derivational morphology, and the verb itself may be either "radical" or derived. Verb roots are defined for each language and are mostly of the form CVC (not unlike the established schemes of the tri-consonantal roots of Semitic languages), and roots of the form CVhC or CV'C are also found in some branches.

2.3.2. Aspect marking

Another characteristic of Mayan verbal morphology at large is its Aspect Marking (and less frequently tense or modality). Almost all languages make a distinction between "completive" and "incompletive". Other tense and aspect distinctions are also found in some languages, including recent vs. distant past or future. Aspect can also be expressed using auxiliary-type forms in periphrastic constructions, particularly the progressive.

2.3.3. *Person marking*

All Mayan languages have systems of indexation of the core arguments of the predicate. These markers are organized into two paradigms known traditionally as “set A” and “set B” (see below). This complex person marking system is one of the best-known characteristics of the Mayan languages, and will be amply discussed further below, as it is at the core of the ergativity of the whole family.

2.3.4. *Voices*

There is any number of voices in all Mayan languages. Those languages were some of the first so-called ergative languages to be shown to have passive voices, and they contributed as well to establishing the existence of a type of voice called ‘antipassive’, widespread across the family, with variant subtypes of that voice. One can also find in the family some instances of applicative voices, locally known under different labels, as well as some instances of middle/reflexives and one known case of causative clause union. But one of the major characteristics of the family at large that involves ergativity marking and the use of voices is a common sensitivity to either animacy or definiteness hierarchies in many languages, only rarely marked by morphological inversion verbal affixation, but a widespread use of passive and antipassive voices as functional equivalent of obviation marking systems. The family is also known for its ‘agentive voice’, marking all operations (focus, question, relativization) on the agent of a transitive. These voices will be taken up in section 6 below.

2.3.5. *Directionals*

Most Mayan languages have directional systems that can express notions of path more than displacement in space. They share with auxiliaries a common origin in sets of movement verbs. The languages vary in terms of the degree of grammaticalisation of these systems, the Q’anjob’alan ones being the most grammaticalized. See in particular Craig (1993) and Zavala (1993).

2.3.6. *Moods*

The main moods found in Mayan languages are the imperative and subjunctive (sometimes called “irrealis” or “future”). The marking of these moods is more or less sensitive to the transitivity of the verb construction.

2.3.7. *Transitive marking*

Some Mayan languages have an interesting vowel suffix (often known as a “theme vowel” or “status vowel”) specifying the degree of syntactic transitivity of the verbal construction. This suffix may directly follow the verb, voice marking, or totally grammaticalized directionals.

2.4. Conclusions

As seen throughout this section, transitivity is heavily marked in the morphology of the verbal complex of Mayan languages. The verb itself is either transitive or intransitive, whether by root or derivation; the choice of person markers is an essential element for the determination of the level of transitivity of the construction, together with the voice markers. Finally, the vowel suffix, when it appears, underlines a rather typically Mayan insistence on indicating the level of transitivity of the whole verb complex. The extremely well marked nature of the various voices, through a number of verbal affixations and the choices of set A and set B person markers, has made it so that data from Mayan languages have found their way in a host of typological discussions of voices in recent decades.

3. Terminological and typological approach to ergativity

Before presenting the specificity of the ergative marking of Mayan languages, this section is meant to clarify the terminology chosen to talk about it, to situate it in the context of the usual presentations of ergativity in terms of alignment of casual markers.

3.1. Primitives, functions, CASE, terminology, Mayan tradition

Discussions about ergativity appeal to the existence of three primitive grammatical relations. Traditionally two of these grammatical relations are not differentiated and are labelled ‘subject’, while the third is labelled object. Dixon (1987,1994) proposed labels for the three relations that need to be identified to identify the alignment called ‘ergativity’. He proposed the labels A (reminiscent of “agent”), “S” (for subject) and “O” (for object). While this terminology clearly separates the three primitive relations, the terms chosen mix “syntax-based” labels (S and O) with a semantic-based one (A). We prefer to use the labels proposed by Creissels (2006), where the transitive subject is still “A”, but the intransitive subject is labelled “U” (for “unique” argument), and the transitive object “P” (for “patient”), thus using two semantic-based terms and one appropriately neutral. The various terminologies in use are summarised in Table 3 below.

Table 3 – Different terminology for the three core grammatical roles

<i>Traditional</i>	<i>(Dixon 1994)</i>	<i>(Creissels 2006)</i>
Transitive subject “S”	A (“agent”)	A (“agent”)
Intransitive subject “S”	S (“subject”)	U (“unique”)
Transitive object “O”	O (“object”)	P (“patient”)

It is also important to further distinguish between functions and case marking, and remember how ergativity is a matter of alignment signalled by case markers. Thus systems are said to either be “nominative/accusative” (NOM/ACC) or “ergative(/absolutive)” (ERG[/ABS]), by the names commonly found in the literature to refer to the cases used to identify the two types of alignments.

Before modern linguistics had fully come to grips with the notion of ergativity, Mayan linguistics had already assigned (neutral) names to the two sets of person markers found in all Mayan languages: Set “A” and Set “B”. Though it later came to be understood that one of the functions of the Set A markers was that known as the so-called ergative case, and that the Set B corresponded to an absolutive case, the names stuck, and most linguistic studies of Mayan languages continue to refer to them in this way. Figure 2 below shows the correspondence of the two terminological traditions.

Set B	=	Absolutive
Set A	=	Ergative

Figure 2 – Traditional Mayan terminology for cases

The table below summarizes the terminology of the various primitives, grammatical relations (functions), cases or person markers of the two different types of alignments.

Table 4 – Synthesis of Nominative and Ergative Alignments and Terminology

Nominative Alignment		Primitive functions	Ergative Alignment	
Grammatical relation	CASE		CASE	Mayan terminology
Subject	Nominative	A	<i>Ergative</i>	<i>Set A</i>
		U		
<i>Object</i>	<i>Accusative</i>	P	Absolutive	Set B

3.2. Some preliminary notes on Mayan Person Markers, Set A and Set B

The Mayan person markers are worth a few general remarks at this point. First, they are omnipresent throughout each language: on verbal predicates as agreement markers with “subjects” and “objects”; on non-verbal predicates as agreement markers for “subjects”; in possessive constructions; and in adpositional phrases, on “relational nouns” equivalent to (inflected) prepositions. Second, they are a solid pan-Mayan characteristic in contemporary languages, although with language specific detailed variation. Third, they have been solidly reconstructed for Proto-Maya, and the linguistic changes leading to the individual systems of modern languages are known. From a typological perspective, the system of person indexation functioning ergatively on the verb is relatively rare around the world, particularly in that it is echoed by any number of other morphological markings in the verb to be able to distinguish between transitive and intransitive constructions.

4. Set A and Set B: forms and functions

This section presents in more detail the Set A and Set B person markers, paying particular attention first to their forms and the types of variations found with each set, then to the particular functions of each set. The variation in plural marking is treated next, because of the greater variation in their marking across the family but their key importance in syntactic argumentation to distinguish between arguments, in those languages that have them. The description of these set A and B will close with a show of the reconstructed forms in Proto-Mayan, with mentions of the types of changes that can be identified in different branches of the family.

4.1. Set A

The Set A person markers are invariably prefixes in all Mayan languages, with some languages also having additional plural Set A suffixes used in conjunction with these prefixes. In addition there are two paradigms phonologically determined: a pre-consonantal and a pre-vocalic one.

The Set A markers are used to cross reference subjects of transitive verbs (the “A” primitive). These person markers function both as ergative indexation on the verb and as markers of possession on nouns, in which case the marker is prefixed to the *possessed* noun. Finally, in some languages that display *split-ergativity* (see section 6 below), the Set A marker may also be used to cross reference the subjects of intransitive clauses (the “U” primitive) in the environments that trigger a nominative alignment pattern.

4.2. Set B

The Set B person markers may be prefixed, suffixed or either, the choice being determined by various factors, such as presence or absence of aspect marker. They may also be clitics or free morphemes that occur (semi)independently of the verb form. There may be multiple forms of each suffix as well, depending on where they occur and their function. If they are prefixes, there are no separate pre-consonantal and pre-vocalic forms as there are for the Set A prefixes.

The Set B person markers are generally used to mark the *absolutive* case, that is to cross-reference subjects of intransitive verbs or non-verbal predicates and objects of transitive verbs (the “U” and the “P” primitives).

4.3. Plural Marking

Plural marking in Set A and Set B markers is a locus of variation in the Mayan families, with some languages marking singular and plural explicitly in the person markers (in general the more “conservative” highland languages of Guatemala) and others where number is in reality underspecified in the “singular” forms and the plural is explicitly marked through the use of (additional) suffixes whose forms are identical or similar across both the A and B sets (Tseltal, Tsotsil, Tojol Ab’al and Yukatek for example). Many languages also have inclusive and exclusive forms for the first person plural. Plural marking has been used to successfully argue the existence of the applicative voice in some Mayan languages (e.g. Tsotsil, see section 5.3 below).

4.4. Proto-Mayan

As mentioned earlier, the Set A and B markers have been reconstructed for Proto-Mayan. These forms are shown in the table below (from Kaufman (1986), cited in England (1992: 117-21), see also Robertson (1980):

Table 5 – Reconstruction of Set A and Set B affixes in Proto-Mayan

Proto-Mayan	1s	2s	3s	1P	2P	3P
Set A	*nu-/w-	*aa- /aaw-	*u-/r-	*qa-/q-	*ee-/eer-	*ki/k-
Set B	*iin	*at	*Ø	*o’nh	*ex	*eb’

Two tables are included in Annex B showing the reconstructed forms along with the various changes that different languages of the family have undergone in the person markers. The tables show clearly a/ that the zero morpheme for the Set A (singular) marker has been retained throughout the family, b/ that the group of languages which includes K’iche’, the K’ichean branch of the Guatemalan highlands, has been the most conservative, retaining most if not all of the forms, c/ that the lowland languages of Chia-

pas, including the Cholean branch, the Tseltalan branch and Tojol Ab'al, as well as the Chuj language, are the ones that have undergone the most variation, and, finally, d/ that the plural markers have undergone much more variation than the singular forms.

4.5. A comparison of Set A and B markers in several different Mayan languages

A small sample of Set A and set B person markers from Mayan languages representing several branches of the family are given below, such as Jakalte'k Popti' (Craig 1977), Tojol Ab'al (Furbee-Losee 1976), Tsotsil (Aissen 1987), Yukatek (Bricker 1978) and K'iche' (Pye 1991)). For the Set A prefixes, the pre-consonantal forms are given first, followed by the pre-vocalic forms.

Table 6 – Comparison of Set A (Ergative) Suffixes in five Mayan languages

<i>Language</i>	<i>A1(S)</i>	<i>A2(S)</i>	<i>A3(S)</i>	<i>A1.PL</i>	<i>A2.PL</i>	<i>A3.PL</i>
Proto-maya	*nu-/w-	*aa- /aaw-	*u-/r-	*qa-/q-	*ee-/eer-	*ki/k-
K'iche'	in-/inw-	a-/aw-	u-/r-	qa/q-	i-/iw-	ki-/k-
Jakalte'k Popti'	hin-/w-	ha-/haw-	s-/y-	cu-/y-	he-/hey-	s-/y- (heb)
Tsotsil	j-/k-	a-/av-	s-/y-	-tik (incl) -(ti)kotik(excl)	(-ik)	(-ik)
Tojol Ab'al	j-/k-	(j)a- /((j)a)w-	s-/y-	-tik (incl) -tikon (excl)	-ex	-e'
Yukatek	i'N-/ i'Nw-	'a-/ 'aw-	'u-/ 'uy-	k-	-é'ex	-o'ob'

Table 7 – Comparison of Set B (Absolutive) Suffixes in five Mayan languages

<i>Language</i>	<i>B1(S)</i>	<i>B2(S)</i>	<i>B3(S)</i>	<i>B1.PL</i>	<i>B2.PL</i>	<i>B3.PL</i>
Proto-maya	*iin	*at	*Ø	*o'nh	*ex	*eb'
K'iche'	in-	at-	Ø	uj-	ix-	ee-
Jakaltek Popti'	hin/-in	hach/-ach	Ø	honh/-onh	hex/-ex	(heb)
Tsotsil	i-/on	a-/ot	Ø	-otik (incl) -otikotik (excl)	-oxuk	(-ik)
Tojol Ab'al	-on	-a	Ø	-(o)tik (incl) -(o)tikon (excl)	-ex	-e'
Yukatek	-en	-ech	Ø	-ó'on	-é'ex	-ó'ob'

In these tables the Set B (absolutive) markers are shown to be fairly pan-Mayan while the Set A (ergative) markers exhibit more variation, although all languages have retained the separate prevocalic and preconsonantal forms. Finally it is worth noting the innovation of the first person plural inclusive and exclusive markers (which combine with the singular prefixed markers) in some of the Mexican languages.

5. Ergative patterns in simple clauses: sample languages

Three languages have been chosen to illustrate the type of ergative alignment marking that is typical across the Mayan family in simple clauses. Each language shows some of the major variations in forms mentioned above, as well as a sampling of the uses of the two sets of markers.

5.1. Tojol Ab'al – a language where Set B markers are always suffixes

Tojol Ab'al is putatively a member of the Chujean sub-branch of the Q'anjob'alan branch of the family, most closely related to Chuj³. It is spoken by approximately 35,000 people in the southern part of the state of Chiapas in Mexico, close to the border with Guatemala. It conforms quite closely to the general verb template mentioned earlier, with the exception that directionals are not part of the verb form but rather independent words that follow it. Aspect is indicated by a prefix (zero for the completive as-

³ This is the position of Kaufman and Campbell (1985) for example. Robertson (1977) however has claimed that it is part of the Tseltalan branch and is more closely related to Tseltal and Tsotsil.

pect) preceded by an optional independent aspectual particle in the incomplete aspect. The main “Set A” markers are prefixes underspecified for number and with differing prevocalic and preconsonantal forms, with an optional set of corresponding suffixes to explicitly mark the plural. “Set B” markers are suffixes, which have optional plural forms, again for explicitly marking the plural. Verbal valence is marked overtly on the verb form, with a set of “theme” suffixes to indicate syntactic transitivity or intransitivity. These appear close to the verb stem before any person marking, but after any voice operators. Tojol Ab’al has two passives and one antipassive voice, which operate on transitive root stems and result in a syntactically intransitive construction, which is subsequently marked as intransitive using a “theme” suffix. Tojol Ab’al is a verb-initial language, but as with many other Mayan languages word order is not syntactic in Tojol Ab’al, and the order of two explicitly present third person noun phrases is determined by semantic hierarchies and discursive prominence (Curiel 2007)

The following examples are adapted from Peake (2007). Examples (1a) and (1b) show transitive constructions with a transitive theme vowel (*aw*), ergative plural marking and the V-initial word order.

- (1) a. *mi wa x-s-lab'-aw-Ø-e' sapato-'al*
 NEG ICP ICP-A3-wear-VT-B3-A3PL shoe-GEN
 ‘They didn’t wear shoes’
- b. *Ø-jaw-il-aw-on-ex*
 CMP-A2-see-VT-B1-A2PL
 ‘You (all) saw me’

Example (1c) shows an intransitive construction with the Set B person marker and the intransitive theme vowel (*y*, a semi-vowel here due to its pre-vocalic position) and (1d) the passive voice, in which the patient is encoded as the subject and hence marked by a Set B (absolutive) marker, and the verb takes the intransitive theme vowel.

- (1) c. *Ø-cha'n-y-on*
 CMP-dance-VI-B1
 ‘I danced’
- d. *jel ixta wa x-il-j-y-e'*
 INT toy ICP ICP-treat-PASS-VI-B3PL
 ‘They were badly mistreated’ (lit. ‘They were treated like toys’)

(1e) shows a construction with a locative relational noun, combined with a locative preposition. Note that the relational noun is “possessed” using a Set A marker in coreference with the “possessor” (the community). Finally (1f) shows a directional following the verb as an independent particle.

- (1) e. *ay-∅ s-chol [ja= b'a y-øj komon=i]*
 EX-B3 A3-role [DET= LOC A3-in community=TOP]
 ‘They have the authority in the community’
- f. *∅-jak-tikon och b'a chonab’*
 CMP-come-B1PL.EX DIR:hither LOC town
 ‘We came here, towards town’

5.2. Jakalteq Popti’ (Craig 1977) – a language with both Set B suffixes and prefixes

Jakalteq Popti’ is a language of the Q’anjob’alan branch of the family, spoken by approximately 88,000 speakers in the area around Jacaltenango in the Cuchumatanes mountains in western Guatemala. As with other Q’anjob’alan languages, the verb template and the absolutive Set B markers are somewhat unusual.

To begin, there are two Set B forms in the first and second person: when cross-referencing subjects of non-verbal predicates, a free form immediately follows the predicate (example 2a), whereas for subjects of intransitive verbs or objects of transitive verbs, the Set B marker precedes the verb. In this case, it takes the form of an enclitic which cliticizes to the aspectual marker to form an independent phonological word, which is then followed by the root stem, possibly prefixed by a Set A marker (example 2b). However, if the referenced argument is in the third person, the set B marker is zero and the aspectual marker is prefixed directly to the verb stem (example 2c). Set A markers are always prefixes, attached directly to the verb stem when cross-referencing subjects of transitive constructions (example 2d). There are separate plural forms for the first and second person Set A and B markers, whereas in the third person plurality is indicated with the addition of a plural particle which follows the predicate and accompanies the noun phrase.

In the examples below therefore, (2a) shows a simple intransitive construction with a non-verbal predicate and a free form of the Set B marker; (2b) and (2c) examples of intransitive and transitive verbs, along with the final vowel marking the transitivity of the verb, these examples also show-

ing how the Set A and B markers work in transitive and intransitive constructions with the incompletive aspect:

- (2) a. *winaj hach*
 man B2
 ‘You are a man’
- b. *ch-onh way-i*
 ICP-B1PL sleep-VI
 ‘We sleep’
- c. *ch-in haw-il-a*
 ICP-B1 A2-see-VT
 ‘You see me’

Examples (2d) and (2e) both contain explicit noun phrases (with noun classifiers acting as either independent pronouns or determiners), showing the fixed VS order for intransitive constructions and the VSO order for transitive constructions.

- (2) d. *x-Ø-kam no’ cheh*
 CMP-B3-die CL horse
 ‘The horse died’
- e. *x-Ø-s-watx’e naj te’ nhah*
 CMP-B3-A3-make CL/he CL house
 ‘He made the house’

(2f) demonstrates the passive voice, used with an agentive relational noun to express the demoted agent, itself “possessed” using a Set A prefix. Finally (2g) adapted from Craig (1993) shows a set of directional suffixes following a transitive verb.

- (2) f. *ch-onh tzuj-cha haw-u*
 ICP-B1PL follow-PASS A2-by
 ‘We are followed by you’ (‘you catch up with us’)
- g. *x-Ø-s-muj-kan-ay-toj*
 CMP-B3-A3-bury-DIR1-DIR2-DIR3.SUFF.INTR
heb’ naj naj
 PL CL/him CL/him
 ‘They buried him (down there) for good’ (lit: ‘They (men) buried him (man) - once and for all-down-away’)

5.3. Tsotsil (Aissen 1987) – a language with an interesting plural marking

Tsotsil is a language of the Tzeltalan branch of the family, spoken by approximately 250,000 people in the state of Chiapas. As with Tojol Ab'al, explicit plural marking is optional, and when it is not present the person marking could be interpreted as cross-referencing either singular or plural arguments, depending on the context.

The Set A (ergative) suffixes used to explicitly mark plural in the first person are given in the table below. They must be used with the corresponding first person prefix. Note the distinction between the first person inclusive and exclusive.

Table 8 – Ergative Plural Suffixes in Tsotsil

<i>Person</i>	<i>Plural suffix</i>
1 plural inclusive	-tik
1 plural exclusive	-tikotik/-kotik

There are also two sets of Set B affixes: a set of prefixes, which are used in general whenever a stem carries an aspectual prefix, and which are underspecified for number for all persons; and a set of suffixes which are used in all other cases and are underspecified for number in the third person only. To explicitly mark the plural where it is underspecified, there are singular and plural forms of the first and second person *suffixes* only. Plural first person suffixes must also co-occur with the corresponding prefix in cases where a prefix is required, whereas the second person plural suffix can only occur in cases where only a suffix is required. The Set B plural suffixes are shown below.

Table 9 – Absolutive (Set B) Plural Markers in Tsotsil

<i>Person</i>	<i>Suffix</i>
1 plural inclusive	-otik
1 plural exclusive	-otikotik
2 plural	-oxuk

For other cases, explicit plural marking of second and third person arguments can be achieved using a general *-ik* plural suffix.

The following examples show plural underspecification in the Set A and B marking.

- (3) a. *k-il-oj-Ø*
A1-see-PERF-B3
'I/we have seen it/them'
- b. *s-man-oj-Ø*
A3-buy-PERF-B3
'He/she/they have bought it/them'
- c. *av-ixlel*
A2-younger.sister
'Your (sing/pl) younger sister'

The next set of examples demonstrates the variation between Set B suffixes and prefixes, as well as plural underspecification.

Absolutive suffix vs. prefix:

- (4) a. *l-i-bat*
CMP-B1-go
'I/we went'
- b. *tal-em-on*
come-PERF-B1S
'I have come'
- c. *ch-a-mil-on*
ICP-A2-kill-B1S
'You're (sing/pl) going to kill me'

Explicit plural marking via means of Set A and B plural suffixes:

- (5) a. *k-il-oj-Ø-tik*
A1-see-PERF-B3-A1PL.INC
'We (inc) have seen it/him/them'
- b. *ch-i-tal-otik*
ICP-B1-come-B1PL.INC
'We (inc) are coming'
- c. *ch-i-s-mil-otik*
ICP-B1-A3-kill-B1PL.EXCL
'He is going to kill us (excl)'
- d. *j-mala-oj-oxuk*
A1-wait-PERF-B2PL
'I have waited for you (pl)'

Explicit plural marking in the second and third persons via the general –ik plural suffix:

- (6) a. *i-s-man-Ø-ik*
 CMP-A3-buy- B3-PL
 ‘They bought it’
 b. *ch-a-bat-ik*
 ICP-B2-go-PL
 ‘You(pl) are going’

The plural absolutive marking in Tsotsil has been used, for instance, by Aissen (1987) to demonstrate that the ‘benefactive voice’ of that language is an applicative which promotes a benefactive oblique argument to direct object. The voice is marked by a suffix *-b(e)* on the transitive verb and an absolutive marker cross-referencing the benefactive/object/P on the verb as in:

- (7) *ch-a-j-mil-be-ik*
 ICP-B2-A1-kill-APPL-PL
 ‘I’ll kill it/them for you(pl)’

In example (7) above, the argument that is cross-referenced with the second person plural absolutive markers (*a-* and *-ik*) must be interpreted as the beneficiary of *kill*, and not the patient, which is not directly indexed in the construction and underspecified for number. An interpretation in which the second person beneficiary is singular is not possible in this example.

6. Split ergativity

The term ‘split ergativity’ is generally used to describe the situation in which a language normally exhibits ergative alignment, but also has other alignment patterns (usually nominative-accusative) in certain well defined contexts. There are two patterns that are widely attested in the languages of the world: split ergativity by aspect or by complementation. Split by aspect was first described for languages of the Indo-Iranian and Tibeto-Burman families for example, and is found in the Mayan family, in Yukatek and Chol for example. Split ergativity by complementation is a type identified a language like Jakaltek Popti’, where it appears to be a true case of split

ergativity by complementation without any form of nominalisation. There are traces of other types of split ergativity in Mayan languages as well. In this section we look at examples from Yukatek and Q'anjob'alan languages.

6.1. Split ergativity by aspect in Yukatek (Bricker 1978)

Yukatek follows the standard ergative alignment pattern in the completive aspect and in subordinate constructions; however, in the incompletive aspect and in conjunct constructions, the language follows a nominative-accusative alignment. This situation is summarised in the table below:

Table 10 – Split ergativity by aspect in Yukatek

Completive Aspect		Incompletive Aspect
<i>Ergative alignment</i>	Primitive	<i>Nominative/accusative alignment</i>
Set A	A	Set A
Set B	U	
		P

The following examples show the normal ergative distribution in the completive aspect in Yukatek (Set A and B affixes for Yukatek have already been presented in tables 6 and 7 above):

- (8) a. *t-in* *kíin-s-ah-ech*
 CMP.TR-A1S die-CAUS-CMP-B2S
 'I killed you'
- b. *t-a kíin-s-ah-en*
 CMP.TR-A2S die-CAUS-CMP-B1S
 'You killed me'
- c. *h-kíim-ech*
 CMP.ITR-die-B2S
 'You died'
- d. *h-kíim-ech*
 CMP.ITR-die- B1S
 'I died'

The next set of examples shows, by contrast, the nominal-accusative alignment that occurs with the incompletive aspect:

- (9) a. *k-in* *kūn-s-ik-ech*
 ICP-A1S die-CAUS-ICP.TR-B2S
 ‘I kill you’
- b. *k-akūn-s-ik-en*
 ICP-A2S die-CAUS-ICP.TR-B1S
 ‘You kill me’
- c. *k-akūm-il*
 ICP-A2S die-NOM
 ‘You die’
- d. *k-in* *kūm-il*
 ICP-A1S die-NOM
 ‘I die’

6.2. Split ergativity by type of complementation in the Q’anjobalan languages

As mentioned, the Q’anjob’alan languages follow a nominative-accusative alignment pattern in certain types of aspectless complement clauses, and ergative alignment elsewhere. This situation is summarised in Table 11 below.

Table 11 – Split ergativity by complementation type in Q’anjob’alan languages

	<i>Main Clause person marking</i>	<i>Primitives</i>	<i>Complement Clause person marking</i>
Intransitive	B V1	U	B(Ø) A V1 [A V2itr]
Transitive	B A V1	P A	B(Ø) A V1 [B A V2tr]

This type of split ergativity was first identified in the literature in Craig’s study of Jakaltek Popti’ complex sentence structure (1977:115-116). Morphologically, it shows no evidence in this case of there being a nominalisation of any type, while the language can display nominalising morphology elsewhere.

The example (10) shows that in main, non-embedded clauses, Jakaltek Popti’ follows the normal ergative alignment pattern of Mayan languages⁴:

⁴ A note of sociolinguistic nature here: worth noting is the demand by native speaker linguists of Mayan languages (of Guatemala specifically) to avoid using examples with verbs of killing and hitting for demonstrations of syntactic structures, as

- (10) a. *xk-ach to-yi*
 CMP-B2 go-VI
 ‘You went’
 b. *ch-in haw-il-a*
 ICP-B1 A2-see-VTR
 ‘You see me’

However, as shown in the schema above, in aspectless embedded clauses, the subjects of both transitive and intransitive verbs are assigned the ergative case, while the objects of transitive verbs alone are assigned the absolutive case. To be noted in the complement clauses examples are a/ the aspectless verb forms, b/ in the transitive complement clause the presence of the intransitive type of suffix –ni resembling the antipassive suffix of main clauses, and c/ in the intransitive clauses, the contrast in the indexation of the subject between the absolutive B2 in the main clause of (11b) and the ergative A2 in the complement clause of (11c):

- (11) a. *x-Ø-w-ilwe* [*hach* *hin-kol-ni*]
 CMP-B3-A1-try B2 A1-help-SUFF(AP/IV)
 ‘I tried to help you’
 b. *xk-ach kanhalw-i*
 CMP-B2-dance-IV
 ‘You danced’ ‘
 c. *x-Ø-w-il* [*ha-kanhalw-i*]
 CMP-B3-A1-see A2-dance-VI
 ‘I saw you dance’

More examples of split ergativity by complementation type in Akateko, another language of the Q’anjob’alan branch, can be found in Zavala (1997).

well as minimal pairs in phonology involving words such as ‘flea’ etc. It is indeed true that an abnormally large proportion of verbs used in syntactic demonstrations of Mayan morphosyntactic markings involve such verbs. The original examples chosen for this section were such verbs, which have been consciously changed to the verb ‘to see’ for that reason. A course in Mayan linguistics using original sources is indeed replete with killings and hitting right and left! (see the Yukatek examples above).

6.3. Other types of split ergativity in Mayan

There is at least one other type of split ergativity attested in Mayan languages. Mocho', a highly endangered Q'anjob'alan language spoken in Mexico, the nominative-accusative alignment pattern is found in the first and second person pronouns, that is first and second person subjects of intransitive verbs take a Set A marker and not a Set B marker. Third person subjects are referenced by the normal Set B marker (mentioned in Dixon 1994: 201)

7. A functional typological approach to Mayan voices

The rich agglutinating verbal morphology of Mayan languages, with its explicit person markers and suffixes to mark voice and transitivity has made it so the languages of the family, replete with different voices, have been the ground for much descriptive work on voice systems. A broad functional-typological approach has been applied to the study of voices in Mayan languages, yielding interesting analyses revealing the pragmatic and semantic, and, in some instances, strictly syntactic constraints on the use of the diverse voices.

7.1. The morphosyntax of Mayan voices

The forms of the various types of voices better known in the literature for languages around the world will be considered first: they include the anti-passive, passive and applicative voices. The last to be considered will be a special type of voice that seems to be more typical of the Mayan family, known in the Mayan linguistics literature as the "agent focus" construction, interesting for its contrasting intransitive morphology but transitive semantics and syntax.

7.1.1. Identifiable morphosyntactic marking of voices: the antipassive

The antipassive voice as a Pan-Mayan phenomenon was first analysed by Smith-Stark (1978). While some languages have been shown to have several different types of antipassives that vary in terms of their exact functions and configurations, morphosyntactically all antipassive verbs show detransitivisation. They are marked, on one hand, by a verbal suffix (AP) and final intransitive vowels to mark the of the verb form, and, on the other hand, by an absolutive marker (set B) signalling a different function for the agent, not A (subject of transitive) marked by set A but U (subject of intransitive) of the now intransitive verb. Variations occur with the semantic patient, P argument of a transitive construction. It may be found in any one of three forms a/ deleted b/ demoted to an oblique function and introduced by a preposition (rather, an agentive relational noun), c/ incorporated into the verb form, in a non referential morphologically bare form. Mayan languages vary in the number of antipassive voices they have and may have two antipassive verbal suffixes according to the type of structure and the fate of the patient argument.

7.1.2. Identifiable morphosyntactic marking of voices: the passive

It had been initially assumed with early studies of ergative languages that antipassives were for ergative languages what passives were for nominative-accusative languages. Hence their name in fact of ‘anti-passive’ expressing this mirror-image view of the two types of voices: because it was, like passive, a detransitivising construction, but anti- because it was, unlike passive, marking the demotion rather than the promotion of the patient semantic argument. However, not only do ergative Mayan languages have passive voices, but in fact they generally tend to have several types, another pan-Mayan characteristic.

As expected, the detransitivised verb takes an appropriate verbal passive suffix and intransitive final vowel, when relevant, and the patient is marked by a set B (absolutive) person marker, now as the unique U argument of the intransitive (as if would have taken the same set B marker as the P argument of the equivalent transitive verb form). As for the agent argument, it may be expressed or not, and if expressed as an oblique argument introduced by an agentive relational noun. What happens with the agent depends

on the type of passive: it may be obligatorily absent from the clause, or optionally there, or, in some rare marked cases, actually obligatorily there.

7.1.3. *Identifiable morphosyntactic marking of voices: the agent focus construction*

As Aissen (Aissen) notes, in some Mayan languages (notably Jakaltek Pop-ti', Tz'utujil, K'iche' and Ixil) where the extraction of the ergative agent of transitive clauses is not possible, a special verb form known as the "agent focus" must be used in order to front the agent. Like the antipassive voice, the resulting construction is morphologically intransitive, but unlike the former, it remains semantically transitive, with both the agent and patient arguments able to remain explicitly present in the clause without oblique marking. Furthermore, the patient need not be visibly demoted and may control absolutive agreement instead of the agent, in which case agreement is controlled by person hierarchy and not by grammatical function. Other Mayan languages (Akatek and Tsotsil for example) also have an agent-focus construction that may be optionally (rather than obligatorily) used to front the ergative agent of a transitive clause. In these cases it has been argued that the agent-focus is in fact a type of "inverse" voice, fulfilling similar functions to the inverse voices found in the Algonquian languages etc (Aissen 1999; Zavala 1997)

7.1.4. *Identifiable morphosyntactic marking of voices: the applicative*

Finally, in some Mayan languages (notably Tzeltal and Tsotsil), another type of voice, the *applicative*, has been identified. Unlike the antipassive and passive voices, the applicative, which is also marked morphologically on the verb, does not involve a change in the verb's transitivity, but rather an oblique argument (typically a beneficiary) becomes the P argument of the verb, and the original P argument of the corresponding active clause becomes an oblique argument which is not cross-referenced on the verb and may be expressed as an oblique.

7.1.5. Overview of the morphosyntax of the difference voices

The morphosyntax of these voices, in contrast to the main active voice, are summarised in the schema shown below:

Active transitive		[ASP – ABS/B – ERG/A – VB... (TR.)]	A _i (Agent)	P _{ii} (Patient)	(rn-Obl _{iii}) (Ben/instr)
Passive (intr)		[ASP – ABS/B – VB – PASS(–INTR.)]	U _{ii} (Patient)		(rn-Obl _i) (Agent)
Anti-passive (intr)		[ASP – ABS/B – VB – AP (–INTR.)]	U _i (Agent)		(rn-Obl _{ii}) (Patient)
Agent-focus (intr)	A _i (Agent ₃)	[ASP – ABS/B – VB – AF(–INTR.)]	P _{ii} (Patient)		
Applicative (tr)		[ASP – ABS/B – ERG/A – VB – APPL(–TR.)]	A _i (Agent)	P _{iii} (Ben/instr)	(Patient)

Figure 3 – Schema of the main voice types in Mayan languages

7.2. Sample of voices across languages

This section will illustrate the Mayan voices with examples from various languages.

7.2.1. Passive voices in *Jakaltek Popti'* (Craig 1977)

Jakaltek Popti' has four different passive voices, which differ in terms of their semantics and their productivity. Formally they are marked on the verb by means of suffixes. In all cases the absolutive object of the equivalent active transitive construction becomes the absolutive subject of the intransitive passive construction, and in some cases the active “agentive” subject may be optionally expressed by means of the relational noun *-u*. The example below shows an active transitive construction along with the

equivalent passive construction in which any of the four passive suffixes can be interchanged, with the 3rd person agent expressed via means of the relation noun.

- (12) a. *x-Ø-s-tz'ah* *naj* *te'* *nhah*
 CMP-B3-A3-paint CL/him CL/the house
 'He painted the house'
- b. *x-Ø-tz'ah-ot/lax/lo/cha* *te'* *nhah* *y-u* *naj*
 CMP-B3-paint-PASS CL/the house A3-by CL/him
 'The house was painted by him'

Craig (1977) notes that the passives in *-ot* and *-lax* are preferred when the agent is not expressed, and that, if it is expressed, it can only be in the third person. *-ot* is preferred in completely impersonal constructions and in the completive aspect, whereas *-lax* presupposes an agent which is an impersonal authority or collective agent and is preferred with other aspects. *-lo* and *-cha* are less productive, and generally take an oblique agent which can be in any of the three persons, with *-cha* additionally de-emphasising the involvement of the patient/subject argument.

7.2.2. Antipassive voice in Tojol Ab'al and k'iché? (for oblique np?)

In examples below, we see a typical construction in the active voice, followed by the equivalent construction with the antipassive voice. Note that the argument that remains changes from the ergative to the absolute case, reflected in the choice of the person markers, and that the antipassive verb is obligatorily marked with an intransitive theme vowel, showing clearly that the antipassive voice is syntactically intransitive. In addition, a special form of the incompletive marker reserved for first and second person intransitive only constructions is used with the antipassive construction here.

- (12) a. *wa* *x-j-mak-aw-a*
 ICP ICP-A1-hit-VT-B2S
 'I am hitting you'
- b. *wa* *la-mak-wan-y-on*
 ICP ICP-hit-AP-VI-B1S
 'I am hitting'

Tojol Ab'al also has a type of semi-productive, incorporating antipassive which occurs only in the progressive voice. In this case the incorporated patient must appear directly after the verb. It cannot be determined and is non-specific and non-individuated:

- (13) a. *wan-Ø juch'-uj ixim*
 PROG-B3 grind-NOM corn
 'He/she is grinding corn (corn-grinding)'
 b. **wan-Ø juch'-uj ja= ixim =i*
 PROG-B3 grind-NOM DET= corn =TOP
 Reading sought: 'He/she is grinding the corn'

7.2.3. Agent-focus (inverse) voice in Akatek (Zavala 1997)

In Akatek, the agent-focus construction is used to front and focus the ergative agent of a transitive construction. In this case, the agent-in-focus is preceded by a cleft-focus particle *ja'* (which is inflected with an absolutive suffix in agreement with the extracted agent), the verb takes the agent-focus suffix *-on*, and only the patient is cross-referenced on the verb using an absolutive suffix. Unlike the passive voice in Akatek, the agent is not demoted but remains present in the clause as an argument of the verb.

The examples below show a non-agent-focused transitive construction followed by the equivalent agent-focused construction.

- (14) a. *Ø-w-ootaj an*
 B3-E1S-know CL1S
 'I know that'
 b. *ja'-in-k'al Ø-ootajne-on an*
 FOC-B1-DUR B3-know-AF CL1S
 'Only I know that'
 with B3 really???? Yes apparently it's always the patient in Akatek that is cross-referenced, in this way it differs from Agent-Focus constructions in other Mayan languages

7.2.4. Applicative voice in Tsotsil (Aissen 1987)

In Tsotsil, as noted above, there is another type of voice which has come to be known as the applicative voice in the literature. Like the passive and antipassive voices, the applicative voice is applied via a suffix (*-be*) to

syntactically transitive verb stems, but unlike these voices, the resulting construction remains syntactically transitive, and three (rather than two) arguments are necessarily implied. Specifically, when a transitive verb stem is suffixed with *-be*, the argument that is referenced by the set B (absolute) marker is interpreted to be neither the agent/subject nor the patient/object but rather a third participant (for example a recipient, a benefactive or malefactive, an addressee or a target). The patient/object argument is not cross-referenced on the verb, but may be present as an explicit noun phrase in the clause without any oblique marking. For this reason, Aissen (1987) refers to these constructions as ditransitive. The example below shows first an active transitive clause, followed by a corresponding applicative construction in which the third argument is a benefactive. The final example demonstrates clearly that it is the third argument (again a benefactive in this case), and not the patient that is cross-referenced on the verb using a set B suffix.

- (15) a. *i-Ø-j-meltsan j-p'ej na*
 CMP-B3-A1-make one-NC house
 'I made a house'
- b. *i-Ø-j-meltsan-be j-p'ej na li Xun-e*
 CMP-B3-A1-make-APPL one-NC house the Xun-CL
 'I made a house for Xun'
- c. *meltsan-b(-o)-on lek i garafon-e*
 fix-APPL-IMP-B1S good the jug-CL
 'Fix the jugs carefully for me'

7.3. On the function of voices

Transition sentence?

7.3.1. Discourse-pragmatic functions

In the previous section, we examined the formal and syntactic properties of the various voices found in Mayan languages. In this section we examine the pragmatic and discursive functions of the passive and antipassive voices in Mayan languages from a typological-functional perspective. In this approach, pioneered by Givon (1983; 1994), with demonstration by Cooreman (1982) for Chamorro, Rude (1985) for Nez Perce, and as will be

illustrated here by Zavala (1997) for Akatek. The voice-based alternations are seen as “the mechanisms by which languages encode the different degrees of *topicality* of the two main participants of a semantically transitive event, agent and patient” (Zavala 1997: 440). Quantitative text-based methods are then used to determine the specific discourse pragmatic functions of de-transitivising voices in one or across many different languages. More specifically, the *topicality* of a given referent in a text is measured using two heuristics: the “referential distance”, which measures how many clauses separate the current mention of a referent from its last occurrence in the text; and the “topic persistence”, measuring the number of times a referent is mentioned again the following ten clauses. These measures are normalised over the text and used to estimate the overall topicality of any given referent.

Studies have shown that generally there are four discourse-pragmatic functions associated with four pragmatic voice types across languages: the active voice, in which both the agent and patient are topical but the agent is somewhat more topical than the patient; the “inverse”, in which again both referents are topical, but the patient is somewhat more topical than the agent; the passive voice, in which the patient is topical and the agent is completely non-topical, and the antipassive voice, in which the agent is topical and the patient completely non-topical.

Zavala (1997) (following a seminar with Talmy Givón, who had proposed this approach and had several students working on different languages at the time) was the first to examine the discourse-pragmatic functions of voice constructions in a Mayan language: Akatek, a member of the Q’anjob’alan branch of the family and a close relative of Jakaltek Popti’ spoken in western Guatemala. He discovered that all four pragmatic voices are expressed by distinct syntactic voice constructions in the language. Specifically he demonstrated that of the two passive voices found in the language, one expresses the prototypically pragmatic-discourse function of passives, whereas the other is closer pragmatically to the “inverse” voice in other languages, in which the agent remains topical, albeit less so than the patient. The agent-focus construction was also shown to be a type of inverse voice, fulfilling the same pragmatic function as the agented passive voice. Of the several antipassive constructions found in Akatek, two were examined; one was shown to conform to the prototypical discourse-pragmatic function of antipassives, com-

pletely suppressing the topicality of the patient, whereas with the other the patient retained some degree of topicality.

7.3.2. Grammatically obligatory use of certain voices

In several Mayan languages, syntactic or semantic constraints may override pragmatic-discourse concerns and require the use of a passive or antipassive voice or an agent-focus construction in certain situations. This is the case for example in languages of the Mamean branch of the family, which have been shown to be strongly ergative not only in the verbal morphology but also in certain aspects of the syntax (England 1983a). For example, in Mam as in many other Mayan languages, only the absolutive argument (the subject of intransitive constructions and the object of transitive constructions) can be focused, negated or directly questioned. In order to apply one of these syntactic operations to the agent of a semantically transitive construction, either the agent is preposed to the construction using a relational noun, or the *antipassive* voice is used, in which case the agent becomes the *absolutive* argument and can be acted upon normally.

In the examples shown below, adapted from England (1983a: 4-5), (16a) shows the focusing of the absolutive (patient) argument of an intransitive, whereas (16b) shows that a similar focusing of the ergative agent is ungrammatical. Applying the antipassive voice, as in (16c), however, allows for the now absolutive agent to be focused, leaving the patient to be expressed as an oblique argument using a relational noun.

- (16) a. *qa-cheej x-chi kub' t-tzyu-'n xiinaq*
 PL-horses CMP-B3PL DIR A3S-grab-DIR man
 'It was the horses that the man grabbed'
- b. **xiinaq x-chi kub' t-tzyu-'n qa-cheej*
 *'It was the man that grabbed the horses'
- c. *xiinaq x-Ø-kub' tzyuu-n t-e qa-cheej*
 man CMP-B3S-DIR grab-APA3S-RN PL-horses
 'It was the man that grabbed the horses'

In other Mayan languages, including Tsotsil (Aissen 1997; Aissen 1999), Wastek, Chol (Zavala 2006) and Tojol Ab'al (Brody 1982; Curiel 2007), there are certain restrictions that apply when there are two third person referents in an active, syntactically transitive construction. Specifically, in

these and other languages, certain syntactic constructions or operations, such as the normal active transitive construction or agent-extraction, are only possible when the ergative agent is higher on the scale of *obviation* than the absolutive patient in active transitive constructions, and when this condition is not met the application of certain voices, such as the so-called “agent focus” voice or the passive voice, becomes preferred or obligatory. Obviation is a complex parameter, used originally in the analysis of the inverse voice in Algonquian languages and first applied to the study of a Mayan language by Aissen (1997), which takes into account the semantic hierarchies of animacy, definiteness and possessor-possessee and the pragmatic hierarchy of topicality. These parameters may themselves be conflicting and are thus ranked, with the rankings varying from one language to another.

For example, in Tojol Ab'al, an indefinite agent cannot act upon a definite patient in the active transitive voice. The only way to express this situation grammatically is by means of the passive, as the following example shows (Curiel 2007: 106-07):

- (17) a. *ti 'il-j-i-Ø = 'a y-uj kristyano jumasa'*
 there see-PASS-VI-B3 =DIST A3-AGEN people
 'There he/she/it was seen by people'
- b. *ti y-il-a-Ø ja= kristyano jumasa'*
 there A3-see-VT-B3 DET= people
 *'People saw him/her/it'
 'He/she saw people'

Note that the active transitive construction in example (17b) is perfectly grammatical. What is not possible is that ‘people’ be interpreted as the ergative agent and ‘he/she/it’ the absolutive patient, because ‘people’ is lower down on the definiteness (and hence obviation) scale than ‘he/she/it’. The only possible interpretation of (17b) is the one in which ‘people’ is the absolutive patient. In a similar fashion, Curiel shows that in Tojol Ab'al, the passive voice must be used to express the situation where a referent lower on the animacy scale acts upon a referent higher on the same scale, or where a possessed noun acts upon its possessor. Finally, where two third person referents fall equally on the definiteness and animacy scale, the more topical referent is considered to be the agent in an active transitive construction, in which case the passive voice again must be used if the less topical referent acts upon the more topical one.

7.4. a wrap up of section 7? before the conclusion???

on the so called functional typological approach? on reconstruction in *PM of AP (but what about passive?)

I'm afraid I don't have access to any references on the reconstruction of PM voices. I'm not sure what else to put here other than a summary?

8. Conclusions

This chapter has meant to demonstrate the centrality of the notion of ergativity in the grammar of Mayan languages. A clearly major Pan Mayan trait with minor language specificities

Ergativity here as a type of verbal indexation, a typologically relatively rare phenomenon

part of a very systematic way of keeping track of the transitivity of the verb forms,

transitivity signalled by any number of other verbal affixation besides person indexation, such as differences in TAM, as well as voice marking, the whole verb form often closing with a transitivity final vowel....

the literature is rich,

-mayan languages have contributed to the discussion of ergativity,

with its very rich verbal morphology making the phenomenon very visible and identifiable

-and the development of the analysis of voices,

mayan languages have largely demonstrated that ergative languages could have passives, contrary to some early opinion about ergative languages and have contributed to the understanding of the existence of antipassive voices.

for both passive and antipassive it is notable to see that Mayan languages have usually two or three constructions of the same 'family', several passives and several antipassives

a wealth of different voices, even within a major type of voice, such as several passives and or several antipassives in the same language, raising of

course the question of their different functions within the same language, a very typical Givon-ish question. answerable by some text count analyses when their use is discourse based. but the family also show examples of systematic obligatory use of certain detransitivizing voices (either passive or antipassive) in the context of the need to obey certain hierarchies... hinting at a more syntactic kind of ergativity than is common to find around the world. somewhat akin to the dyirbal claim by Dixon of syntactic ergativity.

... and then a note of caution about the notion of ergativity and how all the talk of ergativity in mayan languages may have misled people in a conception of ergativity that is only specific to them... (a la creissels, read his new paper!).

Annex A –Modern Mayan Orthographies

The chart below shows the consonant graphemes in use in Mayan languages from Guatemala, based on the official alphabets developed by the Academias de Lenguas Mayas de Guatemala (Instituto Indigenista Nacional 1988):

Table 12 – Official Graphemes of the Mayan Languages of Guatemala

	<i>bila- bial</i>	<i>alveo- lar</i>	<i>palato- alveolar</i>	<i>pala- tal</i>	<i>ve- lar</i>	<i>uvu- lar</i>	<i>glot- tal</i>
<i>stops</i>	p	t		ky	k	q	'
<i>glottalised</i>	p', b'	t', d'		ky'	k'	q'	
<i>affricates</i>		tz	(t)ch	tx'			
<i>glottalised</i>		tz'	(t)ch'	tx'			
<i>fricatives</i>		s	x	xh / x	j		h
<i>nasals</i>	m	n		ñ	nh		
<i>glides</i>		l					
		r					
<i>semivowels</i>	w			y			

In general the Mayan languages of Mexico use the same graphemes for the consonants, with a few exceptions. Frequently the grapheme *j* is used to represent the glottal fricative instead of *h* (as is the case with Tojol Ab'al for example), and the Mexican languages also appear to have (recently) settled on *ts* and *ts'* to represent the alveolar affricates instead of *tz* and *tz'* as in Guatemala. The Chol language also has a number of graphemes not used elsewhere, including *ñ* to represent a palatal nasal and *ty* and *ty'* for the palatal affricates.

The five vowels are represented using *a*, *e*, *i*, *o* and *u*, with the grapheme reduplicated to represent long vowels with a phonemic value. Some languages have a central medial short vowel represented as *ä* as well. In Yukatek, the only Mayan language known to have phonemic tones, a high tone is represented using an acute accent over the vowel.

Annex B – Proto-Mayan person markers and language-specific changes

The tables in this section show the Set A and Set B person markers reconstructed in Proto-Mayan (from Kaufman (1986), cited in England (1992: 117-21)), along with the specific changes that different languages of the family have undergone. Note that “LOST” indicates that either the language no longer has a specific form for the person/number/set, or that it has a different, unrelated form. “1st persons singular” indicates that the language has adapted the plural form to the singular form.

Table 13 – Reconstruction and evolution of Absolutive (Set B) affixes in Proto-Mayan

	<i>1S</i>	<i>2S</i>	<i>3S</i>	<i>1P</i>	<i>2P</i>	<i>3P</i>
<i>Proto-maya</i>	*nu- /w-	*aa- /aaw-	*u-/r-	*qa-/q-	*ee-/eer-	*ki/k-
<i>Q'eqchi</i>						
<i>Poqomchi'</i>					LOST	
<i>Pogomam</i>						
<i>K'iche'</i>						
<i>Sipakapense</i>						
<i>Sakapulteko</i>						
<i>Tz'utujiil</i>						
<i>Kaqchickel</i>						
<i>Uspanteko</i>					LOST	LOST
<i>Mam</i>		LOST			LOST	
<i>Teko</i>						
<i>Awakateko</i>						LOST
<i>Ixil</i>						
<i>Jakaltek Popti'</i>						
<i>Akateko</i>			s-/y-			LOST
<i>Q'anjob'al</i>						
<i>Mocho'</i>			s-/ch-			LOST
<i>Tojol Ab'al</i>	LOST		s-/y-	1st person singular	LOST	LOST
<i>Chuj</i>						
<i>Tsotsil</i>	LOST		s-/y-	1st person singular	LOST	LOST
<i>Tseltal</i>						
<i>Chol</i>						
<i>Chontal</i>	LOST		s-/y-	1st person singular	LOST	LOST
<i>Ch'orti'</i>						
<i>Yukateko</i>					LOST	LOST

<i>Lakantun</i>
<i>Mopan</i>
<i>Itzaj</i>
<i>Wastek (Teenek)</i>

Table 13 – Reconstruction and evolution of Ergative (Set A) markers in Proto-Mayan

	1S	2S	3S	1P	2P	3P
<i>Proto-maya</i>	*iin	*at	*Ø	*o'nh	*ex	*eb'
<i>Q'eqchi</i>						LOST
<i>Poqomchi'</i>						LOST
<i>Poqomam</i>						LOST
<i>K'iche'</i>						
<i>Sipakapense</i>						
<i>Sakapulteko</i>						
<i>Tz'utujiil</i>						
<i>Kaqchikel</i>						
<i>Uspanteko</i>						LOST
<i>Mam</i>		LOST		LOST		
<i>Teko</i>						
<i>Awakateko</i>						LOST
<i>Ixil</i>						LOST
<i>Jakaltek Popti'</i>						
<i>Akateko</i>						
<i>Q'anjob'al</i>						
<i>Mocho'</i>						
<i>Tojol Ab'al</i>	LOST			1st person singular		
<i>Chuj</i>						
<i>Tsotsil</i>	LOST			1st person singular		LOST
<i>Tzeltal</i>						
<i>Chol</i>						
<i>Chontal</i>	LOST			1st person singular	LOST	
<i>Ch'orti'</i>						
<i>Yukateko</i>						
<i>Lakantun</i>					LOST	LOST
<i>Mopan</i>						
<i>Itzaj</i>						
<i>Wastek (Teenek)</i>						

Glosses

A(123)	<i>absolute (1st, 2nd, 3rd person)</i>
AF	<i>agent focus</i>
AP	<i>antipassive</i>
APPL	<i>applicative</i>
CAUS	<i>causative</i>
CL	<i>classifier</i>
CMP	<i>completive (aspect)</i>
DET	<i>determiner</i>
DIR	<i>directional</i>
DIST	<i>distal</i>
E(123)	<i>ergative (1st, 2nd, 3rd person)</i>
EXCL	<i>exclusive</i>
EXIST	<i>existential</i>
FOC	<i>focaliser</i>
GEN	<i>generic</i>
ICP	<i>incompletive (aspect)</i>
INC	<i>inclusive</i>
INT	<i>intensifier</i>
ITR	<i>intransitive</i>
LOC	<i>locative (preposition)</i>
NEG	<i>negative</i>
NC	<i>numeral classifier</i>
NF	<i>non-finite</i>
NOM	<i>nominaliser</i>
PASS	<i>passive</i>
PERF	<i>perfective</i>
PL	<i>plural</i>
PROG	<i>progressive</i>
RN	<i>relational noun</i>
SUFF	<i>suffix</i>
TOP	<i>topic</i>
TR	<i>transitive</i>
VI	<i>intransitive theme vowel</i>
VT	<i>transitive theme vowel</i>

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