

COMPLEMENTATION IN CHOL (MAYAN): A THEORY OF SPLIT ERGATIVITY

by

Jessica Coon

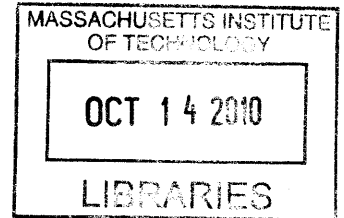
Bachelor of Arts, Linguistics and Anthropology, Reed College 2004

Submitted to the Department of Linguistics and Philosophy
in partial fulfillment of the requirements for the degree of

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ABSTRACT

The central claim of this dissertation is that aspect-based split ergativity does not mark a split in how Case is assigned, but rather, a split in sentence structure. Specifically, I argue that the contexts in which we find the appearance of a nonergative pattern in an otherwise ergative language—namely, the nonperfective aspects—involve an intransitive aspectual matrix verb and a subordinated lexical verb. In other words, the nonperfective forms show a dissociation between the syntactic predicate and the stem carrying the lexical verb stem. This proposal builds on the proposal of Basque split ergativity in Laka 2006, and extends it to other languages.

I begin with an analysis of split person marking patterns in Chol, a Mayan language of southern Mexico. I argue that the appearance of split ergativity in the language follows naturally from the fact that the progressive and the imperfective morphemes are *verbs*, while the perfective morpheme is not. Ergative-patterning perfective constructions are thus monoclausal, while progressives and imperfectives involve an aspectual matrix verb and a nominalized embedded clause. The fact that the nonperfective morphemes are verbs, combined with independent properties of Chol grammar, results in the appearance of a split.

Next, focusing on Chol, I survey aspect splits in a variety of unrelated languages and offer an explanation for the following universal: in a language with an aspectual split, the perfective aspect will always retain an ergative pattern (Dixon 1979). Following Laka's (2006) proposal for Basque, I suggest that the cross-linguistic tendency for imperfective aspects to pattern with *locative* constructions is responsible for the biclausality which causes the appearance of a nonergative pattern. Building on Demirdache and Uribe-Etxebarria's (2000) prepositional account of spatiotemporal relations, I propose that the perfective is never periphrastic (and thus never involves a split) because there is no preposition in natural language that correctly captures the relation of the *assertion time* to the *event time* denoted by the perfective aspect; instead, perfective is the default aspect. The proposal here thus accounts both for the appearance of aspect-based split ergativity without the need for special rules of Case assignment, and also provides an explanation for why we find the splits in certain aspects and not others.

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cha`añ Virginia

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CHAPTER 1

INTRODUCTION

This dissertation argues for a theory of aspect-based split ergativity in which splits in Case assignment or agreement are not the result of special rules active only in particular parts of the grammar, but rather, the result of different syntactic structures. Developing the ideas of Laka 2006, I propose that the apparent nonergative portions of an otherwise ergative-patterning language follow the same system of person marking as the rest of the grammar. The difference lies in the fact that while the perfective aspect always involves a monoclausal structure, the imperfective aspect is expressed *biclausally*. The lexical verb is subordinated; the subject receives Case from an *intransitive* aspectual matrix verb. The fact that the aspectual verb is intransitive results in the absence of ergative marking on what appears to be a transitive subject.

I begin with a detailed look at the split person marking system of Chol, a Mayan language spoken in Chiapas, Mexico by approximately 150,000 people (see references cited in Vázquez Álvarez 2002). I show how the fact that nonperfective aspect morphemes are verbs, plus the independent (but interrelated) properties of the language listed in (1), derive the split patterns without the need for special rules of Case assignment.¹

- (1) a. All verbs in Chol must take Case-requiring complements (*v* obligatorily assigns Case);
- b. Event-denoting stems which do not take complements (unergatives and antipassives) may not inflect as verbs;
- c. In nominalizations, both transitive and intransitive subjects are marked as possessors;
- d. Ergative and genitive are identical.

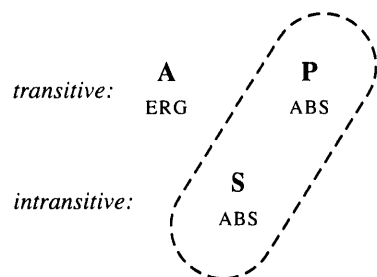
The proposal outlined here both captures the pattern found in Chol grammar, and also has implications for the nature of verbs and the assignment of Case in unrelated languages, both ergative and not. Though I focus on the split ergativity in the Mayan family, the proposals made below touch on broader issues: Case assignment, nominalization, the categorial status of roots, argument structure, and the representation of temporal relations. In the final part of the dissertation I suggest an explanation for why biclausal structure (and hence the appearance of a nonergative pattern) is only found in the nonperfective aspects, never in the perfective (Dixon 1979). In this chapter I begin in section 1.1 with an overview of ergativity. In section 1.2 I outline the puzzle and sketch its analysis. In section 1.3 I provide an outline for the remaining chapters of the dissertation. I describe methodology in section 1.4.

¹I use capital-C “Case” to refer to *abstract Case*, or the mechanism by which nominal arguments are licensed in a clause. This does not necessarily coincide with overt morphological case.

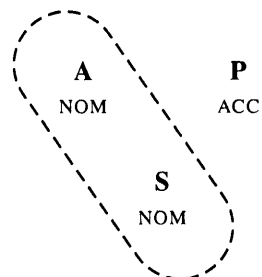
1.1 ERGATIVITY

The label “ergative” is used to refer to a system of marking grammatical relations in which the object of a transitive verb patterns with the single argument of an intransitive verb (*absolute*), while the transitive subject patterns distinctly (*ergative*). This contrasts with more familiar nominative-accusative systems in which both transitive and intransitive subjects pattern alike (*nominative*), to the exclusion of transitive objects (*accusative*). Absolute and nominative are sometimes referred to together as “obligatory cases” (Bobaljik 1993; Laka 1993) as they are found in both transitive and intransitive clauses. The obligatory cases are frequently morphologically unmarked, while the “dependent cases”, ergative and accusative, are typically marked. These systems are represented in (2) and (3), where I follow Dixon 1979 in using the following labels: A = transitive subject; P = transitive object; and S = intransitive subject.

(2) ERGATIVE-ABSOLUTIVE SYSTEM:



(3) NOMINATIVE-ACCUSATIVE SYSTEM:



The basic difference is illustrated by the case-marking systems in Dyirbal and Quechua shown in (4) and (5). In Dyirbal the transitive subject receives a special suffix, *-ŋgu*. The transitive object and the intransitive subject are both unmarked. In Quechua in (5), in contrast, the transitive *object* receives special marking, here *-ta*; both transitive and intransitive subjects show no morphological case marking.²

(4) DYIRBAL = ERGATIVE-ABSOLUTIVE

- a. yabu ŋuma-ŋgu bura-n
 mother.ABS father-ERG see-NONFUT
 ‘Father saw mother.’
- b. ŋuma banaga-n^ŋu
 father.ABS return-NONFUT
 ‘Father returned.’

(Dixon 1994, 10)

(5) QUECHUA = NOMINATIVE-ACCUSATIVE

- a. misi yaku-ta ujya-rqo-n
 cat.NOM water-ACC drink-PST-3SG
 ‘The cat drank water.’

²In some cases below I have modified the gloss abbreviations from those of the original sources for consistency. Gloss abbreviations used throughout this dissertation can be found in appendix C.

- b. misi punyu-rqo-n
 cat.NOM sleep-PST-3SG
 ‘The cat slept.’

(Gillian Gallagher, p.c.)

Both Dyirbal and Quechua mark grammatical relations via case marking on nominals, though ergative and nominative systems can also be seen in head-marking on the predicate. Languages of the Mayan family, the focus of this dissertation, show ergative patterning in their agreement systems. Throughout this dissertation I use the theory-neutral labels “set A” (*ergative/genitive*) and “set B” (*absolutive*), traditional in Mayanist literature, to label these person markers. Despite significant grammatical diversity within the family, this basic division of labor between set A and set B morphemes—summarized in (6)—holds throughout the Mayan family.

(6) MAYAN PERSON MORPHOLOGY

- a. **Set A:** ergative, genitive
 b. **Set B:** absolutive

This person marking pattern can be seen in the K’ichee’ and Akatek forms in (7) and (8). Here set A markers co-index transitive subjects in the (a) forms. Set B morphemes co-index both transitive objects and intransitive subjects in the (b) examples. Finally, (7c) and (8c) illustrate that ergative and genitive morphemes are identical.

(7) K’ICHEE’ (K’ICHEAN)

- a. x-at-u-ch’ay-oh
 COM-B2-A3-hit-SUF
 ‘He hit you.’
 b. x-at-war-ik
 COM-B2-sleep-SUF
 ‘You slept.’
 c. a-keej
 A2-horse
 ‘your horse’

(Larsen and Norman 1979, 347)

(8) AKATEK (Q’ANJOB’ALAN)

- a. chi-in-q’oj-ach ey-toj b’ey ti’ an
 INC-A1-throw-B2 DIR:down-DIR:thither at DEM CL.1SG
 ‘I’ll throw you down from here.’
 b. tol chi-ach-kam eyman
 so INC-B2-die quickly
 ‘So you die quickly.’
 c. in-chee an
 A1-horse CL.1SG
 ‘my horse’

(Zavala 1997, 443–444)

Though discussion of ergativity has only entered mainstream linguistic discussions relatively recently (see for example Anderson 1976; Silverstein 1976; Comrie 1978; Dixon 1979, 1994;

DeLancey 1981; Marantz 1984; Johns 1992; Bittner and Hale 1996; and others), ergativity is found in an estimated one quarter of the world's languages (Dixon 1994, 2). In addition to the Mayan languages, Dixon cites languages of the Caucasus in eastern Europe; the majority of the Pama-Nyungan languages of Australia; Austronesian languages such as Tongan and Samoan; the isolate Basque; languages of the Eskimo-Aleut family, as well as Tsimshian and Chinook in North America; and South American languages from Jê, Panoan, Chibchan, and Carib families. Dixon notes that ergativity is rare in African languages, but is found in some Western Nilotic languages.

There is no general consensus about the locus of ergativity, nor is there agreement as to whether ergative languages should be considered as a unified group, or whether there are multiple distinct sources which result in ergative patterning (see Johns 2000 and Aldridge 2008a for surveys of recent work). Whether or not ergativity should be considered a homogeneous phenomenon, investigation of ergative languages provides important insight into the range of linguistic variation. Successful theories of ergativity must be integrated with theories of Case assignment, agreement, and argument structure. In turn, any cohesive theory of Case assignment or agreement must be able to account for the existence of ergative languages.

In the remainder of this dissertation I take ergativity for granted; I offer no explanation as to why Chol or any other language should show an ergative rather than a nominative pattern. Instead I focus on *split ergativity*, specifically, why an otherwise ergative-patterning language should show nonergative patterns in parts of the grammar, but never in others.

1.2 SPLIT ERGATIVITY: THE PUZZLE

It is frequently noted that it does not make sense to characterize an entire language as “ergative”. Rather, a single language often shows ergativity in one portion of the grammar, and nominative-accusative patterning in another. Even in more familiar nominative-accusative languages, ergativity is often associated with nominalizations (see Koptjevskaja-Tamm 1993 and Alexiadou 2001). Compare the English nominalizations in (9). The single argument of the intransitive patterns with the P argument of the transitive nominalization (both are introduced by *of*), while the A argument receives distinct marking (introduced by *by*).

- (9) a. the destruction of the house (by the hurricane)
 b. the arrival of the hurricane

Ergativity as the result of nominalization has been argued for elsewhere as well, for instance by Johns (1992) for Inuktitut (Inuit) and by Salanova (2007) for Mëbengokre (Jê), discussed further in chapter 5 below. In a language like English or Mëbengokre, the verbal paradigm shows a nominative-accusative pattern, while ergativity is limited to nominalizations.

The puzzle I set out to solve in this dissertation concerns the split person marking patterns of the language Chol. The pattern in Chol, I argue, is different from the ergativity-in-nominalizations systems described above. I propose that Mayan languages, like Basque and some of the other languages discussed in chapter 5, are ergative through and through—that is, ergativity is found in both the verbal and nominal paradigm. The appearance of a nonergative pattern in certain environments is the result of the fact that the subjects of embedded verbs are realized as possessors (this builds on the work of Larsen and Norman 1979, and others discussed below). In the Mayan

splits examined below, all core arguments are argued to follow an ergative pattern (see Coon and Salanova 2009 for a comparison of Chol and Měbengokre splits).

Splits in otherwise ergative-patterning languages are typically conditioned by one of the following factors:

(10) FACTORS CONDITIONING SPLIT ERGATIVITY (DIXON 1994, 70).

- a. semantic nature of the core nominal arguments (“person split”)
- b. tense or aspect or mood of the clause
- c. semantic nature of the main verb (“Split-S”)
- d. the grammatical status of the clause (main or subordinate)

Chol has been described as a language with aspect-based split ergativity (Comrie 1978; Quizar and Knowles-Berry 1990; Vázquez Álvarez 2002), and more recently as a language with a Split-S or Agentive system (Gutiérrez Sánchez 2004; Gutiérrez Sánchez and Zavala Maldonado 2005). I argue below that the aspectual split reduces to the fact that certain aspects involve *subordinate clauses*, and in this sense we may say that Chol exhibits the final three of the four types of splits noted by Dixon.

Below I argue that despite surface appearances, none of these splits marks a departure from the language’s basic ergative-absolutive pattern. Chol verbs, I propose, *always* follow an ergative-absolutive pattern of Case assignment. A special Case (ergative) is always assigned to transitive subjects, while transitive objects and intransitive subjects always receive absolutive Case. I assume that ergative Case is assigned *inherently* to transitive subjects in their θ -positions (Mahajan 1989; Woolford 1997, 2001; Legate 2002, 2008) (though the mechanism of ergative Case assignment is not crucial to the analysis proposed below), and that *v*—both transitive and intransitive—assigns absolutive Case structurally to internal arguments.

Furthermore, as I will show below, the proposal that “split ergative” languages do not necessarily involve splits in how Case is assigned does not seem to be limited to Chol. While it is clear that languages show differences in patterning conditioned by the above factors, the proposal here is that these differences stem *not* from different rules of Case assignment, but from different syntactic structures. The overall picture is one in which the Case-assignment properties of verbs remain consistent in a given language.

1.2.1 Split-S

That differences in clause structure result in the appearance of a split is perhaps most clear in the case of Chol’s “Split-S” system, shown in (11) and (12) (see also Gutiérrez Sánchez 2004; Gutiérrez Sánchez and Zavala Maldonado 2005). In a Split-S system (also known as an *agentive* or *active* system, see Mithun 1991), the subject of a semantically intransitive predicate patterns either with a transitive subject (i.e. agent) or a transitive object (i.e. patient), depending on the semantics of the verb.

In the Chol examples in (11), we see that subjects of unaccusatives and passives pattern with transitive *objects* (by taking set B, or absolutive, marking), while in (12) we find that the subjects of unergative and antipassive predicates are marked via the set A (ergative) morphology used to mark transitive *subjects*.³

(11) UNACCUSATIVES & PASSIVES

- a. Tyi jul-i-yety.
PRFV arrive.here-ITV-B2
'You arrived here.'
- b. Tyi mejk'-i-yety.
PRFV hug.PASV-ITV-B2
'You were hugged.'

(12) UNERGATIVES & ANTIPASSIVES

- a. Tyi a-cha`l-e k'ay.
PRFV A2-do-DTV song
'You sang.'
- b. Tyi a-cha`l-e wuts'-oñ-el.
PRFV A2-do-DTV wash-AP-NML
'You washed.'

In these examples it is evident that the constructions in (11) and (12) differ not only in how the subject is marked, but also in syntactic structure. The unergative and antipassive forms in (12) are clearly *transitive*; the subject is the subject of a transitive light verb, *cha`l*, which takes the lexical unergative or antipassive stem as its nominal complement.

This split, I argue, is the result of a single requirement, spelled out in (13): both transitive and intransitive "little *v*" in Chol obligatorily assign Case (*absolutive*) to an internal argument.

(13) CHOL LITTLE *v* GENERALIZATION

- a. All internal arguments must be assigned (*absolutive*) Case by a *v* head;
b. All *v*'s must assign *absolutive* Case to an internal argument.

This proposal is based on the observation that all forms which take complements (transitives, unaccusatives, and passives) inflect directly as verbs, while stems that do not take complements (unergatives and antipassives) must surface as nominal. In order to predicate, these complementless nominals must serve as arguments of a higher predicate.

Interestingly, we will see below that Chol's Split-S system is not about whether the subject is an *agent* (compare Gutiérrez Sánchez and Zavala Maldonado 2005), nor is it about any of the other factors discussed in Mithun's (1991) survey of Split-S systems: i.e. lexical aspect in Guaraní; performance/effect/instigation in Lakota; or affectedness in Central Pomo (Mithun 1991, 523). Rather, the Split-S system in Chol is about the presence or absence of a Case-requiring *complement*. This is shown clearly by comparing the forms in (14). While both constructions have thematic agents, only the full transitive in (14a) inflects as a verb. In (14b) the object has been incorporated and the light verb is required, just as in the unergative and antipassive forms in (12).

(14) a. TRANSITIVE

Tyi i-läty'-ä ja` aj-Maria.
PRFV A3-heave-TV water DET-Maria
'Maria carried (the) water.'

b. INCORPORATION ANTIPASSIVE

Tyi i-cha`l-e läty' ja` aj-Maria.
PRFV A3-do-DTV heave water DET-Maria
'Maria carried water.' (lit.: 'Maria did water-carrying.')

³Unless otherwise noted, all Chol data are from my fieldnotes, collected in Chiapas, Mexico between 2002 and 2010. Data from narrative texts will include an abbreviation and line number (see appendix D for a list of narrative text abbreviations); other data is from elicitation.

Chol is written in a Spanish-based practical orthography. ` - [ʔ]; ä - [i]; b - [β]; ch - [tʃ]; j - [h]; ñ - [ɲ]; ty - [tʃ]; x - [ʃ]; y - [j]; C' - ejective consonant. Other symbols represent their IPA values. Chol phonology is discussed further in appendix A.2 below.

Below I discuss the consequences of the generalization in (13), both within Chol, and for a theory of Case assignment more broadly.

1.2.2 Aspect split

Turning to Chol's aspect split, I argue that just like the Split-S system above, this split may be reduced to a difference in structure. In (15) and (16) we see the split pattern of person marking triggered by different aspects in Chol. In the perfective aspect in (15), person marking follows an ergative-absolutive pattern. Both the transitive object and the intransitive subject are marked via the first person set B suffix *-yoñ*, while the third person transitive subject is co-indexed by the set A prefix *i-*. In the progressive forms in (16), in contrast, both transitive and intransitive subjects are marked with the prefix *i-*.

(15) PERFECTIVE

- a. Tyi **i-jats'-ä-yoñ**.
PRFV A3-hit-TV-B1
'She hit me.'
- b. Tyi **majl-i-yoñ**.
PRFV go-ITV-B1
'I went.'

(16) PROGRESSIVE

- a. Choñkol **i-jats'-oñ**.
PROG A3-hit-B1
'She's hitting me.'
- b. Choñkol **i-majl-el**.
PROG A3-go-NML
'She's going.'

It is important to note here that though the forms in (16) are described as exhibiting a nominative-accusative pattern, it is not the case that there are distinct "nominative" and "accusative" morphemes. Rather, the set A marker, reserved for transitive subjects in the perfective aspect and for *possessors*, is extended to mark intransitive subjects in the nonperfective (imperfective and progressive) aspects. In Dixon's terminology, this pattern is called "extended ergativity", and is schematized in (17)–(18). I call nonperfective forms like those in (16) "A-Constructions", after the set A marking found on both transitive and intransitive subjects.

(17) ERGATIVE-PATTERNING
transitive: A-stem-B
intransitive: stem-B

(18) "NOMINATIVE-PATTERNING"
transitive: A-stem-B
⇒ *intransitive:* A-stem

The proposal for the structure of the A-Constructions in (16) above is illustrated in (19), where I have inserted overt subjects to clarify the proposal. The aspect marker is the syntactic matrix predicate; it takes a possessed nominalized clause as its single (internal) argument. The nominalized clause is third person, and like other third person internal arguments in the language, triggers no overt morphology on the aspectual predicate (third person set B is null).⁴ The subjects of the nominalized clauses are embedded PROs, controlled by higher *possessors*. The fact that possessors control both transitive and intransitive subjects, and that genitive and ergative marking are identical (= "set A"), gives the appearance of a nominative-accusative pattern.

⁴Below I suggest that third person set B is null because it does not exist; I nonetheless continue to represent null set B morphemes in some instances for purposes of illustration, here for example to show that the bracketed forms in (19) are the absolutive arguments of the progressive verb.

(19) CHOL “A-CONSTRUCTIONS” = COMPLEX CLAUSES

- a. Choñkol-Ø_i [_{DP} i- [jats'-oñ PRO_k] **jiñi** x-`ixik_k] _i.
 PROG-B3 A3- hit-B1 DET CL-woman
 lit. ~ ‘The woman’s hitting me is happening.’
- b. Choñkol-Ø_i [_{DP} i- [majl-el PRO_k] **jiñi** x-`ixik_k] _i.
 PROG-B3 A3- go-NML DET CL-woman
 lit. ~ ‘The woman’s going is happening.’

In the chapters below I provide extensive language-internal and comparative evidence in favor of this proposal. First, I show that the progressive and imperfective aspect markers behave as predicates, while the perfective aspect marker does not. Second, I show that the bracketed forms in (19) behave as nominals, both distributionally and morphologically.

1.2.3 Nonperfective verbs

An important piece of evidence for the predicative nature of the nonperfective forms is the existence of forms like those in (21), which I will refer to as the “B-Constructions” after the set B marking used to cross-reference the subjects. Again, in the A-Constructions, like the one repeated in (20), the unaccusative aspectual verb takes a full nominalized clause as its single internal argument. In the B-Constructions (also known as “raising” constructions in Mayan literature, see Robertson 1980), the aspectual verb assigns absolutive Case and a θ -role to the thematic subject. The lexical verb is subordinated under the preposition *tyi*. I argue below that the subject receives Case *not* from the lexical verb, but from the aspectual head. That is, despite the original label of these constructions, there is no raising of the subject.

(20) A-CONSTRUCTIONS

- a. Choñkol [k-jats'-ety].
 PROG A1-hit-B2
 ‘I’m hitting you.’
- b. Choñkol [k-majl-el].
 PROG A1-go-NML
 ‘I’m going.’

(21) B-CONSTRUCTIONS

- a. Choñkol-oñ tyi k'ux-waj.
 PROG-B1 PREP eat-tortilla
 ‘I’m eating tortillas.’
- b. Choñkol-oñ tyi ts'am-el.
 PROG-B1 PREP bathe-NML
 ‘I’m bathing.’

Below I argue that the stems which appear in A- and B-Constructions in the Chol nonperfective aspects are in complementary distribution: all and only stems which combine with full Case-requiring internal arguments (transitives, unaccusatives, and passives) appear in A-Constructions, while those that do not (unergatives and antipassives) appear in B-Constructions. I show how this is a natural consequence of the generalization in (13) above. A summary of the basic perfective and nonperfective constructions discussed in this dissertation is provided for reference in appendix B.

Constructions akin to the Chol B-Constructions are found in progressive and imperfective constructions in a wide variety of languages, both ergative, and not. Examples from French and Dutch are given in (22); here, as in the Chol forms in (21), the subjects are the syntactic subjects of *intransitive* auxiliary verbs; the lexical verb is in a nonfinite form.

- (22) a. FRENCH
 Zazie est *en train de* jouer.
 Zazie is in along of play
 ‘Zazie is playing.’
- b. DUTCH
 Ik ben het huis *aan* het bouwen.
 I am the house at the build
 ‘I am building the house.’ (Demirdache and Uribe-Etxebarria 2000, 178)

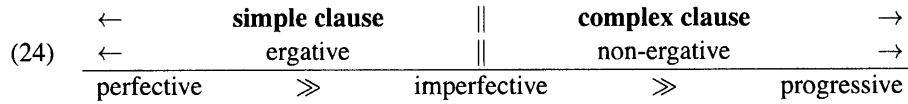
In nominative-accusative languages like these, both transitive and intransitive subjects always (and by definition) receive the same marking (nominative), so no “split” arises. In a language which otherwise shows ergative morphology, however, when subjects of an apparently transitive (albeit embedded) verb are marked absolutive, the result is the appearance of a split. Examples from a few of the languages discussed below are given in (23). In all of these languages the subjects of transitive verbs are normally marked with a special ergative suffix. The subjects of these nonperfective clauses, however, behave as other absolutive arguments in their respective languages in being unmarked.

- (23) a. BASQUE
 emakume-a [ogi-ak ja-te-n] ari da
 woman-DET bread-DET.PL eat-NML-LOC PROG 3ABS.is
 ‘The woman is eating (the) bread.’ (Laka 2006, 173)
- b. TSEZ
 už [čorpa b-iš-xosi] Ø-ič-āsi yoł
 boy(I) soup(III) III-eat-PTCP I-stay-PRT be.PRES
 ‘The boy is eating soup.’ (Maria Polinsky, p.c.)
- c. KASHMIRI
 bi chu-s təm-is [kita:b diva:n].
 I be-1SG her/him-DAT book giving
 ‘I am giving her/him a book.’ (Wali and Koul 1997, 252)

All of these languages have been described as having aspect-based split ergativity. Below, however, I propose (following Laka’s (2006) analysis of Basque) that the subjects above behave exactly as we would expect in an ergative language, *given that they receive Case from an intransitive matrix verb*, not from the embedded lexical verb. Just as with the Chol Split-S system above, aspect splits thus represent a split not in Case assignment, but in clause structure.

1.2.4 Directionality of splits

As frequently noted in the typological literature, if a language which is generally morphologically ergative shows nonergative patterning in some aspect, it will always be in (some subset of) the *nonperfective aspects*. The perfective aspect always retains ergative marking. I propose here that the appearance of nonergative marking is simply the result of a complex clause construction in certain aspects, as shown in (24).



The question thus becomes: why do the nonperfective aspects tend to be expressed periphrastically, while the perfective never does? In the final chapter of the dissertation, I examine the theory of spatiotemporal relations proposed in Demirdache and Uribe-Etxebarria 2000. They argue that the progressive (and by extension, imperfective) aspect frequently involves a locative construction because it denotes a situation in which the *assertion time* (Reichenbach's *reference time*) is located *in* the *event time*. They do not discuss, however, the perfective aspect. I argue that the perfective aspect does not involve locative structure because there is no preposition which can convey the correct relation, namely that the assertion time be a *superset* of the event time. This, I argue, captures the directionality of the split generalization in (24).

1.3 OUTLINE OF THE DISSERTATION

The remaining chapters are organized as follows. Chapter 2 provides relevant background information on Mayan languages and on Chol more specifically. I present the context of the language, along with basics of Chol morphosyntax relevant to the analysis in the later chapters. A more comprehensive discussion of Chol grammar is provided in appendix A, and in works cited therein. This chapter also provides an overview of patterns of ergativity and split ergativity in Mayan languages. I sketch the proposal that split ergativity in Chol is the result of subordination; following Larsen and Norman 1979, I suggest that other instances split ergativity in the Mayan family may be reduced to this as well.

In chapter 3 I begin with an investigation into Chol's Split-S system, where we observe that stems which subcategorize for internal complements (transitives, unaccusatives, and passives) may inflect directly as predicates, while those which do not (unergatives and antipassives), must surface as nominals. This, I show, has consequences for the grammar as a whole, and in particular for the system of aspectual splits. Finally, I discuss consequences of Chol's system for Case Theory more generally.

Chapter 4 provides the analysis of the nonperfective "A-Constructions" described above. I argue that these constructions always involve complement-taking verbs, which undergo nominalization above the *vP* layer, analogous to English *poss-ing* nominalizations (see Abney 1987). Next, I argue that the nonperfective aspect markers are themselves verbs, and discuss nonperfective "B-Constructions" as support in favor of this analysis. Since all verbs must combine with DPs in the language, the verbal aspect markers may not combine directly with verbal complement-taking stems; rather, the stems which appear in A-Constructions must be *nominalized*. The fact that in the A-Constructions both transitive and intransitive subjects are controlled PROs (expected in an ergative language, see Anderson 1976), controlled by higher possessors, gives the appearance of a nominative-accusative system.

In chapter 5 I show that this pattern of aspect-based split ergativity is not limited to Chol, or even the Mayan family, but in fact is found in a number of genetically unrelated and geographically distant languages. Developing the proposal in Laka 2006, I argue that split person marking in the nonperfective aspect is the result of the fact that these aspects are frequently expressed as *locative constructions* (Bybee et al. 1994). The question thus turns from: why do we always

find nonergative patterns in the nonperfective aspects? to: why are the nonperfective aspects expressed as locative constructions, while the perfective never is? I propose that natural languages do not have the preposition which would be required to denote the perfective aspect. Specifically, while the imperfective aspect is expressed as the ASSERTION TIME (AST-T) located *in* the EVENT TIME (EV-T), $AST-T \subseteq EV-T$, there is no preposition to convey the opposite relation: $AST-T \supseteq EV-T$. Finally, chapter 6 summarizes the major insights of the dissertation, along with outstanding questions, and offers avenues for future research.

1.4 A NOTE ON METHODOLOGY

The Chol data presented below are compiled from a variety of sources, including recorded spontaneous speech and narratives, interviews with native speakers, transcribed spontaneous speech, and the scholarly work of Chol-speaking linguists. Where the data comes from recorded and transcribed narratives, a citation is given including a code for the narrative and a line number; abbreviations used for these texts can be found in appendix D. Non-narrative data from the published work of native Chol-speaking linguists is cited as such by each example.

The majority of the data below comes from fieldnotes that I collected during trips to Chiapas between 2002 and 2010. This includes a combination of data from formal elicitation sessions, as well as from casual speech overheard and discussed during the time I resided in the Chol-speaking village of Campanario. During elicitation sessions I constructed Chol sentences, describing the appropriate context, and asked speakers whether the sentence was acceptable or not. In some cases I would ask speakers to translate from Spanish into Chol, or from Chol into Spanish. Much of the data were collected via a combination of natural speech and elicitation. For example, overhearing sentence X I would transcribe the sentence and then ask: “You just said X...could you say Y?”, and a discussion about the various ways to say (or not say) a given sentence would ensue. I have confirmed all of the data presented below with more than one speaker. In cases where speakers’ judgments about a particular form vary, or where a form was accepted but described as marginal, I have noted this below.

CHAPTER 2

MAYAN BASICS, SPLITS, AND SUBORDINATION

This chapter provides an overview of relevant background information on Chol and Mayan languages more broadly. I begin in section 2.1 with basics about the Mayan language family. Next, in section 2.2 I discuss grammatical information relevant to the discussion below: predicate initiality, head marking, root classification, stem formation, and aspect. Finally, in section 2.3, I examine patterns of ergativity and split ergativity in the family. Following Larsen and Norman 1979, I provide evidence that the majority of splits in Mayan can be analyzed as involving subordinate nominal forms, as proposed for Chol below. I discuss previous analyses in this vein, noting similarities and differences between these and the analysis proposed below.

2.1 CHOL AND THE MAYAN FAMILY

There are currently about thirty living Mayan languages, spoken by over six million people located throughout Meso-America.¹ Mayan languages are genetically classified into five or six major groups: Huastecan, Yucatecan, Greater Tseltalan, Greater Q'anjob'alan, and K'ichean–Mamean (Campbell and Kaufman 1985); Kaufman 1976 lists K'ichean and Mamean as two distinct subgroups.² They vary in numbers of speakers from over two million for K'ichee', to moribund Itza' with only around twenty speakers. The languages of each subgroup are shown in (1), where semicolons represent subgroup-internal divisions. Some controversy over subfamily divisions exists, as discussed in Campbell and Kaufman 1985. The symbol “†” indicates that the language is now extinct.

(1) MAYAN FAMILY CLASSIFICATION (CAMPBELL AND KAUFMAN 1985)

- a. **Huastecan:** Huastec and Chicomuceltec†
- b. **Yucatecan:** Yucatec, Lacandon; Mopan, Itza'
- c. **Greater Tseltalan:**
 - i. *Cholan:* Chol, Chontal; Ch'orti', Cholti†

¹This number is cited in Wikipedia 2009 and can be obtained by adding the total population numbers for each of the languages in the Ethnologue database (Gordon 2005) (though many of these numbers are from older census information).

²Throughout this dissertation, I spell Mayan languages according to the conventions developed and adopted by native speaker linguists (see discussion in Mateo-Toledo 2003b). These spellings may in some cases deviate from those used by the authors from which the data are cited. For instance, I will use “*Jakalteq*” rather than “*Jacalteq*” and “*K'ichee*” rather than “*Quiche*”.

- ii. *Tseltalan*: Tseltal, Tzotzil
- d. **Greater Q'anjob'alan:**
 - i. *Q'anjob'alan*: Q'anjob'al, Akatek, Jakaltek (a.k.a. Popti'); Mocho (a.k.a. Motocintlec)
 - ii. *Chujean*: Chuj, Tojolabal
- e. **K'ichean–Mamean:**
 - i. *K'ichean*: Q'eqchi'; Uspantek; Poqomchi', Poqomam; K'ichee', Kaqchikel, Tz'utujil, Sakapultek, Sipakapense
 - ii. *Mamean*: Teco, Mam; Awakatek, Ixil

Chol (underlined above), together with Chontal, Ch'orti' and the now-extinct language Choltí, belongs to the Cholan subgroup of the Greater Tseltalan family, which also includes Tseltal and Tzotzil (Tseltalan subgroup). Chol is spoken by approximately 150,000 people in the state of Chiapas in southern Mexico. Chiapas is shown in figure 2.1.

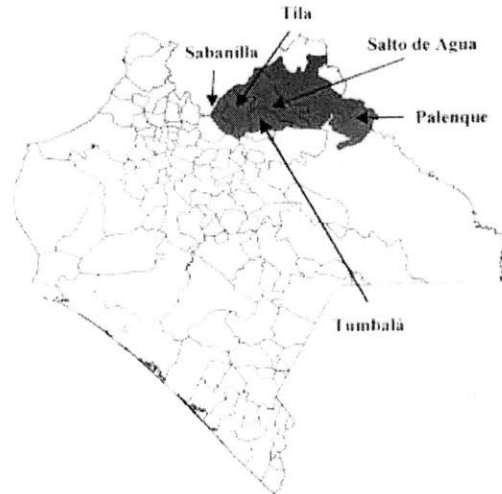
Chol is divided into two major mutually intelligible dialect groups: Tila Chol and Tumbalá Chol (Schumann 1973). Data in this thesis come mainly from the Tila group, and certain differences between Tila and Tumbalá Chol will be noted throughout. Most of the data were collected in the Chol-speaking village of Campanario. This village is located in Tila county, but shows some differences from the Chol spoken in the city of Tila. Chol-speaking counties in Chiapas are shown highlighted in the map in figure 2.2 (maps used with permission from Vázquez Álvarez 2002).

Figure 2.1: MAP OF MEXICO WITH CHIAPAS HIGHLIGHTED



The label “Chol”, used to refer both to the language and its speakers, is externally imposed and is not frequently used by Chol speakers themselves. Attinasi (1973, 1) notes that the root *chol* is also used in words associated with corn, cornfields (Spanish *milpa*), and corn-planting and suggests: “it is not unlikely that at the time of first contact [Chol speakers] would have identified themselves to others as people of the *milpa*.” Chol-speakers refer to the language as *lak ty'añ*, literally ‘our (inclusive) words’ or ‘our (inclusive) speech’. Other Chol-speakers are simply called *lak pi`äl* ‘our (inclusive) friends’ or *kixtyañu* ‘person’ (from Spanish *cristiano* ‘Christian’).

“Chol” is also written and pronounced with an initial ejective: *Ch'ol*. Vázquez Álvarez (2002, 13) suggests that the ejective variant is used primarily by speakers with greater experience writing Chol, for example social workers or investigators. The ejective variant is also more frequently used

Figure 2.2: MAP OF CHIAPAS WITH CHOL-SPEAKING COUNTIES HIGHLIGHTED

in the Tumbalá dialect (Attinasi 1973, Nicolás Arcos López p.c.). I follow Chol-speaking linguists Vázquez Álvarez and Gutiérrez Sánchez, both from the Tila dialect region, in using the term “Chol” without the initial ejective.

2.2 TYPOLOGICAL BASICS

This section covers some basics of Mayan morphosyntax relevant to the discussion below. I focus on Chol, but the general properties of Chol discussed here—namely, that it is a head-initial, head-marking, morphologically ergative language with predicate-initial word order—are shared by most members of the Mayan family. These characteristics will be touched on briefly in this section, but see also appendix A, as well as the other works cited there, for more details on Chol grammar.

2.2.1 Predicate initiality

In Chol, as in the majority of Mayan languages (see for example England 1991; Aissen 1992), predicates precede the subject in unmarked discourse, as shown by the examples in (2). As these examples illustrate, predicates in Chol are not restricted to “verbs”, but can consist of any lexical item, like the adjective in (2c) and the noun in (2d), discussed further below.³

(2) CHOL IS PREDICATE INITIAL

- a. Tyi i-choñ-o ja`as jiñi wiñik.
 PRFV A3-sell-TV banana DET man
 ‘The man sold bananas.’

³Basically this reduces to the fact that Chol does not have an overt equative copula; predicative nouns and adjectives directly inflect.

- b. Tax ts'äm-i k-chich.
 PRFV.already bathe-ITV A 1-older.sister
 'My older sister bathed already.'
- c. Chañ-ety-la.
 tall-B2-PL
 'You_{PL} are tall.'
- d. Maystraj aj-Maria.
 teacher DET-Maria
 'Maria is a teacher.'

We also see here that Chol is a head-marking pro-drop language: grammatical relations are marked on the predicate via the set A and set B morphemes discussed above, and full nominal arguments may be dropped. First and second person pronouns are typically used only for emphasis. When present, they generally appear in preverbal topic or focus position (see below). Overt third person nominals follow the basic order of VOS in transitives, VS in intransitives (Vázquez Álvarez 2002; Coon 2010b). Though transitives with two overt third person post-verbal arguments are rare in natural discourse, they do occur. A transitive is given in (3a) and an intransitive in (3b).

- (3) a. VOS TRANSITIVE
 Tyi i-ñä`-tyä pañämil kixtyaño.
 PRFV A3-know-DTV world people
 'The people understood.' (lit.: 'The people knew the world.') (D.175)
- b. VS INTRANSITIVE
 Ta-x lajm-i jiñi x-ñek.
 PRFV-already die-ITV DET CL-ñek
 'The *xñek* already died.'⁴ (D.30)

Traditionally, predicate-initial order in Mayan languages has been analyzed as the result of base generation of right-side specifiers, as proposed in Aissen 1992. In Coon 2010b I argue that predicate initial order in Chol is not base-generated, but is the result of fronting of the phrasal predicate to a position above the subject. VSO order is also possible for Chol transitives, argued in Coon 2010b to be the result of remnant VP movement.

Though predicate-initial order is basic in discourse neutral contexts, both subjects and objects can be fronted to pre-verbal topic and focus positions (see Aissen 1992 for a discussion of topic and focus in Tzotzil, and Coon 2010b for more examples from Chol). All six possible orders of subject, verb, and object are thus possible; some examples are shown in the naturally-occurring sentences in (4). There is no specific topic or focus morphology in Chol, as there is in some Mayan languages (the enclitic =*i*, discussed in appendix A.6, frequently appears on fronted material, though it is not obligatory and is also possible on post-verbal nominals).

⁴The *xñek* is a mythological figure, frequently featured in Chol narratives. Josserrand (2003) writes that the *xñek* "is the most salient manifestation of the class of threatening human-like characters. He looks like a large black-skinned human, but displays non-human behavior and characteristics. He lives in the deep woods, and seeks to eat the people he encounters, although he rarely if ever succeeds, since he is not very smart and is easily fooled."

- (4) a. TOPICALIZED STATIVE SUBJECT
 Pero kome **joñoñ** aläl-oñ-tyo...
 but because 1PRON child-B1-still
 ‘But because I was still a child...’ (B.25)
- b. TOPICALIZED INTRANSITIVE SUBJECT
Jiñi wakax t-äch kej-i tyi p’ojl-el.
 DET cow PRFV-AFF begin-ITV PREP reproduce-NML
 ‘The cows did begin to reproduce.’ (C.11)
- c. TOPICALIZED TRANSITIVE SUBJECT
 Entonses **jiñi me` ta`** y-il-ä-yoñ-lojoñ.
 and.so DET deer PRFV A3-see-DTV-B1-PL.EXCL
 ‘The deer saw us_{EXCL}.’ (D.27)
- d. FOCUSSED OBJECT
Yambä tyi i-tyaj-a ts’i`.
 other PRFV A3-find-TV dog
 ‘It was another that the dog had found.’ (E.95)

As noted above, predicates in Chol consist not just of canonically verbal stems. Rather, any lexical item in the language can serve as a predicate. In the work below we will find it useful to distinguish between two main types of predicates: 1. *stative* or so-called “non-verbal” predicates, like *aläl* ‘child’ in (4a), and 2. *eventive* predicates, like *tyaja* ‘find’ in (4d). In chapter 3 below I propose that any Chol form which combines with a DP complement functions as a predicate.

Additional examples of stative and eventive predicates are given in (5) and (6). Stative predicates, like those in (5), are characterized by the inability to appear with aspectual markers. Statives include a small set of transitives, such as *-om* ‘want’ and *-ujil* ‘know how to’, as well as all nominal and adjectival forms, like *chich* ‘older sister’ and *mich* ‘angry’ in (5b). Chol does not have an overt equative copula. Stative predicates are discussed in more detail in appendix A.5 below.

(5) STATIVE PREDICATES

- a. Y-om waj.
 A3-want tortilla
 ‘She wants tortillas.’
- b. K-chich aj-Maria.
 A1-older.sister DET-Maria
 ‘Maria is my older sister.’
- c. Mich’ jiñi x-k’aläl.
 angry DET CL-girl
 ‘The girl is angry.’

Eventive predicates, in contrast, obligatorily appear with an aspectual marker, here the perfective *tyi*, and typically appear with a “status suffix” or “theme vowel” following the root: *-e* in (6a) and *-i* in (6b). Below I discuss the classification of roots and the formation of eventive stems, as well as aspect and person morphology.

(6) EVENTIVE PREDICATES

- a. Tyi k-mel-e waj.
PRFV A1-make-TV tortilla
'I made tortillas.'
- b. Tyi yajl-i jiñi x-k'aläl.
PRFV fall-ITV DET CL-girl
'The girl fell.'

2.2.2 Roots, Stems, and Predication

Roots in Chol, and throughout the Mayan language family, are generally CVC in shape. This includes roots with lengthened and aspirated vowels, represented CVjC, as well as roots with "broken" or interrupted vowels, CV_i?V_iC (see appendix A.2). All consonants may appear in either initial or final position of a root (though not all pairs of consonants may *co-occur* within a root; see Gallagher and Coon 2009). Some roots are realized with an initial glottal stop when appearing word-initially, but this is generally not transcribed: [ʔek'] 'star', for example, is written as *ek'*. These "vowel-initial" roots will play an important part of the the discussion of the status of person markers below. While some roots may stand alone as words, Chol words are most often formed by combining a root with one or more affixes.

Roots which directly form eventive stems (that is, without the aid of a light verb or derivational morphology) may be divided into three basic classes based on their stem-forming morphology. These are shown in table 2.1.

Table 2.1: CHOL VERBAL ROOT CLASSES (VÁZQUEZ ÁLVAREZ 2002)

transitive		intransitive		positional	
<i>mek'</i>	'hug'	<i>majl</i>	'go'	<i>buch</i>	'seated'
<i>k'ux</i>	'eat'	<i>wäy</i>	'sleep'	<i>wa`</i>	'standing on 2 legs'
<i>jats'</i>	'hit'	<i>uk'</i>	'cry'	<i>koty</i>	'standing on 4 legs'
<i>kuch</i>	'carry'	<i>yajl</i>	'fall'	<i>xity</i>	'standing on head'
<i>choñ</i>	'sell'	<i>tyijp'</i>	'jump'	<i>jok'</i>	'hanging (something large)'
<i>mäñ</i>	'buy'	<i>lets</i>	'ascend'	<i>jich'</i>	'hanging (something small)'
<i>wuts'</i>	'wash'	<i>wejl</i>	'fly'	<i>ts'ej</i>	'lying on side'
<i>ch'äx</i>	'boil'	<i>chäm</i>	'die'	<i>päk</i>	'lying face-down'
<i>mos</i>	'cover'	<i>och</i>	'enter'	<i>xoty</i>	'in a rigid circular form'
<i>boñ</i>	'paint'	<i>lok'</i>	'exit'	<i>soy</i>	'in a non-rigid circular form'

Unergative roots in Chol are encoded as "action nominals" (also called "verbal nouns"); they do not inflect directly as predicates, but appear instead as arguments in light verb constructions. Unergative constructions are discussed in further in chapter 3 below. I use the unqualified term "intransitive" to refer to unaccusatives.

As table 2.1 shows, in addition to familiar classes of transitives and intransitives, Mayan languages have a third class of roots: *positionals* (England 1983, 2001; Haviland 1994; Vázquez Álvarez 2002). Semantically, positionals generally refer to physical state, shape, configuration, or surface quality. From a morphological perspective, they are identified based on

the different stem forms in which they appear. While positional roots appear in verbal stems, they also (perhaps canonically, as the glosses in table 2.1 suggest) appear in stative stems as adjectival or secondary predicates, discussed in appendix A.5.⁵

Although the neat divisions in the above table will be useful to the discussion below, they are in some cases misleading. As evidenced by recent literature on this topic, the classification of Mayan roots is not always so straightforward. Lois and Vapnarsky (2003), Lois and Vapnarsky (2006), and Lois (2010), for example, argue that roots in Yucatec Maya are underspecified, while Haviland (1994) proposes a classification system based on derivational profiles. Haviland (1994, 716) characterizes certain roots in Tzotzil Mayan as “semantic portmanteaus” which contain “several interrelated notions bundled up inside.” In his study of Tzotzil verb root classes, Haviland describes the problem:

The harsh light of breakfast reveals that many roots fail to fall cleanly into one of the three categories. Of the total of 855 verbal roots under consideration, only 157 are clearly [transitive], 45 are [intransitive], and 273 are [positional] by the criteria in question. This leaves some 280 roots whose formal properties perch them on some categorial fence, mixed between intransitive, transitive, and positional characters. (Haviland 1994, 700)⁶

While no numerical study of root classification has yet been done for Chol, problems to those noted by Haviland arise. For example, while the Chol root *majl* ‘go’ listed in table 2.1 directly forms only intransitive stems, the root *wäy* ‘sleep’ forms both intransitive stems as well as positional stems (indicating a position of sleeping), without the addition of derivational morphology. The root *och* ‘enter’ appears underived only as an intransitive, while the root *lok*’ appears both in intransitive and transitive stems, meaning ‘exit’ and ‘take out’ respectively. Attinasi (1973) discusses the difficulty of root classification in the context of Chol, concluding:

It is best, then, not to class lexical roots as any one part of speech, and not to class certain notions or concepts as intrinsically and a priori nominal, verbal, or adjectival. . . As much as possible, the reference of the lexical root should be considered truly infinitive [sic], belonging to no specific form class, such as “noun”. (Attinasi 1973, 108)

See also Coon 2004 and chapter 3.3 below for a discussion of the classification of roots and stems in Chol.

2.2.3 Eventive Predicates

In this section we examine the eventive stem-forming morphology for each of the root types listed in table 2.1 above. Eventive predicates distinguish themselves from stative or so-called “non-verbal”

⁵It is important to note that positionals in Mayan languages do not represent a distinct *grammatical category*, but rather, a distinct class of *roots* in the language (contra Evans and Levinson 2009). These roots take different stem-forming morphology from transitive or intransitive roots, but surface in familiar adjectival or verbal stem forms.

⁶In addition to the large number of unclassified roots, these numbers illustrate the striking pervasiveness of positionals in Mayan grammar. We also find a comparatively small number of intransitive roots. This appears to be the case for Chol as well (see appendices in Vázquez Álvarez 2002) and is likely connected to the fact that unergative roots are nominals and must appear in light verb constructions.

predicates by appearing with aspect morphology and special stem-forming suffixes, known as “status suffixes” or “theme vowels”, which appear on the stem. In the perfective, the status suffix always involves a final vowel, which I propose below to be an instantiation of a verbal *v* head. I argue in chapter 4 that the nonperfective stems are in fact nominalizations; they begin as *v*Ps and are nominalized higher up (cf. English *poss-ing* nominalizations). These forms are summarized in table 2.2. In addition to the transitive, intransitive, and positional roots given above, I include a discussion of the class of so-called “non-root transitive” stem formation, a class of derived transitive stems present throughout the Mayan family.

Table 2.2: EVENTIVE STEM FORMS

	perfective	nonperfective
root transitive	A-root- <u>V</u> -B	A-root-(<u>e</u>)-B
non-root transitive	A-root- <u>V</u> -B	A-root- <u>Vñ</u> -B
intransitive	root- <u>i</u> -B	A-root- <u>el</u>
positional	root- <u>li</u> -B	A-root- <u>tyäl</u>

As seen in the first two rows of table 2.2, both perfective and nonperfective transitives show set A markers co-indexing their subjects, and set B co-indexing objects. In the intransitive and positional forms, however, we see a split in person marking: stems in the perfective show set B marking co-indexing their subjects (an ergative pattern), while stems in the nonperfective aspects show set A marking, giving the appearance of a nominative-accusative pattern. Below I argue that while the set A markers in the perfective aspect co-index transitive subjects (*ergative*) the set A markers on the nonperfective transitive and intransitive forms in the second column co-index grammatical possessors (*genitive*). I begin here with a discussion of stem-forming morphology, then turn to aspect in 2.2.4 and person morphology in 2.2.5.

Root transitives

In the perfective aspect, transitive roots appear in transitive stems with a harmonic vowel suffix, as shown by the examples in (7). Transitive subjects are co-indexed by set A prefixes, while transitive objects are marked set B (null in the third person). I gloss the vowel suffix ‘TV’ for “transitive verb”, discussed further in chapter 3.⁷

(7) PERFECTIVE TRANSITIVES

- a. Tyi i-tyaj-a k'am-añ.
 PRFV A3-find-TV sick-NML
 ‘They became sick.’ (lit.: ‘They found sickness.’) (C.21)

- b. Tyi k-päk'-ä jam.
 PRFV A1-plant-TV grass
 ‘I planted grass.’ (C.3)

⁷As noted in appendix A.2 and discussed in Vázquez Álvarez in progress, there are a few forms involving a root vowel [a] in which the suffix is not completely identical, but instead appears as the high unrounded vowel -ä (IPA [i]).

- c. Tyi k-mek'-e-yety.
PRFV A1-hug-TV-B2
'I hugged you.'
- d. Tyi a-ch'il-i ja`as.
PRFV A2-fry-TV banana
'You fried bananas.'
- e. Ta` k-lu` choñ-o jiñi wakax.
PRFV A1-all sell-TV DET cow
'I sold all of the cows.' (C.22)
- f. Tyi i-jul-u jiñi me`.
PRFV A3-shoot-TV DET deer
'He shot the deer.'

The same transitive roots do not appear with vowel suffixes in the nonperfective aspects. Instead, transitive roots in the nonperfective aspects form stems either with no suffix, or the suffix *-e`*, glossed 'DEP' for "dependent (embedded) clause suffix" and discussed in chapter 4. The suffix *-e`*, shown in (8c), is always optional, and only possible with third person objects (i.e. in the absence of set B morphology). Just as in the perfective, transitive subjects are marked set A, objects are marked set B.

(8) NONPERFECTIVE TRANSITIVES

- a. Mi k-päk' jam.
IMPF A1-plant grass
'I plant grass.'
- b. Choñkol k-mek'-ety.
PROG A1-hug-B2
'I'm hugging you.'
- c. Mi a-ch'il-e` ja`as.
IMPF A2-fry-DEP banana
'You fry bananas.'

Non-root transitives

The *root transitives* from the previous section contrast with *derived* or *non-root* transitives. Derived transitive stems, such as the applicatives in (9), appear with a vowel suffix in the perfective aspect and a *-Vñ* suffix in the nonperfective aspects.⁸ Transitives derived via causative and applicative morphology are discussed in the context of other valence changing morphology in appendix A.4 below.

⁸The Proto-Mayan applicative is proposed to be **-b'e* (see Mora-Marín 2003 and works cited therein). I follow Vázquez Álvarez (2002) in parsing out these forms into an applicative and status suffixes, *-b-e* and *-b-eñ*, to show the uniform morphological behavior of derived/non-root transitives.

(9) APPLICATIVES

- a. Tyi k-mel-b-e i-waj alob.
PRFV A1-make-APPL-DTV A3-tortilla child
'I made the child his tortillas.'
- b. Mi k-mel-b-eñ i-waj alob.
IMPF A1-make-APPL-D.NML A3-tortilla child
'I make the child his tortillas.'

In addition to clearly derived forms like those in (9), there also exists a large class of stems which appear with the same *-V/-Vñ* stem suffixes, yet show no overt derivational morphology, as in the forms in (10) and (11). Unlike the root transitives, the vowels in the suffixes are not necessarily harmonic with the root vowel, though the vowel in the perfective/nonperfective *-V/-Vñ* pair is always identical. The exception is an alternation between the vowels *ä* and *a* in the (d) forms also found elsewhere in the language. I gloss these suffixes 'DTV' and 'D.NML' for "derived transitive verb" and "derived transitive nominal", respectively. In keeping with the proposal, argued for in chapter 4, that nonperfective forms are nominal, I analyze the final *-ñ* as a nominalizing morpheme, though for simplicity I do not parse out the form *-Vñ* into two morphemes in the glosses.

(10) PERFECTIVE NON-ROOT TRANSITIVES

- a. Tyi k-xujch'-i tyak'iñ.
PRFV A1-steal-DTV money
'I stole money.'
- b. Tyi i-pi'l-e majl-el iy-ijñam.
PRFV A3-accompany-DTV go-NML A3-wife
'He accompanied his wife.'
- c. Tyi i-ts'ijb-u i-k'aba'.
PRFV A3-write-DTV A3-name
'He wrote his name.'
- d. Tyi aw-il-ä-yoñ.
PRFV A2-see-DTV-B 1
'You saw me.'

(11) NONPERFECTIVE NON-ROOT TRANSITIVES

- a. Mi k-xujch'-iñ tyak'iñ.
IMPF A1-steal-D.NML money
'I steal money.'
- b. Woli i-pi'l-eñ majl-el iy-ijñam.
PROG A3-accompany-D.NML go-NML A3-wife
'He's accompanying his wife.'⁹

(Aulie and Aulie 1978)

⁹This example comes from the Tumbalá dialect, in which *woli* (rather than *choñkol*) marks the progressive. *Woli* and *choñkol* appear to have identical syntactic behavior. Here and in all Chol data taken from other sources, I will use my own glosses rather than those of the original authors where differences exist, noting important distinctions as they arise. In a few cases, my Chol transcription differs slightly from those of the authors cited. I use the *grave* symbol rather than the apostrophe for a glottal stop, and *ä* for the sixth vowel (Aulie and Aulie 1978 use the wedge).

- c. Choñkol i-ts'ijb-uñ i-k'aba`.
 PROG A3-write-D.NML A3-name
 'He's writing his name.'
- d. Mi aw-il-añ-oñ.
 IMPF A2-see-D.NML-B 1
 'You see me.'

We find in appendix A.4 below that *-V/-Vñ* stems with and without overt derivational morphology behave alike with respect to derivational processes like passive. We might thus think of forms like those in (10)–(11) as “zero-derived” transitives. Indeed, many (perhaps most) of these forms are clearly *denominal*. The root *xujch'* in (10a)/(11a) appears uninflected is the noun ‘thief’; *pi`äl* is ‘friend’; and *ts'ijb* is ‘scribe’ or ‘writing’.¹⁰ In other cases, such as with the root *il* in (10d)/(11d), the root is not recognizable from elsewhere in the grammar. There appears to be no phonological rule that can entirely predict the vowel quality based on the root vowel. Additional examples can be found in Aulie and Aulie 1978 or the appendix of Vázquez Álvarez 2002.

At least the suffixes *-i/-iñ* appear to be productive transitivizers in the language. Spanish verbs typically enter Chol in their infinitive forms as *nouns*. In order to inflect as verbs, they appear with *-i/-iñ* suffixes. Unergative “verbal nouns” in Chol, discussed further in chapter 3, form transitives with the same suffixes. Examples of each are given in table 2.3.

Table 2.3: DENOMINAL TRANSITIVES

prowal-iñ	‘try’	Spanish: <i>probar</i>	‘to try’
poraj-iñ	‘prune’	Spanish: <i>podar</i>	‘to prune’
pensar-iñ	‘worry (about something)’	Spanish: <i>pensar</i>	‘to think’
k'ay-iñ	‘sing (something)’	Chol: <i>k'ay</i>	‘song’
soñ-iñ	‘dance (something)’	Chol: <i>soñ</i>	‘dance’
alas-iñ	‘play (with something)’	Chol: <i>alas</i>	‘game’

Forms like these will be important for the discussion of Chol’s Split-S system in chapter 3 below.

Intransitives

Chol intransitives appear with the suffix *-i* in the perfective aspect, and the suffix *-el* in the nonperfective aspects, shown in the examples in (12) and (13). The perfective forms in (12) all show set B marking with their subjects resulting in an ergative-absolutive agreement pattern. I gloss the suffix *-i* ‘ITV’ for “intransitive verb”.

(12) PERFECTIVE INTRANSITIVES

- a. Ik'-ix ta` jul-i-yoñ-loñ.
 late-already PRFV arrive.here-ITV-B 1-PL.EXCL
 ‘It was already late when we_{EXCL} arrived here.’ (E.171)

In cases where examples are taken from Spanish-based materials translations from the original Spanish are my own unless otherwise noted. In some cases, where the Spanish translation is relevant to the discussion, I give both English and Spanish translations.

¹⁰The deletion of the second vowel of *pi`äl* in the suffixed form is phonologically predictable.

- b. Pero jĩni wakax ta` lajm-i.
 but DET cow PRFV die-ITV
 ‘But the cows died.’ (C.18)
- c. Tyi lok’-i-yety.
 PRFV exit-ITV-B2
 ‘You exited.’

Intransitives in the nonperfective aspects mark their subjects via *set A* morphology—the source of the “split”. I gloss the suffix *-el* ‘NML’ for “nominal”, discussed further in chapters 3–4.

(13) NONPERFECTIVE INTRANSITIVES

- a. Mi i-wejl-el aj-loro.
 IMPF A3-fly-NML CL-parrot
 ‘The parrot flies.’
- b. Muk’-äch k-uch’-el.
 IMPF-AFF A1-eat-NML
 ‘Yes, I eat.’ (B.132)
- c. ... cha`añ mi k-cha` lok’-el tyi libre.
 so IMPF A1-again exit-NML PREP free
 ‘...so I come out free again.’ (B.158)

As noted above, all of the intransitive roots which appear directly in the forms described here are *unaccusative*. Unergative roots are formally nominal and appear in transitive light verb constructions, discussed in chapter 3 below.

Positionals

Positional roots in Mayan languages form a distinct class, distinguishable in part by their semantic content (they usually refer to position, shape, or physical state), but also by the special morphology they use in order to form stems. In Chol, positionals form eventive predicates with the suffixes *-li* (also realized as *-le*) in the perfective aspect, and *-tyäl* in the nonperfective aspects, shown in (14) and (15).¹¹ These positional forms behave syntactically as the intransitive (unaccusative) predicates from the previous section. They take a single argument; the perfective marks this argument with the set B morpheme, while the nonperfective forms show set A marking.

(14) PERFECTIVE POSITIONALS

- a. Ta` koty-li jĩni me`.
 PRFV stand.on.4.legs-POS.ITV DET deer
 ‘The deer stood.’ (E.55)
- b. Tyi buch-le-yoñ tyi siya.
 PRFV seated-POS.ITV PREP chair
 ‘I sat on the chair.’

¹¹At least for one speaker consulted, it seems that the form is realized as *-le* when preceding the first person clitic *-oñ*, and *-li* elsewhere. Partial vowel harmony like this is not uncommon in some Chol affixes.

(15) NONPERFECTIVE POSITIONALS

- a. Choñkol i-buch-tyäl.
 PROG A3-seated-POS.NML
 ‘She is sitting.’
- b. Mi k-wa`-tyäl tyi karo.
 IMPF A1-stand.on.2.legs-POS.NML PREP car
 ‘I stand in the truck.’

Coon and Preminger (2009) argue for an analysis in which the suffixes *-li* and *-tyäl* are further decomposed and include the *-i* and *-el* suffixes found on the intransitives discussed above. I thus gloss them ‘POS.ITV’ and ‘POS.NML’ respectively. The positional stems here share their distribution with the intransitives discussed above. In the chapters that follow I do not discuss them as a separate class.

Summary

Examples of each of the perfective and nonperfective stem forms discussed above are summarized in (16)–(17).

(16) PERFECTIVES

- a. ROOT TRANSITIVE
 Tyi k-ch’il-i tyumuty.
 PRFV A1-fry-TV egg
 ‘I fried eggs.’
- b. NON-ROOT TRANSITIVE
 Tyi k-il-ä aj-Maria.
 PRFV A1-see-DTV DET-Maria
 ‘I saw Maria.’
- c. INTRANSITIVE
 Tyi ts’äm-i-yoñ tyi ja`.
 PRFV bathe-ITV-B1 PREP water
 ‘I bathed in the river.’
- d. POSITIONAL
 Tyi buch-li-yoñ.
 PRFV seated-POS.ITV-B1
 ‘Dora sat down.’

(17) NONPERFECTIVES

- a. TRANSITIVE
 Choñkol k-ch’il-e` tyumuty.
 PROG A1-fry-DEP egg
 ‘I’m frying eggs.’
- b. NON-ROOT TRANSITIVE
 Mi k-il-añ aj-Maria.
 IMPF A1-see-D.NML DET-Maria
 ‘I see Maria.’
- c. INTRANSITIVE
 Mi k-ts’äm-el tyi ja`.
 IMPF A1-bathe-NML PREP water
 ‘I bathe in the river.’
- d. POSITIONAL
 Choñkol k-buch-tyäl.
 PROG A1-seated-POS.NML
 ‘I’m sitting down.’

Again the perfective forms in (16) differ from the nonperfective forms in (17) not only in stem-forming morphology, but also in the appearance of set A or set B marking on the intransitives and positionals. This split will be the focus of chapter 3, where I will argue that the stem forms in the nonperfective aspects are nominalized clauses. The set A marker in these forms is the *genitive*; the subject is a grammatical possessor. The true predicates in the forms in (19), I will argue, are the aspectual morphemes *mi* and *choñkol*. Before discussing splits in the Mayan family, we examine aspect and person morphology in 2.2.4 and 2.2.5 below.

2.2.4 Aspect

Chol distinguishes three basic aspects: perfective, imperfective, and progressive, shown in table 2.4.¹² Every eventive declarative predicate appears with one of these morphemes (in careful speech). The perfective and imperfective morphemes have two basic forms, a short CV form and a longer CVC form. Chol's minimal word requirement is CVC; the full CVC forms must be used when the aspectual morphemes host clitics. Since the progressive already meets this requirement, it has just one form.

Table 2.4: CHOL ASPECTS

perfective	<i>tyi</i>	<i>tsa` , ta`</i>
imperfective	<i>mi</i>	<i>muk` , mu`</i>
progressive	<i>choñkol</i>	<i>choñkol</i>

A major claim of this dissertation will be that the imperfective and progressive markers *mi/muk`/mu`* and *choñkol* are in fact predicates, while the perfective is not. I refer to Chol's imperfective and progressive aspects jointly as "nonperfective" aspects. In contrast, the perfective aspect marker *tyi* (proposed by Law et al. (2006, 442) to be a borrowing from Yucatec) is simply an aspectual particle.¹³ It will be argued that this division is the source of the apparent ergative split.

As noted above, while event-denoting predicates like those in (18) appear obligatorily with an initial aspect marker, the stative predicates in (19) may not appear with aspect morphology. Context or temporal adverbs are used instead to disambiguate between various possible interpretations of stative predicates. Here and throughout I will give only one possible translation, though other may be possible. (19a), for instance, could also mean 'I was poor'.

(18) EVENTIVE PREDICATES

- a. **Tyi** wäy-i-yoñ.
PRFV sleep-ITV-B1
'I slept.'
- b. **Mi** k-majl-el tyi eskwela.
IMPF A1-go-NML PREP school
'I go to school.'
- c. **Choñkol** i-mel waj aj-Maria.
PROG A3-make tortilla DET-Maria
'Maria is making tortillas.'

(19) STATIVE PREDICATES

- a. P'ump'uñ-oñ.
poor-B1
'I am poor.'

¹²I am grateful to Sabine Iatridou for many helpful discussions on aspect.

¹³The perfective *tyi* is homophonous with Chol's all-purpose preposition, discussed in appendix A.7.6 below. It seems unlikely that the two are historically related; the preposition, for instance, cannot be realized as *tsa`/ta`*.

- b. **K-ujil** juch' ixim.
A I-know.how grind corn
'I know how to grind corn.'
- c. **Mich'**-ety.
mad-B2
'You're mad.'

Like some of the other languages of the Mayan family, for example Jakaltek (Craig 1977) and Mam (England 1983), Chol does not have grammaticalized tense morphology. Instead, temporal notions like past and future are marked via adverbs like *wajali* 'back then', *abi* 'yesterday' and *ijk'äl* 'tomorrow'. Previous work on Chol has described the morphemes in table 2.4 as *tense* markers. The morpheme *mi* is listed as "present" in Aulie and Aulie 1978 and Warkentin and Scott 1980, and as "unmarked tense/aspect" in Attinasi 1973. These authors give *tyi* and its allomorphs as "past" morphemes. Below I review each of these three morphemes and, following Vázquez Álvarez 2002 and more recent work on the language, present data in favor of an aspectual analysis.

Perfective

The perfective aspect indicates an event viewed as a whole, without "explicit reference to the internal temporal constituency of a situation" (Comrie 1976, 21). The perfective morpheme in Chol has three allomorphs: *tyi* and *tsa`/ta`*. The latter two forms are in free variation (Vázquez Álvarez 2002, 115).¹⁴ *Tsa`/ta`* must be used when the perfective morpheme hosts second position clitics (see appendix A.7.4), as in (20a). The form *tyi* is generally used in the Tila dialect when no clitics are hosted.

- (20) a. **Ta`-bi** majl-i tyi Tila. (*tyi-bi)
PRFV-REP go-ITV PREP Tila
'It's said he went to Tila.'
- b. **Tyi** majl-i tyi Tila.
PRFV go-ITV PREP Tila
'He went to Tila.'

In the Tumbalá dialect, and by some speakers in the Tila dialect as well, *tsa`/ta`* is used in the absence of clitics. More work is needed to determine what governs this variation.¹⁵

- (21) **Ta`** majl-i tyi Tila.
PRFV go-ITV PREP Tila
'He went to Tila.'

Tyi has been called a past tense morpheme (Attinasi 1973; Aulie and Aulie 1978; Warkentin and Scott 1980). However, many past-tense denoting clauses appear without *tyi*, as in the stative in (22a) and the past imperfective in (22b).

¹⁴As discussed in appendix A.2.1 below, plain unpalatalized [t] is used infrequently in Chol and never contrasts with [ts].

¹⁵Attinasi (1973, 181) lists *tyi* as "unmarked past" and the *tsa`* as completive, though he notes "the completive morpheme concatenates with a clitic in every instance in the data". This is consistent with the analysis proposed here in which *tyi* and *tsa`* are phonologically-conditioned allomorphs.

- (22) a. Wajali maystroj-oñ.
back.then teacher-B1
'Back then I was a teacher.'
- b. Ma`añ mi j-k`ux axux cheñak alob-oñ-tyo.
NEG.EXT IMPF A1-eat garlic when child-B1-still
'I didn't eat garlic when I was a child.'

Furthermore, we find the perfective *tyi* in non-past contexts in the antecedents of conditionals (see appendix A.7.10), as in (23).

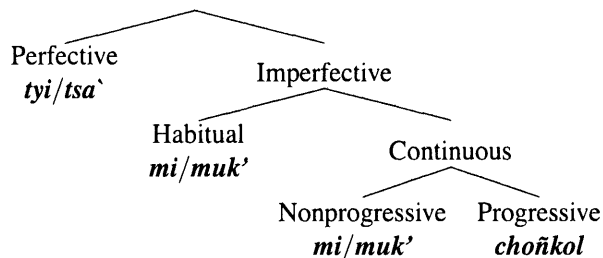
- (23) a. Mi **tyi** ñum-i ja`al, ma`-ix mi k-majl-el.
if PRFV pass-ITV rain NEG-already IMPF A1-go-NML
'If it rains I won't go.' (Warkentin and Scott 1980, 102)
- b. Mi **tyi** la-k-päs-b-e ts`i, mi ke i-tyaj.
if PRFV PL-A1-show-APPL-DTV dog IMPF PROSP A3-find
'If we show the dogs, they'll find him.' (E.77)

The Chol perfective is not possible in non-past contexts, and it is thus difficult to prove conclusively that this morpheme represents the perfective aspect, rather than past tense. (Note that it is not uncommon for a language to only distinguish perfective versus imperfective in the past tense, compare for example Spanish (Comrie 1976, 71).) Nonetheless, the fact that the Chol perfective stands in opposition to two other morphemes which I show below to be aspectual, combined with comparative evidence within the Mayan family, lends support to an aspectual analysis.

Nonperfective aspects: imperfective and progressive

A classification of aspectual oppositions is shown in (24). The perfective contrasts with the imperfective, which is further subdivided. Different languages morphologically encode these subdivisions in different ways. Some languages, for instance, group all imperfective functions together with a single morpheme. In Chol, we find an opposition between progressive—marked with *choñkol*—and what I will call “imperfective” (though it should be understood that below when I refer to Chol’s “imperfective” I mean the uses of *mi/muk'*, excluding the progressive; I refer to Comrie’s *imperfective* category as “nonperfective”). The imperfective is marked with *mi/muk'* and encompasses habitual as well as continuous non-progressive readings. I discuss each in turn below

- (24) CLASSIFICATION OF ASPECTUAL OPPOSITIONS (COMRIE 1976, 25)



Imperfective As noted above, the imperfective morpheme *mi* has allomorphs *muk'* and *mu`*. Vázquez Álvarez (2002, 123) lists the latter two as being in free variation (Vázquez Álvarez 2002, 123), though I have most frequently encountered *mu`* when followed by consonant-initial clitics and *muk'* before vowel-initial clitics (see appendix A.7.4): *mu`-bä*, but *muk'-äch*. As with the perfective and its allomorphs, one of the latter forms must be used when second position clitics are hosted, though they may also be used alone, as in (25c).

- (25) a. **Mi** k-ts'am-el.
 IMPF A1-bathe-NML
 'I bathe.'
- b. Pero **muk'-äch** k-uch'-el.
 but IMPF-AFF A1-eat-NML
 'But I indeed eat.' (B.132)
- c. **Muk'** k-ts'am-el.
 IMPF A1-bathe-NML
 'I bathe.'

Evidence that *mi* is not a present or "non-past" tense marker comes from its use in past imperfective constructions, as in (26). In (26a) the sentence receives a habitual interpretation. In (26b), with the addition of the temporal adverb *wajali*, the same string receives a past imperfective interpretation. There is no change to the verb stem.

- (26) a. **Mi** i-jap kabäl lembal.
 IMPF A3-drink a.lot liquor
 'He drinks a lot.'
- b. **Wajali mi** i-jap kabäl lembal.
 back.then IMPF A3-drink a.lot liquor.
 'Back then, he drank a lot.'

The imperfective also encodes generic or habitual statements involving eventive predicates (recall that stative never appear with aspectual morphology), as in (27).

- (27) a. Ts'i`-tyak **mi** i-k'ux-ob we`el.
 dog-PL IMPF A3-eat-PL meat
 'Dogs eat meat.'
- b. **Bele k'iñ mi** i-majl-el tyi Salto.
 every day IMPF A3-go-NML PREP Salto
 'Every day he goes to Salto.'

In addition to a habitual or generic interpretation, like in (26) and (27), clauses marked with *mi* can receive future interpretations, often based on context, or through the addition of the prospective particle *keje* or *ke*, derived from the intransitive *kejel* 'to begin' (Vázquez Álvarez 2002).

- (28) a. Ijk'al mi k-päk' bu`ul.
 tomorrow IMPF A1-plant bean
 'Tomorrow I'll plant beans.'

- b. Mi **keje** k-päk' bu`ul.
 IMPF PROSP A 1-plant bean
 'I'm going to plant beans.'

Progressive The progressive marker is *choñkol* in the Tila dialect and *woli* in the Tumbalá dialect. These are used with event-denoting predicates which are ongoing or in progress. The imperfective markers are infelicitous in these situations.

- (29) a. **Choñkol** i-ch'il ja`as aj-Doris.
 PROG A 1-fry banana DET-Doris
 'Doris is frying bananas.'
- b. **Choñkol** i-ch'il ja`as aj-Doris cheñak tyi k'oty-i-yoñ.
 PROG A 3-fry banana DET-Doris when PRFV arrive.there-ITV-B 1
 'Doris was frying bananas when I arrived.'
- c. ***Mi** i-ch'il ja`as aj-Doris cheñak tyi k'oty-i-yoñ.
 IMPF A 3-fry banana DET-Doris when PRFV arrive.there-ITV-B 1
 intended: 'Doris was frying bananas when I arrived.'

The progressive is possible in sentences with past interpretation, as shown in (30).

- (30) Abi bajche` ili, choñkol-oñ-ix tyi wäy-el.
 yesterday like this PROG-B 1-already PREP sleep-NML
 'Yesterday at this time I was already sleeping.'

2.2.5 Person marking

As seen above, grammatical relations in Chol are head-marked on the predicate with two sets of morphemes, traditionally labeled "set A" and "set B" in Mayan linguistics. Set A corresponds to *ergative* and *genitive*, while set B corresponds to *absolutive*. These morphemes are shown in table 2.5.

Table 2.5: CHOL PERSON MORPHOLOGY

	Set A	Set B
1 ST person	k-/j-	-(y)oñ
2 ND person	a(w)-	-(y)ety
3 RD person	i(y)-	Ø

Glides are inserted to break up vowel clusters and third person *i-* is often realized simply as *y-* prevocally; first person *k-* becomes *j-* (IPA [h]) preceding velar consonants. There is no overt realization of third person set B, a fact which I discuss below. There is no gender distinction within the person markers, and I will gloss forms using alternately 'he' or 'she', though it should be understood that unless specified by additional information (context, overt nominals), either interpretation is possible. Plural marking may appear both on nominals and as agreement on the predicate, and may reflect plural of either the set A or the set B argument. Chol's plural morphemes are shown in table 2.6 and discussed further in appendix A.6.5 below.

Table 2.6: CHOL PLURAL MORPHOLOGY

local [+hearer]	<i>la</i>
local [-hearer]	<i>-lojoñ, loñ</i>
non-local	<i>-ob</i>

As nominals in Chol do not show case morphology and constructions with two third person arguments are potentially ambiguous. This ambiguity is resolved either by context or by word order, discussed in Coon 2010b. Bare nominals may in some cases be interpreted as singular or plural, definite or indefinite; see appendix A.6.1 below.

(31) NO CASE MARKING ON NOMINALS

- a. Tyi i-k'ux-u ts'ĩ jiñi mis.
PRFV A3-bite-TV dog DET cat
'The cat bit a/the dog.'
- b. Tyi i-k'ux-u mis jiñi ts'ĩ.
PRFV A3-bite-TV cat DET dog
'The dog bit a/the cat.'

The status of Chol person markers

Though the analysis of the status of the Chol set A and set B markers is not critical to the proposals laid out below, I believe there is evidence for the following division:

(32) THE STATUS OF CHOL PERSON MARKERS

- a. Set A markers are agreement prefixes
- b. Set B markers are pronominal enclitics

The evidence presented here is largely phonological. As discussed in more detail in appendix A.2.1 below, in addition to the five core vowels shared with other Tseltalan languages, [a], [e], [i], [o], and [u], Chol possesses a "sixth vowel", [i], written in the practical orthography as *ä*. Though phonemic, this sixth vowel shows interesting alternations with the vowel *a* (and the two are likely historically related via a height contrast, also found in geographically close Yucatecan languages).

Important to this discussion here are the following facts: 1. we find *a~ä* alternations triggered by proximity to certain phonological boundaries; and 2. the set B markers pattern with other clitics in the language with respect to these alternations, while the set A markers do not.

Set A markers We first examine the set A markers. The root /ʔAk'/ 'give' is realized as [äk'] when following a set A marker, as in (33a), but as [ʔak'] word-initially, as in (33b).¹⁶ In (33c) we see that the root preceded by the clitic *x=* (discussed in appendix A.6.5 below) patterns with the word-initial root.

¹⁶I use the capital *A* to represent a neutral root vowel, though it seems that the simplest analysis is one in which it is unergically *ä* and changes to *a* at a phonological boundary.

- (33) a. Tyi k-[äk']-e-yety.
PRFV A1-give-APPL-B2
'I gave it to you.'
- b. [ʔak']-eñ!
give-IMP
'Give it!'
- c. x=[ʔak'] waj
CL-give tortilla
'tortilla-giver', 'person who gives tortillas'

In addition to the difference in vowel quality, we note the appearance of the initial glottal stop in both the word-initial and clitic environments in (33b–c), absent in the form preceded by the set A marker in (33a). The presence or absence of an initial glottal stop in these environments (i.e. absent when following set A marking; present word initially and following a clitic) is a pervasive pattern with roots of the form [ʔVC], regardless of the vowel quality; see the discussion in appendix A.2.2 below.

Further examples of this type of alternation are provided in (34). The vowel-initial root *ab* 'hammock' appears without the initial glottal stop when preceded by the set A marker in (34a). The clitic *x=*, in contrast, does not trigger deletion on a vowel-initial root, as in (34b)

- (34) a. [ʔul], [k-ul], *[k-ʔul]
atole, A1-*atole*, A1-*atole*
'*atole*', 'my *atole*'
- b. [ʔixik], *[x-ixik], [x-ʔixik]
woman, CL-woman, CL-woman
'woman', 'woman'

The clitics *x=* and *aj=* (*aj=* behaves like *x=* with respect to the alternations above) and the set A markers are the only prefixal elements in the language, and thus there are no further forms to compare. While this does not present conclusive evidence that the set A markers are agreement prefixes, we nonetheless see clear evidence that they are attached "closer" to the root than the clitics, which phonologically behave as if they are at a word boundary.

Set B markers Turning now to the set B markers, we find the opposite state of affairs: in terms of the alternations they trigger, the set B markers pattern with clitics, *not* with inflectional morphology. The alternation now involves the suffix *-Añ*, found on certain derived or non-root transitives like causatives in (35) (discussed in appendix A.4 below). As shown in (35), this suffix appears as *-añ* before the passive suffix *-ty(i)*.

- (35) a. Mi i-wäy-is-**añ**-ty-el.
IMPF A3-sleep-CAUS-SUF-PASV-NML
'He is made to sleep.'
- b. Tyi wäy-is-**añ**-tyi.
PRFV sleep-CAUS-SUF-PASV.
'He was made to sleep.'

This suffix is realized with the low vowel [a] in three environments: 1. when it appears at the end of the word as in (36a); 2. preceding a second position clitic like =ix in (36b); or 3. when preceding one of the set B markers, as in (36c). The high vowel form is ungrammatical in all of these environments. Here we thus find that the set B markers patterns with clitics (which in turn pattern as if they are preceded by word boundaries); not with inflectional morphology.

- (36) a. Mi k-wäy-is-**añ** ñeñe`.
 IMPF A1-sleep-CAUS-SUF baby
 ‘I make the baby sleep.’
- b. Wäy-is-**añ**=ix!
 sleep-CAUS-SUF=already
 ‘Make it sleep already!’
- c. Mi k-wäy-is-**añ**=ety.
 IMPF A1-sleep-CAUS-SUF-B2
 ‘I make you sleep.’

The above facts provide us with some evidence that the set A marker may be inflectional *agreement* marking, while set B morphemes are more like pronominal clitics. If this is correct, we straightforwardly explain the “absence” of an overt set B morpheme. As represented by the bold-faced arguments in (37), we would say that the first and second person set B markers have the same status as third person nominals (whether overt as in (37c) or *pro*-dropped)—all are the nominal arguments of the verb. The difference is simply that the set B markers must cliticize to the verb (as predicted by the fact that they do not meet the CVC minimal word requirement; recall that the glide is epenthetic), while third person forms do not. In chapter 4.4 below I identify an instance of clitic climbing involving the set B morphemes.

- (37) a. Tyi majl-i=**yoñ**.
 PRFV go-ITV-B1
 ‘I went.’
- b. Tyi majl-i=**yety**.
 PRFV go-ITV-B2
 ‘You went.’
- c. Tyi majl-i **jiñi x-`ixik**.
 PRFV go-ITV DET CL-woman
 ‘The woman went.’

Finally, there is evidence in other Mayan languages that set B markers behave as clitics while set A markers pattern as agreement markers; see for instance Woolford 2000 for a discussion of Jakaltek. Again, however, the status of these morphemes as agreement or clitics does not have an impact on the overall analysis below.

Distribution

The set A morphemes co-index transitive subjects (38a), unergative subjects (38b), subjects of intransitives in the *non*-perfective aspects (38c), and possessors of nominals (38d). Unergatives like (38b) are transitive light verb constructions, discussed in chapter 3.

(38) SET A (ERGATIVE/GENITIVE) MARKING

- a. Tyi k-wuts'-u pisil.
PRFV A1-wash-TV clothes
'I washed clothes.'
- b. Tyi k-cha`l-e soñ.
PRFV A1-do-DTV dance
'I danced.'
- c. Mi k-wäy-el tyi ab.
IMPF A1-sleep-NML PREP hammock
'I sleep in a hammock.'
- d. k-wakax
A1-cow
'my cow'

The set B markers co-index transitive objects (39a), subjects of *perfective* intransitives, and the theme in predicate nominal and predicate adjectival constructions (39c–d).

(39) SET B (ABSOLUTIVE) MARKING

- a. Tsa`-bi y-il-ä-**yoñ**.
PRFV-REP A3-see-DTV-B1
'She reportedly saw me.'
- b. Tyi ts`äm-i-**yoñ**.
PRFV bathe-ITV-B1
'I bathed.'
- c. X-`ixik-**oñ**.
CL-woman-B1
'I'm a woman.'
- d. Ch`ijyem-**oñ**.
sad-B1
'I'm sad.'

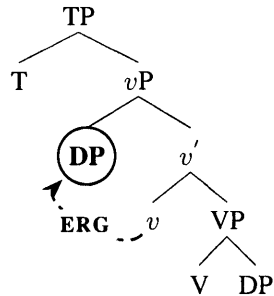
With one apparent exception, namely the nonperfective (unaccusative) intransitive in (38c), we may generalize as follows: set A marks all *external* arguments, while set B marks all *internal* arguments. One of the main arguments of this dissertation will be that nonperfective unaccusative forms like the one in (38c) do *not* in fact present an exception. I propose that the set A marking in these forms co-indexes a grammatical *possessor*, which controls the internal argument. This null unaccusative subject receives absolutive Case, expected of internal arguments. Under this analysis, the generalization in (40) holds.

(40) CHOL PERSON MARKING GENERALIZATION

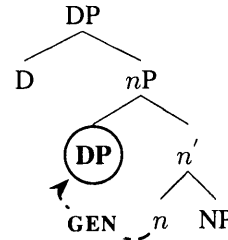
- a. **Set A** marks all external arguments (transitive subjects, unergative subjects, possessors)
- b. **Set B** marks all internal arguments (intransitive subjects, themes).

In the terminology of Dixon (1979, 1994), this makes Chol a *Split-S* system, also discussed for Mopan in Danziger 1996. In order to account for the distribution in (40), I propose below that ergative/genitive is inherent Case, assigned to transitive subjects and possessors by functional *v* and *n* heads respectively, as shown in (41) and (42).¹⁷ External subjects trigger set A agreement on the verb phrase, while possessors trigger set A agreement on the noun phrase, discussed in chapter 4.2.4 below.

(41) ERGATIVE



(42) GENITIVE



To account for the fact that set B marks all internal arguments, I propose all *v* heads in Chol (both transitive and intransitive) obligatorily assign absolutive Case to internal arguments. The source of absolutive has been proposed in recent work to be a point of variation among languages which display morphological ergativity (Aldridge 2004, 2008b; Legate 2002, 2008). In some languages, absolutive is proposed to come from the head of a finite clause, i.e. T^0 (Legate's "ABS=NOM"; Aldridge's "T-type" languages), while in other languages, absolutive is proposed to come from *v* in transitive constructions, but from T^0 in intransitives (Legate's "ABS=DEF"; Aldridge's "*v*-type"). In Chol, I argue, we find evidence for a third possibility: absolutive always comes from *v*.¹⁸

2.3 ERGATIVITY AND SPLIT ERGATIVITY IN MAYAN

We turn now to the distribution of the set A and set B person markers in the Mayan language family more generally. As noted above, Mayan languages show ergative-absolutive patterns of person-marking, manifested as head-marking on the predicate. Examples from Tzotzil in (43) again illustrate the basic pattern. In the transitive in (43a) the subject is marked set A (ergative), while both the transitive object and the intransitive subject are marked set B (absolutive).

(43) TZOTZIL (TSELTALAN)

- a. Ch-i-s-maj.
INC-B I-A3-hit
'S/he hits me.'
- b. Ch-i-bat.
INC-B I-hit
'I'm going.'

(Aissen 2008, 4)

¹⁷In Coon 2010b I discuss more articulated CP and DP structures, see also chapter 4.2.3.

¹⁸Interestingly, this seems to be a point of variation within the Mayan language family. See Coon and Mateo Pedro 2010 for arguments that absolutive comes from *v* in Chol, but from T in Q'anjob'al.

As noted above, while all Mayan languages exhibit this basic pattern, in many of the languages we find the appearance of “split” systems. Chol examples are repeated in (44) and (45). While the perfective forms in (44) follow the ergative pattern also seen in Tzotzil in (43), in the nonperfective aspects both transitive and intransitive subjects are marked set A, as shown in (45).

- | | |
|---|---|
| <p>(44) CHOL PERFECTIVES (= ERG-ABS)</p> <p>a. Tyi a-k'el-e-yoñ.
PRFV A2-watch-TV-B1
'You watched me.'</p> <p>b. Tyi ts'am-i-yoñ.
PRFV bathe-ITV-B1
'I bathed.'</p> | <p>(45) CHOL IMPERFECTIVES (= “SPLIT”)</p> <p>a. Mi a-k'el-oñ.
IMPF A2-watch-B1
'You watch me.'</p> <p>b. Mi a-ts'am-el.
IMPF A2-bathe-NML
'You bathe.'</p> |
|---|---|

As noted above, this type of pattern—in which an ergative marker is *extended* to certain intransitives—is called “extended ergativity” in the terminology of Dixon 1979. Below I argue that the set A marker in the Chol nonperfectives is the *genitive*; the nonperfectives in (45) are biclausal, involving an aspectual matrix verb (here *mi*) and an embedded nominalized clause. The structural similarities between the genitive and ergative (and between DPs and CPs more generally) are discussed in chapter 4.2.4 below.

This extended ergative pattern is seen not just in Chol, but in *all* splits in the Mayan family. Larsen and Norman note splits in the Mayan family splits are triggered by three kinds of factors:¹⁹

- (46) FACTORS CONDITIONING MAYAN SPLIT ERGATIVITY:
- a. occurrence in subordinate clauses
 - b. the presence of a focused constituent immediately preceding the verb
 - c. particular tenses or aspects
- (Larsen and Norman 1979, 353)

The analysis proposed below for Chol that nonperfective constructions are biclausal—involving a matrix aspectual predicate, and an embedded nominal or nominalized clause—is not without precedent in the Mayan family. Indeed, Bricker (1981) suggests a similar story for Yucatec; more recently Mateo-Toledo (2003a) proposes this type of analysis for Q'anjob'al and Larsen and Norman (1979) suggest that *all* of the cases in (46) may in fact be instances of subordination, a proposal which I offer support for below. What Larsen and Norman call “pre-verbal focussed constituents” have been shown in recent work to be complex predicate constructions, and thus also constitute cases of subordination (Mateo-Toledo 2003a). That the aspects which trigger the apparent nominative-accusative system are also complex clause constructions is the subject of the next two chapters below. I review each of these types of split briefly in the sections that follow.

¹⁹Just one of the Mayan languages, Mocho (also known as Motocintlec), exhibits a split conditioned by person features (Larsen and Norman 1979, 353): third person intransitive subjects appear with the expected set B marking, while first and second person intransitive subjects are co-indexed with set A marking. Little descriptive material is available for Mocho and I am unable to discuss whether this split may also be reducible to complex versus simple clause constructions.

2.3.1 Subordinated clauses

In languages of the Q'anjob'alan subgroup, such as Jakalteq, main clauses show the expected ergative-absolutive pattern of agreement, while aspectless subordinate clauses like those in (47) show a nominative-accusative pattern. In the subordinate clauses in (47), both subjects of transitives and subjects of intransitives are marked with the set A morpheme.

(47) JAKALTEK (Q'ANJOB'ALAN)

a. x-Ø-w-ilwe [hach **hin**-kol-ni]
COM-B3-A1-try B2 A1-help-SUF

'I tried to help you.'

b. sab' ichi [**ha**-munlayi]
early start A2-work

'You started to work early.'

(Craig 1977, 617)

Akatek provides further examples. Zavala (1997, 445) notes that in this language nominative-accusative patterning is found "in certain contexts of grammatical complexity, in embedded clauses that follow three types of 'higher' predicates". These include the main verb *il* 'see', certain adverbial predicates, and some grammaticalized auxiliaries. Constructions of the first type are illustrated in (48).

(48) AKATEK (Q'ANJOB'ALAN)

a. x-y-il ix [**aw**-el-toj]
COM-A3-see she A2S-leave-DIR:thither

'She saw you leaving.'

b. x-y-il ix [in-**aw**-ante-on an]
COM-A3-see she B1S-A2S-cure-NML CL.1S

'She saw that you cured me.'²⁰

(Zavala 1997, 446)

As discussed for Chol in chapter 4.4 below, this split is found only in *aspectless* nonfinite subordinate clauses. Under the analysis here, this is because nonfinite clauses are realized as nominalizations, and the subjects are realized as possessors. Fully finite embedded clauses show the regular ergative-absolutive pattern. The contrast is illustrated for Ixil (Mamean) in (49). In (49a) the matrix predicate *al* 'say' takes a finite embedded clause, introduced by the complementizer *wa7*. The embedded intransitive shows aspectual marking and the embedded subject is set B (unmarked for third person). In (49b), the embedded clause does not (and cannot) appear with aspect marking and the embedded intransitive now shows set A marking.²¹

²⁰This is probably more accurately translated as 'She saw you curing me'; see discussion of Q'anjob'al in chapter 4.5.

²¹The numeral "7" is used to represent the glottal stop in some orthographies.

(49) IXIL (MAMEAN)

a. FINITE EMBEDDED CLAUSE

ni t-al naj [wa7 la b'en-i]

ASP A3-say he COMP ASP go-SUF

'He says that he will go; he wants to go.'

b. ASPECTLESS EMBEDDED CLAUSE

ni t-al naj [i-b'en-e7]

ASP A3-say he A3-go-SUF

'He wants to go.'

(Ayres 1983, 35)

2.3.2 Pre-verbal adverbs

Larsen and Norman 1979 note that in some languages of the Mamean and Q'anjob'alan subgroups, the appearance of certain "focused constituents" before the verb triggers a nominative-accusative pattern. The pattern they describe can be seen in Ixil. In (50a) the intransitive root *wat* 'sleep' appears with the set B morpheme expected of intransitives and the adverb *jojli* 'face-down' appears phrase-finally. In (50b), in contrast, the adverb appears pre-verbally and 'sleep' appears with a set A marker, normally reserved for transitive subjects.

(50) IXIL (MAMEAN)

a. wat o7 jojli

sleep B 1.PL face.down

'We slept face-down.'

b. jojli [ku-wat-e7]

face.down A 1.PL-sleep-SUF

'We sleep/slept face-down.'

(Ayres 1983, 39)

In addition to the difference in person marking, the verb form in (50b) appears with the suffix *-e7* found in intransitive *dependent* clauses like the one in (49b) above. As proposed by Larsen and Norman (1979), the appearance of the dependent marker on these verb forms suggests that the adverb in fact belongs to a higher clause; the lower verb is subordinated and marked as such. This is thus a type of secondary predicate construction, discussed for Chol in appendix A.7.5 below.

This type of split is then reducible to another instance of subordination. (50a) is a simple clause with an adverbial, while (50b) is a complex clause. *Jojli* in (50b) is not "focussed", but is instead serving as the matrix predicate, embedding the predicate 'sleep'. Mateo-Toledo (2003a) provides a similar analysis of analogous Q'anjobal constructions discussed in chapter 4.5 below; see also Pascual (2007).

2.3.3 Aspect

Aspect-based splits are found in languages of the Yucatecan group, in the Cholan branch of the Greater Tseltalan group, as well as in Ixil (Mamean) and Poqomam (K'ichean) (Larsen and Norman 1979). Though Larsen and Norman do not mention these, Q'anjob'alan languages also show aspect-based splits, as we will see in chapter 4.5 below. In all of these languages, an ergative-absolutive

pattern is found in the perfective or completive aspects, while nominative-accusative patterns are found in nonperfective or non-completive aspects.

This type of split was illustrated for Chol above, and is shown for the Yucatecan language Mopan in (51) and (52). In (51) we find an ergative-absolutive pattern in the perfective forms—the intransitive subject takes the set B marker, also used to mark transitive objects. Progressive forms like those in (52), in contrast, show a nominative-accusative pattern. Here the subject of the intransitive patterns with the subject of the transitive in taking set A morphology.

(51) MOPAN (YUCATECAN)

- a. **in-lox-aj-ech**
A1-hit-SUF-B2
'I hit you.'
- b. **lub'-eech**
fall-B2
'You fell.'

(52) a. **tan in-lox-ik-ech**
PROG A1-hit-SUF-B2
'I am hitting you.'

- b. **tan a-lub'-ul**
PROG A2-fall-SUF
'You are falling.'

(Larsen and Norman 1979, 353–354)

Again, the nominative-accusative patterning forms in (52) are the result of subordination. Note that just as in the case of Ixil above, the Mopan verb roots in (52) appear with different suffixes (*-ik* and *-ul*) from the ergative-absolutive-patterning forms in (51). Furthermore, while no overt tense or aspect marker appears on the ergative-absolutive forms in (51), the progressive aspect is marked with *tan*. Larsen and Norman (1979, 355) note that the tenses or aspects which condition a nominative-accusative pattern are *always* overtly marked. They note further that some of these morphemes may be historically traced to verb roots. They conclude that nominative-accusative constructions “are to be analysed diachronically as higher verbs with sentential subjects, that is, as instances of subordination.”

2.3.4 Previous analyses

The proposal put forth for Chol in the sections below—that split ergativity is connected to subordination—is not novel within Mayan linguistics. What is new is the argument that this is not simply a diachronic fact, but reflects the structure of contemporary Mayan grammar. The following discussion of Akatek’s subordination split (seen in (48) above) exemplifies the historical analysis. It parallels the proposal made for Chol above, but suggests that these facts are not part of the current grammar.

In [nominative-accusative patterning] contexts, the embedded clause is historically either the grammatical subject or object of the “higher” predicate, and thus historically NOMINALIZED...[T]he embedded clause maintains a nominative-accusative distribution of the pronominal affixes instead of the ergative-absolutive

alignment found in simple clauses: The ergative (E) marker now refers to the subjects of both transitive and intransitive clauses. This is so presumably because the embedded clauses are historically nominalized, so their subjects—whether transitive or intransitive—are marked as POSSESSORS. And the ergative and possessor affixes in Akatek are one and the same. (Zavala 1997, 445)

Below I argue that the subordination analysis for Chol split ergativity is true not just diachronically, but *synchronically* as well. That is, the imperfective and progressive aspect markers which trigger nominative-accusative patterning function as the main syntactic predicate of the clause, while the contentful predicate is a subordinated nominal form. Chol nonperfective aspect markers behave today as predicates in permitting situation-denoting arguments and participating in raising constructions. The nonperfective stems appear in nominal contexts in other parts of the grammar. We will find further evidence against a purely historical analysis in the discussion of Basque in chapter 5.

While some works focus on a historical analysis, others propose that a subordination analysis should be limited to *intransitives*. Larsen and Norman write (setting aside the person-based split in Mocho): “From the perspective of Mayan comparative grammar, to explain the nature of split case-marking it would be sufficient to account for why ergative (set A) prefixes are used to cross-reference *intransitive* subjects in subordinate clauses.” (emphasis added) (Larsen and Norman 1979, 355). Noting that set A marks not just ergative, but also genitive in Mayan languages, they speculate that intransitive verbs with set A subjects, such as the Mopan form in (52b), are *possessed nominals*. Despite differences in morphology between perfective and nonperfective transitives (compare the Mopan forms in (51a) and (52a)), they do not suggest this analysis should be extended to transitives.

While they do not discuss this in detail, the reason that Larsen and Norman propose that only *intransitive* forms are nominalized may be connected to the fact that only intransitives show overt nominal morphology in languages like Chol, or the fact that in order to account for the split it is only *necessary* to propose nominalizations for intransitives, since all transitives take both set A and set B marking and it is thus in the intransitives that the splits become apparent (compare (17) and (18) above).

In a similar vein, Bricker (1981, 87) notes that nominalization is “a plausible explanation for the ergative split in Yucatec Maya if only intransitive complements are considered, but it is not immediately obvious in the case of transitive complements.” Though in the end she does suggest a nominalization analysis for transitives in Yucatec, when considering cross-linguistic data she concludes (based on incomplete morphological evidence) that the Cholan languages do not show nominalization of transitives (Bricker 1981, 101). Below I provide evidence that the nominalization analysis is correct not only for Chol intransitives, but also for transitives.

CHAPTER 3

VERBS AND NOUNS IN CHOL

This chapter begins the analysis of person marking in Chol. As noted above, Chol has been described as a language with *aspect-based* split ergativity (Quizar and Knowles-Berry 1990; Vázquez Álvarez 2002; Gutiérrez Sánchez 2004). The basic pattern, common for splits within the Mayan family, is repeated in the forms in (1) and (2). In the perfective aspect, the transitive object and the intransitive subject take the same set B morphology. The transitive subject is marked with set A morphology. In nonperfective (imperfective and progressive) aspects both transitive and intransitive subjects show set A marking, giving the appearance of a nominative-accusative system.

- | | |
|---|---|
| <p>(1) CHOL PERFECTIVES (=ERG-ABS)</p> <p>a. Tyi a-k`el-e-yoñ.
PRFV A2-watch-TV-B1
'You watched me.'</p> <p>b. Tyi ts`äm-i-yoñ.
PRFV bathe-ITV-B1
'I bathed.'</p> | <p>(2) CHOL IMPERFECTIVES (=“SPLIT”)</p> <p>a. Mi a-k`el-oñ.
IMPF A2-watch-B1
'You watch me.'</p> <p>b. Mi a-ts`äm-el.
IMPF A2-bathe-NML
'You bathe.'</p> |
|---|---|

Chol also shows a second type of split, less common within the Mayan family: a split in how intransitive subjects are encoded, or a *Split-S* system (Dixon 1979, 1994) (recall that the “S” stands for intransitive subject). In languages with Split-S systems, intransitive verbs are divided into two classes: those which mark their subjects like transitive subjects (S_A , hereafter *unergatives*), and those which mark subjects like transitive objects (S_P , hereafter *unaccusatives*). Split-S systems are found in a variety of languages, including Dakota (Siouan), Cocho (Oto-Manguean), Ikan (Chibchan), and Ket (Yeniseian, Siberia) (citations in Dixon 1994, 73; see also Mithun 1991). Chol examples are given in (3) and (4).

- | | |
|---|--|
| <p>(3) S_A = UNERGATIVES</p> <p>a. Tyi k-cha`l-e soñ.
PRFV A1-do-DTV dance
'I danced.'</p> <p>b. Tyi a-cha`l-e ty`añ.
PRFV A2-do-DTV speech
'You spoke.'</p> | <p>(4) S_P = UNACCUSATIVES</p> <p>a. Tyi majl-i-yoñ.
PRFV go-ITV-B1
'I went.'</p> <p>b. Tyi yajl-i-yety.
PRFV fall-ITV-B2
'You fell.'</p> |
|---|--|

Note that the interaction of these two splits results in an apparent conflict within the class of unaccusatives. In a true Split-S system, we expect that unaccusative subjects will pattern with transitive objects, which is indeed the case in perfective clauses like (4), as well as in aspectless statives, discussed below. Unaccusatives in the *nonperfective* aspects, however, show set A marking. Compare, for example, the forms in (5) and (6). Recall that there is no overt third person set B marker; I represent a null morpheme in some examples below for expository purposes, but see the discussion in chapter 2.2.5 on the absence of this morpheme. See appendix B (page 245) for a summary of the different types of constructions involved in the splits discussed here.

- | | |
|--|---|
| (5) PERFECTIVE UNACCUSATIVES | (6) NONPERFECTIVE UNACCUSATIVES |
| a. Tyi yajl-i-yoñ.
PRFV fall-ITV-B1
'I fell.' | a. Choñkol k-yajl-el.
PROG A1-fall-NML
'I'm falling.' |
| b. Tyi wejl-i-Ø jiñi loro.
PRFV fly-ITV-B3 DET parrot
'The parrot flew.' | b. Mi i-wejl-el jiñi loro.
IMPF A3-fly-NML DET parrot
'The parrot flies.' |

I argue below that despite surface appearances, Chol's system of marking grammatical relations is robustly Split-S. The appearance of the set A markers in the nonperfective aspects is the result of the fact that *nonperfective constructions are complex clauses*. In these constructions, the nonperfective aspect marker serves as the matrix predicate, embedding a nominalized clause. Both transitive and intransitive subjects are PRO within the nominalization, controlled by *possessors*. This, coupled with the fact that ergative and genitive morphemes are identical in the Mayan family, gives the illusion of a nominative-accusative pattern.¹

The analysis of transitive and intransitive nonperfectives, like those in (7), is previewed in (8). Below I present morphological evidence, distributional evidence, evidence from the behavior of the aspect markers, as well as historical and comparative evidence for this analysis.

- (7) a. Mi i-k'el-oñ **jiñi x-`ixik**.
IMPF A3-watch-B1 DET CL-woman
'The woman watches me.'
- b. Mi i-ts'am-el **jiñi x-`ixik**.
IMPF A3-bathe-NML DET CL-woman
'The woman bathes.'
- (8) CHOL NONPERFECTIVES = COMPLEX CLAUSES
- a. Mi-Ø_i [_{DP} i- [k'el-oñ PRO_k] **jiñi x-`ixik**_k]_i.
IMPF-B3 A3- watch-B1 DET CL-woman
lit. ~ 'The woman's watching me happens.'
- b. Mi-Ø_i [_{DP} i- [ts'am-el PRO_k] **jiñi x-`ixik**_k]_i.
IMPF-B3 A3- bathe-NML DET CL-woman
lit. ~ 'The woman's bathing happens.'

¹The analysis here builds on and modifies the proposal in Coon 2010a.

Under this analysis, no special rules of case assignment or agreement are required to account for the Chol facts. As argued for by Laka 2006 for the aspectual split in Basque, the appearance of split ergativity is reduced to different structural representations for these “split” aspects. For Chol, just as the difference in person marking between unergatives and unaccusatives in (3) and (4) above is clearly related to a structural difference (namely, unergatives are transitives), so too the aspect-based split is really a structural split: the lexical stems in the perfective aspect are verbs, while the lexical stems in the nonperfective aspects are embedded nominalizations. This is schematized in (9).

- (9) a. PERFECTIVE
 [aspect stem_V]
 b. NONPERFECTIVE
 [aspect_V [stem_N]]

I propose that the agreement facts can be accounted for by the fact that Chol *v*—both transitive and intransitive—assigns absolutive Case.² We will see, however, that this is not strong enough. Not only *can v* license absolutive Case—it must. This gives us the result, which I show to be true below, that *all predicates in Chol combine with DP complements*.

- (10) CHOL LITTLE *v* GENERALIZATION
 a. All internal arguments must be assigned (absolutive) Case by a *v* head;
 b. All *v*'s must assign absolutive Case to an internal argument.

We begin in this chapter with the proposal that all (and only) verbs in the language have DP complements—the heart of the Split-S system and, I argue, a key component to understanding the appearance of the aspect-based split. Interestingly, this gives us the result that the Split-S system is *not* about whether the subject is agentive or not, but rather, whether there is a complement. With the generalization in (10) in place, we return to the aspectual split in chapter 4, where I show first that the nonperfective aspect markers are predicates, and second, that their complements are possessed nominalizations.

3.1 VERBS (AND ONLY VERBS) HAVE DP COMPLEMENTS

I begin the analysis of Chol split ergativity in this section by showing that all Chol verbs combine with a DP complement, realized as an absolutive (set B-marked) nominal. Those stems which do not combine with DP complements (unergatives and antipassives) must surface as nominals; they require a light verb in order to predicate. I call stems which subcategorize for DP complements *complementing* and those which do not *complementless*. We begin by looking at ergative-patterning perfectives and statives in this section. In the following chapter I show that this analysis accounts for the “split” nonperfectives as well.

²As noted above, I use “Case” with a capital “C” to refer not to morphological case, but to the mechanism responsible for licensing nominal arguments, also known as *abstract case*.

3.1.1 One-place predicates and Split-S

In this chapter I argue that Chol is consistently Split-S. I attribute this pattern to a special feature of Chol *v*: *v* obligatorily assigns Case to an internal argument. Before delving into this discussion, it will be important to clarify what “Split-S” means in the context of Chol.³ As seen above, unergative stems like *alas* ‘game, play’ appear in *transitive* constructions, as in (11).

- (11) Kabäl mi i-cha`l-eñ **alas** jiñi alob.
 a.lot IMPF A3-do-D.NML game DET child
 ‘The child plays a lot.’

The unergative construction in (11) is *syntactically* transitive—the light verb *cha`l* takes a complement, *alas* ‘game’, and projects an agent, *jiñi alob* ‘the child’. As discussed below, the unergative root *alas* does not itself project the agent argument, but as in (11), is selected by the light verb, which does. Despite the syntactic transitivity of this construction, I will call unergatives like (11) *semantically intransitive*, insofar as they denote actions or events consistent with a single, agentive argument.

By “Split-S”, then, I mean, that the *semantically intransitive* stems in Chol do not behave as a uniform class with respect to person marking. I follow Danziger’s (1996) discussion of Yucatecan Mayan languages in dividing Chol semantic-intransitives into three classes: 1. statives, 2. mutatives, and 3. actives, shown in (12). Statives and mutatives together may be labelled “unaccusatives”, insofar as both have *internal* subjects.

- (12) a. UNACCUSATIVES
 i. MUTATIVE
 Tyi **k’oty**-i-yety.
 PRFV arrive.there-ITV-B2
 ‘You arrived there.’
 ii. STATIVE
Chañ-ety.
 tall-B2
 ‘You are tall.’
 b. UNERGATIVE
 Tyi a-cha`l-e **k’ay**.
 PRFV A2-do-DTV song
 ‘You sang.’

As in Yucatecan, the three classes in Chol may be identified based on formal properties (i.e. stem-forming morphology, the ability to appear with aspect, discussed in chapter 2.2.3 above). But as Danziger notes, the groups also form coherent semantic classes, described in turn below. Though Danziger discusses Yucatecan *roots*, in Chol it is useful to discuss the behavior of intransitive *stems*, as the properties discussed below hold over derived forms as well. I briefly examine each class below.

³Thanks to Omer Preminger for raising this issue.

Statives

Danziger (1996, 386) writes of the class of Yucatecan statives:

[Statives are] composed of predicates denoting qualities or states of affairs. They can be likened to Vendlerian State predicates or to Klimov's Statives. These STATIVE roots represent a large number of intransitive roots in the languages, since the class includes adjectival and nominal predicates.

Chol examples are given in (13); (13c) is an intransitive stative derived from a transitive root; see appendix A.5 on other derived statives.

- (13) a. **Maystraj**-ety.
teacher-B2
'You're a teacher.'
- b. **Ñox**-oñ-ix-la.
old-B1-already-PL
'We_{INCL} are old already.'
- c. **Juch'-ul** li waj.
grind-STAT DET *masa*
'The *masa* is ground.'

As discussed in chapter 2.2.3 above for Chol, also noted by Danziger for Mopan, these forms may not appear with aspect marking, and following the general ergative pattern, they always mark their single argument via set B morphology.

Mutatives

Danziger (1996, 386) describes a second class of semantically intransitive roots, which she calls *mutatives*. She writes:

In general, [mutatives] can be understood to denote actions which are not necessarily under the voluntary control of the participant (Foley and Valin 1984, 53 and Perlmutter 1978) and in which the denoted (incompletive) action results in a new (nonincompletive) state for the participant (see Lyons 1977 and Talmy 1985, 87). The state of the participant during the action is different from the state of the participant after the action is completed. The members of this class can be semantically likened to Vendlerian Achievement predicates (Dowty 1979, Foley and Valin 1984, Lehmann 1993, Van Valin 1990, and Vendler 1967) in that they incorporate features both of Activity and of State predicates.

In Chol, this class is identified by the suffix *-i* and by appearing with set B morphology in the perfective aspect. Again, mutatives may be derived, e.g. from transitive roots via passive morphology as in (14c) (see appendix A.4 below).

- (14) a. Tyi wäy-i-yoñ.
PRFV sleep-ITV-B1
'I slept.'
- b. Tyi jul-i-yob jiñi wiñik-ob.
PRFV arrive.here-ITV-PL DET man-PL
'The men arrived here.'
- c. Tyi jajts'-i-yety.
PRFV hit.PASV-ITV-B2
'You were hit.'

Note that both mutatives and statives include only a single internal THEME argument, and I discuss them together as *unaccusatives*, following Perlmutter 1978. The difference between the two classes has to do with the fact that the mutatives denote an event. Below I attribute this to an eventive *v* head, realized by the suffix *-i*, discussed below.⁴

Unergatives

Finally, Danziger (1996, 386) identifies a class of intransitives which she labels “active” which “express action to which the single participant has an active, effecting, initiatory, volitional, or controlling relationship.” In Chol, these forms are characterized by their inability to appear directly in an intransitive predicative form, as we will see in more detail below. Instead, they must surface as nominals. As in the classes above, I include here not only active roots, but also derived unergative intransitives like the antipassive in (15c).

- (15) a. Tyi a-cha`l-e ts'ijb.
PRFV A2-do-DTV write
'You wrote.'
- b. Tyi i-cha`l-e soñ.
PRFV A3-do-DTV dance
'The woman danced.'
- c. Tyi k-cha`l-e wuts'-oñ-el.
PRFV A1-do-DTV wash-AP-NML
'I washed.'

Below I follow Perlmutter 1978 in referring to *semantic* intransitives in which the single participant is an agent (Danziger's class of “actives”) as *unergatives*.

3.1.2 Complementing and complementless forms

Here I show that Chol's Split-S system—that is, the differential treatment of unaccusative and unergative subjects—is the result of the fact that Chol *v* heads obligatorily assign absolutive Case to a DP complement. Those stems which combine with DP complements—either overt

⁴All nominal and adjectival predicates in Chol are unaccusative. See Coon 2010b for discussion; see also Sabbagh 2006 on Tagalog. This contrasts with languages like Russian or Italian where some adjectival predicates are argued to be unergative (see e.g. Pesetsky 1982 on Russian and Burzio 1986 on Italian).

DPs or null *pros* as in the examples below—infect directly as verbs. In the perfective aspect, this means appearing with person morphology, status suffixes, and the aspectual morpheme *tyi*. Complementing stems include transitives (both root (16a) and derived (16b)), unaccusatives (16c), and passives (16d).

(16) INTERNAL ARGUMENT = VERBS

- a. Tyi i-k'el-e-**yety**.
PRFV A3-watch-TV-B2
'He watched you.'
- b. Tyi k-il-ä-**yety**.
PRFV A1-see-DTV-B2
'I saw you.'
- c. Tyi majl-i-**yety**.
PRFV go-ITV-B2
'You left.'
- d. Tyi k'ejl-i-**yety**.
PRFV watch.PASV-ITV-B2
'You were watched.'

In each of the forms in (16), we find a set B marker co-indexing the internal argument: this is the object of the transitives in (16a–b) and the subject of the intransitives in (16b–c). Chol person morphology is repeated in table 3.1, from chapter 2.2.5 above.

Table 3.1: CHOL PERSON MORPHOLOGY

	Set A	Set B
1 ST person	<i>k-/j-</i>	<i>-(y)oñ</i>
2 ND person	<i>a(w)-</i>	<i>-(y)ety</i>
3 RD person	<i>i(y)-</i>	∅

In each of the stems in (16) we also find a “status suffix” or “thematic vowel” suffixed to the root. As discussed in chapter 2.2.3, root transitives appear with a harmonic vowel suffix, represented as $-\mathbb{V}$; the vowel of non-root or derived transitives varies with the root. I assume that these transitive *v* heads either merge agents directly in their specifiers, or are selected by Voice heads which merge the agents (see discussion in chapter 4.2.4 below). Unaccusatives and passives both appear with the vowel *-i*. I assume that these suffixes occupy a verbal (or verbalizing) *v* head, which is responsible for assigning Case to the internal DP argument. The types of Chol *v* discussed here are summarized in table 3.2.

Table 3.2: CHOL *v* “THEME VOWEL” SUFFIXES

TV	transitive <i>v</i>	$-\mathbb{V}$ (harmonic vowel)
DTV	derived transitive <i>v</i>	$-V$ (vowel varies)
ITV	intransitive <i>v</i>	$-i$

The stative forms discussed above also have an internal argument, and inflect directly as predicates. These however may not appear with aspect. Here I assume the presence of a null stative/copular *v*. Like the *v* heads in table 3.2, this *v* obligatorily assigns Case to an internal argument. I assume this *v* is special in that it has no overt realization and may not be selected by an aspectual head. I do not treat stative predicates in detail here, though these are an area which warrant further research.

Those stems which do *not* subcategorize for DP internal arguments do not inflect as verbs and also do not appear with a *v* suffix. These include unergatives as in (17a) and antipassives as in (17b). Compare these ungrammatical examples with the intransitives in (16c–d) above.

- (17) a. *Tyi soñ-i-yety.
 PRFV dance-ITV-B2
 intended: ‘You danced.’
- b. *Tyi wuts’-oñ-i-yety.
 PRFV wash-AP-ITV-B2
 intended: ‘You washed.’

The characteristics which unify unergatives and antipassives, crucial for the discussion in this section, are the following:

(18) UNERGATIVES AND ANTIPASSIVES

1. Both denote events compatible with a single, agentive argument, and
2. They do not take DP complements.

The unergative root is semantically intransitive and, by definition, semantically compatible with only an external argument. Cross-linguistically, antipassive constructions involve the demotion of a transitive object. The Chol antipassive morpheme *-oñ*—cognate with antipassive or agent focus morphemes in many other Mayan languages, see e.g. Stiebels 2006—attaches to a subset of transitive roots and “absorbs” their internal θ -role assigning abilities.⁵ Under this analysis, because unergative and antipassives have no internal argument, they have no *v* layer. Indeed, these forms never combine with one of the theme vowels, proposed to be instantiations of *v*. For now I assume that agents must be projected in the specifier of *v*P, defended below. With no *v* layer, unergatives and antipassives are themselves unable to project an agent.

Instead unergative roots like *soñ* ‘dance’ and antipassive stems like *wuts’oñ* ‘wash’ must surface as nominals. In order to predicate in the perfective aspect, they appear as complements to the transitive light verb *cha’l* (see also Gutiérrez Sánchez 2004); the agent argument semantically compatible with the action denoted by the complementless stems is projected as the subject of the transitive light verb. Since the light verb *does* take a DP complement—namely, the unergative or antipassive stem—we correctly expect that it does inflect as a verb. It appears with a derived transitive suffix, *-e*.

⁵This is the Chol *absolute antipassive* suffix. As discussed in Vázquez Álvarez (2002, 286), the absolute antipassive in Chol “is associated with institutionalized actions in which the patient has no thematic importance. For this reason is it restricted to a few dozen actions.” Below we will see a second type of antipassive.

(19) NO INTERNAL ARGUMENT = NOUNS

- a. Tyi k-cha`l-e [_{DP} soñ].
 PRFV A1-do-DTV dance
 ‘I danced.’ (lit.: ‘I did dancing.’)
- b. Tyi k-cha`l-e [_{DP} wuts’-oñ-el].
 PRFV A1-do-DTV wash-AP-NML
 ‘I washed.’ (lit.: ‘I did washing.’)

3.1.3 On predicate-external subjects

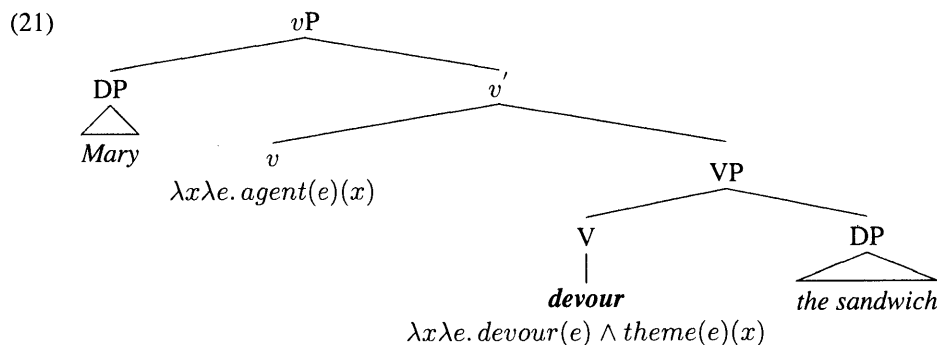
To clarify, I am not proposing that there is *raising* of the subject from within the DP complements in (19) to the light verb, nor that the light verb subjects *control* null elements within their complements. Rather, the complementless stems underlined in (19) never project an agent θ -role. This is because 1. agents are always projected in the specifier of transitive *v*P (defended below), and 2. Chol *v* heads obligatorily assign Case to internal arguments. Unergatives and antipassives may not combine with (any type of) *v*, and thus may not directly merge their arguments. In other words, if there is no internal argument, there can be no external argument.

The agent is instead generated on a higher predicate, here the transitive light verb *cha`l*. I take this to be in line with much recent work which assumes that external arguments are not projected within the lexical verb phrase itself, but in some external projection, called *v*P or VoiceP (Hale and Keyser 1993; Bowers 1993; Chomsky 1995; Collins 1996; Kratzer 1996, and others).

There is thus nothing unique about the proposal that in Chol constructions like (19) the agent argument is not projected directly by the underlined complementless stem. Under proposals in which agents are projected in a functional projection external to the VP (“Split-VP” proposals), the difference in grammaticality between the English sentences in (20) is attributed *not* to a difference in the θ -role assignment properties of the verbs—both assign an internal θ -role—but rather to selectional requirements of the transitive *v*. Agent θ -roles are merged in the specifier of transitive *v*, and a transitive (agent-merging) *v* may only select a semantically compatible verb. In English, *devour* is compatible with an AGENT, while *arrive* is not. The verb *devour* must thus be selected by a transitive *v*, while *arrive* must be selected by an intransitive *v*.

- (20) a. Mary **devoured** the sandwich.
 b. *Mary **arrived** the sandwich.

The tree in (21) provides the semantic denotations for the two argument-introducing heads, the root *devour*, which assigns a θ -role to the THEME argument, and the transitive *v*, which introduces the AGENT. Crucially, just as in the Chol complementless forms above, *devour* does *not* assign a θ -role to the AGENT.



The derivation of the structure in (21) is shown in (22). The root *devour* combines with the DP *the sandwich* via functional application (FA). The VP (or \sqrt{P} , depending on the analysis) denotes an event of sandwich-eating, shown in (22a). The *v* head merges, and combines with the VP via a semantic operation called *event identification* (EI) (Kratzer 1994, 1996), shown in (22b). This operation ensures that the event that the external argument is the agent of, and the sandwich-devouring event, are identified as being the same event. The transitive *v* thus thematically relates the agent to the event denoted by the VP.

- (22)
- a. $[\sqrt{P}] = \lambda e. devour(e) \wedge theme(e)(\mathbf{the\ sandwich})$ by FA
 - b. $[v'] = \lambda x \lambda e \wedge agent(e)(x) \wedge theme(e)(\mathbf{the\ sandwich})$ by EI
 - c. $[vP] = \lambda e. devour(e) \wedge agent(e)(\mathbf{Mary}) \wedge devour(e)(\mathbf{the\ sandwich})$ by FA

Now we return to the Chol light verb *cha'l* from (19) above. Just as with the English sentence described here, the agent θ -role is “severed” from the semantically contentful predicate. That is, in (19a) the agent θ -role is assigned not by the unergative root *soñ* ‘dance’, but by the *v* which merges with the transitive light verb, realized as the suffix *-e*. Selectional restrictions prevent the transitive light verb from combining with semantically inappropriate predicates, for instance the unaccusatives and passives in (23). Recall that under this analysis, since unaccusatives and passives subcategorize for an internal θ -role they appear directly as verbs, not as complements to the light verb:

- (23)
- a. *Tyi a-cha`l-e majl-el.
PRFV A2-do-DTV go-NML
intended: ‘You went.’
 - b. *Tyi k-cha`l-e jajts`-el.
PRFV A1-do-DTV hit.PASV-NML
intended: ‘I was hit.’

We return to arguments for the separation between the lexical or semantic predicate and the agent θ -role below. For now I simply note that the machinery already required to account for English facts under a predicate-external subject analysis also readily handles the Chol proposal made here. That is, there is nothing unique about the proposal that the agent argument is never realized internal to the semantically contentful predicate, here the unergative or antipassive nominal stems in (19). Rather, the agent DPs are merged as the external arguments of the light verb, which selects the appropriate nominal complement. The structure of these forms is provided in the following section.

3.1.4 The *v* generalization

The proposed difference between nominal-behaving unergative and antipassive stems on the one hand, and verbal-behaving transitive and unaccusative stems on the other, is the *internal* argument. Evidence that the presence or absence of an internal argument is what is at stake here is found in alternations like that in (24). In (24a–b) the unergative root *soñ* does not combine with an internal argument and thus cannot directly inflect as a verb (neither set B nor set A marking is possible directly on the stem). In (24c) the same root now combines with an object: *bals* ‘waltz’. A theme vowel, found on denominal transitives (see chapter 8), is now possible on the root and no light verb is needed.

- (24) a. *Tyi soñ-i-yoñ.
PRFV dance-ITV-B I
intended: ‘I danced.’
- b. *Tyi k-soñ-i.
PRFV A I-dance-ITV
intended: ‘I danced.’⁶
- c. Tyi k-soñ-i bals.
PRFV A I-dance-DTV waltz
‘I danced a waltz.’

Based on data like these, I propose the generalization in (25), repeated from (10) above. This gives us the result that a Chol stem can only inflect as a verb if it combines with a DP (Case-requiring) complement.⁷

- (25) CHOL LITTLE *v* GENERALIZATION
- All internal arguments must be assigned (absolute) Case by a *v* head;
 - All *v*’s must assign absolute Case to an internal argument.

The proposal that certain heads obligatorily assign Case is not new. The *Obligatory Case Parameter* (Bobaljik 1993; Laka 1993) is proposed to account for the difference between nominative-accusative and ergative-absolutive languages as follows: In an ergative language, *v* obligatorily assigns Case (*absolute*), while in a nominative language, T must assign Case (*nominative*). The remaining arguments in a transitive construction are assigned “dependent” Case—*ergative* for the transitive subject in an ergative system, *accusative* for the transitive object in a nominative system.⁸ As noted in chapter 2.2.5, I assume here that ergative Case in Chol is assigned inherently, though nothing proposed here is incompatible with an account in which ergative is dependent.

Returning to the difference between Chol complementing and complementless forms, I give the proposed structures for unaccusatives and unergatives in (28) and (29):

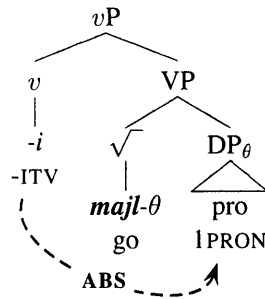
⁶This form is grammatical under an interpretation in which there is a *pro*-dropped object: ‘I danced it.’ This is because the intransitive status suffix *-i* is homophonous with the denominal status suffix in the perfective aspect, shown by the form in (24c). See the discussion in chapter 2.2.3 above.

⁷See also Phillips 1995 for a proposal which relates the obligatory appearance of absolute marking on verbs in Yimas to an EPP requirement of T. In Chol, absolute Case is available in *nonfinite* embedded clauses, lending support to the proposal that Chol absolute is assigned by *v*, not by T. See Coon and Mateo Pedro 2010.

⁸See Coon and Salanova 2009 for an account which proposes to derive the setting of the Obligatory Case Parameter from independent properties of the grammar.

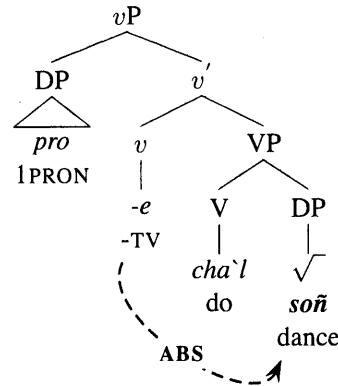
- (26) UNACCUSATIVE
 Tyi majl-i-yoñ.
 PRFV go-ITV-B1
 ‘I went.’

- (28) *majl*: internal θ -role



- (27) UNERGATIVE
 Tyi k-cha`l-e soñ.
 PRFV A1-do-DTV dance
 ‘I danced.’

- (29) *soñ*: no internal θ -role



In (28), the unaccusative root *majl* ‘go’ subcategorizes for an internal argument, here the first person pronoun. An intransitive *v* head merges and assigns absolutive Case to the internal argument. The unergative root *soñ* ‘dance’, in contrast, does not subcategorize for an internal argument—it simply denotes an event of dancing. A *v* does not merge (there is nothing for it to assign Case to) and so the unergative or antipassive form must be realized as a noun. Another way to put this is that *v* does not select for unergative or antipassive complements.

In order to predicate, the unergative root *soñ* serves as a complement to the light verb, *cha`l*. Since the light verb *does* combine with a nominal complement, *v* is merged and the form is verbal. The transitive *v* introduces the agent θ -role and combines with the VP via *event identification*, which ensures that the agent is identified with the event of dancing.

As noted above, I assume that transitive subjects in Chol, like the first person pronoun in (29), are assigned ergative Case *inherently* by transitive *v* in the position in which they enter the derivation (Mahajan 1989; Woolford 1997, 2001; Legate 2002, 2008). Nothing proposed below hinges on this.

3.1.5 Alternations

In addition to differences between lexical items like the unaccusative root *majl* ‘go’ and the unergative root *soñ* ‘dance’, we also find alternations supporting the proposed distinction between complementing and complementless forms. These involve *ambivalent intransitives* and *incorporation antipassives*, each discussed in Vázquez Álvarez 2002.

Ambivalent intransitives

Vázquez Álvarez (2002) identifies a subset of intransitives which he calls “ambivalents”, also discussed in Gutiérrez Sánchez 2004. These roots appear in either unaccusative or unergative constructions, depending on their semantic interpretation—this subset of Chol intransitives

exemplifies Dixon’s “fluid S” system, in which the argument of a given intransitive patterns one way to encode a volitional subject, and another to encode non-volitionality. Examples of ambivalent roots are listed in table 3.3.

Table 3.3: AMBIVALENT ROOTS (GUTIÉRREZ SÁNCHEZ 2004, 79)

<i>jäjm</i>	‘rock, sway’
<i>ts’äm</i>	‘bathe’
<i>tyijp’</i>	‘jump’
<i>uk’</i>	‘cry’
<i>uch’</i>	‘eat’
<i>wejl</i>	‘fly’
<i>wijl</i>	‘spin’
<i>wäy</i>	‘sleep’

Whereas unaccusatives like *majl* ‘go’ never appear in light verb constructions, and unergatives like *soñ* ‘dance’ always appear in light verb constructions, roots in the class of ambivalents—like *wäy* ‘sleep’—may appear either directly as predicates, as in (30a), or with the nominal suffix *-el* as complements to the light verb, as in (30b).

(30) AMBIVALENTS

- a. Tyi **wäy-i-yoñ**.
PRFV sleep-ITV-B I
‘I slept.’
- b. Tyi k-cha`l-e **wäy-el**.
PRFV AI-do-DTV sleep-NML
‘I slept (on purpose).’

While both forms are equally grammatical, we correctly predict a semantic difference between the two. Under the analysis proposed here, in (30a) the argument of *wäy* is internal (unaccusative). The subject undergoes a *change of state* but the sentence is ambiguous as to whether the act of sleeping was volitional. In (30b) the agent identified with the action denoted by *wäy* is introduced externally (unergative); here the action *must* be interpreted as volitional. (30b) is infelicitous, for example, in a context in which the speaker accidentally dozed off in class, but in good a context in which the speaker lay down with the intention to sleep.

Gutiérrez Sánchez (2004, 92) notes that *positional* roots (see chapter 2.2.3) behave as ambivalents. Note that in the unaccusative form in (31a) the stem suffix terminates in the vowel *-i*, while in the light verb construction it terminates in *-l* (compare with the forms in (30)). See Coon and Preminger 2009 for a proposal which unifies this morphology with that of the intransitives discussed above.

(31) POSITIONALS AS AMBIVALENTS

- a. Tyi buch-li-yoñ.
PRFV sit-POS.ITV-B I
‘I sat.’

- b. Tyi k-cha`l-e buch-tyäl.
 PRFV A1-do-DTV sit-POS.NML
 'I sat.'

The incorporation antipassive

We also find a distinction within stems that appear to be transitive, as shown in (32).

- (32) a. TRANSITIVE
 Tyi k-wuts'-u **pisil**.
 PRFV A1-wash-TV clothes
 'I washed (the) clothes.'
- b. INCORPORATION ANTIPASSIVE
 Tyi k-cha`l-e **wuts' pisil**.
 PRFV A1-do-DTV wash clothes
 'I washed clothes.'

While the form in (32a) is fully transitive, the stem *wuts' pisil* in (32b) is not. Vázquez Álvarez (2002) calls forms like those in (32b) "incorporation antipassives" (following the discussion in Dayley 1990). In contrast to in the full transitive in (33a), the incorporation antipassive object may not be a full DP: determiners (33a), proper names (33b), and pronominal objects (33c-d) are all ungrammatical in this construction.

- (33) a. *Tyi k-cha`l-e [wuts' **jĩni pisil**].
 PRFV A1-do-DTV wash DET clothes
 intended: 'I washed the clothes.'
- b. *Tyi i-cha`l-e [mek' **aj-Maria**].
 PRFV A3-do-DTV hug DET-Maria
 intended: 'He hugged Maria.'
- c. *Tyi i-cha`l-e [k'el-**ety**].
 PRFV A3-do-DTV watch-B2
 intended: 'He watched you.'
- d. *Tyi k-cha`l-e [mel **pro**].
 PRFV A1-do-DTV make 3PRON
 intended: 'I made it.'

Furthermore, as shown by the examples in (34), the incorporation antipassive object cannot be extracted. (e.g. in a *wh*-question as in (34a) or for topic/focus as in (34b)):

- (34) a. ***Chuki** tyi i-cha`l-e [mel __]?
 what PRFV A3-do-DTV make
 intended: 'What did she make?'
- b. ***Waj** tyi i-cha`l-e [mel __]?
 tortilla PRFV A3-do-DTV make
 intended: 'She made tortillas.'

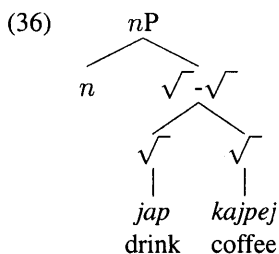
Unlike canonical noun incorporation (cf. Baker 1988), however, in these constructions the verb root and “incorporated” object do not form a single morphological word and the object need not necessarily be a bare nominal. Adjectives may also appear in these constructions, as in (35), though speakers vary in how readily they accept such constructions.

- (35) % Tyi majl-i [tyi **chuk kole**m chây].
 PRFV go-ITV PREP catch big fish
 ‘He went to catch big fish.’

The Chol incorporation antipassive thus more closely resembles the Nez Perce antipassive discussed in Deal 2010, or *pseudo noun incorporation* described for Niuean in Massam 2001. As in these languages, the Chol incorporation antipassive object is not a true (syntactic) verbal argument. Dayley writes of these forms in Mayan languages: “Here there is no particular specific patient, only an undifferentiated class of patients with no specific reference” (Dayley 1990, 342).

In Mithun’s (1984) classification, the Chol incorporation antipassive is an instance of *composition by juxtaposition*, in which “the V and the N are simply juxtaposed to form an especially tight bond” (Mithun 1984, 849). Regardless of the specific analysis adopted, we can conclude that the bare object is *Caseless*. In many languages, the resulting compound behaves like an intransitive verb: “The V and N remain separate words phonologically; but as in all compounding, the N loses its syntactic status as an argument of the sentence, and the VN unit functions as an intransitive predicate” (Mithun 1984, 849). In Chol, however, we have seen that intransitives with no internal arguments never inflect directly as verbs. Based on the proposal above, we then predict correctly that the incorporation antipassive forms—which do not have Case-requiring internal arguments—must pattern as nominals.⁹

As further support for this analysis, note that in (35b) the theme vowel—proposed to be an instantiation of *v*—is missing. Recall that *v* heads in Chol must assign abstract absolutive Case. With no Case-bearing internal argument, *v* is not licit in incorporation antipassive constructions. Instead the roots enter directly into nominal stem forms. I represent these as in (36).¹⁰



We saw structures for unaccusatives and unergatives in (28) and (29) above. Below I give the proposed structures for true transitives and incorporation antipassives, respectively. In the transitive

⁹It is worth emphasizing here that “Case-requiring” in this language does not necessarily mean that an overt determiner is present. While only bare nominals may appear in incorporation antipassives, bare nominals are not necessarily incorporated. A form like *pisil* ‘clothes’ in the full transitive in (32a) may be interpreted as definite or indefinite; the same form in the incorporation antipassive (32b) may only receive an indefinite interpretation.

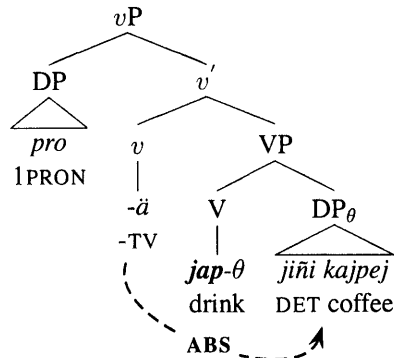
¹⁰I leave open the analysis of incorporation antipassive forms that contain adjectives, like (35) above. As the number of adjectives that permit this appears to be rather limited, perhaps *kolem chây* is itself a type of compound, or perhaps full NPs are possible in the incorporated forms, so long as no higher functional material is present.

in (37) the root *jap* ‘drink’ combines with a full DP internal argument. The transitive *v* is merged, followed by the transitive subject, as shown in (39). In the incorporation antipassive in (37) the root *jap* ‘drink’ combines directly with the bare nominal *kajpej* ‘coffee’ (the determiner is impossible on *kajpej*). Since *v* only selects for complements which contain Case-requiring nominals, *v* is not possible here. Instead, *jap kajpej* serves as the nominal complement to the light verb. The external θ -role is realized as the light verb subject, as shown in (40).

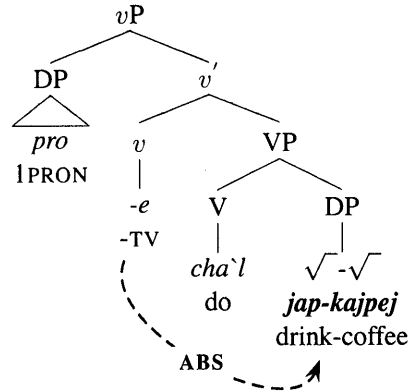
(37) TRANSITIVE
 Tyi k-jap-ä jĩni kajpej.
 PRFV A1-drink-TV DET coffee
 ‘I drank the coffee.’

(38) INCORPORATION ANTIPASSIVE
 Tyi k-cha`l-e jap kajpej.
 PRFV A1-do-DTV drink coffee
 ‘I did coffee-drinking.’

(39) *jap*: internal θ -role



(40) *jap-kajpej*: no internal θ -role



Summary

At this point, we have four types of *complementless* stems, repeated in (41a–d). These include two types of unergative—root unergatives (41a) and ambivalent intransitives in their unergative function (41b)—as well as two types of antipassive. The absolutive antipassive in (41c) is formed with the suffix *-oñ* and no object is (or may be) present; the incorporation antipassive involves a bare transitive root with an NP object, as in (41d).¹¹

¹¹A final type of antipassive is found with derived transitive stems, discussed in chapter 4.3 below.

- (41) a. ROOT UNERGATIVE
 Tyi i-cha`l-e alas jiñi alob.
 PRFV A3-do-DTV game DET boy
 ‘The boy played.’ (lit.: ‘The boy did playing.’)
- b. AMBIVALENT UNERGATIVE
 Tyi a-cha`l-e tyijp’-el.
 PRFV A2-do-DTV jump-NML
 ‘You jumped.’ (lit.: ‘You did jumping.’)
- c. ABSOLUTE ANTIPASSIVE
 Tyi k-cha`l-e wuts’-oñ-el.
 PRFV A1-do-DTV wash-AP-NML
 ‘I washed.’ (lit.: ‘I did washing.’)
- d. INCORPORATION ANTIPASSIVE
 Tyi k-cha`l-e wuts’ pisil.
 PRFV A1-do-DTV wash clothes
 ‘I washed.’ (lit.: ‘I did clothes-washing.’)

Again, what all of the unergative and antipassive stem forms in (41) have in common is that they all lack full Case-requiring internal arguments. The roots *alas* ‘play’ and *tyijp* ‘jump’ simply denote events and do not assign any θ -roles. The transitive root *wuts* ‘wash’ loses the ability to take a full DP internal argument through *antipassivization* (via the suffix *-oñ* in (41c) or by incorporating the bare object nominal in (41d)). Following the proposal above, because these forms do not subcategorize for complements, they cannot project the *v* required to merge an agent. In order to predicate, they serve as the nominal complements of the transitive light verb *cha`l*. In the following section I show first that the underlined unergative and antipassive stems behave distributionally as other nominals in the language, and second that the subjects in forms like (41) pattern with other transitive subjects.

3.2 COMPLEMENTLESS STEMS AND THE LIGHT VERB

In this section I provide further evidence for the proposed nature of complementless constructions in Chol. I begin by showing that complementless (unergative and antipassive) stems are nominal. Next I show that the subjects of the light verb constructions behave syntactically as other transitive subjects. Finally, I return to the proposal that all and only verbs in Chol have DP complements.

3.2.1 Complementless stems are nominal

Here I show that the complementless unergative and antipassive forms underlined in (41) above pattern morphologically and distributionally with other nominals. Unergative light verb complements like those in table 3.4 are simply called “verbal nouns” (also known as “activity nouns” or “action nominals”) within Mayanist literature (see Kaufman 1990). When not appearing in light verb constructions, these stems receive argument nominal interpretations. Examples of verbal nouns and their corresponding nominal and verbal interpretations are given in table 3.4.

While many “verbal nouns” are bare CVC roots, some involve suffixes of the form *-VI*, as in *ñajal* and *tse`ñal*, boldfaced in table 3.4 (see also Gutiérrez Sánchez 2004). Suffixes of the form *-VI*

Table 3.4: VERBAL NOUNS (SEE GUTIÉRREZ SÁNCHEZ 2004, 70)

ROOT	<i>as argument noun</i>	<i>with light verb</i>
<i>soñ</i>	'dance'	'to dance'
<i>alas</i>	'game'	'to play'
<i>ts'ijb</i>	'writing'	'write'
<i>xujch'</i>	'robbery'	'to rob'
<i>chu`</i>	'breast'	'to nurse'
<i>ty'añ</i>	'speech'	'to speak'
<i>k'ay</i>	'song'	'to sing'
<i>xej</i>	'vomit'	'to vomit'
<i>ñajal</i>	'dream'	'to dream'
<i>tse`ñal</i>	'laughter'	'to laugh'

are found on nominals throughout Chol (Warkentin and Scott 1980) and other Mayan languages. Various Chol *-Vl* suffixes are discussed in appendix A.6 below; a few examples are given in table 3.5.

Table 3.5: *-Vl* NOMINALS (AULIE AND AULIE 1978; WARKENTIN AND SCOTT 1980)

<i>lum</i>	'land'	<i>i-lum-al</i>	'his country'
<i>tyaj</i>	'pine'	<i>tyaj-ol</i>	'place where pines grow'
<i>ja`as</i>	'banana'	<i>ja`as-il</i>	'banana tree'
<i>jam</i>	'grass'	<i>jam-il</i>	'lawn'
<i>bäx</i>	'active'	<i>i-bäx-lel</i>	'his energy'
<i>jab</i>	'year'	<i>i-jab-ilel</i>	'her birthday, age'
<i>k'iñ</i>	'sun, day'	<i>k'iñ-ijel</i>	'party'
<i>k'am</i>	'sick'	<i>k'am-äjel</i>	'sickness'
<i>mel</i>	'make'	<i>mel-ojel</i>	'judge'
<i>chäk</i>	'to curse'	<i>ch`äk-ojel</i>	'curse'

As these forms show, while suffixes terminating in *-Vl* have a variety of functions, the resulting stem is always nominal.¹² Absolute antipassive stems (antipassives formed with the suffix *-oñ*) and ambivalent roots always appear with the suffix *-el* when appearing as complements to the light verb. I propose that this is also a nominal suffix, an overt instantiation of a *n* head, and gloss it 'NML'. Examples are shown in (42).

¹²Gutiérrez Sánchez (2004, 70) writes of these "verbal nouns" they "behave as both verbs and as nouns with no additional derivation". He provides ample evidence that they are nominal, but offers light verb constructions as evidence that they behave as verbs as well. Though they denote events when they appear in light verb constructions, I maintain that "verbal nouns" are formally event-denoting nominals; they are not verbs.

- (42) a. ABSOLUTIVE ANTIPASSIVE
 Tyi k-cha`l-e **choñ-oñ-el** tyi Tila.
 PRFV A1-do-DTV sell-AP-NML PREP Tila
 ‘I sold (things) in Tila.’
- b. AMBIVALENT UNERGATIVE
 Tyi i-cha`l-e **tyijp’-el** jiñi ts’i̇.
 PRFV A3-do-DTV jump-NML DET dog
 ‘The dog jumped.’

For comparison, recall that when roots like *choñ* and *tyijp’* from (42) take internal arguments, they appear with a *-V* suffix and inflect directly as verbs. Examples are given in (43).

- (43) a. Tyi k-**choñ-o** bu`ul tyi Tila.
 PRFV A1-sell-TV bean PREP Tila
 ‘I sold beans in Tila.’
- b. Tyi **tyijp’-i** jiñi ts’i̇.
 PRFV jump-ITV DET dog
 ‘The dog jumped.’

Additional examples of antipassive and ambivalent stems with *-el* nominal suffixes are shown in table 3.6. As predicted, these forms share the nominal distributional properties of the “verbal nouns”, discussed in section 3.2.2 (see also Vázquez Álvarez 2002).

Table 3.6: ANTIPASSIVES & UNERGATIVE AMBIVALENTS

<i>wuts’-oñ-el</i>	‘wash something’
<i>choñ-oñ-el</i>	‘buy something’
<i>p’is-oñ-el</i>	‘measure something’
<i>mäk-oñ-el</i>	‘cover something’
<i>tyijp’-el</i>	‘jump’
<i>ts’äm-el</i>	‘bathe’
<i>uk’-el</i>	‘cry’
<i>wejl-el</i>	‘fly’

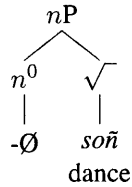
Finally, while incorporation antipassive forms do not show any overt nominal morphology, they too pattern with other nominals in the language. Examples of incorporation antipassive forms are given in table 3.7.

Table 3.7: INCORPORATION ANTIPASSIVES (VÁZQUEZ ÁLVAREZ 2002)

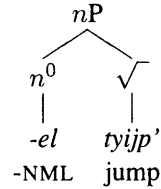
<i>wuts' pisil</i>	'wash clothes'
<i>mel waj</i>	'make tortilla'
<i>päk' bu`ul</i>	'plant beans'
<i>jap lembal</i>	'drink liquor'
<i>k'ux waj</i>	'eat tortilla'
<i>juj ul</i>	'make atole'
<i>chuk chäy</i>	'catch fish'

Structures for the four types of complementless forms discussed above are given in (44). In all cases, the root enters directly into a nominal stem profile. The ambivalent unergative and absolutive antipassive forms have overt realizations of *n* heads, which take the form of the suffix *-el*. A *-Vl* suffix is also present on some verbal noun unergatives.

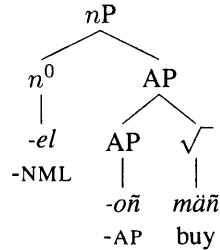
(44) VERBAL NOUN UNERGATIVE



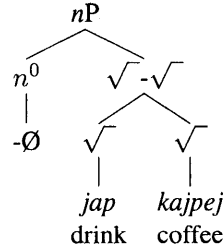
(45) AMBIVALENT (UNERGATIVE)



(46) ABSOLUTIVE ANTIPASSIVE



(47) INCORPORATION ANTIPASSIVE



Here and above I have represented lexical roots like *soñ* 'dance' and *män* 'buy' with the category-neutral symbol " $\sqrt{\quad}$ ", rather than with "N" and "V" respectively. We saw above that ambivalent roots, like *tyijp'* 'jump' can enter into nominal profiles with the suffix *-el*, or into verbal profiles with the intransitive *v* suffix *-i*. Nonetheless, it is important to point out that—as in any theory in which roots are un- or under-specified for grammatical category—these roots are not entirely without some type of categorial information. The antipassive suffix *-oñ*, for example, only combines with those roots which also directly form transitive stems: *män* 'buy', *wuts'* 'wash', *mel* 'make', etc. It cannot appear on an unergative root like *soñ* 'dance' or an intransitive like *tyijp'* 'jump'.

While lexical roots in Chol may not themselves fully nominal or fully verbal, they must come with some information about what types of stems they enter into. I return to the topic of root categorization in section 3.3 below. Note also that above that I represent null nominal heads for verbal noun unergatives like *soñ* in (44) and the incorporation antipassive in (47), but see the discussion in section 3.3 below on roots and *n* suffixes.

Crucially for the discussion at hand, none of the complementless forms shown above has a *v*, and thus (under the assumption that agents only merge in the specifier of transitive *v*, defended below) there is nowhere to merge an agent argument. The agent is instead realized as the subject of the transitive light verb. The light verb in turn takes the complementless stem form as its internal argument. First in section 3.2.2 I provide distributional evidence that all of these forms behave as nominals in other contexts. Next in section 3.2.3 I show that these subjects pattern with transitive (external) subjects elsewhere in the language.

3.2.2 Distributional evidence that complementless forms are nominal

Like other Chol nominals, complementless forms may: serve as sentential subjects, appear with determiners and adjectives, appear as agent nominals, appear possessed, trigger agreement morphology, and serve as the complement of a preposition.¹³ Roots which appear with vocalic suffixes, proposed above to occupy *v*, are impossible in these environments. These are examined in turn below; the complementless stem forms in question are summarized in table 3.8.

Table 3.8: COMPLEMENTLESS STEMS

	FORM	EXAMPLE	GLOSS
<i>verbal noun</i>	ROOT	<i>k'ay</i>	'song'
<i>unergative ambivalent</i>	ROOT- <i>el</i>	<i>wäy-el</i>	'sleep-NML'
<i>absolute antipassive</i>	ROOT- <i>oñ-el</i>	<i>wuts'-oñ-el</i>	'wash-AP-NML'
<i>incorporation antipassive</i>	ROOT-ROOT	<i>jap lembal</i>	'drink liquor'

Determiners and adjectives

The determiner *jiñi* indicates definiteness or salience of the nominal it precedes (see appendix A.6.1 below). While bare nominals may be in some cases interpreted as definite in Chol, nominals with *jiñi* always receive a definite interpretation. Examples are shown in (48).

- (48) a. Mach weñ [*jiñi waj*].
 NEG good DET tortilla
 'The tortilla isn't good.'
- b. Ma`añ mi k-mul-añ [*jiñi arus*].
 NEG IMPF A1-like-D.NML DET rice
 'I don't like the rice.'

The complementless forms from table 3.8 can also appear with the determiner, as illustrated in (49).

¹³See also Polian 2008 for nominality tests in Tzeltal Mayan. The distributional facts presented here are also discussed in Coon 2010a.

- (49) a. Mach weñ [jiñi **jap lembal**] / [jiñi **wuts'-oñ-el**].
 NEG good DET drink liquor DET wash-AP-NML
 'The liquor-drinking / the washing isn't good.'
- b. Ma`añ mi k-mul-añ [jiñi **k'ay**] / [jiñi **uk'-el**].
 NEG IMPF A1-like-D.NML DET song DET cry-NML
 'I don't like the song / the crying.'

The determiner is unable to appear with verbal *complementing* stems, as shown by the ungrammaticality of the forms in (50). Here the roots appear with the vocalic suffixes found on perfective forms: the harmonic -V for transitives and -i for intransitives.

- (50) * Mach weñ [jiñi **jap-ä lembal**] / [jiñi **wäy-i**].
 NEG good DET drink-TV liquor DET sleep-ITV

The complementless unergative and antipassive nominals may also appear fronted to pre-verbal position for topic or focus, as shown by the narrative example in (51). Forms like (51) also show these forms serving as sentential subjects.

- (51) Porke [jiñi **jap lembal**] mach weñ.
 because DET drink liquor NEG good
 'Because liquor-drinking isn't good.' (B.121)

As shown by the examples in (52), complementless stems like *uk'el* 'cry-NML' and *jap lembal* 'drink liquor' can be modified by an adjective like *kabäl* in the same way as canonical nouns like *koya`* 'tomato'. The form *kabäl* may also be used as an adverb (not unlike English 'a lot'), and is thus alone not a good argument for the nominal status of these forms. I include these examples here to show that modifiers are not impossible.

- (52) a. Tyi k-mäñ-ä [kabäl koya`].
 PRFV A1-buy-TV a.lot tomato
 'I bought a lot of tomatoes.'
- b. Mach weñ [jiñi kabäl **uk'-el**].
 NEG good DET a.lot cry-NML
 'A lot of crying isn't good.'
- c. Mach weñ [kabäl **jap lembal**].
 NEG good a.lot drink liquor
 'A lot of drinking liquor isn't good.'

Possession

Above we saw that the stem forms from table 3.8 may serve as sentential subjects; they may also appear possessed in this position. Recall that possessive marking is identical to ergative marking in Mayan languages—both are marked with set A prefixes. In a possessive phrase, the set A marker appears on the possessum and agrees with the possessor. Possessors appear after the possessum (see appendix A.6.3). Examples of Chol possessive phrases are shown in (53).

- (53) a. Baki añ [a_j-chich *pro*_j]?
 where LOC A2-older.sister
 ‘Where’s your older sister?’
 b. Tyi chäm-i [i_j-wakax wiñik_j].
 PRFV die-ITV A3-cow man
 ‘The man’s cow died.’

The nonperfective stem forms from table 3.8 may also appear possessed in argument position, as illustrated by the examples in (54). Note from the glosses here that the possessor need not be (and is more naturally *not*) interpreted as the agent. This is connected to the absence of a *vP* layer (and hence an agent θ -role) in these nominals, and is discussed further in chapter 4 below.

- (54) a. Mach weñ [i-wuts’ **pisil** x-`ixik] / [i-wäy-el ñeñe`].
 NEG good A3-wash clothes CL-woman A3-sleep-NML baby
 ‘The woman’s clothes-washing/laundry / the baby’s sleeping/dream isn’t good.’
 b. Ma`añ mi k-mul-añ [i-k’ay x-k’aläl] / [a-mäñ-oñ-el].
 NEG IMPF A1-like-D.NML A3-song CL-girl A2-buy-AP-NML
 ‘I don’t like the girl’s song / your buying/purchases.’

The verbal complementing forms are always impossible in these constructions, as shown by the ungrammatical forms in (55).

- (55) a. *Mach weñ [i-wuts’-u pisil x-`ixik].
 NEG good A3-wash-TV clothes CL-woman
 intended: ‘The woman’s clothes-washing isn’t good.’
 b. *Mach weñ [i-wäy-i ñeñe`].
 NEG good A3-sleep-ITV baby
 intended: ‘The baby’s sleeping isn’t good.’

In addition to appearing possessed, the complementless unergative and antipassive stem forms may also serve as grammatical *possessors*, and as such, trigger set A agreement. In the forms in (56), the nominal intransitive form *ujtyel* ‘finish’ appears with *third* person set A agreement. The notional subjects, however, are second and first person, respectively. Here, the nominalized stems *kts’ämel* and *ak’ux waj* serve as the possessors of the form *ujtyel*, also nominal. These stems, bold-faced in (56), trigger the set A agreement. As in the cases above, the possessor follows the possessum. The main predicate is the progressive aspect marker *choñkol*, discussed below.

- (56) a. Choñkol [y_i-ujty-el [k-ts’**äm-el**]_i].
 PROG A3-finish-NML A1-bathe-NML
 ‘I’m finishing bathing.’
 (lit. ~ ‘My bathing’s finishing is occurring.’)
 b. Choñkol [y_i-ujty-el [a-k’**ux waj**]_i].
 PROG A3-finish-NML A2-eat tortilla
 ‘You’re finishing tortilla-eating.’
 (lit. ~ Your tortilla-eating’s finishing is occurring.’)

Compare for example the bracketed forms in (56) with the complex possessive construction given in (57).

- (57) y_i -uskuñ [a-mama]_i
 A3-older.brother A2-mother
 ‘your mother’s older brother’

Agent nominals

The proclitics *aj-* and *x-* (historically masculine and feminine noun class markers respectively) appear on many Chol nominals, discussed in appendix A.6.5 below and illustrated by the examples in (58).

- (58) a. Tyi chäm-i [aj-ts'o`].
 PRFV die-ITV CL-turkey
 ‘The turkey died.’
 b. Tyi i-k'ux-u waj jiñi [x-`ixik].
 PRFV A3-eat-TV tortilla DET CL-woman
 ‘The woman ate tortillas.’

These clitics also appear on the complementless forms from table 3.8 above, resulting in nominals with the meaning ‘one who X-es’, as shown in (59). In (59b–c) we see that the resulting nominal stems can also take the human plural marker *-ob* (though this alone does not tell us anything, as *-ob* may also appear as an agreement marker on verbs).

- (59) a. [Aj-**chuk chäy**] jiñi wiñik.
 CL-catch fish DET man
 ‘The man is a fisherman.’
 b. Añ kabäl [aj-ts'äm-el-ob] tyi ja`.
 LOC many CL-bathe-NML-PL PREP water
 ‘There are many bathers in the water.’
 c. Tyi jul-i-yob abi jiñi [aj-**choñ-oñ-el-ob**].
 PRFV arrive.here-ITV-PL yesterday DET CL-sell-AP-NML-PL
 ‘The sellers (salespeople) arrived here yesterday.’

In some cases the clitic is not present and the complementless stem serves directly as an agent nominal, as in the examples in (60).

- (60) a. Maxki mi i-weñ tyaj tyak'iñ jiñ-ob-äch **choñ-lembal**.
 who IMPF A3-a.lot find money DET-PL-AFF sell-liquor
 ‘The ones who have money are the liquor-sellers.’ (B.127)
 b. Ma`añ mi k-äk' k-tyak'iñ cha`añ **choñ-lembal-ob**.
 NEG.EXT IMPF A1-give A1-money for sell-liquor-PL
 ‘I don’t give my money to liquor-sellers.’ (B.129)

Again, stems with the *v* suffixes described above are impossible in agent nominals. This shows us that the clitics *aj-* and *x-* are not *nominalizers*, but rather attach only to stems which are already nominal (compare the forms in (58)).

- (61) * [Aj-**chuk-u chäy**] jiñi wiñik.
 CL-catch-TV fish DET man
 intended: ‘The man is a fisherman.’

Prepositions

Like other nominals in Chol, the complementless forms in table 3.8 above appear as complements of the preposition. Chol has one all-purpose preposition, *tyi*.¹⁴ As shown by the examples in (62), *tyi* can receive a variety of interpretations, depending on context.

- (62) a. Tyi majl-i [**tyi klase**].
 PRFV go-ITV PREP school
 ‘She went to school.’
 b. Añ-oñ [**tyi otyoty**].
 LOC-B1 PREP house
 ‘I’m in the house.’
 c. Tsajñ-ety [**tyi Salto**].
 return-B2 PREP Salto
 ‘You returned from Salto.’

The complementless stem forms from table 3.8 above can all appear in the same position as the uncontroversial nouns *klase* ‘school’, *otyoty* ‘house’, and *Salto* (name of town), shown in the sentences in (63a–c). Stems with *v* suffixes are again impossible, as in (63d).

- (63) a. Tyi majl-i [tyi **kuch si`**] / [tyi **wäy-el**].
 PRFV go-ITV PREP carry wood PREP sleep-NML
 ‘She went to wood-carry / sleep.’
 b. Añ-oñ [tyi **k’ay**] / [tyi **wuts’-oñ-el**].
 LOC-B1 PREP song PREP wash-AP-NML
 ‘I’m singing / washing.’ (lit.: ‘I’m at singing / washing.’)¹⁵
 c. Tsajñ-ety [tyi **juch’ ixim**] / [tyi **alas**].
 return-B2 PREP grind corn PREP game
 ‘You returned from corn-grinding / playing.’
 d. * Tyi majl-i [tyi **kuch-u si`**] / [tyi **wäy-i**].
 PRFV go-ITV PREP carry-TV wood PREP sleep-ITV
 intended: ‘She went to carry wood / sleep.’

Summary

Above I showed that complementless unergative and antipassive stem forms may not inflect directly as predicates, but instead in perfective constructions serve as complements to the light verb. Like other verbs, the light verb must combine with a DP internal argument. I showed further that the

¹⁴As discussed in appendix A.7.6 below, the relational noun *cha`añ* appears to also function as a preposition (i.e. without set A marking) meaning ‘for’ or ‘in order to’. The status of *tyi* is discussed further below.

¹⁵Note that the locative construction in (63b) receives a progressive interpretation, discussed in chapter 5.

complementless forms exemplified in table 3.8 above behave as nominals elsewhere in the language. The first piece of evidence was morphological: absolutive antipassives, unergative ambivalents, and some unergative verbal nouns appear with *-Vl* suffixes, found on nominals elsewhere in the language (and in the Mayan family more generally). Though the incorporation antipassives do not appear with any overt nominal morphology, they, like the other complementing forms, were shown to behave *distributionally* as nominals in other contexts: they appear as sentential subjects; with determiners, adjectives, and the preposition; possessed and triggering possession; and in agent nominal constructions.

3.2.3 Unergative subjects are transitive subjects

The complementless unergative and antipassive stem forms which serve as complements to the light verb, like *k'ay* 'song' in (64), are proposed to be the nominal internal arguments of this construction. They are assigned absolutive Case by the little *v* head which merges with the root *cha'l*. I also suggest the subject—the agent which is identified with the event denoted by *k'ay*—is a true transitive subject. It receives its θ -role not from the lexical root *k'ay*, but in the specifier of a VP-external functional projection, *vP*.

- (64) Tyi k-cha`l-e k'ay.
 PRFV A1-do-DTV song
 'I sang.'

In addition to showing the set A morphology triggered by other transitive subjects in the language, data from extraction provides evidence that the subjects of unergative light verb constructions pattern with transitive subjects more generally. Though both external and internal arguments may freely extract in Chol without the use of a special construction (i.e. agent focus or antipassive, common in other Mayan languages, see Stiebels 2006 for an overview), we find a difference in extraction *out of* internal and external arguments. Namely, while possessors may extract out of unaccusative subjects (65a) and transitive objects (65b) (also noted for Tzotzil by Aissen 1996), extraction is impossible out of transitive subjects, as shown by the ungrammaticality of (65c).

- (65) a. Maxki_i tyi chäm-i [i-wakax t_i]?
 who PRFV die-ITV A3-cow
 'Whose cow died?'
 b. Maxki_i tyi aw-il-ä [i-chich t_i]?
 who PRFV A2-see-DTV A3-older.sister
 'Whose older sister did you see?'
 c. *Maxki_i tyi i-jats'-ä-yety [i-chich t_i]?
 who PRFV A3-hit-TV-B2 A3-older.sister
 'Whose older sister hit you?'

Crucially, unergative subjects behave as transitive subjects: extraction is impossible out of the subject of an unergative, as shown in (66).

- (66) *Maxki_i tyi i-cha`l-e soñ [i-chich t_i]?
 who PRFV A3-do-DTV dance A3-older.sister
 ‘Whose older sister danced?’

This illustrates that we are not dealing with simply a morphological phenomenon in the representation of unergative versus unaccusatives subjects. Rather, unergative subjects behave syntactically as other transitive subjects, explained by the fact that the light verb is a true transitive. It takes the complementless stem as its internal argument, and merges the subject as its external argument.

3.2.4 All and *only* verbs combine with DP arguments

Thus far we have focused on perfective constructions and seen that only roots/stems which combine with internal DP arguments may inflect as verbs. These include root and derived transitives, unaccusatives, passives, and ambivalent roots in their unaccusative function, summarized in table 3.9. The differences between the transitives and the unaccusatives here lies in their selectional properties. The transitive forms in the first two rows are selected by transitive *v* heads (which merge an agent argument), while the unaccusative and passives in the lower rows are selected by the intransitive *v* head, realized as *-i*.

Table 3.9: COMPLEMENTING FORMS

transitive	<i>mek'-e θ</i>	‘hug-TV’
derived transitive	<i>il-ä θ</i>	‘see-DTV’
unaccusative	<i>majl-i θ</i>	‘go-ITV’
passive	<i>mej-k'-i θ</i>	‘hug.PASV-ITV’
ambivalent (unaccusative)	<i>wäy-i θ</i>	‘sleep-ITV’

In contrast, if a root/stem has no internal argument, it is unable to directly project any θ -roles. This is because *v* heads in Chol must assign absolutive Case. If there is no internal argument, there thus can also be no *external* argument (defended in chapter 4). The stem itself appears as a nominal, and an agent must be merged as the argument of a higher verb. Roots/stems of this type include unergatives, absolutive antipassives, incorporation antipassives, and ambivalent roots in their unergative function. These are summarized in table 3.10.

Table 3.10: COMPLEMENTLESS FORMS

unergative “verbal noun”	<i>soñ</i>	‘dance’
absolutive antipassive	<i>wuts'-oñ-el</i>	‘wash-AP-NML’
incorporation antipassive	<i>wuts'-pisil_{NP}</i>	‘wash-clothes’
ambivalent (unergative)	<i>wäy-el</i>	‘sleep-NML’

At this point, Chol appears to be perfectly Split-S. Internal arguments are realized as absolutive (*set B*), while external arguments are realized as ergative (*set A*) (either directly on a truly transitive root, or on the light verb when no absolutive DP is present). This is summarized in (67), repeated from chapter 2 above.

(67) CHOL PERSON MARKING GENERALIZATION

- a. **Set A** marks all external arguments (transitive subjects, unergative subjects, possessors)
- b. **Set B** marks all internal arguments (intransitive subjects, themes).

Again, this is a direct consequence of the fact that 1. *v* assigns ergative Case inherently to transitive *external* subjects, and 2. all *v* heads assign absolutive Case to *internal* complements. Before turning to the core proposal, I show here that the division between complementing/verbal and complementless/nominal forms is found outside of canonically event-denoting stems. Moreover, I suggest that not only do all verbs combine with DP complements, but that *only verbs* combine with DP complements. Finally, in section 3.3, I discuss implications of the Chol facts on *Case Theory* more generally.

Verbs with PP complements?

One question which arises for the proposal above is: what about PP complements? In fact, it appears that verbs in Chol *never select for PP complements*. Sentences which are translated into English as involving PP complements in Chol uniformly surface with DP complements (as also noted for Tzotzil, Aissen 1996, 469):

- (68) a. Tyi k-säk-l-ä bij.
PRFV A1-search-STAT-DTV path
'I looked for the path.'
- b. Choñkol k-pi`-ty-añ karo.
PROG A1-wait-SUF-D.NML car
'I'm waiting for a car.'
- c. Mi i-tse`-ty-añ iy-ijts'iñ.
IMPF A3-laugh-SUF-D.NML A3-younger.sibling
'He's laughing at his little brother.'

Interestingly, none of the forms in (68) is a bare root transitive; all are derived. In (68b–c) the roots are suffixed with *-tyañ*, which we might analyze as *-ty* plus a *-Vñ* suffix regularly found on nonperfective derived transitive forms. One possibility is that this *-ty* is historically the preposition *-tyi* incorporated into the verb (i.e., an *applicative*). Indeed, a transitivizing suffix *-t* exists in neighboring Yucatecan languages (Danziger 1996). I do not develop this idea here, but compare also *uk* 'cry' ~ *uk'-tyañ* 'to grieve for'; *wäy* 'sleep' ~ *wäy-tyañ* 'to use for sleeping'; *buch* 'seated' ~ *buch-tyañ* 'to sit on'; and *tyuch* 'perch' ~ *tyuch'-tyañ* 'to step on'. This does not appear to be fully productive in Chol, but see Aulie and Aulie 1978 for more examples.

It is also important to point out that Chol's all-purpose preposition *tyi* shows an interesting restriction: it may not combine with full DPs (as also noted for Tzotzil's cognate preposition, John Haviland, p.c.).

- (69) *Tyi majl-i tyi (*jiñi) otyoty.
PRFV go-ITV PREP DET house
intended: 'He went to the house.'

We might thus analyze *tyi* not as a true preposition, but as an oblique determiner, inserted only in contexts where the nominal is unable to get Case (though nothing below hinges on this). If this is correct, we would not expect it to be selected by a verb; verbs (by definition in Chol) assign Case to DP complements. PPs are also not selected in double object constructions, which involve the applicative suffix *-be* (see appendix A.4.3 below). The fact that Chol verbs never select PP complements may then simply be an accident of the fact that Chol has no true prepositions.¹⁶ Nonetheless, the absence of prepositions does not seem entirely accidental: Chol's *Little v Generalization* predicts that there should be no PP complements, since they presumably would not require Case.

Other stems with DP complements?

What happens when a nominal or adjectival stem combines with a DP complement? Roots like *wiñik* 'man' and *säsäk* 'white' may appear directly in either nominal/adjectival stems, as in (70), or in predicative stems as in (71). In (71) we see that when combining with a DP complement they receive a predicative (verbal) interpretation.

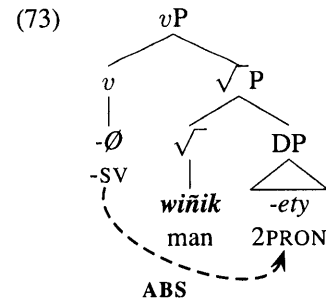
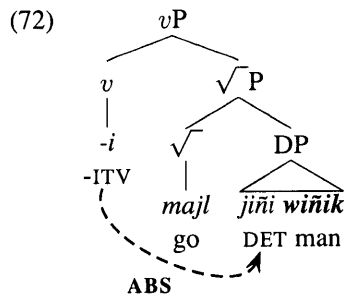
(70) ADJECTIVES AND NOUNS

- a. *Tyi chäm-i jiñi säsäk muty.*
 PRFV die-ITV DET white chicken
 'The white chicken died.'
- b. *Tyi majl-i jiñi wiñik.*
 PRFV go-ITV DET man
 'The man left.'

(71) AS STATIVE PREDICATES

- a. *Säsäk jiñi muty.*
 white DET chicken
 'The chicken is white.'
- b. *Wiñik-ety.*
 man-B2
 'You are a man.'

Proposed structures for forms like those in (70b) and (71b) are given in (72) and (73) respectively. In (70b)/(72) the root *wiñik* does not combine with a DP complement; it serves as the complement of the unaccusative root *majl* 'go' and receives absolutive Case from the intransitive *v* suffix, *-i*. In (71b)/(73), however, I propose that *wiñik* takes the second person pronoun, realized as the set B clitic *-ety*, as its internal argument. A null stative *v* (copular) head is merged, and assigns Case to the second person pronoun.



Compare this with the parallel behavior of an event-denoting root like *soñ*: when no internal

¹⁶The form *cha`añ* 'for, in order to', discussed in appendix A.7.6 below, is a possible exception. To my knowledge, however, it is also never selected.

argument is present, it serves as a nominal argument as in (74a). When it does take an internal argument, it inflects directly as a predicate, as in (74b):

- (74) a. Mach weñ jiñi k'ay.
 NEG good DET song
 'The song isn't good.'
- b. Tyi j-k'ay-i jiñi kanto.
 PRFV A1-song-DTV DET song
 'I sang the song.'

When roots which otherwise form nominal stems appear with a complement, they inflect as verbs. Likewise, in Chol it seems we can generalize that nominal stems (i.e. forms which surface syntactically as nominals) simply do not take complements, PP or otherwise (also noted for Tzotzil by Aissen 1996), shown by the ungrammatical forms in (75).

- (75) a. *jum-p'ejl kwento (tyi) wiñik
 one-NC story PREP man
 intended: 'a story about a man'
- b. *jiñi foto (tyi) x-k'aläl
 DET picture PREP CL-girl
 intended: 'the picture of the girl'

The intended interpretations could instead be expressed by (potentially ambiguous) possessive structures, e.g. 'a man's story' or 'the girl's picture'.

I thus suggest that in Chol, *all and only verbs combine with DP complements*. In the section that follows, I discuss the possible implications for this generalization for the assignment of Case more generally, before returning to Chol's aspectual split in chapter 4.

3.3 EXCURSUS ON ABSOLUTIVE CASE AND THE NATURE OF VERBS

In the sections above I argued that the source of Chol's Split-S system, and the explanation for why there are no unergative *verbs* in the language, both stem from a single requirement: *v* heads—both transitive and intransitive—obligatorily assign Case to internal DP arguments. Stems which do not select for complements are thus unable to inflect as verbs. Nominals, in contrast, never appear with complements; when an object-denoting root takes a complement, it inflects as a predicate.

3.3.1 Case Theory

This picture is different from what we find in a language like English, though even here we see traces of it. Specifically, the requirement that Chol verbs assign Case, while nouns do not, is reminiscent of *Case Theory* (see e.g. Vergnaud 1976/2006; Chomsky 1980; Rouveret and Vergnaud 1980).¹⁷ Case Theory attempts to capture the distribution of nominals within grammar, as formulated for instance in (76). Some version of this, plus the requirement that all nominals receive Case (the *Case Filter*),

¹⁷Thanks to David Pesetsky for emphasizing the relevance of this.

derives a number of facts about the distribution of nominal arguments in a nominative-accusative language.

- (76) CASE THEORY (ROUVERET AND VERGNAUD 1980, 102)
- a. The subject of a tensed clause is assigned nominative Case.
 - b. The object of a preposition is assigned oblique Case.
 - c. The object of a verb is assigned objective Case.

Note that in English not all verbs assign objective (i.e. *accusative*) Case to objects. In English only complements of transitive verbs are able to receive objective Case (Burzio 1986); unaccusative subjects, though they also originate as complements to the verb (Perlmutter 1978), do not receive objective Case in this position.

- (77) a. I left __.
b. * Left me.

Similarly, it is well known that while some verbs in English require a DP complement (i.e. must assign objective Case), others do not (i.e. may optionally assign objective Case):

- (78) a. Ella ate (the peas).
b. Ella devoured *(the peas).

While some verbs combine with PP complements (i.e. do not assign objective Case), others directly take DP complements (i.e. do assign objective Case). As the examples here illustrate, it is not clear how these differences could be captured by semantic properties of the verb alone.

- (79) a. Hannah talked [**about** politics].
b. Hannah discussed [politics].

As we saw above, in Chol the picture is considerably less complex. Namely, *all and only verbs* assign objective (“absolute”) Case.¹⁸ Unaccusative subjects receive absolute Case as in (80a), and there are no PP complements to verbs.

- (80) Tyi yajl-i-yoñ.
PRFV fall-ITV-B 1
'I fell.'

In Chol the distinction between nouns and verbs with respect to argument licensing becomes clearer still. As discussed above, numerous event-denoting roots in the language surface as nominals when they do not take complements, as in (81a), but as verbs when they do, as in (81b):

¹⁸Note that we call the English Case “accusative” because only transitive objects receive it, while we call the Case assigned to Chol complements “absolute” because both transitive objects and intransitive subjects receive it. Otherwise, there is nothing (necessarily) substantively different between the two.

- (81) a. Tyi k-cha`l-e [DP soñ].
 PRFV A1-do-DTV dance
 ‘I danced.’
- b. Tyi k-soñ-i [DP bals].
 PRFV A1-dance-DTV waltz
 ‘I danced a waltz.’

Furthermore, we saw in the last section that this alternation is not even limited to event-denoting roots. Any noun in Chol, when appearing with an internal (absolutive) argument, behaves as a predicate. I proposed that these forms combine with a null stative *v* head, which assigns Case to the complement.

- (82) a. Tyi k-il-ä [DP jiñi maystraj].
 PRFV A1-see-DTV DET teacher
 ‘I saw the teacher.’
- b. **Maystraj** [DP jiñi x-`ixik].
 teacher DET CL-woman
 ‘The woman is a teacher.’

Though the Case-assigning properties of verbs in English are more complex than those of Chol, English and Chol share one clear restriction: nouns never assign Case. Instead, English complements to nouns must be introduced by prepositions as in (83). As shown in (84), in Chol nouns simply do not take complements, PP or otherwise.

- (83) a. the picture (*of) John
 b. destruction (*of) the city

Again, the special property of licensing nominals is shared by all verbs in Chol, and by some verbs in English. Nonetheless, in neither language do nominals license other nominals. I suggest that these facts are not accidental and that the reverse situation—a language in which some nominals are able to license other nominals—should be unattested.

3.3.2 Roots as nominal

I propose that Chol’s clear division between nouns and verbs—forms that take complements are verbs, and forms that do not are nouns—suggests a window into Case Theory and the nature of *v* more generally. Specifically, we saw above that in Chol, the ability to inflect directly as a predicate correlates with 1. the presence of a Case-requiring internal argument, and 2. the presence of a vowel suffix, the form of which alternates depending on the verb’s transitivity. Externally caused events involve a transitive *v* (realized as a harmonic vowel on root transitives, a vowel suffix on non-root transitives), which merges an agent as its specifier; internally caused events involve an intransitive *v* which does not take a specifier (realized as the vowel *-i*). Turning to stative forms, as in (82), we no longer find a vowel suffix, yet the form’s behavior as a nominal or a predicate depends again on the presence or absence of a Case-requiring argument. This led to the proposal that forms like (82b) involve a null (stative, copular) *v* head. These Case-assigning heads are summarized in table 3.11 below.

The two functions of Chol *v* heads are summarized in (84).

Table 3.11: CHOL *v* HEADS

TV	transitive <i>v</i>	-V̄ (harmonic vowel)
DTV	derived transitive <i>v</i>	-V (vowel varies)
ITV	intransitive <i>v</i>	-i
SV	stative <i>v</i>	-∅

(84) Chol *v* is responsible for...

1. assigning Case to complements;
2. allowing a root/stem to inflect as a verb

Returning to Case Theory, we can ask the following question: what is special about verbs, such that they (or at least some of them) license (assign Case to) nominal arguments, while nouns do not? I suggest that being a verb means taking an internal argument, and that the same head responsible for categorizing a root is thus also responsible for the licensing of internal arguments.^{19,20} The idea that *v* is responsible both 1. for categorizing a root as a verb, and 2. assigning (“accusative”) Case to complements, is far from new; see for example Marantz 1997, Harley and Noyer 1998, and Borer 2005 on category-neutral roots, and Chomsky 1995 and much subsequent work on *v* as the source of accusative Case. Here I suggest that the fact that a single head is responsible for both tasks is not accidental.

I suggest further (here in contrast with the references above) that *being a noun is the most basic state for a root*; no category-determining *n* head exists. This conjecture is stated in (85).

(85) NOMINAL ROOTS CONJECTURE

- a. Roots are nominal. No categorizing *n* head is necessary to form a nominal stem.
- b. Verb stems must be created by the addition of a *v* head.

While *nominalizing n* heads, for instance English *-ing*, may present in *nominalizations*, the idea that an otherwise-unspecified root is simply a noun by default—that no *categorizing n* head is necessary—may explain a couple of facts above.

First, if a functional head is responsible for verbhood, we may expect to see variation in the features and requirements of this head from language to language. In Chol, both transitive and intransitive *v* assigns Case to internal arguments; in English unaccusative *v* and the *v* that combines with certain PP-selecting verbs do not assign Case, while transitive *v* does. If being a noun always meant combining with a *n* head, we might also expect to see variation in the ability of nouns to assign Case. This, however, is a point which Chol, English, and all other languages, as far as I am aware share: nouns do not assign objective Case. This, I suggest, is because while predicating of an internal argument is simply what it means to be a verb, the same is not true for nouns. Nouns are

¹⁹Note that I am making the not-uncontroversial assumption that unergatives always contain internal arguments (Hale and Keyser 1993, 1997), a move which is clear for Chol, though debated elsewhere (see for example Preminger to appear on Basque).

²⁰Baker (2003) proposes that a lexical item is a verb if and only if it projects a *specifier*. For Baker, internal arguments are projected in the specifier of VP; see the discussion in Coon 2010b.

the default state for a root; with no functional structure, there is no locus for Case assignment and thus no point of variation on this matter.²¹

What about the view in which the *of* in the nominals in (83) is not a preposition, but a marker of *genitive case*, assigned by the head noun to its complement (as in Chomsky 1986)? Here we might propose that it is not that genitive is assigned by the head noun, but rather that the complement noun begins as genitive, as proposed in Pesetsky 2007. I do not develop this idea further here.

Second, there is morphological support in favor of such an analysis: most verbs in Chol (with the exception of statives) require overt *v* suffixes. Not all nominals, however, are bare. We might expect to find nominalizing morphology on forms which begin as verbs and are later nominalized (discussed in the following chapter), but no morphology on nouns which do not begin as verbs. An apparent problem for this idea is the appearance of the suffix *-el* on certain *complementless* stems, for instance, in (86). Recall that stems like *wäyel* and *tyijp'el* in these constructions are proposed to be bare nouns, with no internal verbal structure (and hence no place to project a subject). But if roots like *wäy* and *tyijp'* begin as nominal, why should they combine with a nominal suffix?

- (86) a. Tyi k-cha`l-e wäy-el.
 PRFV A1-do-DTV sleep-NML
 'I slept.'
- b. Tyi i-cha`l-e uk'-el jñi aläl.
 PRFV A3-do-DTV cry-NML DET child
 'The child cried.'

There is evidence from elsewhere in the language that this suffix is not necessarily a *categorizing* suffix. That is, it is a *nominal* but not necessarily *nominalizing*, suffix. First, as noted above, suffixes of the form *-Vl* are found on nominal roots in Chol and other Mayan languages (see table 3.5 above). In some cases, the presence or absence of an *-el* suffix on a noun has clear consequences for what we might call the noun's *argument structure*. Compare the interpretations of the possessed nouns *ch'ich'* 'blood' and *pisil* 'clothes' in (87) and (88), also discussed in Warkentin and Scott 1980. Here clearly nominal roots must combine with the suffix in order to ensure an inalienable possession interpretation.²²

- (87) a. i-ch'ich' aj-Rosa
 A3-blood DET-Rosa
 'Rosa's blood (e.g. that she bought from the butcher)'
- b. i-ch'ich'-el aj-Rosa
 A3-blood-NML DET-Rosa
 'Rosa's blood (i.e. that's in her veins)'
- (88) a. i-pisil aj-Rosa
 A3-clothes DET-Rosa
 'Rosa's clothing/cloth (e.g. her family's laundry, may include curtains, sheets)'

²¹It is interesting to compare the proposal for Yucatecan roots in Lois and Vapnarsky 2003, 2006. They divide roots into two basic classes: 1. nominal roots, which directly form nominal stems, and 2. *verbonominal* roots, which are underspecified for grammatical category.

²²At this point I do not have data bearing on whether the (a) forms are impossible with an inalienable possession interpretation, or simply ambiguous.

- b. i-pisl-el aj-Rosa
 A3-clothes-NML DET-Rosa
 ‘Rosa’s clothing (i.e. that she wears on her body)’

Nouns possessed by inanimate possessors also require a *-Vl* suffix, as shown by the pair in (89).

- (89) a. i-tye` jiñi wiñik
 A3-wood DET man
 ‘the man’s wood (i.e. that he bought)’
 b. i-tye`-el jiñi otyoty
 A3-wood-NML DET house
 ‘the house’s wood (i.e. that it is build out of)’

I leave a full account of the function of this suffix as a topic for future work, noting here simply that the presence of the suffix *-el* on the roots *wäy* and *tyijp*’ in (86) above does not mean that these roots are verbs which have undergone nominalization.

Finally, note that while all verbs predicate of an internal argument, not all verbs obviously assign Case to that argument (e.g. English unaccusatives). Nonetheless, the fact that in Chol all verbs *do* assign Case to internal arguments (i.e. “absolute”), I propose, suggests that verbhood and objective (or *complement*) Case are intertwined. One possibility is that English *v does* always assign Case to internal arguments, which is overwritten in contexts where the argument must also receive nominative from T^0 (perhaps due to an EPP requirement).

3.3.3 Summary

Though I have here outlined a conjecture which may warrant future investigation, the underlying status of roots is not crucial for the discussion below. What is important is that within the class of canonically event-denoting stems, we find a clear division between those that do combine with DP complements (transitives, unaccusatives, and passives = verbs), and those that do not (unergatives and antipassives = nouns). For Chol I proposed that this division is captured by the generalization repeated in (90).

(90) CHOL LITTLE *v* GENERALIZATION

- a. All internal arguments must be assigned (absolute) Case by a *v* head;
- b. All *v*’s must assign absolute Case to an internal argument.

Split-S systems are often couched within a discussion of *agentivity*. Gutiérrez Sánchez and Zavala Maldonado (2005, 5), for instance, characterize Chol as an *agentive* language: “A language whose split is conditioned by the categorization of arguments (agent vs. patient)”. We saw above that semantically intransitive stems do divide along these lines: namely, unaccusatives appear directly in verbal stems, while unergatives and antipassives require the use of the light verb. The comparison of the forms in (91), however, highlights the fact that the use of the light verb does not reflect simply a distinction between agentive and non-agentive subjects, but between complementing and complementless stems. Both forms in (91) involve thematic agents, yet the complementing form in (91a) appears directly inflected, while the complementless stem requires the light verb.

- (91) a. TRANSITIVE (=COMPLEMENTING)
 Tyi i-läty'-ä ja` aj-Maria.
 PRFV A3-heave-TV water DET-Maria
 'Maria carried (the) water.'
- b. INCORPORATION ANTIPASSIVE (=COMPLEMENTLESS)
 Tyi i-cha`l-e läty' ja` aj-Maria.
 PRFV A3-do-DTV heave water DET-Maria
 'Maria carried water.' (lit.: 'Maria did water-carrying.')

With this insight into the nature of Chol's Split-S system, we return to the problem of the *aspectual split*. In the next chapter I argue that the aspect split is simply the result of the fact that nonperfective aspect markers are verbs. Like other verbs in the language, they must combine with DP complements: nominalized clauses.

3.4 SUMMARY

In this chapter I began by observing that Chol has two types of "split" in terms of how grammatical relations are marked. First, an aspectual split: the subjects of intransitives in the perfective aspect are marked with set B morphology, while the subjects of nonperfectives are marked set A, as in (92). Chol also can be said to have a "Split-S" system insofar as unergative and unaccusative constructions pattern differently. Specifically, in an unaccusative as in (92a) the subject is marked set B, while in an unergative, the subject is marked set A. (A summary of the forms discussed here can be found in appendix B.)

- | | |
|--|--|
| <p>(92) "ASPECT SPLIT"</p> <p>a. Tyi wäy-i-yoñ.
 PRFV sleep-ITV-B1
 'I slept.'</p> <p>b. Mi k-wäy-el.
 IMPF A1-sleep-NML
 'I sleep.'</p> | <p>(93) "SPLIT-S"</p> <p>a. Tyi yajl-i-yoñ.
 PRFV fall-ITV-B1
 'I fell.'</p> <p>b. Tyi k-cha`l-e soñ.
 PRFV A1-do-DTV dance
 'I danced.'</p> |
|--|--|

In (93), it is clear that the difference in how subjects are marked connects to a difference in structure—specifically, unergative constructions are transitive, and the subject of (93b) shows ergative marking because it is a transitive subject. That is, this is not a split in terms of how Case is assigned, but rather a split in the syntactic structure of unaccusative versus unergative forms.

The difference between the patterning of unaccusatives which appear directly in verbal stem forms, and unergatives which must appear as light verb complements in order to predicate, was shown to be part of a larger pattern in the language. Namely, roots/stems which take complements inflect as verbs (unaccusatives, passives, transitives), while those that do not (unergatives, antipassives) surface as nominals. I proposed that this is the result of the fact that Chol *v*—both transitive and intransitive—obligatorily assigns Case to an internal DP argument. I speculated about the consequences of this in the last section.

In the chapter that follows we turn to the aspect split, exemplified by forms like (92b). I argue that here too, the difference in how subjects are marked stems not from different rules of Case

assignment, which remain consistent within the language, but rather from a difference in structure. Specifically, the stem forms in the nonperfective aspects are embedded nominalizations.

CHAPTER 4

EXPLAINING SPLIT ERGATIVITY IN CHOL

In chapter 3 we focused on perfective constructions and saw that at least within this domain, all verbs in Chol must combine with a DP internal argument. Furthermore, all internal arguments are marked with set B (*absolutive*) morphology, while all external arguments are marked with set A (*ergative*) morphology. The apparent exception to this generalization is found in the nonperfective (imperfective and progressive) aspects, shown in (2). Here all subjects—including unaccusative and passive subjects—are marked set A. As noted above, I refer to these as “A-Constructions”. Compare the perfective complementing forms in (1) with the nonperfective complementing forms in (2) (subject markers in boldface).

(1) PERFECTIVE

- a. Tyi **k-jap-ä** jĩni kajpej.
PRFV A1-drink-TV DET coffee
'I drank the coffee.'
- b. Tyi majl-i-**yoñ** abi.
PRFV go-ITV-B1 yesterday
'I went yesterday.'
- c. Tyi jajts'-i-**yoñ**.
PRFV hit.PASV-ITV-B1
'I was hit.'

(2) A-CONSTRUCTIONS

- a. Choñkol **k-jap** jĩni kajpej.
PROG A1-drink DET coffee
'I'm drinking the coffee.'
- b. Mi **k-majl-el** ijk'äl.
IMPF A1-go-NML tomorrow
'I'll go tomorrow.'
- c. Choñkol **k-jajts'**-el.
PROG A1-hit.PASV-NML
'I'm being hit.'

I propose that Chol perfective forms like those in (1) are simple clauses involving a lexical verb and its core arguments. The nonperfective A-Constructions in (2) are more complex. Specifically, I propose that the morphemes that encode nonperfective aspectual information (*mi/muk'* for imperfective and *choñkol* for progressive) are intransitive (unaccusative) stative verbs which take nominalized clauses as their internal arguments. The forms in (2), I argue, are structurally akin to intransitive statives elsewhere in the language, like those in (3). That is, both in (2) and in (3), an unaccusative stative verb (i.e. *choñkol* in (2c) or *maystraj* in (3a)) combines with a possessed nominal (i.e. *kjajts'el* in (2c) or *iyijts'iñ* in (3a)). The stative predicates involve a null stative *v*, which assigns absolutive Case to the possessed nominals.

- (3) a. Mastraj iy-ijts'iñ.
 teacher A3-younger.sibling
 'His younger sister is a teacher.'
- b. Koty-ol k-wakax.
 standing.on.4.legs A1-cow
 'My cow is standing (on four legs).'
- c. Ch'ijyem a-mama.
 sad A2-mother
 'Your mother is sad.'

Note that the proposed verbhood of the nonperfective aspect markers, coupled with Chol LITTLE *v* GENERALIZATION above, makes the correct prediction about the form of the *complementing* (i.e. transitive, unaccusative, and passive) constructions in the *nonperfective* aspects. Recall that all forms with complements, according to the proposal, must project a *v* head—that is, they must be verbs. The nonperfective aspect marker is proposed here to be a verb. Combining a complementing stem directly with a nonperfective aspect marker would give us a form like the one represented in (4):

- (4) * [_{VP} V-*aspect* [_{VP} V-*complementing stem* [DP]]]

However, we have seen that all verbs must combine with DPs in Chol, ruling out the form in (4). Actual Chol examples are shown in (5). The *v*-bearing stem forms seen above are impossible in the nonperfective aspects.

- (5) a. * Choñkol wäy-i-yoñ.
 PROG sleep-ITV-B I
 intended: 'I'm sleeping.'
- b. * Mi k-ch'äx-ä ja`.
 IMPF A1-boil-TV water
 intended: 'I boil water.'

Instead, *in order to appear as a complement to a nonperfective aspect marker, a stem must be nominalized*. This is schematized in (6). Now this nominalized stem serves as the internal argument for the nonperfective aspectual verb.

- (6) [_{VP} V-*aspect* [_{DP} [_{VP} V-*complementing stem* [DP]]]]

The fact that nonperfective aspect markers are verbs which must embed nominalized clauses gives rise to the apparent split. In the perfective and imperfective forms in (7) and (8) I enclose the proposed matrix predicates in boxes. In the perfectives, the verb stems *k'ele* and *ts'ämi* are the matrix predicates. The set A marker on the transitive in (5a) marks the ergative (external) subject. In the imperfective forms in (8), in contrast, the matrix predicates are the aspect markers; the set A markers mark the *genitive* on the embedded nominalized clauses. Just as we would expect in a morphologically ergative language, the one-place predicate, here *mi*, "shows" absolutive marking with its single argument. However, since the single argument is a nominalized clause, this agreement will always be third person—null in the Mayan family.

(7) PERFECTIVES

- a. Tyi a-**k'el-e**-yoñ.
PRFV A2-watch-TV-B1
'You watched me.'
- b. Tyi **ts'am-i**-yoñ.
PRFV bathe-ITV-B1
'I bathed.'

(8) IMPERFECTIVES

- a. **Mi**-Ø_i [DP a-k'el-oñ]_i.
IMPF-B3 A2-watch-B1
'You watch me.'
- b. **Mi**-Ø_i [DP a-ts'am-el]_i.
IMPF-B3 A2-bathe-NML
'You bathe.'

More literal translations of the forms in (8) might then be something like 'Your watching me happens' and 'Your bathing happens'. Indeed, as I will show in more detail below, the nonperfective stem forms have the structures of possessed nominals. Nonperfective examples with overt subjects are shown in (9).

- (9) a. Choñkol-Ø_i [DP i-choñ si` **jiñi wiñik**]_i.
PROG-B3 A3-sell wood DET man
'The man is selling wood.' (lit. ~ 'The man's selling wood is happening.')
- b. Choñkol-Ø_i [DP i-wäy-el **jiñi wiñik**]_i.
PROG-B3 A3-sleep-NML DET man
'The man is sleeping.' (lit. ~ 'The man's sleeping is happening.')

Compare the bracketed forms in (9) with the possessive phrases in (10). Just as the subject follows the stem in (9), the possessor follows the possessum in (10). The possessor triggers set A (genitive) agreement on the possessum. Further evidence that the stem forms in nonperfective constructions are possessed nominals will be presented below.

(10) POSSESSIVE PHRASES

- a. [i_k- [wakax] **jiñi wiñik**]_k
A3- cow DET man
'the man's cow'
- b. [i_k- [chich] **jiñi alob**]_k
A3- older.sister DET boy
'the boy's older sister'

It is worth emphasizing that although Chol *transitives* appear to show the same person-marking pattern in both perfective and nonperfective constructions—compare (7a) and (8a)—if this analysis is correct, they are nonetheless structurally different. The apparent similarity (which led previous authors to propose that only *intransitives* exhibit a split, see chapter 2.3.4) is the result of the fact that ergative and genitive are morphologically identical. Put another way, initially the split in Chol appears to be different from the split in a language which marks morphological case on nominals like Hindi, shown in (11). In Hindi an ergative-patterning transitive like that in (11a) shows ergative morphology on the transitive subject, while the nonergative patterning form in (11b) does not.

(11) HINDI TRANSITIVES

- a. **Raam-ne** roTii khaayhii thii
 Raam-ERG bread.FEM eat-PERF.FEM was.FEM
 ‘Raam had eaten bread.’
- b. **Raam** roTii khaataa thaa
 Raam.MASC bread eat-IMPF.MASC was.MASC
 ‘Raam used to eat bread.’

(Mahajan 1990)

In Chol, in contrast, we find set A agreement co-indexing subjects in both perfective and nonperfective transitive constructions; additional examples are given in (12). Under my proposal, however, the set A-triggering nominal in the nonperfective aspect in fact co-indexes a *genitive* argument. If Chol did have a dedicated ergative marker, used only to mark transitive subjects (but not possessors), we would expect to find it only on the perfective subject in (12a), not on the nonperfective possessor in (12b).

(12) CHOL TRANSITIVES

- a. Tyi i-k’ux-u waj **aj-Elmar**_{ERG}.
 PRFV A3-eat-TV tortilla DET-Elmar
 ‘Elmar ate bread.’
- b. Mi i-k’ux waj **aj-Elmar**_{GEN}.
 IMPF A3-eat tortilla DET-Elmar
 ‘Elmar eats bread.’ (lit. ~ ‘Elmar’s eating bread happens.’)

Though identical ergative and genitive morphology is not uncommon cross-linguistically—see for example Yup’ik Eskimo (Jacobson 1995), Ladakhi (Koshal 1979), and Nez Perce (Rude 1991)—nothing would seem to rule out a language which was like Chol, except that the genitive marker was *distinct* from the ergative marker, as in the imaginary forms in (12). Nonetheless, the fact that ergative and genitive are identical appears to be a natural result of the structural similarities between the nominal and verbal domain, discussed in Coon 2010b and in section 4.2.4 below. Note that despite the different structures proposed for perfective and nonperfective clauses, the basic word order remains constant. Just as subjects follow the predicate, possessors follow the possessum, discussed below.

Again, under the analysis proposed here, no special rules of case assignment or agreement are needed to account for the appearance of split ergativity in Chol. Chol consistently follows the pattern in (13), repeated from chapter 2 above.

(13) CHOL PERSON MARKING GENERALIZATION

- a. **Set A** marks all external arguments (transitive subjects, unergative subjects, possessors)
- b. **Set B** marks all internal arguments (intransitive subjects, themes).

The appearance of set A marking on nonperfective intransitives (the source of Chol’s apparent aspectual split) is reduced to the fact that 1. nonperfective aspect markers are verbs embedding possessed nominalized complements; and 2. ergative and genitive are identical in the Mayan family.

The remainder of this chapter is organized as follows. First, in section 4.1, I show that the nonperfective aspect markers are predicates and that these predicates are responsible for the split. In section 4.2 I turn to the stems themselves, which I propose to be nominalizations. Further evidence is found in derived or nonroot transitives, discussed in section 4.3. In section 4.4 I compare the nonperfective constructions with embedded clauses elsewhere in the language. Finally, I discuss split systems in Q'anjob'al in section 4.5, which provides a nice case study for many of the claims in this chapter. I conclude this chapter in section 4.6.

4.1 NONPERFECTIVE ASPECT MARKERS ARE PREDICATES

In this section I lay out evidence for the verbal nature of the nonperfective aspect markers. I begin in section 4.1.1 by showing that the split is about the aspectual morphemes, not about interpretation alone. Next we turn to Chol's perfective and nonperfective forms, as well as their phonologically-conditioned allomorphs. I show that while the nonperfective markers combine directly with event-denoting nominals, this is impossible with the perfective. Next I discuss so-called "raising" constructions, in which the nonperfective markers appear with non-null set B person morphology (Robertson 1980, 1992). Finally, I present comparative evidence and possible origins of these forms.

4.1.1 Aspect markers are the source of the split

In certain limited contexts, event-denoting roots like *tyäl* 'come' and *majl* 'go' may appear bare, with no stem-forming suffixes or aspectual morphology. Compare the (a) and (b) forms in (14) and (15). In the (a) forms we see the progressive and imperfective aspect markers, and the characteristic split: intransitive subjects are marked set A (boldfaced). In the (b) forms we find neither nonperfective *nor* perfective aspect marking and the root does not appear with any of the "status suffixes" described above. Though the interpretations between the (a) and (b) forms are similar, the bare roots in the aspectless constructions appear with *set B* marking (null in (14b)).

- (14) a. **Choñkol** i-tyäl-el ja`al.
 PROG A3-come-NML rain
 'Rain is coming.'
- b. Tyal-Ø ja`al.
 come-B3 rain
 'Rain is coming.'
- (15) a. Tyi k-äl-ä che` ma`añ **mi** k-majl-el.
 PRFV A1-say-TV COMP NEG.EXT IMPF A1-go-NML
 'I said that I wouldn't go.'
- b. Tyi k-äl-ä mach majl-oñ.
 PRFV A1-say-TV NEG go-B1
 'I said I wouldn't go.' / 'I didn't want to go.'

It seems likely that these roots are combining with the null *stative v* head. A form like (14b) is frequently heard just before a storm (i.e. after thunder is heard). (15b) can be interpreted literally, but can also mean 'I didn't want to go'. Though further work is needed to understand the differences

between the above forms, what is clear is that the split in person marking is directly tied to the nonperfective aspectual heads. We see in the sections below that these heads behave as verbs.

4.1.2 Aspect markers and situation-denoting nominals

Here I show that we find a clear division in behavior between nonperfective (progressive and imperfective) aspect markers on the one hand, and perfective aspect markers on the other. First, recall from the discussion in chapter 2.2.4 above that the CV aspect markers *mi* (imperfective) and *tyi* (perfective) have fuller CVC allomorphs, *muk'* and *tsa`* (also realized as *mu`* and *ta`*), shown again in table 4.1.

Table 4.1: ASPECT MARKERS

	short form	CVC form
perfective	<i>tyi</i>	<i>tsa`</i>
imperfective	<i>mi</i>	<i>muk'</i>
progressive	<i>choñkol</i>	<i>choñkol</i>

The minimal word requirement in Chol is CVC. Lexical items in Chol are based on CVC roots, often in combination with one or more derivational or inflectional affixes (see appendix A.2 below). There are a few free-standing CV functional elements, such as the aspect markers and the preposition *tyi*, though these always cliticize to the element to their right. When the aspect markers are themselves used to host clitics, the larger CVC allomorphs must be used. As the progressive marker already meets the CVC minimal word requirement, it does not have a distinct allomorph.

The use of these forms with second position clitics such as *-äch* (affirmative) and *-bi* (reportative) (see appendix A.7.4) is shown in (16). While the larger CVC forms are *required* in certain phonological contexts, they are always *possible* and have no known effect on meaning. That is, the forms in (16) are grammatical with or without the clitics.¹

- (16) a. Muk'-äch k-ts'am-el. (*mi-äch)
 IMPF-AFF A1-bathe-NML
 'I indeed bathe.'
- b. Tsa`-bi majl-i tyi Tila. (*tyi-bi)
 PRFV-REP go-ITV PREP Tila
 'It's said she went to Tila.'

Returning now to the difference between the nonperfective and perfective aspect markers, we observe that both the imperfective form *muk'* and the progressive *choñkol* can appear directly with situation-denoting nominal complements such as *ja`al* 'rain' and *k'iñijel* 'party'.

- (17) a. Muk' ja`al tyi k-lum-al.
 IMPF rain PREP A1-land-NML
 'It rains in my country.'

¹This contrasts with data in Coon 2004, cited in Law et al. 2006, in which it was mistakenly reported that *muk'* may only be used with clitics. Though most speakers tend to use *mi* when no clitics are present, *muk'* is also possible in its bare form. Further work is needed on the phonology of these forms and the factors governing their distribution.

- b. Choñkol **k'ĩnijel** tyi aw-otyoty.
 PROG party PREP A2-house
 'There's a party going on at your house.'
- c. * {Tsa`/tyi} **k'ĩnijel** tyi aw-otyoty.
 PRFV party PREP A2-house
 intended: 'There was a party at your house.'

Forms like *ja`al* and *k'ĩnijel* behave as nominals elsewhere in the language, both distributionally and morphologically. Note that both terminate in a *-Vl* suffix (formed from the roots *k'ĩñ* 'sun' or 'day' and *ja`* 'water'), and both may appear in clearly nominal contexts, as in (18). They do not have verbal counterparts.

- (18) a. Jalaki tyi ujty-i jĩni **k'ĩnijel**?
 when PRFV finish-ITV DET party
 'When did the party end?'
- b. Kabäl **ja`al** tyi ñum-i.
 a.lot rain PRFV pass-ITV
 'A lot of rain passed.'

The nominality of these forms provides evidence that the nonperfective aspect markers in (17) are indeed the syntactic predicates. The CVC allomorph *muk'* is required in contexts like (17a), perhaps due to the absence of a set A marker to its right and a general tendency for the CV aspect clitics to form phonological words with following set A markers. In non-careful speech, *mi + k-* become *mik*; *mi + a-* become *ma`*; and *mi + i-* become *mi`*.² Crucially, the construction in (17) is impossible with either allomorph of the perfective forms, as shown by the ungrammatical form in (17c).

Any event-denoting nominal can appear as the complement to a nonperfective aspect marker. This includes complementless unergative and antipassive nominal forms discussed in chapter 3.1 above, such as the ambivalent *ts`ümet* 'bathe', the incorporation antipassive *juch' waj* 'grind corn', and the verbal noun *k'ay* 'song', shown in (19). Recall that complementless unergative and antipassive stems have no *v* layer and nowhere to project arguments. As there is no person marking, these forms receive an impersonal or generic interpretation. These stems do not assign θ -roles, but simply denote events.

²The generalization that the imperfective must be realized as *muk'* in the absence of a following set A morpheme cannot be exactly right, as shown by the form in (i). Here the prospective particle *ke* (from the verb *kejel* 'begin') intervenes between the imperfective and the set A marker.

- (i) Mi ke k-majl-el.
 IMPF PROSP A1-go-NML
 'I'm about to go.'

One possibility is that *mi* must cliticize to functional material, or at this is some kind of prosodic requirement. Further work is needed to determine the correct generalization governing the appearance of *mi* versus *muk'*.

(19) IMPERSONAL NONPERFECTIVES

- a. Muk' ts'äm-el tyi ja`.
 IMPF bathe-NML PREP water
 'Bathing occurs in the water.'
- b. Choñkol juch' waj tyi k-otyoty.
 PROG grind corn PREP A1-house
 'There is corn-grinding going on at my house.'
- c. Muk' k'ay tyi iklesya.
 IMPF song PREP church
 'Singing occurs in church.'

Again, the perfective morphemes are impossible in such constructions:

- (20) *Tsa` ts'äm-el tyi ja`.
 PRFV bathe-NML PREP water
 intended: 'There was bathing in the water.'

4.1.3 B-Constructions

Additional evidence for the predicative nature of the Chol nonperfective morphemes comes from so-called "raising" constructions, like those in (21), hereafter referred to by the theory-neutral label "B-Constructions" after the set B morphology used to mark the subjects. Though Robertson labels these "raising" constructions, he notes that he uses the term for convenience, and it is not meant as a description of an actual grammatical mechanism (Robertson 1992, 77). I present evidence against a raising analysis below.

(21) "RAISING" B-CONSTRUCTIONS

- a. Muk'-oñ [tyi wäy-el].
 IMPF-B1 PREP sleep-NML
 'I sleep.'
- b. Choñkol-ety [tyi k'ay].
 PROG-B2 PREP song
 'You're singing.'
- c. Choñkol-ob [tyi mel waj] jiñi x-`ixik-ob.
 PROG-PL PREP make tortilla DET CL-woman-PL
 'The women are making tortillas.'

The goals of this section are twofold. First, I demonstrate that the B-Constructions provide further evidence that nonperfective aspect markers behave as predicates, while perfective aspect markers do not. Second, I show that complementless and complementing stems behave as predicted in the nonperfective aspects. Specifically, just as in the perfective aspect constructions discussed in section 3.1, the complementless unergative and antipassive stems require a light verb in order to predicate—here the nonperfective aspect markers can function as that light verb, resulting in the appearance of raising. Complementing forms require no light verb, just as in the perfective, and

B-Constructions are impossible. This division provides evidence that agent θ -roles are projected *outside* of the predicate stem which provides the encyclopedic information, discussed in section 4.1.4.

Nonperfective aspect markers as predicates

Above I proposed that in forms like those in (22), the nonperfective aspect marker functions as a one-place (stative) predicate, assigning absolutive Case to its internal argument.

- (22) a. Choñkol-Ø_i [DP k-yajl-el]_i.
 PROG-B3 A 1-fall-NML
 ‘I’m falling.’
- b. Choñkol-Ø_i [DP ja`al]_i.
 PROG-B3 rain
 ‘It’s raining.’

However, since nominalized clauses (like *kyajlel* ‘my falling’, discussed in section 4.2) and other event-denoting nominals (like *ja`al* ‘rain’) will always be third person, and there is no overt third person set B marker, we see no evidence for the proposal that the bracketed forms in (22) are truly internal (set B/absolutive) arguments of a higher aspectual predicate. Compare the forms in (22) with the stative positional predicate with a third person singular subject in (23a). In (23b) we see that the same stative predicate with a non-third person subject and an overt set B marker.

- (23) a. Wa`-al-Ø_i [DP jiñi wiñik]_i.
 standing-STAT-B3 DET man
 ‘The man is standing.’
- b. Wa`-al-oñ_i [DP pro]_i.
 standing-STAT-B1 1PRON
 ‘I’m standing.’

The B-Constructions in (21) above, and here in (24), provide a context in which the nonperfective aspectual predicate appears with *non-null* set B morphology, co-indexing the thematic subject of the clause. The lexical stem is subordinated by the preposition *tyi*. The fact that we find set B marking on the aspectual heads provides support for the proposal that they assign absolutive Case, even in the constructions in which we do not see overt set B marking (because the complement is third person).

(24) B-CONSTRUCTIONS

- a. Muk`-ety_i [PP tyi juch waj] [DP pro]_i.
 IMPF-B2 PREP grind corn 2PRON
 ‘You grind corn.’
- b. Muk`-oñ_i [PP tyi määñ-oñ-el] [DP pro]_i.
 IMPF-B1 PREP buy-AP-NML 1PRON
 ‘I buy.’

- c. Choñkol-**ob**_i [PP tyi uk'-el] [DP jiñi x-k'aläl-**ob**]_i.
 PROG-PL PREP cry-NML DET CL-girl-PL
 'The girls are crying.'

Compare the nonperfective B-Construction in (25a) with the stative predicate in (25b). In both, the one-place (unaccusative) stative predicates combines with a DP internal argument, here the first person subject. In both, additional nominals are introduced with the preposition *tyi*. See Coon 2010b for a discussion of the order of oblique elements.

- (25) a. Choñkol-oñ_i [PP tyi wuts'-oñ-el] [DP *pro*]_i
 PROG-B I PREP wash-AP-NML 1PRON
 'I'm washing.' (lit. ~ 'I'm at washing.')
- b. Wa`-al-oñ_i [PP tyi bij] [DP *pro*]_i.
 standing-STAT-B I PREP path 1PRON
 'I'm standing in the path.'

B-Constructions are complementless

Despite the original label, I argue that there is no syntactic raising of a low subject to the matrix aspect marker. That is, there is no operation which derives the forms in (27) from those in (26).

- | | |
|--|---|
| <p>(26) A-CONSTRUCTIONS</p> <p>a. Mi [k-juch' jiñi ixim].
 IMPF A1-grind DET corn
 'I grind the corn.'</p> <p>b. Mi [k-wäy-el].
 IMPF A1-sleep-NML
 'I sleep.'</p> | <p>(27) B-CONSTRUCTIONS</p> <p>a. Muk'-oñ [tyi juch' ixim].
 IMPF-B I PREP grind corn
 'I grind corn.'</p> <p>b. Muk'-oñ [tyi wäy-el].
 IMPF-B I PREP sleep-NML
 'I sleep.'</p> |
|--|---|

Instead, I propose that the B-Constructions always involve *complementless* forms (unergatives and antipassives), while A Construction forms are always *complementing* forms (transitives, unaccusatives, and passives). The confusion comes from formal similarities between certain complementing and complementless forms, like the ones in (26) and (27) above. Despite surface appearances, however, the stems in (26) have different structures from the ones in (27): while the form in (26a) is a true transitive (the object may appear with a determiner), the form in (27a) is an incorporation antipassive (the object may not appear with a determiner). Similarly, the subject of the ambivalent intransitive in (27b) *must* receive an agentive interpretation, while this is not the case for the subject in (26b).

In (28) we see evidence that complementing stems—transitives, unaccusatives, and passives—are ungrammatical in the B-Construction.

- (28) NO COMPLEMENTING STEMS IN B-CONSTRUCTIONS
- a. * Choñkol-oñ [tyi jap jiñi kajpej].
 PROG-B I PREP drink DET coffee
 intended: 'I'm drinking the coffee.'

- b. *Muk'-ety [tyi jul-el].
 IMPF-B2 PREP arrive.here-NML
 intended: 'You arrive here.'
- c. *Choñkol-oñ [tyi mejk'-el].
 PROG-B1 PREP hug.PASV-NML
 intended: 'I'm being hugged.'

When appearing in B-Constructions, the subjects associated with the ambivalent stems, like *wäy* 'sleep' in (29), must be interpreted as volitional. The same was true of these stems appearing in transitive light verb constructions in chapter 3 above.

- (29) Muk'-oñ [tyi wäy-el] tyi las-kwatro.
 IMPF-B1 PREP sleep-NML PREP four-o'clock
 'I sleep (on purpose) at four o'clock.' (e.g. take a nap, not doze off)

Why do only complementless forms appear in B-Constructions? Recall from chapter 3 that complementless forms do not themselves project a *vP* layer but require the aid of a light verb in order to predicate. I propose that in the B-Constructions *the nonperfective aspect marker behave as light verbs* just as the root *cha`l* does in the perfective (see chapter 3.1 above). That is, just as in the perfective, the subject associated with the event denoted by the unergative must be projected as the argument of a higher predicate, since it cannot be projected directly on the unergative stem. Here, however, this higher predicate is not the light verb *cha`l*, but the aspect marker.

Perfective light verb constructions are repeated in (30). Here stem forms like *juch' waj* (incorporation antipassive), *mäñ-oñ-el* (absolutive antipassive), and *uk`el* (ambivalent unergative), appear as nominal complements to the light verb *cha`l*.

- (30) a. Tyi **a-cha`l-e** juch' ixim.
 PRFV A2-do-DTV grind corn
 'You ground corn.'
- b. Tyi **k-cha`l-e** mäñ-oñ-el.
 PRFV A1-do-DTV buy-AP-NML
 'I bought.'
- c. Tyi **i-cha`l-e-yob** uk`-el jiñi x-k'aläl-ob.
 PRFV A3-do-DTV-PL cry-NML DET CL-girl-PL
 'The girls cried.'

Recall that the light verb *cha`l* is *transitive*. The subject is marked set A (boldface); the antipassive or unergative complement is third person set B (null).

This *cha`l* option is also available for complementless stems in the nonperfective aspects, as shown in (31), though these forms are judged slightly unnatural by most speakers.

- (31) a. %? Mi **k-cha`l-eñ** mäñ-oñ-el.
 IMPF A1-do-D.NML buy-AP-NML
 'I buy.'

- b. %? Choñkol i-cha`l-eñ-ob uk`-el jiñi x-k`aläl-ob.
 PROG A3-do-D.NML-PL cry-NML DET CL-girl-PL
 ‘The girls are crying.’

More natural are the B-Constructions in (24) above. Compare (31a) with the equivalent B-Construction from (24b) above, repeated together in (32):

- (32) a. %? Mi k-cha`l-eñ mǎñ-oñ-el.
 IMPF A1-do-D.NML buy-AP-NML
 ‘I buy.’
 b. Muk`-oñ tyi mǎñ-oñ-el.
 IMPF-B1 PREP buy-AP-NML
 ‘I buy.’

In (32), the antipassive stem *mǎñoñel* ‘buying’ has no absolutive Case-requiring internal argument, and thus no *v* head is merged. Since the subject cannot merge directly with the antipassive, a light verb is required. In (32a) this is the transitive *cha`l*, while in (32b) *the subject is merged directly with the aspectual verb*, the imperfective *muk`*. I suggest that the (32a) form is dispreferred because the light verb is superfluous; in a nonperfective clause the subject can merge with the aspect marker, as in (32b).³

Again, since the perfective morpheme is not a predicate, the B-Construction option is only available on the nonperfective aspects. Here the light verb construction in (33a) is judged to be completely acceptable. *Tsa`* is not a verb, and so no alternative is present.

- (33) a. Tyi k-cha`l-e k`ay.
 PRFV A1-do-DTV song
 ‘I sang.’
 b. *Tsa`-oñ tyi k`ay.
 PRFV-B1 PREP song
 intended: ‘I sang.’

The structure of B-Constructions

While the light verb *cha`l* and the nonperfective aspect morphemes both host the subjects of unergative and antipassive (complementless) stems, shown in (34), and both are *semantically intransitive* (see chapter 3.1.1), these two types of constructions look formally different. These differences are predicted based on the fact that the light verb *cha`l* is *eventive and syntactically transitive*, while the nonperfective aspect markers are *stative and syntactically intransitive*. Compare the boldfaced light verbs in (34) with the root *buch* ‘seated’ appearing in a transitive eventive construction in (35a) and an intransitive stative construction in (35b). This comparison illustrates that the differences between (34a) and (34b) are independently attested in the language.

³The form in (32a) is not *ungrammatical* and the proposal here correctly does not rule it out. I simply suggest that speakers might prefer (32b) as it does not involve the insertion of a superfluous light verb.

(34) LIGHT VERBS

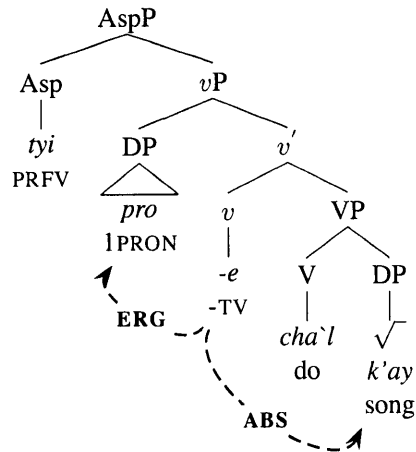
- a. Tyi **k-cha`l-e** k'ay.
PRFV A1-do-DTV song
'I sang.'
- b. **Muk'-oñ** tyi k'ay.
IMPF-B1 PREP song
'I sing.'

(35) POSITIONAL ROOT

- a. Tyi **k-buch-ty-ä** siya.
PRFV A1-seated-SUF-DTV chair
'I sat on the chair.'
- b. **Buch-ul-oñ** tyi siya.
seated-STAT-B1 PREP chair
'I'm seated on the chair.'

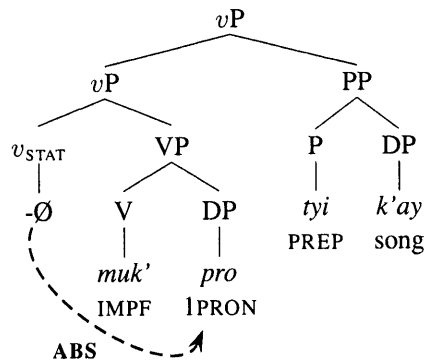
Because the light verb in (34a) is transitive, it merges the subject as an agent in the specifier of transitive *v*P. The unergative stem is merged as its complement. Transitive *v*—realized as *-e*—assigns absolutive Case to the complement, and ergative Case inherently to the agent. Because this construction is eventive, it can appear with an aspect marker, here the perfective *tyi*.

(36) STRUCTURE OF (34A)



In (34b), in contrast, the one-place stative predicate *muk'* takes the thematic subject as its *internal* argument. The subject receives its θ -role and absolutive Case from the verbal projection of *muk'*—a null stative *v* as shown in (37). As absolutive Case has already been assigned, the unergative nominal *k'ay* may not receive Case from the intransitive verb, and so must instead be introduced as an oblique by the preposition *tyi*.

(37) STRUCTURE OF (34B)



Again, recall that the subject θ -role is *not* assigned by the unergative stem *k'ay* 'song', here an oblique adjunct, but instead by the imperfective predicate itself (see also Laka's (2006) analysis of the Basque progressive, discussed in chapter 5). The single argument/subject of Chol B-Constructions, like the one in (38a), is an *internal* THEME argument. I propose that the Chol B-Constructions are comparable to English sentences like the one given in (38b), a connection also made by Laka 2006 for Basque progressives.⁴

- (38) a. **Muk'-oñ** tyi k'ay.
 IMPF-B1 PREP song
 'I sing.'
 b. **I engage** in singing.

The proposal that the *tyi* + STEM portion of the Chol B-Constructions is an adjunct is not central to the argument that the nonperfective aspect markers are predicates (and we may find variation between the status of the prepositional phrase in different languages, for instance Chol and English in (38)). An alternative to the adjunct analysis is that Chol forms like (38a) represent a type of double-object construction, in which both the subject (here first person set B *-oñ*) and the *tyi*-phrase are internal arguments of the predicate *muk'*. However, this would be the only place in the language in which a *tyi*-phrase is selected as an internal argument; elsewhere *tyi*-phrases are adjuncts (see appendix A.7.6).

Furthermore, the proposal that the *tyi*-phrase of a B-Construction is an adjunct accounts for the (albeit marginal) reordering in (39a). As shown by the true double object construction in (39b), a *tyi*-phrase cannot intervene between a double-object predicate and one of its internal arguments. Though speakers report that (39a) sounds odd, they find a clear contrast between (39a) and (39b).

- (39) a. ? **Muk'-oñ tyi Salto** tyi k'ay.
 IMPF-B1 PREP Salto PREP song
 'I sing in Salto.'
 b. * **Tyi y-äk'-e-yoñ tyi Salto** jīñi waj.
 PRFV A3-give-APPL-B1 PREP Salto DET tortilla
 intended: 'She gave me the tortillas in Salto.'

The form in (39a) is comparable in acceptability to a form like in (40), in which it is also preferred to have the *tyi*-phrase adjuncts in the opposite order. The fact that speakers have a preferred order of adjuncts is not surprising.

- (40) ? **Buch-ul-oñ tyi Tila** tyi siya.
 seated-STAT-B1 PREP Tila PREP chair
 'I am seated in Tila in the chair.'

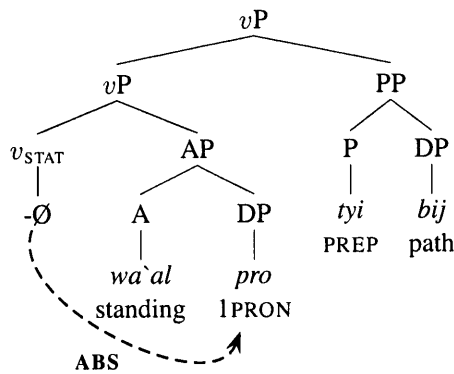
⁴Thanks to Omer Preminger for suggesting this comparison. Note that the English *I engage in ...* construction is also degraded with unaccusatives and passives. To the extent that these forms are interpretable, a more agentive interpretation is forced. We return to this issue in chapter 5.

- (i) a. ? I was engaged in falling.
 b. ? I was engaged in being attacked.

The proposed structure is also in keeping with other stative predicates in the language. Again compare the Chol B-Construction represented in (41a), with a sentence involving a stative positional predicate and a locative adjunct, as in (41b), represented as in (42).

- (41) a. Muk'-oñ tyi k'ay.
 IMPF-B I PREP song
 'I sing.'
 b. Wa`-al-oñ tyi bij.
 stand-STAT-B I PREP path
 'I'm standing in the path.'

(42) STRUCTURE OF (41B)



Further evidence that the subjects of B-Constructions behave like internal arguments do elsewhere in the language comes from extraction. Recall from chapter 3.2.3 that possessors may be extracted *out of* internal arguments (transitive objects and unaccusative subjects), but not out of external arguments or adjuncts. In (43) we find that a possessor may be extracted out of the subject of a B-Construction, just as out of a regular stative as in (44).

- (43) a. Muk' tyi k'ay [i-chich aj-Maria].
 IMPF PREP song A3-older.sister DET-Maria
 'Maria's older sister sings.'
 b. Maxki_i muk' tyi k'ay [i-chich t_i]?
 who IMPF PREP song A3-older.sister
 'Whose older sister sings?'
- (44) a. Wa`-al tyi bij [iy-ijts'iñ aj-Elmar].
 standing-STAT PREP path A3-younger.sibling DET-Elmar
 'Elmar's younger sibling is standing in the path.'
 b. Maxki_i wa`-al tyi bij [iy-ijts'iñ t_i]?
 who standing-STAT PREP path A3-younger.sibling
 'Whose younger sibling is standing in the path?'

Extraction out of *tyi*-phrases is impossible both in B-Constructions and elsewhere in the language, which is again consistent with the proposal that *tyi*-phrases are adjuncts. However, in the

case of B-Constructions this may be independently ruled out. The complements to *tyi* are always complementless forms. The string *mel waj* in (45a) is not a full transitive, but an incorporation antipassive. We saw in chapter 3.2 that the object of an incorporation antipassive cannot extract, which is again true here, as shown by the ungrammaticality of (45b).

- (45) a. Muk'-ety tyi **mel waj**.
 IMPF-B2 PREP make tortilla
 'You tortilla-make.'
 b. *Chuki muk'-ety tyi **mel**?
 what IMPF-B2 PREP make
 'What did you make?'

4.1.4 A note on predicate-external subjects

In chapter 3 I argued for a strong division between Chol roots/stems which subcategorize for internal arguments (*complementing forms*), and those that do not (*complementless forms*). While the former show verbal behavior, the latter do not. This, I proposed, is the result of one fact: Chol *v*, both transitive and intransitive, obligatorily assigns abstract absolutive Case to a DP argument. This means that complementless forms cannot combine with *v*.

I stated that as a result, complementless forms are unable to directly project any θ -roles. This was based on the assumption that external θ -roles must be projected in the specifier of transitive *v*P. Instead, we find that the subjects associated with complementless unergative and antipassive stems are assigned θ -roles by other predicates (i.e. the light verb or an aspect marker), which combine with the nominal complementless stem. This is true in both the nonperfective and perfective aspects, as illustrated by the forms in (46) and (47).

- (46) a. COMPLEMENTLESS IMPERFECTIVE
 Muk'-ety tyi mǎñ-oñ-el.
 IMPF-B2 PREP buy-AP-NML
 'You buy (something).'
 b. COMPLEMENTLESS PERFECTIVE
 Tyi a-cha`l-e mǎñ-oñ-el.
 PRFV A2-do-DTV buy-AP-NML
 'You bought (something).'
- (47) a. COMPLEMENTING IMPERFECTIVE
 Mi [DP a_i- [VP mǎñ jiñi alaxax PRO_i]].
 IMPF A2- buy DET orange
 'You buy the oranges.'
 b. COMPLEMENTING PERFECTIVE
 Tyi [VP a-mǎñ-ä jiñi alaxax].
 PRFV A2-buy-TV DET orange
 'You bought the oranges.'

In the complementless imperfective (B-Construction) form in (46a) the subject is marked on the aspectual predicate; in the perfective complementless form in (46b) the aspect marker—which is

not a predicate—is unable to host the subject and the light verb *cha'l* is inserted instead. In both the imperfective and perfective complementing forms in (47), the subjects are marked directly on the semantic predicate.

Despite fairly similar surface appearances, the imperfective and perfective transitives in (47) are argued to have very different structures. Specifically, while the perfective transitive in (47b) is a regular monoclausal transitive, the imperfective transitive involves a predicative aspect marker and an embedded nominalized clause. As argued for at length in the sections below, while the set A marker in the perfective form co-indexes the transitive subject (*ergative*), the set A marker in (46a) co-indexes a grammatical possessor (*genitive*). The possessor in (47a) controls the null PRO subject merged in the specifier of *vP*.

But is this additional structure for complementing imperfectives like (47a) really necessary? Do we need the *vP* layer with the PRO subject for the complementing stem? Put differently: if the complementless antipassive stem *māñoñel* in (46) and the full transitive *amāñ jiñi alaxax* in (47a) are both event-denoting nominals, why is the agent marked directly on one but not on the other? We know that complementless forms may, like other situation-denoting nominals, combine directly with an aspectual predicate and receive an impersonal interpretation:

- (48) a. Choñkol [k'ay] tyi iklesya.
 PROG song PREP church
 ‘There’s singing in the church.’
 b. Muk' [ts'am-el] tyi ja`.
 IMPF bathe-NML PREP water
 ‘Bathing happens in the water.’

Furthermore, we know that the same nominals may appear possessed elsewhere in the language (see chapter 3.2). Nonetheless, in (49) we find that while the subject of a complementing form like (49a) receives an agentive interpretation, the same is not true for the subject of the complementless form in (49b). This form is grammatical, but not under a reading in which Maria is the singer. One consultant offered the following scenario: Everyone around knows that Maria loves a particular song, it is “her song”. The song comes on the radio, and someone says the sentence in (49b).

- (49) a. COMPLEMENTING NOMINAL
 Choñkol [i-juch' jiñi ixim aj-Maria].
 PROG A3-grind DET corn DET-Maria
 ‘Maria is grinding the corn.’
 b. COMPLEMENTLESS NOMINAL
 Choñkol [i-k'ay aj-Maria].
 PROG A3-song DET-Maria
 ‘Maria’s song is happening.’ (i.e. playing on the radio)
 *‘Maria is singing.’

The relevant difference between the complementing and complementless nominals, I suggest, is the presence of a *vP* layer: complementing forms require the *v* in order to assign Case to the DP complement. A PRO subject is merged in Spec,*vP* where it is assigned an agent θ -role. It is then controlled by a higher possessor, discussed in more detail in the following section. In (49b), in contrast, the root *k'ay* does not subcategorize for a complement and thus no *v* head can merge. The

nominal can be possessed, but an agentive interpretation is impossible. Crucially, this explanation for the difference in interpretation between the forms in (49) would be unavailable if the external argument were introduced within the same syntactic projection as the lexical stem (see Hale and Keyser 1993; Bowers 1993; Chomsky 1995; Collins 1996; Kratzer 1996, and others). Further data and consequences are discussed in more detail in Coon and Preminger (in progress).

4.1.5 Origins of the nonperfective forms

I am unaware of any diachronic work on the origin of the nonperfective aspect morphemes in Chol. The phonologically large Tila Chol progressive *choñkol* very likely has a history as a complex form, since lexical roots in the language are usually CVC. The imperfective *mi* is homophonous with the interrogative complementizer ‘if’, though I do not know of any historical work connecting these forms. The imperfective allomorph *muk’* is equally mysterious. Vázquez Álvarez (p.c.) does not find a clear connection between these morphemes and any other contemporary lexical items in Chol.

Nonetheless, in other Mayan languages, progressive morphemes can frequently be traced to various other verbal or positional stems. For instance, Law et al. (2006, 430) connect the Ch’olti progressive *yual* to the positional stem *wa’al* ‘standing’, probably also related to Tselal’s progressive *yakal*. Formally, *choñkol* has the final *-VI* sequence found in positional stems like these. Mateo-Toledo (2008, 55) writes of Q’anjob’al:

Most works on Q’anjob’alan languages (Zavala 1992, Raymundo et al. 2000, Mateo Toledo 1999, Craig 1977, 59 etc.) include the progressive as an aspect marker. However, this is an auxiliary construction like modal and phase verbs where the main verb functions as an infinitival complement. The progressive is marked by the [non verbal predicates] *lanan* ‘standing, extended’, *ipan* ‘pushing like position’, and *jalan* ‘to be tangled’.

Lan-an to [ha-lo-w-i].
 standing-POS still A2SG-eat-AP-ITV
 ‘You are still eating.’
 Lit.: ‘Your eating is still standing/extended.’

Compare the progressive construction in the above quotation with the sentence in (50), in which the form *lanan* serves as a positional predicate. In chapter 5 we see that in a number of languages, progressive morphemes derive from verbs indicating location, posture, or position.

(50) Q’ANJOB’AL

Lan-an-’ay an [_{DP} kamixhej] (s)-sat tx’otx’.
 extended-POS-DIR CLF shirt A3-on.top.of ground
 ‘The shirt is thrown (extended) on the ground.’ (Pascual 2007, 150)

As the above quotation shows, the proposal that nonperfective aspects involve subordination is not new, and is especially clear in languages like Q’anjob’al where the form that encodes progressive—and triggers a nonergative pattern—is also used as a predicate in contexts outside of pure aspect. Splits in Q’anjob’al are discussed in section 4.5 below.

This discussion also highlights the question of what possible meanings can be attributed to the nonperfective aspect markers in Chol. As discussed above, we find two basic kinds of constructions, repeated in (51) with proposed literal glosses. In an A-Construction (found with complementing forms), the aspect marker assigns Case to a possessed nominalized clause. In a B-Construction (found with complementless forms), the aspect marker assigns Case to the thematic subject; the event-denoting stem appears in a locative adjunct.

- (51) a. A-CONSTRUCTION
 Choñkol [**i-yajl-el** **jiñi x-`ixik**].
 PROG A1-fall-NML DET CL-woman
 ‘The woman’s falling is happening.’
- b. B-CONSTRUCTION
 Choñkol [*tyi* *k’ay*] **jiñi x-`ixik**.
 PROG PREP song DET CL-woman
 ‘The woman is at/engaged in song.’

As the suggested literal glosses in (51) show, it is not immediately obvious how to attribute a consistent meaning to the aspect marker across the two constructions. For instance, if we assume that *choñkol* in (51a) means something like ‘extended’, as in the Q’anjob’al *lanan* constructions (*The (event of) the woman’s falling is extended (over time)*), it is not immediately clear how to translate this to the B-Construction: *The woman is extended at song*. On the other hand, if we assume that *choñkol* means (or originally meant) something like ‘standing’, as proposed for the Tseltal progressive, we easily capture the B-Construction (*I am standing in (the event of) song*), but the A-Construction is less obvious: *The (event of) the woman’s falling is standing*.⁵

Nonetheless, the availability of a consistent *English* translation should not be taken as evidence for or against the proposal that *choñkol* is the same verb in both constructions. Though the origins of the Chol nonperfective morphemes are to my knowledge unclear, I suggest that the semantics of progressive and imperfective markers may be compared to existential copulas: *The event of the woman’s falling exists* and *The woman exists (is located) in (the event) of song*. The connection between nonperfective and locative constructions is examined in greater detail in chapter 5 below. I leave a detailed semantics of these morphemes as a topic for future work.

4.1.6 Summary

In this section I provided evidence that the nonperfective aspect markers behave as one-place stative predicates. They combine with a single DP argument, which triggers set B (absolutive) agreement. Other nominal elements must be realized as obliques (i.e. appear after the preposition *tyi*). In nonperfective A-Constructions, like the one in (52a), I claim that the argument of the nonperfective marker is a possessed nominalized clause (to be discussed below). However, since this nominalized clause is always third person singular, we do not find overt evidence for the proposed absolutive agreement.

⁵Note that in English the verb “stand” can be used of events: “The date stands”.

- (52) a. NONPERFECTIVE A-CONSTRUCTION
 Mi [DP k-ts'äm-el].
 IMPF A1-bathe-NML
 'I bathe.' (lit. ~ 'My bathing happens.')
- b. NONPERFECTIVE B-CONSTRUCTION
 Muk'-oñ [tyi ts'äm-el].
 IMPF-B1 PREP bathe-NML
 'I bathe.' (lit. ~ 'I'm engaged in bathing.')

In the B-Constructions, like (52b), we do find contexts in which the nonperfective marker shows overt set B marking. This alone suggests they are verbs; as we saw above, the head responsible for a verbal interpretation also assigns absolutive Case (here a null stative *v*). I argued that these constructions are limited to the complementless unergative and antipassive stems and do not involve any actual raising. The pair in (52) involves, for instance, an *ambivalent* root. In (52a) the subject undergoes a change of state, but nothing is said about whether the action is volitional; this sentence could be uttered, for instance, by someone who is incapacitated and must be bathed by someone else. In (52b), in contrast, the subject must be interpreted as volitional. (Note that the English glosses seem to convey similar implications.)

The volitionality requirement of the B-Constructions provides further evidence that these forms are analogous to the light verb constructions discussed in chapter 3.1, in which the semantic subject of a complementless stem is realized as the external *agent* argument of the transitive light verb *cha'l*. In the section that follows we look in more detail into nonperfective A-Constructions like (52a), where I provide an analysis for them similar to that of English *poss-ing* nominalizations.

Under the proposal presented here, Chol does not have a progressive or imperfective aspect any more than English has an inceptive aspect. That is, just as in English we must express "inceptiveness" periphrastically (i.e. *I'm starting to read the book*), so too in Chol the imperfective and progressive aspects are periphrastic. Compare the Chol progressive in (53a) with the clearly periphrastic construction in (53b).⁶

- (53) a. Choñkol-oñ [tyi päk' bu`ul].
 PROG-B1 PREP plant bean
 'I'm planting beans.'
- b. Tyi ujty-i-yoñ [tyi päk' bu`ul].
 PRFV finish-ITV-B1 PREP plant bean
 'I finished planting beans.'

This addresses a concern mentioned in Vázquez Álvarez 2009 regarding pairs like those in (53). Under the assumption that the subject of the so-called raising forms like (53a) originates in the lower clause and moves, we are left wondering about forms like those in (53b), for which syntactic raising has not been proposed. Nonetheless, the formal and semantic similarities between these constructions make a unifying analysis desirable. I claim that the embedded complementless stem never assigns a θ -role, not in the progressive in (53a), nor in the embedded form in (53b). Rather,

⁶The fact that *ujty* 'finish' is eventive while *choñkol* is stative accounts for the fact that *ujty* appears with aspect morphology and the suffix *-i* (for eventive intransitives), while *choñkol* does not.

the subject θ -role is assigned by the matrix predicate and the complementless stem is realized as an adjunct.

As shown in the forms in (54), discussed in the following section, the same matrix verbs—the progressive *choñkol* and *ujty* ‘finish’—can take entire nominalized clauses as their arguments.

- (54) a. Choñkol [k-päk' jĩni bu`ul].
 PROG A1-plant DET bean
 ‘I’m planting the beans.’
 b. Tyi ujty-i [k-päk' jĩni bu`ul].
 PRFV finish-ITV A1-plant DET bean
 ‘I finished planting the beans.’

4.2 EXPLAINING SPLIT ERGATIVITY

In this section we turn to the complementing A-Constructions in the nonperfective aspects, the source of Chol’s apparent split. As discussed in chapter 3.1 above, complementing forms include transitives (55a), unaccusatives (55b), and passives (55c). There are two main differences between these forms and the analogous perfectives in (56). **First**, while perfectives follow the generalization that all external arguments are marked set A and all internal arguments are marked set B, in the nonperfective aspects we find that both transitive and intransitive subjects show set A marking (boldfaced). **Second**, we saw in chapter 3.1 above that stems in the perfective aspect are followed by a vocalic suffix: a harmonic vowel on transitives like (56a), and the vowel *-i* on intransitives as in (55b–c) (underlined). In the nonperfective aspects, these suffixes are absent. Transitives appear either with no suffix or the suffix *-e`* (discussed below), while intransitives (unaccusatives and passives) always appear with the suffix *-el*.

- | | |
|---|--|
| (55) NONPERFECTIVES | (56) PERFECTIVES |
| a. Mi [_{DP} k-ch'äx- <u>e`</u> jĩni ja`].
IMPF A1-boil-DEP DET water
‘I boil the water.’ | a. Tyi k-ch'äx-ä jĩni ja`.
PRFV A1-boil-TV DET water
‘I boiled the water.’ |
| b. Mi [_{DP} k-majl-<u>e</u>].
IMPF A1-go-NML
‘I go.’ | b. Tyi majl- <u>i-yoñ</u> .
PRFV go-ITV-B1
‘I left.’ |
| c. Choñkol [_{DP} a-jajts'-<u>e</u>].
PROG A2-hit.PASV-NML
‘You’re being hit.’ | c. Tyi jajts'- <u>i-yety</u> .
PRFV hit.PASV-ITV-B2
‘You were hit.’ |

As argued for in section 4.1, the nonperfective aspect markers—*mi* and *choñkol* in (55)—are the matrix predicates of their clauses. The lexical stem is nominalized; the subject is expressed as a possessor which controls phonologically null subjects within the nominalized clauses. The fact that both transitive and intransitive subjects are controlled by a higher possessor, and possessors trigger set A agreement, gives the appearance of a nominative-accusative system.

I propose specifically that the complementing stem forms in the nonperfective aspects are comparable to English *poss-ing* nominalizations (cf. Abney 1987). Namely, they begin as verbal

projections and are nominalized higher in the clause. This is predicted based on the proposal made above: because the complementing forms have full DP complements, a *v* head must be merged to assign absolutive case, and thus they must begin as verbs. However, the nonperfective aspect markers are themselves verbs. In order to appear as the complement to a verb, the complementing stem form must undergo nominalization. I provide independent evidence for each of these steps below.

4.2.1 Nominalization

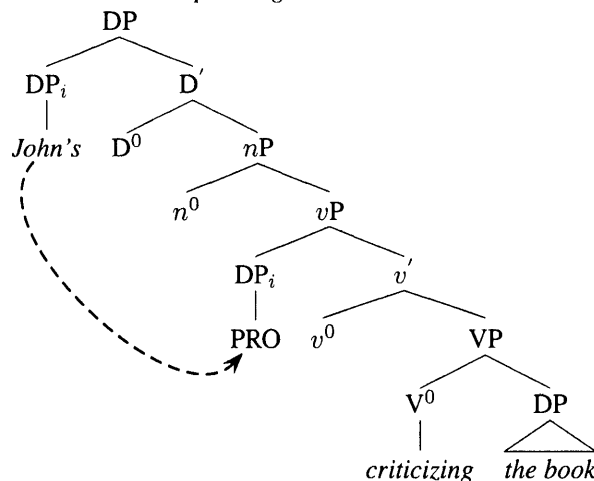
Much work has been devoted to the fact that nominalizations in the world's languages come in a variety of forms, behave differently with respect to case-marking of arguments, and show different distributional properties (cf. Lees 1963; Abney 1987; Koptjevskaja-Tamm 1993; Borsley and Kornfilt 2000). Compare, for example, the English forms in (57), discussed by Borsley and Kornfilt (2000, 104).

- (57) a. [John's repeated criticism of the book] was annoying.
 b. [John's criticizing the book repeatedly] was annoying.

In (57a), the nominal *criticism* requires a PP object and the modifier *repeated* appears in its adjectival form. In the “*poss-ing*” construction in (57b), in contrast, the object *the book* appears with no preposition, as with regular finite verbs, and the modifier *repeatedly* appears in its adverbial form. Nonetheless, both of these constructions serve as sentential subjects.

Based on the analysis in Abney 1987 and much subsequent work, I propose a structure like that in (58) for the *poss-ing* nominal. Here, we begin with a verb phrase, but the verbal complex does not combine with higher clausal projections I^0 or T^0 , but with the nominal functional projection n^0 . Spec,*vP* contains an empty category bound by the possessor in Spec,DP. Following Yoon (1996) I assume that there is a control relation between the possessor and the null subject.

(58) STRUCTURE OF *poss-ing* NOMINAL



This structure accounts for the properties of the nominal form in (58b) above. The object requires no special marking, as it is a regular verbal object and receives objective Case from the

verbal projection. Assuming that the adverb modifies the VP, we predict the appearance of an adverbial modifier. Finally, since the form is ultimately a DP, we correctly predict its ability to appear as a sentential subject.

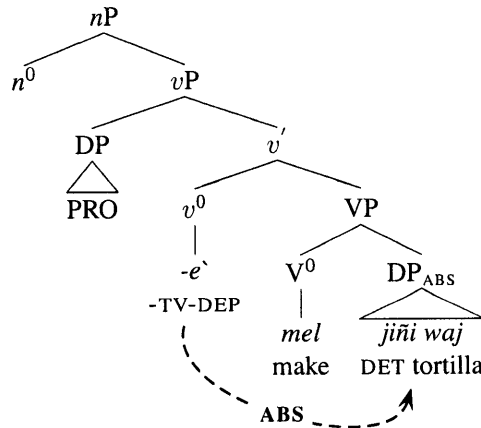
4.2.2 Complementing nonperfectives

I propose that the Chol complementing nominals are, like the English *poss-ing* construction in (57b), verbal projections which are nominalized higher in the clause. Transitive and intransitive forms like those in (59) begin as in (60) and (61), respectively.

- (59) a. Choñkol [_{DP} k-mel-e` jíñi waj].
 PROG A 1-make-DEP DET tortilla
 ‘I’m making the tortillas.’
 b. Mi [_{DP} k-majl-el].
 IMPF A 1-go-NML
 ‘I go.’

In both constructions, the root merges with a DP complement. In the transitive, the complement is the object DP *jíñi waj*. A dependent *v* head, *-e`* (discussed below), is merged and assigns absolutive case to the object. The dependent transitive *v* requires a PRO subject in its specifier. The *vP* is then nominalized. There is no overt realization of a transitive nominalizer for root transitives, though non-root transitives appear with the suffix *-ñ* in the nonperfective aspects, discussed in section 4.3 below.

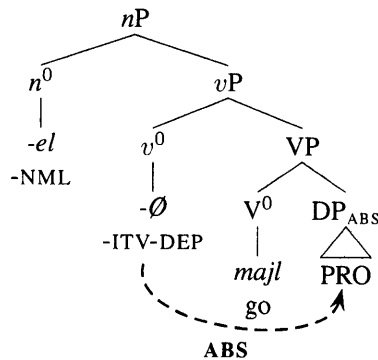
(60) STRUCTURE OF (59A)



In the intransitive (unaccusative) shown in (61), a complement is also merged, but here it is the subject. The intransitive dependent *v* head merges and assigns case to the internal subject. Again, the subject is a controlled PRO. As with the transitive, a nominalizing *n* head is then merged directly with a verbal projection. The intransitive nominalizing suffix is *-el* (compare the ambivalent intransitive *jíñi wäyel* ‘the sleeping’ or the absolutive antipassive *jíñi wuts’oñel* ‘the washing’).⁷

⁷Note that while the transitive *v* head may be overtly realized, there is no overt transitive *n* head. In intransitives we see the opposite: no overt *v* head, but an overt *n* head. The fact that many suffixes involve vowels in Chol, and that vowel

(61) STRUCTURE OF (59B)



Crucially *both transitive and intransitive subjects are controlled PROs*. It is important to note that despite differences in case marking or agreement between transitive and intransitive subjects in ergative languages, both subjects behave the same with respect to control (Anderson 1976). Compare the English and Chol embedded clauses in (62) and (63). In English, both transitive and intransitive subjects are marked nominative in matrix clauses, and both are also PRO in embedded clauses.

- (62) a. John wants [PRO_{NOM} to drink coffee].
 b. John wants [PRO_{NOM} to sleep].

In a morphologically ergative language like Chol, transitive and intransitive subjects (by definition) receive different marking in matrix clauses—ergative for transitive subjects, and absolutive for intransitive subjects. Nonetheless, just as in English, both subjects are controlled PRO in embedded clauses. This fact, I claim, is central to the appearance of a nominative-accusative pattern in the forms described in this section.

- (63) a. Aj-Juan y-om [i-jap kajpej PRO_{ERG}].
 DET-Juan A3-want A3-drink coffee
 'Juan wants to drink coffee.'
 b. Aj-Juan y-om [wäy-el PRO_{ABS}].
 DET-Juan want sleep-NML
 'John wants to sleep.'

We find two pieces of morphological evidence for this analysis. **First**, transitive roots optionally appear with the suffix *-e`*, shown in (59a).⁸ This suffix is descended from the Proto-Mayan *dependent* suffix, which appears in stems in embedded clauses (Kaufman and Norman 1984, 100). Compare for instance the homophonous Ixil dependent suffix, seen in chapter 2.3 above. This

hiatus is often resolved via deletion, could provide a historical explanation for the absence of two overt morphemes on these forms. Furthermore, in languages like Q'anjob'al, status suffixes are only realized phrase-finally. Such a restriction may provide an additional avenue for the loss of these morphemes, though further work is needed to determine whether these suffixes were historically realized in Cholan languages.

⁸This suffix is impossible in conjunction with an overt (non third person) set B suffix, and optional otherwise. I assume the ban on co-occurrence with an overt set B suffix, *-oñ* or *-ety*, is phonological in nature. Vowel hiatus is often resolved by deletion (see appendix A.2), and a glottal stop may not be enough to prevent this deletion (e.g. *e`oñ* → *oñ*).

suggests that *kmel(e`)* is not in fact the matrix predicate in (59a). Compare the imperfective construction in (64a) with the embedded clause in (64b), where the dependent suffix is again optional.

- (64) a. PROGRESSIVE
 Choñkol [k-mel-(e`) jiñi waj].
 PROG A1-make-DEP DET tortilla
 ‘I’m making the tortillas.’
- b. SUBORDINATE CLAUSE
 K-om [k-mel-(e`) jiñi waj].
 A1-want A1-make-DEP DET tortilla
 ‘I want to make the tortilla.’

Though the suffix *-e`* is optional on embedded clauses, it never appears on matrix clause perfective forms (irrespective of whether the transitive suffix *-V* is present, as shown in (65)), which are argued to not involve embedding. We return to embedded clauses in section 4.4 below.

- (65) *Tyi i-kuch-(u)-e` ixim.
 PRFV A3-carry-TV-DEP corn
 intended: ‘She carried corn.’

Based on this piece of evidence, I propose that Chol has at least four types of *v*, distinguished by two properties: transitivity and clause type. These are shown in table 4.2. Transitive *v* merges an external subject, while intransitive *v* does not. Dependent/embedded *v* requires a PRO subject, while matrix *v* does not. There is no overt reflex of the intransitive dependent *v* (see (61)).

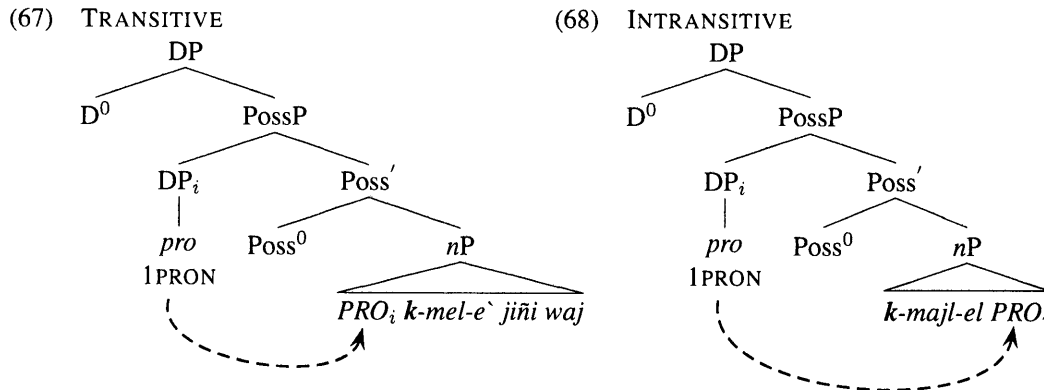
Table 4.2: FOUR TYPES OF *v*

	TRANSITIVE	INTRANSITIVE
MATRIX	<i>-V</i>	<i>-i</i>
DEPENDENT	<i>-e`</i>	<i>-∅</i>

The **second** piece of morphological evidence for this analysis, noted above, is the suffix *-el* found on the intransitives. Recall from section 3.1 forms that nominals throughout the Mayan family appear with *-VI* suffixes. Above we saw that both absolutive antipassive stems and ambivalents in their unergative function always appeared with *-el*, which I proposed occupies a *n* nominal or nominalizing head. The appearance of an overt nominal suffix on intransitives but not on transitives is also found in complementless forms. Compare for instance the ambivalent unergative in (66a) with the incorporation antipassive in (66b).

- (66) a. Tyi k-cha`l-e uch`-el.
 PRFV A1-do-DTV eat-NML
 ‘I ate.’
- b. Tyi k-cha`l-e päk` bu`ul.
 PRFV A1-do-DTV plant bean
 ‘I planted beans.’

Above the nominalizing n layers in both the transitive and intransitive constructions in (60) and (61), possessors are merged. In both, the possessor controls the PRO subject within the nominalization. Following the analysis proposed in Coon 2010b, I assume that Chol possessors are generated not in DP, but in the specifier of a lower projection, here represented as PossP. The possessum–possessor order is achieved by raising of the possessed XP to a functional position between PossP and DP, not represented here for simplicity.⁹



The possessed nominalized clauses in (67) and (68) appear as the single argument to the nonperfective aspect markers, *mi/muk'* or *choñkol*. The basic structure of regular nonperfectives like those in (67) and (68) above, repeated in (69a–b), is no different from that of a sentence like the one in (69c). In the latter the aspect marker combines with a simple event-denoting nominal, *ja`al* 'rain'; in (69a–b) it combines with a possessed nominalized clause, *kmele` jiñi waj* 'my making the tortillas' and *kmajlel* 'my going'.

- (69) a. Choñkol [_{DP} k- [mel-e` jiñi waj PRO] *pro*].
 PROG A1- make-DEP DET tortilla 1PRON
 'I'm making the tortillas.'
- b. Choñkol [_{DP} k- [majl-el PRO] *pro*].
 PROG A1 go-NML 1PRON
 'I'm going.'
- c. Choñkol [_{DP} ja`al].
 PROG rain
 'It's raining.'

4.2.3 Distributional evidence

Above in section 4.1 I argued that the nonperfective aspect markers function as syntactic predicates. In this section I provide distributional evidence for the nominalization analysis of complementing stems in the nonperfective aspect. I show that these stems exhibit much of the nominal behavior seen

⁹The fronting of the possessum over the possessor analogous to the obligatory predicate-fronting found in the verbal domain (recall that basic order in Chol is VOS/VS). This gives us the welcome result that while nonperfective clauses are proposed to be nominal, they have the same basic VOS order as perfective clauses. See the discussion in Coon 2010b and section 4.2.4 below, for details and for further parallels between the verbal and nominal domains.

in the complementless forms (see chapter 3.2.2 above). In other respects, they are shown to differ. I demonstrate that these differences are expected based on the independently different structures proposed above for complementless and complementing nominal forms.

Like the complementless nominalizations described above, the complementing (transitive, unaccusative, and passive) nominalizations are able to appear as arguments of predicates (for example in periphrastic causative constructions like (70a)), possessed as in (70b), and may trigger possessor agreement as in (70c). Each is discussed briefly below. In all of the forms in (70)—and with complementing nominalizations more generally—the set A (*genitive*) marker is obligatory, discussed in section 4.4 below.

- (70) a. AS ARGUMENT
 Tyi y-äk'-e-yoñ [k-mek'-ety].
 PRFV A3-give-APPL-B1 A1-hug-B2
 'She made/let me hug you.'
- b. POSSESSED
 Mach uts'aty [a-jats'-oñ].
 NEG good A2-hit-B1
 'Your hitting me isn't good.'
- c. TRIGGERING AGREEMENT
 Choñkol [y_i-ujty-el [k-wuts' jñi pisil]_i].
 PROG A3-finish-NML A1-wash DET clothes
 'I'm finishing washing the clothes.'

In (70a) the stem *kmek'ety* occupies the theme position of the ditransitive stem (discussed in appendix A.4.3). Compare, for instance, the form in (70a) with that in (71).

- (71) Tyi y-äk'-e-yoñ [k-waj].
 PRFV A3-give-APPL-B1 A1-tortilla
 'She gave me my tortilla.'

In (70b) the complementing stem *ajats'oñ* serves as a sentential subject. Here—and in all of the complementing nominals—we find a set A morpheme co-indexing the possessor, in this case a null second person pronoun. Finally, in (70c) we see that in addition to appearing possessed, the complementing stem forms may also serve as grammatical *possessors*, and as such, trigger set A agreement. This construction was discussed for complementless forms in section 3.2.2 above.

Though the complementing forms share the above properties with complementless nominals, unlike the complementless forms the nominalized complementing forms are either impossible or degraded with determiners and adjectives (72a), as complements of the preposition *tyi* (72b), and in agent nominal constructions (72c). The presence or absence of the set A markers does not affect the acceptability of these forms.

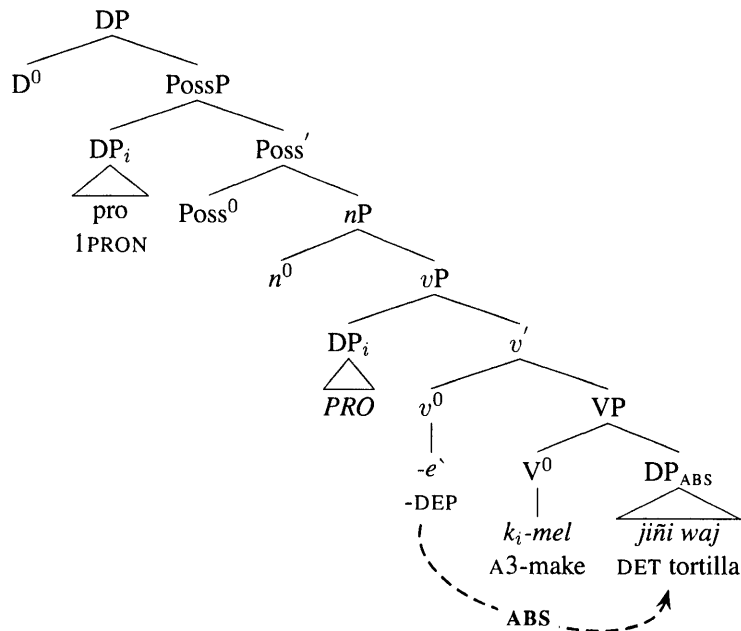
- (72) a. ?? Mach weñ [jñi kabäl a-jats'-oñ].
 NEG good DET a.lot A2-hit-B1
 'A lot of hitting me isn't good.'
- b. * Tyi majl-i [tyi i-k'el jñi wakax].
 PRFV go-ITV PREP A3-watch DET cow
 'He went to look at the cows.'

- c. * [Aj-i-**chuk ili chäy**] jiñi wiñik.
 CL-A3-catch DET fish DET man
 'The man is a catcher of these fish.'

The ungrammaticality of the forms in (72) is a natural consequence of the structures proposed for them above. Recall that a complementing nominalized clause like the one in (73) is proposed to have the structure in (74). A full verb phrase is projected, and is nominalized at a higher level. A possessor is required to control the null PRO subject.

- (73) Choñkol [_{DP} **k-mel-e`** **jiñi waj**].
 PROG A1-make-DEP DET tortilla
 'I'm making the tortillas.'

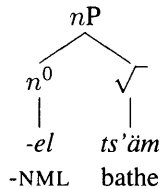
- (74) COMPLEMENTING NOMINALIZATION



Complementless nominals, in contrast, never involve a *vP* layer; the verb roots merge directly with a *n⁰* head. Compare the same string *mel waj* in a complementless incorporation antipassive construction like the one in (75), proposed to have the structure in (76).

- (75) Choñkol-oñ tyi [_{NP} **ts'äm-el**].
 PROG-B1 PREP bathe-NML
 'I'm bathing.'

- (76) COMPLEMENTLESS NOMINAL



If this is correct, we straightforwardly explain the inability of complementing forms to appear with adjectives as in (72a)—adjectives appear below D^0 and thus cannot combine with a form like the one in (74). By stipulating that the D^0 which heads the complementing nominalization must be null, we also account for the strong dispreference for determiners combining with complementing nominalizations. While this is not predicted by anything proposed here, it is independently observed with *poss-ing* type nominalizations in unrelated languages, for example English (Borsley and Kornfilt 2000). Compare, for example, the English forms in (77).

- (77) a. We discussed [this/that/the criticism of the book].
 b. * We discussed [this/that/the criticizing the book].

The fact that (72b) is impossible is connected to an independent fact about Chol, noted above: the preposition *tyi* is unable to appear with full DP complements, as shown in (78). If the complementing nominalizations are full DPs, we thus also explain their inability to appear as complements of *tyi*. (As noted above, if *tyi* is itself an oblique determiner, then this restriction simply amounts to the impossibility of two D heads.)

- (78) Tyi majl-i [tyi (*jiñi) otyoty].
 PRFV go-ITV PREP DET house
 ‘She went to the house.’

Finally, the ungrammaticality of (72c) is also explained by the inability of the clitics to appear on full DPs, as shown in (79).

- (79) Tyi chäm-i [aj- (*jiñi) ts'o`].
 PRFV die-ITV CL- DET turkey
 ‘The turkey died.’

To summarize, like the English *poss-ing* constructions, Chol complementing nominalizations are unable to appear with determiners. The fact that they also do not appear with the preposition *tyi* or as agent nominals is explained by the general impossibility of full DPs in these constructions.

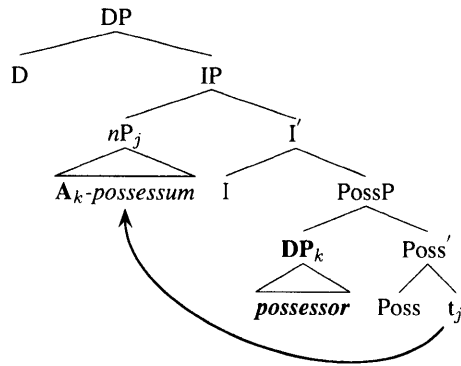
4.2.4 Word order and other CP–DP parallels

To this point I have abstracted away from surface (predicate initial) word order in the structures proposed for clauses in chapter 3 and for nominalizations here. In this section I argue, following the analysis in Coon 2010b, that CPs and DPs share parallel structure in Chol, accounting for the similarities in word order between perfective clauses like (80a), in which the stem represents a verb, and nonperfective clauses like (80b) in which the stem is part of an embedded DP (see Szabolcsi 1983, 1994). These parallels also capture the identical set A marking of transitive subjects and possessors.

- (80) a. Tyi [_{VP} i-k'ux-u chäy jiñi mis].
 PRFV A3-eat-TV fish DET cat
 ‘The cat ate fish.’
 b. Mi [_{DP} i-k'ux chäy jiñi mis].
 IMPF A3-eat fish DET cat
 ‘The cat eats fish.’

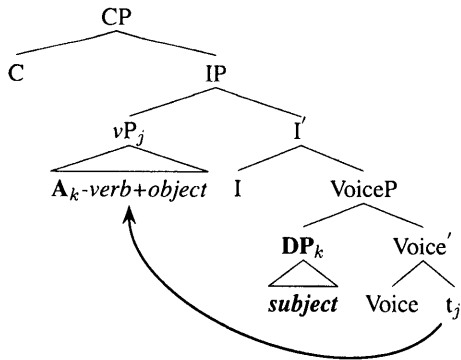
The complementing nominalizations described in the preceding sections—along with other possessive phrases in the language—are proposed to have the structure in (81). I claim, following Sobin (2002), Carstens (2000), and others, that possessors are DPs generated in the specifier of a DP-internal functional projection, which I label PossP. Previous authors have argued that a further functional projection exists between NP and DP (Carstens 2000; Ritter 1988; Duffield 1995). I follow Sobin (2002) in labeling it IP. I propose that the possessum *nP* fronts to Spec,IP in the nominal domain, accounting for the *possessum-possessor* word order in the language. The possessor triggers set A agreement on the fronted *nP*.

(81) CHOL DP



The internal structure of the DP parallels the internal structure of the CP, shown in (82). The transitive subject is merged in a functional projection external to the predicate, here labelled VoiceP.¹⁰ The complement of VoiceP, *vP*, fronts to the specifier of the higher inflectional projection, IP, resulting in Chol's basic VOS word order. Just as the set A "genitive" agreement with the possessor appears on the fronted *nP* above, so too the set A "ergative" agreement with the subject appears on the fronted *vP* in the clause.

(82) CHOL CP



This proposal follows a growing body of literature which claims that certain verb initial languages are the result of fronting of the entire verb phrase (or remnant verb phrase) to a higher

¹⁰Above I generated transitive subjects in the specifier of transitive *v* for the sake of simplicity. In order to achieve the fact that the *vP* fronts above the subject, here I use the projection VoiceP, which in turn selects transitive *vP*. Nothing crucial hinges on either analysis at this point, and below I will continue to generate transitive subjects in Spec,*vP*.

clausal position. See for example Pearson 2001 and Rackowski and Travis 2000 on Malagasy, Massam 2000 on Niuean, Aldridge 2004 on Seediq, and Lee 2000 on Zapotec, among others. In Coon 2010b I propose that a derivational account of Chol word order is preferable to one in which both possessors and transitives subjects are base-generated in right-side specifiers, as argued for Tzotzil in Aissen 1992. Nonetheless, both analyses succeed in capturing the parallels between the clause and the DP, which is the important point for the discussion of split ergativity here.

4.2.5 Summary

Under the analysis proposed in this section, the appearance of aspect-based split ergativity *exactly in complementing forms*, like those in (83), is reduced to the fact that the aspect morphemes in the nonperfective aspects are verbs, plus independently observed properties of Chol grammar. Specifically, we know that all stems which take a DP complement require a verbal *v* head. The transitive in (83a) combines with a full DP object; the intransitive in (83b) is unaccusative and its subject is thus a DP complement. Complementing forms begin as *v*Ps—the roots discharge their internal θ -roles within the (dependent) *v*P.

But we also saw that the nonperfective aspect markers are verbs. As such, they must themselves combine with *D*Ps. Thus in order for a complementing stem to appear with an aspect marker, it must undergo nominalization. The null subjects in the embedded *v*P are controlled by possessors. *Since both transitive and intransitive embedded subjects are controlled PROs, and both PROs are controlled by set A-triggering possessors, we see the appearance of a nominative-accusative system.* I argue that the matrix predicate *mi* follows the language's regular (ergative/Split-S) pattern in showing set B agreement with its single argument, the nominalized clause.

(83) COMPLEMENTING NONPERFECTIVES

- a. Mi [DP a- [VP ch'il jiñi ja`as PRO]].
 IMPF A2- fry DET banana
 'You fry the bananas.'
- b. Mi [DP a- [VP yajl-el PRO]].
 IMPF A2- fall-NML
 'You fall.'

We saw above in section 4.1.3 that the complementless forms—which do not subcategorize for internal arguments—never merge with a *v* head and thus cannot directly merge any arguments. Examples are shown again in (84). The subjects of these sentences are realized on a higher verbal projection: either the nonperfective aspect marker itself in the B-Constructions like (84a), or the light verb *cha`l* as in (84b) (preferred in the perfective aspect, where the former option is unavailable). While complementing forms are analogous to English *poss-ing* nominalizations, complementless forms are bare *n*Ps (see section 3.2 above). The proposed differences between complementing and complementless forms also have consequences for their behavior in embedded clauses in other contexts, seen below.

(84) COMPLEMENTLESS STEMS AND LIGHT VERBS

- a. Choñkol-ety tyi xämbal.
 PROG-B2 PREP stroll
 'You're strolling around.'

- b. Tyi a-cha`l-e xämbal.
 PRFV A2-do-DTV stroll
 ‘You strolled around.’

The main Chol constructions analyzed here are summarized in appendix B for reference.

4.3 NON-ROOT TRANSITIVES

In the above sections we concentrated on the behavior of “root transitives” or underived transitives in embedded and nominal constructions (see chapter 2.2.3 above). Before looking at embedded clauses more generally, we turn briefly to *non-root transitives*. Recall that these include transitive formed with overt derivational morphology, such as causatives and applicatives (85a), as well as roots without any overt derivational morphology which nonetheless show the same morphological profile (85b). The different morphology on these forms give us insight into the nature of these stems in the constructions described below, and confirms portions of the proposal above.

- (85) a. Tyi i-wäy-is-ä ñeñe`.
 PRFV A3-sleep-CAUS-DTV baby
 ‘She made the baby sleep.’
 b. Tyi y-il-ä ñeñe`.
 PRFV A3-sleep-DTV baby
 ‘She saw the baby.’

Recall that embedded/nonperfective root transitives can appear either with incorporated objects, or with full Case-requiring objects. The *incorporation antipassives*, as in (86a), are *complementless*. There is thus no *v* layer and nowhere for an argument to be realized within the DP; instead the subject is merged as an argument of the aspectual predicate. The full transitives appear in the *poss-ing* nominal A-Constructions, as in (86b). Here we have a complementing form which undergoes nominalization before merging with the aspect marker, as discussed in the preceding section.

- (86) a. INCORPORATION ANTIPASSIVE (“B-CONSTRUCTION”)
 Muk` tyi [k`el tele].
 IMPF PREP watch TV
 ‘He watches TV.’
 b. TRANSITIVE (“A-CONSTRUCTION”)
 Mi [i-k`el-(e`) jĩñi tele].
 IMPF A3-watch-DEP DET TV
 ‘He watches the TV.’

The suffix *-e`*—proposed to be an instantiation of a dependent transitive *v*—is impossible on the smaller complementless forms like (86a), but is optional on the larger complementing forms like the one in (86b). Because the phonological realization of this dependent suffix is optional, and because overt determiners are not required in full DPs (see appendix A.6.1), we find forms like the one in (87). With no morphology to tell us otherwise, can we be sure that this is not just an incorporation antipassive with a possessor? That is, does the form in (87) really have the full *poss-ing* nominalization structure proposed above?

- (87) Mi [i-k'el tele].
 IMPF A3-watch TV
 'He watches TV.'

This question is important because the proposal above was that complementing and complementless forms are in *complementary distribution*: all complementless forms are proposed to appear in B-Constructions, while all complementing forms appear in A-Constructions.

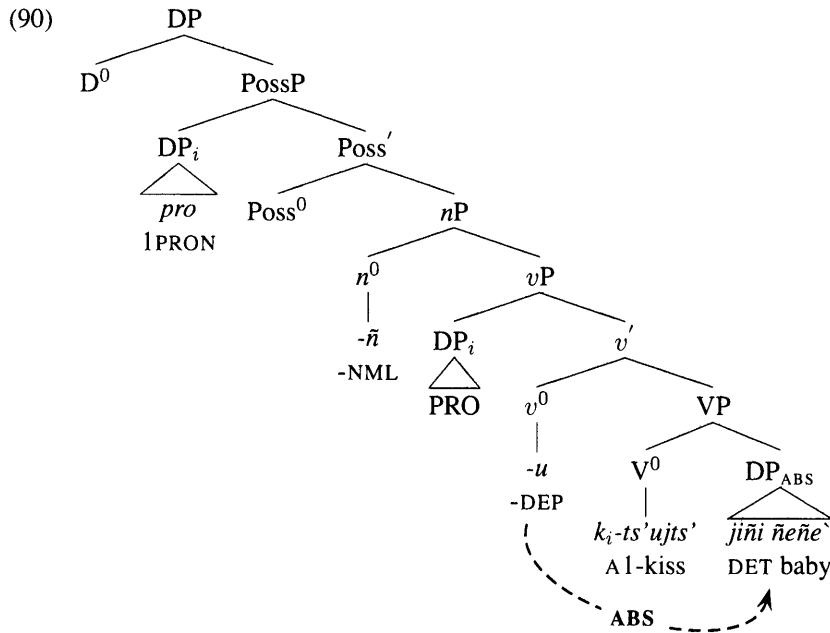
The morphology on derived transitives in embedded constructions provides evidence that forms like (87) are indeed complementing forms. In complementing nonperfective constructions (like (86b) above), derived transitives always appear with *-Vñ* suffixes, as shown by the examples in (88).

- (88) a. Choñkol [k-ts'ujts'-uñ jiñi ñeñe`].
 PROG A1-kiss-D.NML DET baby
 'I am kissing the baby.'
- b. Mi [i-tsāñ-s-añ jiñi wakax].
 PROG A3-die-CAUS-D.NML DET cow
 'He kills the cow.'

I propose that the *-V* of the *-Vñ* suffix is an instantiation of the *v* head which licenses an internal argument; the *-ñ* is a nominalizing suffix. My notes contain at least one instance of a *-Vñ* suffix used in a clearly nominal environment, shown in (89).

- (89) Tyi i-tyaj-a k'am-añ.
 PRFV A3-find-TV sick-NML
 'They became sick.' (lit.: 'They found sickness.') (C.21)

Though further work is needed to determine whether there are other nominalizing *-ñ* suffixes in Chol or in the Mayan family more generally, I take the fact that other nonperfective stems behave distributionally and morphologically as nominals as evidence in favor of this analysis. I gloss the *-Vñ* suffixes which appear on all derived transitives in the nonperfective aspects as 'D.NML' for "derived nominal" and I continue to parse them as a single morpheme for simplicity. The proposed structure of the bracketed form in (88a) is given in (90).



In B-Constructions, and with the light verb *cha`l*, we find the same forms appearing with *-Vyaj* suffixes, as in (91). Here the object must be a bare NP, just as with the incorporation antipassives described above. But note that with these forms, we find an overt realization of the antipassive morpheme.

- (91) a. Choñkol-oñ tyi ts'ujts'-**uyaj** ñeñe.
 PROG-B1 PREP kiss-D.AP baby
 'I'm baby-kissing.' (lit. 'I'm at baby-kissing.')
- b. Tyi i-cha`l-e tsãñ-s-**ayaj** wakax.
 PRFV A3-do-DTV die-CAUS-D.AP cow
 'He cow-killed.' (lit. 'He did cow-killing.')

The *-Vyaj* suffix is analyzed by Gutiérrez Sánchez (2004, 27) as an antipassive, and is cognate with the antipassive suffix *-waj* in Q'anjob'al (Pascual 2007). Here I gloss it 'D.AP' for 'derived antipassive'. In Q'anjob'al, *-waj* antipassives appear with *oblique* objects. In Chol, just as there is no oblique marking on the NP object of an incorporation antipassive form like (86a), there is no oblique marking on the NP object of a *-Vyaj* antipassive in (91b). Again, full DP objects are impossible in both the root incorporation antipassive and here with the derived antipassive:

- (92) * Choñkol-oñ tyi ts'ujts'-uyaj jīñi ñeñe`.
 PROG-B1 PREP kiss-D.AP DET baby
 intended: 'I'm kissing the baby.'

Returning to the question about the status of the form in (87) above, repeated in (93), we find that derived transitives like the one in (94a) always appear with the *-Vñ* suffix found in the *poss*-ing nominalization A-construction, regardless of whether the object has an overt determiner. The *-Vyaj*

antipassive suffix is impossible in this environment, as shown in (94b). By analogy, this suggests that the form in (93) must therefore be a full complementing form, not an incorporation antipassive.

- (93) Mi [i-k'el tele].
 IMPF A3-watch TV
 'He watches TV.'
- (94) a. Mi [i-ts'ujts'-uñ ñeñe`].
 IMPF A3-kiss-D.NML baby
 'He kisses the baby.'
- b. *Mi [i-ts'ujts'-uyaj ñeñe`].
 IMPF A3-kiss-D.AP baby
 intended: 'He kisses a baby.'

The derived transitives are important to the analysis here because they provide overt morphological evidence for the distinction between forms which appear in A-Constructions (complementing), and those which appear in B-Constructions (complementless). While root transitives may appear with no morphology in both types of construction, derived transitives always show *-Vñ* suffixes in contexts where we predict complementing forms, and *-Vyaj* suffixes in complementless constructions. The two forms are correctly predicted to be in complementary distribution.

4.4 THE SYNTAX OF SUBORDINATION

As discussed in section 4.2, nonperfective constructions simply *are* embedded constructions. Note the formal similarities between the clearly embedding forms involving the matrix verb *k'el* 'watch' in (95a) and (96a), and the imperfective constructions in (95b) and (96b).

- (95) COMPLEMENTLESS EMBEDDED FORMS
- a. Tyi i-k'el-e-yoñ [tyi wuts'-oñ-el].
 PRFV A3-watch-TV-B1 PREP wash-AP-NML
 'She watched me washing.'
- b. Muk'-oñ [tyi wuts'-oñ-el].
 IMPF-B1 PREP wash-AP-NML
 'I wash.'
- (96) COMPLEMENTING EMBEDDED FORMS
- a. Tyi i-k'el-e [k-päk'-e` bu`ul].
 PRFV A3-watch-TV A1-plant-DEP bean
 'She watched me planting beans.'
- b. Mi [k-päk'-e` bu`ul].
 IMPF A1-plant-DEP bean
 'I plant beans.'

Despite these similarities, we do find certain differences between the embedding nonperfective aspect markers and other embedding verbs. Specifically, *intransitives* embedded under a

non-aspectual matrix verb typically may *not* appear with set A marking, as shown in (98b). Since intransitive subjects show no marking, embedded clauses like those in (98), do not show the “split” nominative-accusative pattern discussed above. This difference is discussed further below.

(97) PROGRESSIVE

- a. Choñkol [**k-jap** sa`].
 PROG A1-drink *pozol*
 ‘I’m drinking *pozol*.’
- b. Choñkol [**k-majl-el**].
 PROG A1-go-NML
 ‘I’m going.’

(98) OTHER EMBEDDING VERBS

- a. K-om [**k-jap** sa`].
 A1-want A1-drink *pozol*
 ‘I want to drink *pozol*.’
- b. K-om [**(*k)-majl-el**].
 A1-want A1-go-NML
 ‘I want to go.’

In this section I show that embedded complementless and complementing forms, which appear in B-Constructions and regular nonperfective constructions respectively, are identical to those found in embedded clauses elsewhere in the language. Moreover, the different structures proposed for complementing and complementless forms provides insight into their behavior in embedded clauses, discussed in Vázquez Álvarez 2009.¹¹

4.4.1 Finiteness

Vázquez Álvarez (2009, 3) proposes a “scalar analysis of finiteness in Chol”; he discuss three sub-types of embedded clause:

(99) CHOL EMBEDDED CLAUSES

- a. **finite** embedded clauses (with aspectual and person/number inflection)
- b. **less finite** embedded clauses (without aspectual inflection, but with inflection for person/number)
- c. **nonfinite** embedded clauses (neither aspectual nor person/number inflection)

Examples of fully finite embedded clauses are given in (100). Here the embedded clause is introduced with the complementizer *che`*; the embedded clause shows aspect marking, which can be distinct from that of the matrix clause, as in (100b). There is no dependency between the arguments of the matrix clause and those of the embedded clause.

(100) FINITE EMBEDDED CLAUSES

- a. Tyi k-ub-i [che` tyi jul-i-yety].
 PRFV A1-hear-DTV COMP PRFV arrive.here-ITV-B2
 ‘I heard that you arrived here.’ (Vázquez Álvarez 2009, 3)
- b. Tyi k-sub-u [che` mi i-bajb-eñ ts’i` aj-Wañ].
 PRFV A1-say-TV COMP IMPF A3-hit-D.NML dog CL-Juan
 ‘I said that Juan hits the dog.’ (Vázquez Álvarez 2009, 19)

¹¹Thanks to Norvin Richards for many helpful discussions relating to this section.

Fully nonfinite embedded clauses appear in two types of embedded constructions, discussed in more detail below: they either function directly as complements of the matrix clause, as in (101a), or, when no Case is available, they appear as complements to the preposition *tyi*, in (101b). Neither embedded form appears with person/number or aspect morphology; the interpretation of these categories is dependent on the matrix clause.

(101) NON-FINITE EMBEDDED CLAUSES

- a. Tsa`-ix-bi i-tyech-e-yob [**k'e(l) juñ**] i-pi`äl-ob ili semana.
 PRFV-already-REP A3-begin-TV-PL watch paper A3-friend-PL DET week
 'His friends already began to study this week.' (Vázquez Álvarez 2009, 12)
- b. Mi k-il-añ-yety [tyi **wuts-oñ-el**].
 IMPF A1-see-D.NML-B2 PREP wash-AP-NML
 'I see you washing (clothes).' (Vázquez Álvarez 2009, 18)

Finally, we turn to what Vázquez Álvarez 2009 terms "less finite" embedded clauses. Examples are given in (102).

(102) "LESS FINITE" EMBEDDED CLAUSES

- a. Mu-ch k-mul-añ [**j-k'el**].
 IMPF-AFF A1-like-D.NML A1-watch
 'Yes I like to watch it.' (Vázquez Álvarez 2009, 3)
- b. K-om [**k-säk-l-añ** k-wiñik] je` iwä`.
 A1-want A1-search-STAT-D.NML A1-man also here
 'I also want to look for my worker here.' (Vázquez Álvarez 2009, 15)
- c. K-om [**k-chuk-ety**].
 A1-want A1-carry-B2
 'I want to carry you.'

Note that unlike the fully *nonfinite* embedded clauses in (101), the forms in (102) show set A person morphology. But these "less finite" clauses also contrast with the fully *finite* embedded clauses in (100) in that they cannot appear with aspectual morphology as in (103a), and the embedded subject *must* co-refer with an argument of the matrix clause as in (103b). These facts are summarized in table 4.3.

(103) "LESS FINITE" VS. FULLY FINITE EMBEDDED CLAUSES

- a. * Mu-ch k-mul-añ [**mi** j-k'el].
 IMPF-AFF A1-like-D.NML IMPF A1-watch
 intended: 'Yes I like to watch.'
- b. * Mu-ch k-mul-añ [(mi) **a-k'el**].
 IMPF-AFF A1-like-D.NML IMPF A2-watch
 intended: 'Yes I like you to watch.' (Vázquez Álvarez 2009, 3)

Table 4.3: VÁZQUEZ ÁLVAREZ'S (2009) FINITENESS

	aspect	person
nonfinite clause	✗	✗
“less finite” clause	✗	✓
fully finite clause	✓	✓

I propose that *all embedded clauses which are not fully finite are nominal*.¹² Just like other nominal arguments, embedded clauses either receive absolutive Case from the matrix verb, as in (101a), or must be introduced as obliques by the preposition *tyi*, as (101b). The set A marking—the defining characteristic of the so-called less finite forms in (102)—marks the *genitive*. This obligatory marking of set A on certain embedded forms is a direct consequence of the larger structure proposed for these forms. I argue below that the division between *complementing* and *complementless* forms provides insight into the behavior of embedded constructions outside of the nonperfective aspects.

Specifically, I propose that nonfinite embedded clauses correspond to complementless forms, while less-finite embedded clauses are (transitive) complementing forms. This division accounts for the majority of the facts described below. Passives and unaccusatives, however, not presented in detail in Vázquez Álvarez 2009, warrant further discussion. I set these aside for now and work with the idea that there is a strong correlation between complementing/less-finite on the one hand, and complementless/nonfinite on the other. I then return to passives and unaccusatives below.

4.4.2 Non-finite clauses

The nonfinite clauses described by Vázquez Álvarez (2009) appear either as the direct complement of a matrix predicate, or embedded under the all-purpose preposition *tyi* (see chapter A.7.6). What governs this difference? I follow Vázquez Álvarez (2009, 1) in proposing that nonfinite clauses with no preposition occupy the internal argument position of the matrix predicate (though my analysis differs from his in other respects, discussed below). That is, nonfinite clauses not introduced by *tyi* are licensed by abstract absolutive Case from the matrix verb, in the same way as regular direct objects.

In the forms in (104), for example, we see transitive verbs—*om* ‘want’, *mulañ* ‘like’, and *ujil* ‘know’—taking simple nominal complements. These verbs show set A agreement with their subjects and, as expected, are unmarked for set B since the internal argument is third person (here, but not below, I gloss a null set B morpheme for expository sake, but see chapter 2.2.5).

(104) EMBEDDING PREDICATES WITH NOMINAL COMPLEMENTS

- a. K-om-Ø_i [DP waj]_i.
 A1-want-B3 tortilla
 ‘I want tortilla.’

¹²In the terminology of Givón (2001, 26), the fact that all nonfinite embedded clauses are nominal makes Chol (and perhaps all Mayan languages) a “nominalizing” embedding language. In nominalizing languages, also found in the Tibeto-Burman, Turkic, Carib, Quechua, and Uto-Aztecan families, subordinate clauses are nominalized. In Ute (Uto-Aztecan), for instance, the nominality of embedded clauses is manifested via: genitive marking on the subject, a nominal suffix on the verb, and object case-marking of the embedded clause (Givón 2001, 27).

- b. Mi i-mul-añ-Ø_i [DP alaxax]_i.
 IMPF A3-like-D.NML-B3 orange
 ‘She likes oranges.’
- c. Y-ujil-Ø_i [DP la-k-ty’añ]_i.
 A3-know-B3 PL-A1-word
 ‘She knows Chol.’ (lit.: ‘She knows our_{INCL} words.’)

The complex clause constructions in (105) have the same structure: the verb roots appear in a nominal stem form—the same forms we find in the nonperfective aspects—and this nominal serves as the internal argument of the matrix verb. The notional subject of the embedded predicate is co-referential with the set A-marked (external) argument of the matrix clause.

(105) NON-FINITE CLAUSES AS COMPLEMENTS

- a. K-om-Ø_i [DP wäy-el]_i.
 A1-want-B3 sleep-NML
 ‘I want to sleep.’
- b. Mi i-mul-añ-Ø_i [DP k’el tele]_i.
 IMPF A3-like-D.NML-B3 watch TV
 ‘She likes to watch TV.’
- c. Y-ujil-Ø_i [DP mel waj]_i.
 A3-know-B3 make tortilla
 ‘She knows how to make tortillas.’

Turning now to the preposition-bearing forms, we find that *the preposition is required in exactly those cases where the absolutive Case of the matrix verb is already assigned*. Compare the forms in (106). In contrast to the preposition-less constructions in (105), here the matrix predicate assigns absolutive Case to an argument that is not the nonfinite clause. The complementless form thus behaves like any other nominal: in a clause where no Case is available, it must be introduced by a preposition in order to be licensed. In these examples, the notional subject of the nonfinite embedded clause is obligatorily co-referential with the *internal* argument of a transitive matrix clause (106a–b), or the single argument of an intransitive matrix clause (106c–d).

- (106) a. Tyi y-il-ä-yety [PP *(tyi) ts’am-el].
 PRFV A3-see-DTV-B2 PREP bathe-NML
 ‘He saw you bathing.’
- b. Mi i-xik’-oñ [PP *(tyi) wuts’ pisil].
 IMPF A3-order-B1 PREP wash clothes
 ‘She orders me to wash clothes.’
- c. Mach mejl-ety [PP *(tyi) wäy-el].
 NEG be.able.to-B2 PREP sleep-NML
 ‘You can’t sleep.’
- d. Tyi ujty-i [PP *(tyi) uch’-el] jiñi x-`ixik.
 PRFV finish-ITV PREP eat-NML DET CL-woman
 ‘The woman finished eating.’

Omitting the preposition results in ungrammaticality. Compare the monoclausal passive form in (107) with the forms in (106). Again, the verb assigns absolutive Case to the second person pronoun. With no absolutive Case available, the nominal *ch'ajk* must be licensed by the all-purpose preposition.

- (107) PASSIVE
 Tyi jajts'-i-yety [PP *(tyi) ch'ajk].
 PRFV hit.PASV-ITV-B2 PREP lightning
 'You were hit by lightning.'

Above I proposed that the appearance of *tyi* is governed by properties of the matrix predicate—specifically, whether absolutive Case is available for the nominal embedded clause. Note that this is reminiscent of the proposal for the *B-Constructions* discussed in 4.1 above. Here too, the event-denoting nominal stem appears as an oblique because the predicate assigns Case to another argument—specifically, to the argument understood to be the subject of the event-denoting nominal. Compare for instance the embedding form from (106b), repeated in (108a), with the B-Construction imperfective in (108b).

- (108) a. Mi i-xik'-oñ [tyi wuts' pisil].
 IMPF A3-order-B1 PREP wash clothes
 'She orders me to wash clothes.'
 b. Muk'-oñ [tyi wuts' pisil].
 IMPF-B1 PREP wash clothes
 'I wash clothes.'

This brings us to the content of the nonfinite clauses themselves. All of the *complementless* forms described in the chapters above serve as nonfinite clauses: unergative “verbal nouns” like *soñ* in (109a); ambivalent intransitives in their unergative (i.e. *agentive*) function as in (109b); absolutive antipassives like the one in (109c); and incorporation antipassives like (109d).

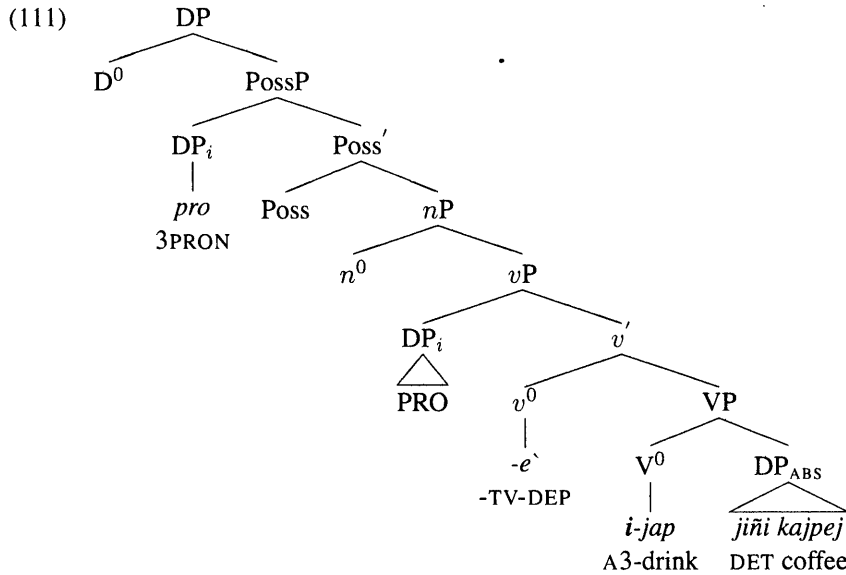
- (109) a. VERBAL NOUN
 Mach mejl-oñ [tyi soñ].
 NEG be.able.to-B1 PREP dance
 'I can't dance.'
 b. UNERGATIVE AMBIVALENT
 Tyi i-xik'-i-yoñ [tyi wäy-el].
 PRFV A3-order-TV-B1 PREP sleep-NML
 'She ordered me to sleep.'
 c. ABSOLUTE ANTIPASSIVE
 Ma`añ mi i-mul-añ [mǎñ-oñ-el].
 NEG.EXT IMPF A3-like-D.NML buy-AP-NML
 'She doesn't like buying.'
 d. INCORPORATION ANTIPASSIVE
 Tyi y-il-ä-yoñ [tyi päk' bu`ul].
 PRFV A3-see-DTV-B1 PREP plant bean
 'He saw me plant beans.'

4.4.3 “Less finite” clauses

Now we turn to the so-called less finite clauses described in Vázquez Álvarez 2009. As noted above, unlike fully finite embedded clauses, these forms may *not* appear with aspect morphology and the subject must be co-referential with an argument of the matrix clause. However, they also differ from the nonfinite clauses just discussed in that the object of a less finite clause is not incorporated (i.e. it can appear with a determiner), and in this case the less finite clause *obligatorily* shows set A morphology co-indexing an argument of the matrix clause. All three types of embedded clause are shown again for comparison in (110).

- (110) a. FINITE EMBEDDED CLAUSE
 Mach y-om [che` mi a-majl-el].
 NEG A3-want COMP IMPF A2-go-NML
 ‘He doesn’t want you to go.’
- b. LESS FINITE EMBEDDED CLAUSE
 Mach y-om [i-jap-e` **jiñi** kajpej].
 NEG A3-want A3-drink-DEP DET coffee
 ‘He doesn’t want to drink the coffee.’
- c. NON-FINITE EMBEDDED CLAUSE
 Mach y-om [jap kajpej].
 NEG A3-want drink coffee
 ‘He doesn’t want coffee-drink.’

Contra Vázquez Álvarez 2009, I propose that the less finite clause in (110b) is, like the nonfinite clause in (110c), formally nominal. These forms differ from fully *nonfinite* clauses in the level at which they are nominalized. Specifically, “less finite” embedded clauses like the one in (110b) are complementing transitives; the nonfinite embedded transitive is a complementless incorporation antipassive form. While the complementless form appears directly in a nominal stem form, the complementing less finite clause begins as a *vP* and is nominalized higher up (cf. Abney 1987). The bracketed form in (110b) has the structure in (111). Again, the root *jap* ‘drink’ projects a VP. The dependent *v* head assigns absolutive case to the object and merges a PRO subject. A nominalizing *n* head is merged, and a higher possessor controls the PRO subject, triggering set A agreement on the nominalized stem (in boldface).



The proposal that the less finite transitives described by Vázquez Álvarez (2009) are all full transitive *complementing* nominalizations offers an explanation for the four main differences found between the embedded complementless forms seen above, and complementing transitive forms.

First, while the complementing form must appear with set A agreement co-indexing an argument of the matrix clause, as in (112), complementless forms do not appear with set A agreement. I propose that it is the null PRO subject in the complementing form in (112), shown in (111), which is responsible for the obligatory set A agreement. The PRO must be controlled by a higher DP, the possessor, which in turn triggers set A agreement on the nominalized verb stem.

- (112) Y-om [*(i)-jap-e` jiñi kajpej].
 A3-want A3-drink-DEP DET coffee
 ‘He wants to drink the coffee.’

Note that we predict that in the pair in (113), which differ only in the presence or absence of set A on the embedded clause, that the “nonfinite” form in (113a) is a complementless form (an incorporation antipassive), while the “less finite” form in (113b) is fully transitive, despite the lack of any overt marking on the embedded object.

- (113) a. Y-om [jap kajpej].
 A3-want drink coffee
 ‘He wants to drink coffee.’
 b. Y-om [i-jap kajpej].
 A3-want A3-drink coffee
 ‘He wants to drink coffee.’

Evidence from the derived transitives, discussed in section 4.3 above, shows this to be correct. Recall that derived transitives appear with a *-Vñ* suffix in complementing constructions, and a suffix

of the form *-Vyaj* in complementless constructions. As predicted by the proposal here, embedded derived transitives with the suffix *-Vñ* require a set A marker. Again, this is true despite any overt evidence for a full DP complement.

- (114) a. *Y-om [tsãñ-s-ãñ wakax].
 A3-want die-CAUS-D.NML cow
 intended: 'He wants to kill a cow.'
- b. Y-om [i-tsãñ-s-ãñ wakax].
 A3-want A3-die-CAUS-D.NML cow
 'He wants to kill a cow.'

Second, the embedded complementing form may optionally appear with the suffix *-e`*, while this same suffix is impossible in complementless nominals. There is no *v* layer in the complementless incorporation antipassive in (115a), so no *-e`* is possible.

- (115) a. K-om [jap-(*e`) kajpej].
 A1-want drink-DEP coffee
 intended: 'I want to drink coffee.'
- b. K-om [k-jap-(e`) kajpej].
 A1-want A1-drink-DEP coffee
 'I want to drink coffee.'

Third, as noted above, while the object of a complementing form may contain a full DP object, shown in (116a), the complementless absolutive antipassive form in (116b) may not. This is because the DP in the form in (116a) is part of a regular verb phrase, which only undergoes nominalization higher up. The DP object receives absolutive case from the dependent *v* head. In the complementless form, in contrast, the roots *jap* and *kajpej* are merged directly into a kind of compound structure. There is no *v* and a full DP object is therefore not licensed.

- (116) a. K-om [k-jap jiñi kajpej].
 A1-want A1-drink DET coffee
 'I want to drink the coffee.'
- b. K-om [jap (*jiñi) kajpej].
 A1-want drink (the) coffee
 'I want to drink coffee.'

Finally, while complementless forms which are embedded by matrix predicates with overt set B marking must be introduced by the preposition, as in (117a), this does not hold for complementing forms like (117b). In fact, the preposition is ungrammatical in (117b).

- (117) a. EMBEDDED COMPLEMENTLESS NOMINAL
 Tyi k-il-ã-yety [tyi mãñ-oñ-el].
 PRFV A1-see-DTV-B2 PREP buy-AP-NML
 'I saw you buying.'
- b. EMBEDDED COMPLEMENTING NOMINAL
 Tyi k-il-ã-yety [(*tyi) a-mel-e` jiñi waj].
 PRFV A1-see-DTV-B2 PREP A2-make-DEP DET tortilla
 'I saw you making the tortillas.'

Note in (118) that it is the presence or absence of the set A marker on the embedded stem—obligatory on complementing forms—that determines whether the form in (117b) is acceptable. The dependent marker *-e`* in (117b) is optional, and the presence or absence of an overt determiner on the embedded object also has no effect on grammaticality, as shown in (118a). The set A marker in the embedded clause must co-refer with the set B marker of the matrix predicate.

- (118) a. Tyi k-il-ä-yety [a-mel waj].
 PRFV A1-see-DTV-B2 A2-make tortilla
 ‘I saw you making tortillas.’
- b. *Tyi k-il-ä-yety [mel waj].
 PRFV A1-see-DTV-B2 make tortilla
 intended: ‘I saw you making tortillas.’

I propose that the difference between the forms in (118) results from the fact that the complementing transitive stem in (118a) receives absolutive Case from the matrix predicate (here the *v* head *-ä*), while the complementless stem in (118b) does not. We begin with (118b).

Recall that antipassive forms like *mãñoñel* in (117a) and *mel waj* in (118b) do not themselves assign a θ -role; they have no complement and thus cannot project the *v* layer needed to merge the agent. The second person set B marker in (118b) co-indexes the internal argument of the matrix verb. (118b), under this analysis, is ungrammatical because the matrix predicate assigns absolutive Case to the second person pronoun (which triggers the second person set B *-ety*). With no absolutive Case remaining, the nominal stem *mel waj* must be introduced by the preposition *tyi* (as in (117a)).

In (118a) the stem *amel waj* is still proposed to be nominal (a *poss-ing* type nominalization), yet the preposition is not only unnecessary, it is ungrammatical (as in (117b)). It is this behavior, coupled with the appearance of the set A marker, which led Vázquez Álvarez 2009 to call these forms *less finite clauses*. Interestingly, however, while the set A marker in the embedded clause in (118a) is obligatory, the set B marking on the *matrix* clause is not. Compare the form in (118a), repeated in (119a), with the equally grammatical form in (119b).

- (119) a. Tyi k-il-ä-yety [a-mel waj].
 PRFV A1-see-DTV-B2 A2-make tortilla
 ‘I saw you making tortillas.’
- b. Tyi k-il-ä [a-mel waj].
 PRFV A1-see-DTV A2-make tortilla
 ‘I saw you making tortillas.’

I suggest that the *-yety* in (119a) is an example of *clitic climbing* (Rizzi 1982; Kayne 1989). In both forms in (119) the complementing transitive stem form receives absolutive Case from the matrix verb. The preposition is not inserted because all Case requirements are satisfied. In (119a) the second person possessor nominal (a null *pro*) triggers set A agreement on the embedded nominal stem, and then “climbs” to attach to the matrix clause. Compare with the Italian examples in (120).

- (120) ITALIAN
- a. Maria **lo** vuole comprare.
 Maria CL.ACC wants to.buy
 ‘Maria wants to buy it.’

- b. Maria vole comprar-**lo**.
 Maria wants to.buy-CL.ACC
 ‘Maria wants to buy it.’ (Rizzi 1982)

Note that this is consistent with the proposal that set B markers are clitics, while set A markers are agreement, as proposed in chapter 2.2.5.

4.4.4 Embedded unaccusatives

Above we observed that *complementless* forms (unergatives and antipassives) correspond to Vázquez Álvarez’s (2009) “nonfinite” embedded clauses (no person marking and no aspect), and transitive *complementing* forms correspond to what he labels “less finite” clauses (person marking but no aspect).

These forms are in complementary distribution. A complementless unergative like *xämbal* ‘stroll’ appears in nonfinite contexts but not “less finite” contexts, as shown in (121). Complementing transitives, in contrast, may not appear as “nonfinite”—they always require person marking, as in (122). Recall that the proposal argued for here is that both Vázquez Álvarez’s “nonfinite” and “less-finite” embedded forms are nominalizations; the set A marking on the “less-finite” forms is genitive, required to control the null PRO subject.

(121) COMPLEMENTLESS FORMS ARE “NONFINITE”

- a. K-om [xämbal].
 A1-want stroll
 ‘I want to stroll.’
- b. *K-om [k-xämbal].
 A1-want A1-stroll
 intended: ‘I want to stroll.’¹³

(122) COMPLEMENTING FORMS ARE “LESS FINITE”

- a. *K-om [wuts’ jĩni pisil].
 A1-want wash DET clothes
 intended: ‘I want to wash the clothes.’
- b. K-om [k-wuts’ jĩni pisil].
 A1-want A1-wash DET clothes
 ‘I want to wash the clothes.’

To this point we have discussed only full *transitives* in the context of “less finite clauses”. Recall, however, that complementing forms include not just transitives like (122b), but also unaccusatives and passives. Indeed, transitives, unaccusatives, and passives all appear with set A marking under the aspectual predicates, as repeated in the examples in (123). Under the proposal that the nonperfective aspect markers are simply embedding predicates, we might expect the same type of behavior under an embedding verb like *-om* ‘want’. However, as the examples in (124) show, while

¹³Some forms like this are grammatical if the possessed complementless forms receive argument nominal interpretations. For instance, the antipassive *māñ-oñ-el* ‘buy-AP-NML’ appearing in place of *xämbal* in this sentence is read as ‘I want my purchases’ and a possessed *uch’-el* ‘eat-NML’ would be read as ‘I want my food’. See section 4.1.4.

the full transitive in (124a) appears with set A marking on the embedded clause, the unaccusative and passive forms in (124b–c) show a different pattern.

- | | |
|--|---|
| (123) UNDER PROGRESSIVE | (124) UNDER 'WANT' |
| a. Choñkol [k-wuts' jiñi pisil].
PROG A1-wash DET clothes
'I'm washing the clothes.' | a. K-om [k-wuts' jiñi pisil].
A1-want A1-wash DET clothes
'I want to wash the clothes.' |
| b. Choñkol [k-majl-el].
PROG A1-go-NML
'I'm going.' | b. %? K-om [k-majl-el].
A1-want A1-go-NML
'I want to go.' |
| c. Choñkol [k-mejk'-el].
PROG A1-hug.PASV-NML
'I'm being hugged.' | c. %? K-om [k-mejk'-el].
A1-want A1-hug.PASV-NML
'I want to be hugged.' |

Some speakers will accept the set A marking on the forms in (124b–c), though all speakers consulted prefer the forms with no set A marking on the embedded clause. The set A marking on the embedded transitive in (124a), however, is required for all speakers. The comparison of the forms in (123) and (124) leave us with two questions: 1. What is the difference between the aspectual embedding predicate *choñkol* and a regular embedding predicate like *-om* 'want'? and 2. What causes set A to be required on the embedded form in (124a), but only marginal in the embedded intransitives in (124b–c)?

While both the progressive predicate *choñkol* in (123) and the embedding verb (*-om* 'want') in (124) are proposed to embed nominal or nominalized stems, note an important difference: the nonperfective aspect markers do not themselves show any person morphology (i.e. do not take semantic subjects) in these constructions, while other embedding verbs do. Compare the forms in (125) and (126) for additional examples. Crucially, the matrix verb 'begin' in (126) takes an external subject, while the progressive in (125) does not.

- (125) a. TRANSITIVE UNDER PROGRESSIVE
Choñkol [k-päk' jiñi bu`ul].
PROG A1-plant DET bean
'I'm planting the beans.'
- b. UNACCUSATIVE UNDER PROGRESSIVE
Choñkol [k-yajl-el].
PROG A1-fall-NML
'I'm falling.'
- (126) a. TRANSITIVE UNDER 'BEGIN'
Tyi k-tyech-e [k-päk' jiñi bu`ul].
PRFV A1-begin-TV A1-plant DET bean
'I began to plant the beans.'
- b. UNACCUSATIVE UNDER 'BEGIN'
Tyi k-tyech-e [yajl-el].
PRFV A1-begin-TV fall-NML
'I began to fall.'

One possibility is that in an unaccusative like (126b), the embedded PRO subject can be controlled by the *matrix* subject and so no possessor is needed in the embedded clause. In contrast, since there is no coreferential matrix subject in the nonperfective in (125b), we would explain the presence of set A marking in nonperfective intransitives. The question would then be why matrix subjects can control unaccusative subjects, but apparently cannot control transitive subjects; in other words, why possessor marking is required on the embedded form in (126a) despite the presence of a coreferential matrix subject. I do not develop this possibility here, but leave this puzzle as a topic for future work.¹⁴

- (127) a. TRANSITIVE UNDER ‘BEGIN’
 Tyi k-tyech-e [k_i-päk’ jiñi bu`ul PRO_i].
 PRFV A1-begin-TV A1-plant DET bean
 ‘I began to fall.’
- b. TRANSITIVE UNDER PROGRESSIVE
 Choñkol [k_i-päk’ jiñi bu`ul PRO_i].
 PROG A1-plant DET bean
 ‘I’m falling.’

Finally, I note a further complication with embedded unaccusatives, found in embedding verbs which do not assign absolutive Case to the nominal embedded clauses. In these constructions we find differences between regular unaccusatives and passives on the one hand, as in (128a), and verbs which denote directed motion on the other, as in (128b).

- (128) a. Tyi y-il-ä-yety [tyi yajl-el] jiñi wiñik.
 PRFV A3-see-DTV-B2 PREP fall-NML DET man
 ‘The man saw you fall.’
- b. Tyi y-il-ä-yety [majl-el] jiñi wiñik.
 PRFV A3-see-DTV-B2 go-NML DET man
 ‘The man saw you go.’

As noted above, in embedding verbs which assign absolutive Case to an argument other than the embedded clause, regular unaccusatives must be introduced by the preposition *tyi*. In this respect, these forms pattern with the complementless embedded clauses discussed in section 4.4.2 above. Verbs of directed motion, like *majl* ‘go’, however, may not appear with the preposition. This might be comparable to the “directional” constructions in discussed in chapter A.7.8 below. I leave the investigation into embedded complementing intransitives as an area for future work.

4.4.5 Summary: Nonperfective predicates revisited

In this section I showed that clauses which clearly involve embedding in Chol are formally identical to nonperfective clauses. Under the proposal laid out here, this is because nonperfective aspect

¹⁴Another possibility is that the embedded PROs can always be controlled from the matrix subject, when a matrix subject is present. Under such an account, we must now explain the obligatory appearance of set A marking on the embedded clause in (126a). One possibility is that the set A marking on embedded transitives co-indexes *ergative*; it is thus not present on unaccusatives because they have no transitive subjects. Under this analysis, an embedded transitive like (125a) might have both *ergative* marking (because the embedded PRO subject would trigger it), and *genitive* marking (because the possessor is needed to control the PRO subject, since there is no matrix subject). A hapology rule would delete one of the set A markers.

markers are themselves embedding verbs. Like other verbs in the language, they must combine with a DP complement (i.e. *v* obligatorily assigns absolutive Case).

Both with the nonperfective aspect markers, and with other embedding verbs, we find that the DP complement may be either a nominalized clause, as in (129), or a referential noun, i.e. a pronoun, as in (130). In the latter case, the nominalized clause must be introduced as an oblique, as absolutive Case has already been assigned. Below I boldface the absolutive Case recipients of the matrix predicates.

(129) MATRIX PREDICATE ASSIGNS ABSOLUTIVE CASE TO A NOMINALIZED CLAUSE

- a. Tyi k-tyech-e [_{DP} **k-wuts' pisil**].
 PRFV A1-begin-TV A1-wash clothes
 'I began to wash clothes.'
- b. Choñkol [_{DP} **k-wuts' pisil**].
 PROG A1-wash clothes
 'I'm washing clothes.'

(130) MATRIX PREDICATE ASSIGNS ABSOLUTIVE CASE TO A REFERENTIAL NOUN

- a. Tyi ujty-i-**yoñ** [_{PP} tyi wuts'-oñ-el].
 PRFV finish-ITV-B1 PREP wash-AP-NML
 'I finished washing.'
- b. Choñkol-**oñ** [_{PP} tyi wuts'-oñ-el].
 PROG-B1 PREP wash-AP-NML
 'I'm washing.'

The above forms differ not only in whether the matrix predicate assigns Case to the bracketed stem or not, but also in whether the bracketed stem is *complementing* (transitive, unaccusative, passive) or *complementless* (unergative, antipassive). Complementing forms begin as full verb phrases before being nominalized and thus project their arguments internal to the nominalization. In the embedded forms in (129), the subject of both transitive and intransitive clauses are controlled PROs. The fact that these PROs are controlled by possessors, and the possessors trigger set A agreement, gives the appearance of an a nominative-accusative pattern. Complementless stems, in contrast, have no *v* layer and their semantic subjects must be realized on a higher predicate: *ujty* in (130a) and *choñkol* in (130b). Before turning to similar patterns in Q'anjob'al Mayan, and then further abroad, I show some further parallels between the aspectual predicates and other verbs, both embedding and not.

Both embedding verbs like *-om* 'want' and the progressive *choñkol* allow their complement to be fronted for a focus interpretation:

- (131) a. K-om wäy-el.
 A1-want sleep-NML
 'I want to sleep.'
- b. Wäy-el k-om.
 sleep-NML A1-want
 'It's sleeping that I want to do.'

- (132) a. Choñkol wäy-el.
 PROG sleep-NML
 ‘Sleeping is happening.’
 b. Wäy-el choñkol.
 sleep-NML PROG
 ‘It’s sleeping that is happening.’

In both cases, this fronting is available only with *complementless* forms. Full transitives as in (133a) and intransitives with set A markers as in (133b) are impossible fronted. I do not have an account of this restriction, though the fact that this is impossible both with *-om* ‘want’ and with the nonperfective markers lends further evidence to the proposal that the nonperfective aspect markers are embedding verbs.

- (133) a. *K-juch’ jiñi ixim k-om.
 A1-grind DET corn A1-want
 intended: ‘It’s grind this corn that I want to do.’
 b. *K-wäy-el choñkol.
 A1-sleep-NML PROG
 intended: ‘It’s sleeping that I want to do.’

The aspectual predicates *mi/muk’* and *choñkol* may *not* combine with the perfective aspect marker *tyi*, as shown in (134a). This is predicted by the fact that stative predicates in Chol are generally unable to appear with aspectual morphology, as shown in (134b). Temporal adverbs must be used instead.

- (134) a. *Tyi [VP-STAT choñkol k-mel waj].
 PRFV PROG A1-make tortilla
 ‘I was making tortillas.’
 b. *Tyi [VP-STAT maystraj-oñ].
 PRFV teacher-B1
 ‘I was a teacher.’

Finally, as with other unaccusative predicates, it is fine to extract arguments *out of* of the nonperfective complements, as shown in the interrogative constructions in (135b–c).

- (135) a. Mi [i-choñ waj x-`ixik].
 IMPF A3-sell tortilla CL-woman
 ‘The woman sells tortillas.’
 b. Maxki_i mi [i-choñ waj t_i]?
 who IMPF A3-sell tortilla
 ‘Who sells tortillas?’
 c. Chuki_i mi [i-choñ t_i x-`ixik].
 what IMPF A3-sell CL-woman
 ‘What does the woman sell?’

The extractability of *maxki* out of what has been proposed here to be a nominal phrase is in fact predicted, as possessors of internal arguments can always undergo extraction in Chol (see Coon 2009 on Chol and Aissen 1996 on Tzotzil), as shown by the example in (136).

- (136) Maxki_i tyi chäm-i [i-wakax t_i]?
 who PRFV die-ITV A3-cow
 'Whose cow died?'

The extraction of the internal argument of *choñ* 'sell' is also not surprising given that the forms in (135) are necessarily complementing (i.e. *chuki* is a full DP). *Chuki* thus originates as the complement of V⁰—not as the complement of a noun. In the terms of Chomsky (1981), the trace of the *wh*-word is thus properly governed and extraction is permitted. Furthermore, as nominals do not generally take complements of any sort in Chol (see chapter 3.3), the fact that the object may also extract, as in (135c), is unproblematic from a language-internal perspective.

4.5 THE CASE OF Q'ANJOB'AL

Above I argued that aspect-based split ergativity in Chol may be reduced to another case of subordination. To conclude our look at split ergativity within the Mayan family, I turn now to Q'anjob'al (Q'anjob'alan), which exhibits all of the possible types of split described by Larsen and Norman (1979) in chapter 2.3 above: subordinate clause, pre-verbal adverbials, and aspect. Q'anjob'al thus provides a nice test case for the suggestion that all splits may be reduced to subordination.

4.5.1 Split ergativity and nonfinite clauses

Examples illustrating Q'anjob'al's basic ergative pattern are given in (137). Note that here the set B morpheme appears suffixed not to the verb stem (as in basic Chol transitives), but on the aspect marker.¹⁵ The set A morpheme, as in Chol, is prefixed to the predicate. The intransitive subject shows only set B marking, as expected in an ergative system.

- (137) Q'ANJOB'AL ERGATIVITY
- a. X-**in** **ha**-mitx'-a'.
 COM-B 1SG A2SG-grab-TV
 'You grabbed me.'
- b. X-**ach** el-toq.
 COM-B2SG exit-DIR
 'You left.'

(Mateo-Toledo 2003a, 2)

Split ergativity in this language has been reported to occur in four contexts, listed in (138) (Mateo-Toledo 2003a; see also Zavala 1992; Raymundo et al. 2000).

¹⁵More information on Q'anjob'al clause structure can be found in Mateo-Toledo 2008.

(138) SPLIT CONDITIONING FACTORS IN Q'ANJOB'AL

1. aspectless complement clauses
2. with the use of aspectual adverbs
3. complements of aspectual verbs
4. the progressive

Examples from Mateo-Toledo 2003a are given in (139), brackets and bold-face are my own. In (139a) we find a split pattern in an embedded clause, similar to what was described for Jakalteq. In (139b) we find a clause-initial adverbial element triggering a split, as seen in Ixil above. In (139c) the split is the result of subordination under an aspectual verb (i.e. the same type of split as (139a)). Finally, in (139d) we find an aspect-based split, as in Chol and languages of the Yucatecan branch. Note that in each of these examples, the single argument of the bracketed predicate is marked with the set A marking, rather than the set B marking in regular ergative-patterning intransitives like the one in (138b)—another instance of the “extended ergativity” seen in the preceding sections.

(139) Q'ANJOB'AL SPLITS

- a. ASPECTLESS COMPLEMENT CLAUSE
Max y-il ix Malin [**ha**-tz'ib'l-i].
COMPL A3S-see NCL Malin A2S-write-ITV
'Maria saw you writing.'
- b. ASPECTUAL ADVERBS
K'ojank'ulal [**ha**-low-i].
slow A2-eat-ITV
'It was slowly that you ate.'
- c. COMPLEMENT OF AN ASPECTUAL VERB
X-lajwi [**ko**-txonj-i].
COMPL-finish A1P-sell-ITV
'We finished selling.'
- d. PROGRESSIVE
Lanan [s-jay naq unin].
PROG A3S-arrive NCL boy
'The boy is arriving.'

(Mateo-Toledo 2003a, 2–3)

Mateo-Toledo argues, in line with the proposal discussed above, that *all* of these splits are in fact instances of subordination, specifically, of *nonfinite* subordinate clauses: “all of the cases of split ergativity are examples of nonfinite subordinate clauses, similar to one of the conditions proposed by Dixon (1994, 104)” (Mateo-Toledo 2003a, 4). He contrasts the apparent split forms in (139a–c) with the minimal or near-minimal pairs in (140). While those in (139) appear with a set A marker, those in (140) take set B marking (an ergative pattern).

- (140) a. Max y-il ix Malin [**hach** tz'ib'l-i].
COM A3SG-see NCL Malin B2GS write-ITV
'Malin saw that you wrote.'

- b. K'ojank'ulal [**hach** low-i].

slowly B2SG eat-ITV

'You ate slowly.'

- c. X-lajwi-tu [**hon** txonj-i].

COM-finish-DEM B1PL sell-ITV

'After this, we'll sell.'

(Mateo-Toledo 2003a, 3)

Mateo-Toledo proposes that the difference in person marking stems from the fact that the subordinate clauses in (139) are all nonfinite, while those in (140) are finite and involve a null completive aspect marker. This difference is important to the argument presented above. Recall that nonfinite clauses are (at least in Chol, and I assume in Q'anjob'al as well) nominalizations. The set A markers thus represent possessors. In a fully finite clause, we would not expect to see this split. A comparison of the translations provided for the forms in (139) and (140) also hints at this difference. Below I review some of the arguments for the differences in finiteness between the above forms.

4.5.2 Evidence for nonfiniteness

The difference in finiteness between the clauses in (139) and (140) is not immediately apparent, but Mateo-Toledo presents evidence in support of this distinction. First, while the complementizer *tol* is impossible in the split clauses in (139)—proposed to be nonfinite—it is optional in ergative-patterning embedded clauses. Compare, for example, the forms in (141).

- (141) a. NON-FINITE EMBEDDED CLAUSE (= "SPLIT")
 Max-Ø y-il ix Malin [*(**tol**) ha-tz'ib'l-i].
 COMPL-B3S A3S-see NCL Malin COMP A2S-write-ITV
 'Malin saw you writing.'
- b. FINITE EMBEDDED CLAUSE (= ERGATIVE PATTERN)
 Max-Ø y-il ix Malin [_{CP} (**tol**) Ø-hach tz'ib'l-i].
 COMPL-B3S A3S-see NCL Malin COMP COMPL-B2S write-ITV
 'Malin saw that you wrote.'

Second, it might be surprising to find no aspect marker on the finite forms in (140). As in Chol, Q'anjob'al distinguishes between so-called verbal and non-verbal predicates (i.e. eventive and stative predicates, see chapter 2.2.3). While verbal predicates appear with aspect morphology and stem suffixes (which vary based on transitivity), non-verbal predicates appear with neither. We thus expect to find aspect morphology in finite clauses involving predicates like those in (140). Mateo-Toledo proposes that in addition to the previously described Q'anjob'al completive morpheme *max*, there exists a *null* completive. As shown in (142), the null completive is compatible with past tense adverbs, but not with present or future adverbs.

- (142) a. Ø Hach jay junab'i.
 COM B2SG arrive last.year
 'You arrived last year.'
- b. * Hach jay yekal/nani.
 B2SG arrive tomorrow/today
 'You'll arrive tomorrow/today.'

(Mateo-Toledo 2003a, 6)

Turning to the cases involving the aspectual adverbs in (139b) and (140b) above, repeated in (143), he proposes that in the “split” example in (143a) *k’ojank’ulal* ‘slow’ serves as the matrix (“non-verbal”) predicate, embedding the predicate *lowi* ‘eat’. Though he does not say this explicitly, we can think of *halowi* ‘you ate’ in (143a) as the argument of the predicate *k’ojank’ulal*.¹⁶ In (143b), in contrast, *k’ojank’ulal* is simply an adverb; *lowi* is the matrix predicate.

- (143) a. PREDICATE [EMBEDDED CLAUSE]
 K’ojank’ulal [**ha**-low-i].
 slow A2-eat-ITV
 ‘It was slowly that you ate.’
- b. ADVERB + PREDICATE
 K’ojank’ulal **hach** low-i .
 slowly B2SG eat-ITV
 ‘You ate slowly.’

Mateo-Toledo offers various pieces of evidence for this analysis. For example, the nonfinite embedded clause can be fronted to a clause-initial focus position, as in (144a), while this is impossible with the finite clause in (144b). Though Mateo-Toledo does not discuss the possibility that these embedded forms are nominalizations, these facts are consistent with such an analysis.

- (144) a. [A **ha**-b’ey] k’ojank’ulal.
 FOC A2SG-walk slow
 ‘It’s how you walk that’s slow.’
- b. * [A **hach** b’ey-i] k’onjank’ulal. (Mateo-Toledo 2003a, 10)
 FOC B2SG walk-ITV slow

Mateo-Toledo concludes that there is nothing deep about Q’anjob’al split ergativity. Rather, as argued for Chol above, it is an epiphenomenon of subordination, which itself is connected to different processes.

Various processes of clausal integration in Q’anjob’al—like complementation, secondary predication, and discourse processes—result in nonfinite clauses (with no aspect marker). These processes involve split ergativity when the nonfinite clause is intransitive. In other words, split ergativity is only found in nonfinite clauses, and the use of nonfinite clauses is the result of syntactic processes like complementation, predication, or discourse factors. (Mateo-Toledo 2003a, 12)

Finally, it is worth noting here that while Mateo-Toledo suggests that the *split* is only found in the intransitive forms (indeed, they are the only ones that show a difference in person-marking between finite and nonfinite clauses), he does not propose that only the intransitives are nonfinite (cf. Larsen and Norman 1979; Bricker 1981). Rather, both transitives and intransitives in the constructions discussed above are nonfinite. Under my analysis, the fact that embedded transitives show the same marking as matrix transitives is a side-effect of the fact that ergative and genitive are identical.

¹⁶Indeed, Mateo-Toledo transcribes a null third person absolutive on *k’ojank’ulal* in this form, which presumably is co-indexed with the embedded clause. I omit null third person absolutive here for consistency.

4.5.3 Non-finite clauses are nominalizations

Mateo-Toledo provides arguments that all apparent splits in Q'anjob'al are connected to nonfinite subordinate clauses. Nonetheless, he makes no explicit proposal about *why* these clauses might give the appearance of a split. Specifically, he does not propose that the nonfinite forms are nominalizations, and that the set A marker is the genitive. Nonetheless, compare the translations he gives to the nonfinite clauses in (145a) with those for the finite clauses in (145b).

- (145) a. [Manaq ha-b'ey] k'ojank'ulal, [a ha-low-i].
 NEG A2SG-walk slow FOC A2SG-eat-ITV
 'It's not your walking that's slow, but your eating.'
 ('No es tu caminar que es despacio, sino tu comer.')
- b. *Manaq hach b'ey-i k'ojank'ulal, a hach low-i.
 NEG B2SG walk-ITV slow FOC eat-ITV
 'It wasn't how you walked that was slow, but how you ate.'
 ('No fue como caminaste lo que fue despacio, sino fue como comiste.')
- (Mateo-Toledo 2003a, 11)

Mateo Pedro (2009b,a) takes this step. He makes two main proposals: 1. nonfinite embedded clauses in Q'anjob'al are nominalizations, and 2. in order to nominalize, a Q'anjob'al verb must first undergo intransitivization. In line with the analysis of Chol above, as well as discussions in Larsen and Norman 1979 and Bricker 1981, Mateo Pedro proposes that the appearance of split ergativity in embedded clauses is due to the fact that the set A marker is in fact marking a possessor: "In this context the split ergative marking on intransitive verb stems follows the regular pattern of ergative possessor marking on nouns that is common in ergative languages" (Mateo Pedro 2009a, 2). I do not discuss his findings in detail, but refer the reader to the original source.

4.6 SUMMARY

I argued in this chapter that the appearance of aspect-based split ergativity in Chol is a direct result of the fact that the nonperfective aspects—in which we find the appearance of a nominative-accusative pattern—are complex clause constructions. The aspect marker serves as the matrix predicate and embeds a nominalized clause. The subjects of both transitive and intransitive nominalized clauses are marked as possessors; the fact that ergative and genitive are identical gives rise to the apparent split. In fact, despite the appearance of a split, Chol follows a consistent pattern of person marking, repeated in the generalization in (146):

- (146) CHOL PERSON MARKING GENERALIZATION
- a. **Set A** marks all external arguments (transitive subjects, unergative subjects, possessors)
 - b. **Set B** marks all internal arguments (intransitive subjects, themes).

The basic analysis for "split" nonperfective forms like those in (147) is shown in (148) (repeated from the introduction above).

- (147) a. Mi i-k'el-oñ **jiñi x`ixik**.
 IMPF A3-watch-B1 DET CL-woman
 'The woman watches me.'
- b. Mi i-ts'äm-el **jiñi x`ixik**.
 IMPF A3-bathe-NML DET CL-woman
 'The woman bathes.'
- (148) a. Mi-Ø_i [_{DP} i- [k'el-oñ PRO_k] **jiñi x`ixik_k**]_i.
 IMPF-B3 A3- watch-B1 DET CL-woman
 lit. ~ 'The woman's watching me happens.'
- b. Mi-Ø_i [_{DP} i- [ts'äm-el PRO_k] **jiñi x`ixik_k**]_i.
 IMPF-B3 A3- bathe-NML DET CL-woman
 lit. ~ 'The woman's bathing happens.'

We began in chapter 3 by looking at the Split-S system in the perfective aspect. Here we found evidence for a division in Chol between those stems that do not combine with internal DP complements (unergatives and antipassives, or “complementless stems”), and those that do (transitives, unaccusatives, and passives, or “complementing stems”). The complementless stems were shown to be formally nominal. I proposed that in Chol, the verbal or verbalizing head *v* is responsible for licensing the internal argument of complementing forms (i.e. assigning them abstract absolutive case). But in Chol not only can *v* assign absolutive, it must. Unergatives and antipassives *never* surface as verbs, but instead appear as nominals. The external θ -roles they assign must be realized as arguments of a higher predicate. Compare again the unergative and unaccusative forms in (149):

- (149) a. UNERGATIVE
 Tyi k-cha`l-e alas.
 PRFV A1-do-DTV game
 'I played.'
- b. UNACCUSATIVE
 Tyi k'oty-i-yoñ.
 PRFV arrive-ITV-B1
 'I arrived (there).'

In chapter 4 we turned to the nonperfective aspects, where we find the appearance of an aspectual split. I showed that the division between complementless and complementing forms is at work here as well. Complementless forms appear in what have been called “raising” constructions, which I call B-Constructions. I argued that these B-Constructions are similar to the light verb constructions. The aspect marker serves as a host to the argument which receives its θ -role from the complementless stem. In the complementing stems, the aspect marker combines directly with a possessed nominalized clause.

- (150) a. COMPLEMENTLESS = B-CONSTRUCTION
 Choñkol-oñ [tyi alas].
 PROG-B1 PREP play
 ‘I’m playing.’
- b. COMPLEMENTING = A-CONSTRUCTION
 Choñkol [j-k’oty-el].
 PROG A1-arrive-NML
 ‘I am arriving (there).’

While the perfective aspect marker shows no predicative properties, the nonperfective aspect markers were shown to combine directly with event-denoting nominals, like *ja`al* ‘rain’ and *k’iñijel* ‘party’. In the B-Constructions, the nonperfective aspect markers also appear directly with non-null set B morphology, impossible on the perfective marker. If the nonperfective aspect markers are verbs, then any stem which combines with them must be nominal. However, we saw above that complementing stems must begin as verbs. Complementing forms in the nonperfective are thus predicted to be analogous to English *poss-ing* type nominalizations. They begin as full verbal projections. The subject of both transitive and intransitive forms are controlled PROs (Anderson 1971). The stems are then nominalized and the PROs are controlled by possessors. The fact that possessors uniformly trigger set A agreement gives the appearance of a nominative-accusative system.

We saw in chapter 2 that this pattern of accusativity in subordinate clauses is not limited to Chol, but is found throughout the Mayan family. While previous authors have suggested that nominalization may be at play in causing these splits, they have proposed that nominalization occurs only in intransitives, or provides only a historical explanation for the splits. I argued above that a nominalization analysis is correct for both intransitives and transitives. A closer look at Q’anjob’al, a language which exhibits all of the splits discussed in Larsen and Norman 1979, lends support to this analysis.

In the following chapter, we will see that this pattern—nonergative alignment appearing in aspects which involve greater structural complexity—is not limited to Mayan, but is seen in unrelated languages spoken around the world. The proposal is that these languages do not show a “split” in the assignment of Case or agreement—all syntactic predicates show an ergative-absolutive pattern. The apparent splits come about as the result of a difference in whether aspectual morphology is encoded in predicates, or is grammaticalized.

CHAPTER 5

BEYOND MAYAN: EXTENDING THE ANALYSIS

The previous two chapters offered a detailed analysis of split ergativity in Chol. There I proposed that the appearance of a nominative-accusative pattern is the result of more complex structure in the nonperfective aspects. We saw that split ergativity in Chol is not the result of a special rule associated with the nonperfective aspects, but rather, that the nonperfective aspects are verbs. This, combined with the following independent facts about Chol, explains the appearance of a nominative-accusative system.

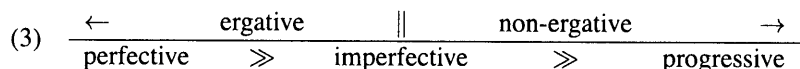
- (1) 1. nonfinite embedded clauses are nominalizations;
2. transitive and intransitive subjects are expressed as possessors; and
3. ergative and genitive are identical

Similar patterns were also discussed in splits in other Mayan languages. Q'anjob'al provided a nice case study, as it shows several different types of splits, all of which have been proposed to involve embedding.

This analysis took us from the nature of verbs, to the assignment of absolutive Case, to the structure of nominalization in the language. The present chapter takes us beyond the Mayan language family, examining aspect-based split ergativity in a variety of unrelated and geographically dispersed languages. In the brief survey below, we see a pattern emerging: in aspects where we find a nominative-accusative alignment pattern (nonperfective aspects), we find evidence for greater clausal complexity. Developing the ideas presented in Laka 2006, I propose that a biclausal analysis of split ergativity—like that for Chol advanced above—explains why we always find the appearance of a nominative-accusative pattern in the nonperfective forms and an ergative pattern in perfective forms (but never vice versa).

As discussed in Dixon 1979, aspectual splits in the world's languages follow a consistent pattern. Specifically, in languages with aspect splits, the ergative pattern will *always* be found in the perfective aspect, and non-ergative (“nominative-accusative”) patterning in nonperfective aspects. As shown in (3), while different languages may make the split in different places along the scale, the split always patterns the same way.

- (2) ASPECT SPLIT GENERALIZATION (DIXON 1994, 99)
If a split is conditioned by tense or aspect, the ergative marking is always found either in the past tense or the perfective aspect.



We begin in section 5.1 by looking at one language that follows this pattern: Basque, described in Laka 2006. Basque makes the split between the progressive and the imperfective; progressive clauses follow a non-ergative pattern, while imperfective and perfective clauses are ergative. Laka argues that the appearance of split ergativity in the Basque progressive is the result of *biclausality*. Specifically, ergative Case is not assigned in the biclausal environments we examine below because we are dealing with a structure in which the matrix verb is *intransitive*—specifically, an intransitive aspectual predicate. In section 5.2 we examine other languages which follow a similar pattern. The proposal is summarized in (4).

(4) SPLIT PROPOSAL

In nonperfective aspects which show “split ergativity”, ergative Case is absent in transitive clauses because the subject is assigned Case not by the lexical verb, but by an intransitive aspectual verb.

The question then becomes: why is it that the nonperfective aspects involve biclausality (and hence splits), while the perfective never does? In section 5.4 I propose, following Laka 2006, Demirdache and Uribe-Etxebarria 2000 (and much prior work), that the progressive and imperfective aspects involve complex structure because they are built on the same type of structure as *locative* constructions. Just as a physical ball can be located *in* a box, the progressive aspect denotes a situation in which the ASSERTION TIME (the time about which an assertion is made) is located *in* the EVENT TIME. This is true not just in the split-patterning languages described here, but in languages around the world (Bybee et al. 1994).

I propose that the perfective aspect never involves this type of locative construction *because there does not exist a preposition appropriate for conveying the correct relation between the assertion time and the event time*. Instead, I suggest that the perfective is in a sense the *default* aspect. Unless otherwise specified, the event is viewed in its entirety, as a whole. Indeed, typological work supports the view of perfective as being in some sense basic or unmarked (Comrie 1976). While the imperfective/progressive aspects can choose whether or not to use lexical prepositional or verbal information (which may eventually become grammaticalized in a language), the perfective never does.

5.1 LAKA 2006 AND SPLIT ERGATIVITY IN BASQUE

Basque is a language isolate spoken in parts of Spain and France. It is head-final and marks morphological case on nominals. The perfective and imperfective constructions in (5) illustrate the ergative case-marking and agreement pattern found in most transitive clauses. The transitive subject *emakume* ‘woman’, appears with the ergative suffix *-k*; absolutive is morphologically unmarked on the objects. The final auxiliary agrees with both the subject (*-u*) and the object (*-d-*).

(5) BASQUE

a. PERFECTIVE

emakume-a-k ogi-ak ja-n d-it-u
 woman-DET-ERG bread-DET.PL eat-PRFV 3ABS-PL-have.3ERG
 ‘The woman has eaten (the) breads.’

b. IMPERFECTIVE

emakume-a-k ogi-ak ja-ten d-it-u
 woman-DET-ERG bread-DET.PL eat-IMPF 3ABS-PL-have.3ERG
 ‘The woman eats (the) breads.’

(Laka 2006, 177)

A contrast is found in the progressive aspect, shown in (6). Here, the subject no longer shows the ergative case marker *k-*. Furthermore, the final auxiliary now agrees *only* with the subject, not with the object.

(6) BASQUE PROGRESSIVE

emakume-a [ogi-ak ja-te-n] ari da
 woman-DET bread-DET.PL eat-NML-LOC PROG 3ABS.is
 ‘The woman is eating (the) bread.’

(Laka 2006, 173)

Laka (2006) proposes that the absence of ergative-patterning in (6) is due to the fact that progressive constructions are *biclausal*: the main verb is *ari*, which takes a locative PP complement. The stem *jaten* in (6) involves a nominalizing suffix *-te* (also *-tze*), and a prepositional suffix *-n*. Under this analysis, *emakumea* ‘the woman’ does not take ergative marking because it is the single argument in its clause. Furthermore, this analysis explains the differences in agreement. The progressive auxiliary does not agree with the object *ogiak* ‘bread’ because it is not in the same clause.

5.1.1 *ari* as a verb

The Chol nonperfective morphemes are not traditionally treated as verbs, though I have argued above for their verbal nature. Laka notes that in Basque, on the other hand, the idea that the progressive *ari* is a verb is not new, but is in fact the predominant view within traditional studies of Basque grammar. Laka writes that in the Michelena 1987 dictionary—“the most comprehensive dictionary of the language available so far”—*ari* is translated as “to be engaged in, to be busy” (*ocuparse, estar en actividad*); Hualde and Ortiz de Urbina (1987) also argue in detail for the verbal nature of *ari*. The Chol B-Constructions, repeated in (7), also lend themselves to comparison with English *be engaged in*.

(7) CHOL “B-CONSTRUCTIONS”

- a. Choñkol-oñ [tyi ts’äm-el].
 PROG-B1 PREP bathe-NML
 ‘I’m bathing.’ (lit. ~ ‘I’m engaged in bathing.’)
- b. Muk’-ety [tyi k’ay].
 IMPF-B2 PREP song
 ‘You sing.’ (lit. ~ ‘You engage in song.’)

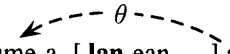
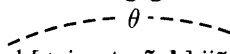
Note the striking similarities between the Basque progressive repeated in (8a) and the Chol B-Constructions in (8b). The differences stem largely from independent typological properties of the two languages: Chol is head-initial (and verb initial), while Basque is head-final; Chol is head-marking, while Basque is dependent-marking. Nonetheless, in both languages the encyclopedic information is carried in a stem which is both nominal, and subordinated in a locative phrase. (Recall from chapter 3.2.2 that the Chol “incorporation antipassives” like *k'ux waj* do not show overt nominalizing morphology, but behave distributionally with nominals, not with predicates.)

- (8) a. BASQUE
 emakume-a [ogi-ak ja-te-n] ari da
 woman-DET bread-DET.PL eat-NML-LOC PROG 3ABS.is
 ‘The woman is eating (the) bread.’ (Laka 2006, 173)
- b. CHOL
 Choñkol [tyi k'ux waj] jiñi x-`ixik.
 PROG PREP eat tortilla DET CL-woman
 ‘The woman is eating tortillas.’

As further support for the verbal analysis of *ari*, Laka notes that this Basque progressive marker can combine with a PP that does not contain a clause, but simply an event-denoting nominal like *lan* ‘work’ in (9). The is true for Chol, as shown in (9b), where the form *troñel* is a borrowing from Spanish (*trabajar* ‘to work’) and behaves like other verbal nouns in never inflecting directly (i.e without derivational morphology) as a verb. In fact, according to the proposal above, all *complementless* forms are event-denoting nominals which do not take arguments.

- (9) a. BASQUE
 emakume-a [lan-ean] ari da
 woman-DET work-LOC PROG is
 ‘The woman is engaged in work.’ (Laka 2006, 179)
- b. CHOL
 Choñkol [tyi troñel] jiñi x-`ixik.
 PROG PREP work DET CL-woman
 ‘The woman is engaged in work.’

Crucially, in both Chol and Basque the subject—‘the woman’ in the examples above—receives its θ -role and is Case-licensed *not* from the embedded nominal verb form (i.e. *lanean* or *troñel* in (9)), but from the progressive verb, *ari* in Basque and *choñkol* in Chol (the Chol imperfective *muk* behaves the same way). This is illustrated in (10).

- (10) a. 
 emakume-a [lan-ean] ari da
 woman-DET work-LOC PROG is
 ‘The woman is engaged in work.’ (Laka 2006, 179)
- b. 
 Choñkol [tyi troñel] jiñi x-`ixik.
 PROG PREP work DET CL-woman
 ‘The woman is working.’

Again, under this analysis the subjects *are not transitive subjects*, and we thus do not expect them to receive the morphological ergative marker *-k* (in Basque), nor to trigger ergative/set A agreement (in Chol). Instead, they behave just like other intransitive subjects in the language. In Basque, intransitive subjects are morphologically unmarked for case, and in Chol intransitive subjects trigger absolutive (set B) marking on the predicate. In (10b) this is null third person, but as discussed in chapter 4.1.3, overt first or second person marking can also appear on the aspectual predicates.¹

5.1.2 Summary

To summarize, though Chol and Basque differ in several key respects—predictable from independent properties of the languages—we find striking similarities in the portions of the grammar which have been described as showing “split ergativity”. Specifically, the places in the grammar where we find an absence of ergative marking are exactly those constructions which are argued to be biclausal, or to involve more complex structure.²

Laka (2006, 174) proposes that an analysis in which Basque progressives are in fact biclausal “derives an apparent case of split ergativity without resort to the notion of a ‘case split’. That is, without *necessarily* assuming that a change to an accusative pattern has taken place.” This parallels the discussion of Chol above, in which the the main predicate in nonperfective constructions shows the expected ergative pattern, and the appearance of accusativity is connected to the fact what has been analyzed as the verb is actually a subordinated nominal.

In the nonperfective aspects Chol has recourse to two types of constructions: B-Constructions in (11) and the A-Constructions in (12). In both constructions, the syntactic predicate is the aspectual morpheme *mi/muk'* (imperfective) or *choñkol* (progressive). In the B-Constructions, found with *complementless* forms, the (unaccusative) aspectual predicate agrees with the notional subject; the nominal verb stem is the nominal complement in a PP.

(11) CHOL COMPLEMENTLESS NONPERFECTIVES (B-CONSTRUCTIONS)

- a. Muk'-oñ_i [PP tyi jap kajpej] [DP *pro*]_i.
 IMPF-B I PREP drink coffee I PRON
 ‘I drink coffee.’ (lit. ~ ‘I’m (habitually) engaged in coffee-drinking.’)
- b. Muk'-oñ_i [PP tyi wäy-el] [DP *pro*]_i.
 IMPF-B I PREP sleep-NML I PRON
 ‘I sleep.’ (lit. ~ ‘I’m (habitually) engaged in sleeping.’)

In the nonperfective A-Constructions found with *complementing* forms, the aspectual predicate combines directly with a possessed nominalized clause. The fact that both transitive and intransitive subjects are PROs controlled by higher set A possessors gives the appearance of a nominative-accusative pattern.

¹Above I proposed that the *tyi*-phrase in a Chol B-Construction is an adjunct, while Laka proposes that the Basque locative phrase in a progressive construction is a complement. This difference may again be attributed to independent features of the languages in question, namely, Chol *tyi*-phrases are never selected as complements.

²Note that if the Chol B-Constructions involve adjuncts, it may not be strictly correct to call them “biclausal”. Nonetheless, I continue to use this term to indicate that the lexical verbal information is separated from the syntactic predicate of the clause, here the aspect marker.

(12) CHOL COMPLEMENTING NONPERFECTIVES (A-CONSTRUCTIONS)

- a. $\boxed{\text{Mi}}$ - \emptyset_i [_{DP} k-jap-e` kajpej]_i.
 IMPF-B3 A1-drink-DEP coffee
 ‘I drink coffee.’ (lit. ~ ‘My drinking coffee happens.’)
- b. $\boxed{\text{Mi}}$ - \emptyset_i [_{DP} k-wäy-el]_i.
 IMPF-B3 A1-sleep-NML
 ‘I sleep.’ (lit. ~ ‘My sleeping happens.’)

Again, the use of one construction or the other in Chol has been shown to be tied to *transitivity*: namely, the presence or absence of a verbal complement. Basque apparently does not make this distinction, and uses the equivalent of the B-Construction for both full transitives like (13a) and bare embedded nominals as in (13b), repeated from (9a) above.

(13) BASQUE

- a. emakume-a- \emptyset [_{PP} PRO ogi-ak ja-te-n] $\boxed{\text{ari}}$ da
 woman-DET-ABS bread-DET.PL eat-NML-LOC PROG 3ABS.is
 ‘The woman is eating (the) bread.’ (Laka 2006, 173)
- b. emakume-a- \emptyset [_{PP} lan-ean] $\boxed{\text{ari}}$ da
 woman-DET-ABS work-LOC PROG is
 ‘The woman is engaged in work.’ (Laka 2006, 179)

Despite this difference, under both of these analyses, Chol and Basque are morphologically ergative through and through. The appearance of splits is tied to more complex structure: some aspect markers are verbs resulting in more complex clausal structure, as illustrated in (14).

←	simple clause		complex clause	→
←	ergative		non-ergative	→
perfective	>>	imperfective	>>	progressive

Specifically, the aspect markers are unaccusative predicates which are responsible for the assignment of Case (*absolutive*) and θ -roles to the subjects. In Basque this is found in the progressive, in Chol in both the progressive and the imperfective.

5.2 BEYOND BASQUE

The pattern described above, namely, the correlation between 1. non-ergative patterning in an otherwise morphologically ergative language, and 2. biclausality, is not limited to Mayan and Basque, an already disparate grouping. In this section I explore other languages which have been described as having aspect-based split ergativity. In some cases, a biclausal analysis is straightforward, while in others it is less clear but still possible. I discuss each case in turn below.

Again, we will find that different languages make their splits in different places along the scale in (14) above, but the split consistently patterns the same way. That is, biclausality is found in the nonperfective aspect(s). After looking at various languages in the sections that follow, I turn in section 5.4 to a possible grammatical motivation for the fact that progressive and sometimes imperfective aspects are frequently encoded as verbs, while perfective is not.

5.2.1 Nakh-Daghestanian

We begin by looking at what are labeled “biabsolutive” constructions in Nakh-Daghestanian languages, also known as Northeast Caucasian languages. These languages are spoken in the Russian republics of Daghestan, Chechnya, and Ingushetia, in northern Azerbaijan, and in northeastern Georgia (Kazenin 2002; van den Berg 2005).

Nakh-Daghestanian languages have basic SOV order and show an ergative-absolutive pattern of case marking on nominals. Ergative case is morphologically marked, while the absolutive is unmarked. The verb agrees with the absolutive argument in gender and number (Forker 2010). Examples from Archi (Lezgetic branch) and Tsez (Tsezic branch) are given in (15). Numerals indicate grammatical noun classes.

(15) ERGATIVE CONSTRUCTION

a. ARCHI (LEZGIC)

buwa-**mu** xx^walli_i b-ar-ši b-i_i
 mother-ERG bread(III) III-make-PTCP III-be
 ‘Mother is baking the bread.’

(Kibrik 1979, 67)

b. TSEZ (TSEZIC)

už-ā čorpa_i b-iš-xo_i
 boy(I)-ERG soup(III) III-eat-PRES
 ‘The boy is eating soup.’

(Maria Polinsky, p.c.)

Forker (2010) reports that languages in all branches of the Nakh-Daghestanian family also possess *biabsolutive constructions* (BCs), as exemplified in (16). Though the individual languages vary in how these constructions are expressed, they are so named because both A and P arguments are in the unmarked absolutive form; the A is not marked ergative, as in the regular transitive constructions in (15). Crucially, BCs are always in the imperfective aspect. The verbal predicate is composed of a nonfinite lexical verb (in participle form, abbreviated ‘PTCP’, also called a “converb” in the Nakh-Daghestanian literature) and a copula. Unlike the transitives in (15), the copula of the biabsolutive agrees with the *A argument*.

(16) BIABSOLUTIVE CONSTRUCTION

a. ARCHI

buwa_i xx^walli b-ar-ši d-i_i
 mother(II) bread(III) III-make-PTCP II-be
 ‘Mother is baking the bread.’

(Kibrik 1979, 69)

b. TSEZ

uži_i čorpa b-iš-xosi Ø-ič-āsi_i yoł
 boy(I) soup(III) III-eat-PTCP I-stay-PTCP be.PRES
 ‘The boy is eating soup.’

(Maria Polinsky, p.c.)

Note that the pairs in (15a)/(16a) and (15b)/(16b) receive the same English translations. Nonetheless, there are important differences between the two constructions. Forker notes:

Not all grammars are explicit in describing the semantics of the BCs. But if mentioned, the authors are quite unanimous. The typical functions of the BCs are agent

topicalization and its counterpart patient demotion. The agent is the semantic centre of the construction. (Forker 2010, 4)

She gives examples from Ingush (Nakh branch), noting that the ergative construction “has the meaning of a typical past progressive, describing a concrete on-going action at a certain point in the past”, while the biabsolutive in (17b) has a meaning closer to “‘Our mother was one of the people who could make homespun’, that is, a property of the agent rather than the performed action is described.”

(17) INGUSH (NAKH)

a. ERGATIVE CONSTRUCTION

txy naanaz maasha b-ezh b-ar
 1PL.EXCL.GEN mother.ERG homespun(B) B-make.PTCP B-PROG.PST
 ‘Our mother was making homespun (i.e. when I came in).’

b. BIABSOLUTIVE

txy naana maasha b-ezh j-ar
 1PL.EXCL.GEN mother(J) homespun(B) B-make.PTCP J-PROG.PST
 ‘Our mother made/used to make homespun.’ (Johanna Nichols, p.c. to Diana Forker)

In addition to being topicalized, the A argument is typically animate in BC constructions. Forker (2010, 7) notes of the following pair from Lak that while the ergative construction in (18a) is fine, consultants reject the BC in (18b), with the explanation that it sounds like the wind is acting volitionally on the door.

(18) LAK (LAK-DARGI)

a. mural nuz t’it’-l-ej d-u-r
 wind.ERG door(IV) open-DUR-PTCP IV-AUX-3SG
 ‘The wind is opening the door.’

b. *mar nuz t’it’-l-ej b-u-r
 wind(III) door(IV) open-DUR-PTCP III-AUX-3SG
 intended: ‘The wind is opening the door.’

(Forker 2010, 7)

Note the interesting parallel between the BCs and similar constructions in Chol and English. The Chol B-Constructions are only possible with unergatives and antipassives, and the subjects must be interpreted as volitional (see chapter 4.1.3). As noted above, analogous facts are found in English *engaged in* forms. In (19a–b) the *engaged in* construction seems to imply that the subject was a volitional actor in the event, for instance by acting in a play.

- (19) a. # I was engaged in falling.
 b. # I was engaged in being attacked.

Bybee et al. (1994) note that the tendency for progressive subjects to be agents is a common pattern, and suggest that this is connected to the parallels between progressive and locative constructions, discussed further in section 5.4 below:

[I]f the original function of the progressive periphrasis is to give a location, then the activities expressed by the main verb must be overt and have a characteristic location. The implication of the subject being located in the midst of this activity is that *the subject is actively involved, probably originally as the agent in the activity*, but perhaps later extended to predicates in which the subject is an experiencer. (Bybee et al. 1994, 135) (emphasis added)

This suggests further that the less grammaticalized a progressive construction is (i.e., the more it resembles a contemporary locative construction), the more likely we might be to find the construction restricted to agents. Compare the English forms in (19), for instance, with the fully grammaticalized progressive ‘I was falling’, in which there is no implication that the subject is an agent. I set this question aside, but note that the similar restrictions over Chol, Nakh-Daghestanian, and English subjects in “engaged in”-type constructions is suggestive of a common grammatical source.

Further parallels with Nakh-Daghestanian BCs and Chol B-Constructions are found with the P argument, the semantic patient or theme. Forker writes that in Hinuq and Bezhta (Tsezic) that spontaneously uttered BCs always have indefinite bare plural objects (Forker 2010, 4); in Chol B-Constructions, P arguments are always incorporated. In a similar vein, Polinsky and Comrie (2002) note that in Tsez the P argument of a biabsolutive construction is not available for relativization or topicalization. Again, this is true of Chol B-Constructions.

(20) TSEZ

- a. uʒ-ā keč'-gon qaʎi-x yoʃ
 boy-ERG song-TOP sing-IMPF.PTCP be.PRES
 ‘As for the song, the boy is singing it.’
- b. *uʒi keč'-gon qaʎi-x yoʃ
 boy song-TOP sing-IMPF.PTCP be.PRES
 intended: ‘As for the song, the boy is singing it.’

(21) CHOL

- a. Jiñi ixim choñkol i-juch' aj-Doris.
 DET corn PROG A3-grind DET-Doris
 ‘As for the corn, Doris is grinding it.’
- b. *Jiñi ixim choñkol tyi juch' aj-Doris.
 DET corn PROG PREP grind DET-Doris
 intended: ‘As for the corn, Doris is grinding it.’

Indeed, Polinsky and Comrie (2002) and Forker (2010) show that while word order is otherwise quite free in the languages, *no* lexical material may intervene between the P argument and the participle in a biabsolutive. In (20b), for instance the string *keč'gon qaʎix* ‘song sing’ forms an inseparable unit. This constraint is not found with the ergative constructions.

Kazenin (1998, 2001) and Kazenin and Testelec (1999) (as cited in Forker 2010) propose that biabsolutive constructions are *biclausal*. The stem containing the encyclopedic verb meaning, together with the P argument, forms a subordinate clause, while the agent and auxiliary form the matrix clause. Ergative constructions, in contrast, are monoclausal. This analysis is illustrated for the Tsez forms in (22), repeated from (15b) and (16b) (brackets my own).

(22) TSEZ

a. ERGATIVE

už-ā čorpa_i b-iš-xo_i
 boy(I)-ERG soup(III) III-eat-PRES
 ‘The boy is eating soup.’

b. BIABSOLUTIVE

uži_i [čorpa b-iš-xosi] Ø-ič-āsi_i yoł
 boy(I) soup(III) III-eat-PTCP I-stay-PRT be.PRES
 ‘The boy is eating soup.’

(Maria Polinsky, p.c.)

As with the Basque progressive in section 5.1 above, a biclausal analysis of these forms explains the case and agreement facts. Specifically, the subject in (22b) does not receive ergative case marking because it is not a transitive subject; it is the subject of the auxiliary verb. The auxiliary agrees with its absolutive argument, *the boy*, while the participle agrees with its absolutive argument, *the soup*. The ergative construction in (22a), in contrast, is a monoclausal transitive construction in which the transitive subject receives ergative marking and the verb agrees with the absolutive P argument.

Polinsky and Comrie (2002) analyze these constructions not as a matrix verb with an embedded clause (as Laka does for Basque), but as a monoclausal construction with the patient+participle unit functioning as a locative-type adjunct (like the analysis proposed for the Chol B-Constructions above). I do not go into the details of either analysis here (see also Forker 2010 for an alternative proposal), but note that in either case, the main issue that we are concerned with here—that the A argument does not receive ergative case marking, resulting in the apparent “split”—is reduced to the fact that these constructions involve an aspectual verb.

5.2.2 Jê: Mēbengokre & Kīsêdjê

Mēbengokre

In this section we turn to two languages of the Brazilian Amazon: Mēbengokre and Kīsêdjê (also known as Suyá). Mēbengokre belongs to the northern branch of the Jê family and is spoken in central Brazil by the Xikrin and Kayapó nations. Mēbengokre is a head-final language which displays the appearance of split ergativity in its system of pronominal case marking. The basic pattern is shown in (23) and (24). In (23) we find both first person subjects marked with the pronoun *ba*; in (24a) the transitive subject takes a special form, distinct from the intransitive subject.

(23) NOMINATIVE PATTERN

a. ba ku-kwũr
 1NOM 3ACC-break.SG.V
 ‘I broke it.’
 b. ba tẽ
 1NOM go.SG.V
 ‘I went.’

(24) ERGATIVE PATTERN

a. ije kwũr
 1ERG 3.break.SG.N
 ‘I’ve broken it.’
 b. i-tẽm
 1ABS-go.SG.N
 ‘I’ve gone.’ (Salanova 2007, 16)

The forms in (23) and (24) differ in temporal interpretation (perfective in (23) versus perfect in (24)), but the split is more complicated than this. Salanova (2007) argues that the nominative-accusative

pattern is found with all *verbs*, while ergativity is found in the nominal domain. This makes Mēbengokre similar to more familiar languages like English and German, which also show ergative-patterning in marking arguments of nominalizations (see chapter 1.2 above), with the difference that in Mēbengokre, nominalizations are used in a wider range of environments.

In Mēbengokre, ergative-patterning nominal forms are also found in: embedded clauses (25a); a “prospective” aspect construction (25b); clauses with adverbial modification (25c); and negated clauses (25d) (Salanova 2007, 57). Salanova argues that all of these should be analyzed as instances of subordination.

- (25) a. ba [kute tɛp krɛn] pumū
 1NOM 3ERG fish eat.N see.V
 ‘I saw him eating fish.’
 b. arɣm [kute tɛp krɛn] mā
 already 3ERG fish eat.N to
 ‘He’s already about to eat fish.’
 c. [kute tɛ krɛn] mej
 3ERG fish eat.N good
 ‘He eats fish properly.’
 d. [kute tɛp krɛn] ket
 3ERG fish eat.N NEG
 ‘I haven’t eaten fish.’

(Salanova 2007, 56–57)

Returning to the ergative-patterning perfect forms in (24), Salanova argues that these too are in fact embedded, here by a null existential copula. He notes that nominal stems in the language are ambiguous between matrix clause readings, and argument nominal readings, as shown by the form in (26). When they have a perfect interpretation, there is a null copula present. See Salanova 2007 for further details and arguments in support of this analysis.

- (26) kute arɛp
 3ERG hear.N.SG
 a. ‘(S)he has said.’
 b. ‘(The event of) her saying it’

The overall picture is thus one in which embedded nominalizations show an ergative-absolutive pattern, while matrix clauses (i.e. the perfectives in (23)) show a nominative-accusative pattern.³ Salanova (2007) notes one portion of the grammar that does not initially appear to line up neatly

³Initially, this seems to be the opposite of what was proposed for Chol above. Namely, in Chol we find ergativity in matrix (i.e. perfective) clauses and the appearance of a nominative pattern in nonperfective clauses, which were argued to involve embedding.

I argue that Chol nonperfectives do not constitute a contradiction to the generalization that ergativity is found in nominalizations. The difference between Chol and Mēbengokre is that in Chol, the subject arguments of the embedded stem are PROs, controlled by higher possessors. The fact that both the transitive and intransitive subjects are PRO—expected in an ergative language—gives the appearance of a nominative system. *Nonetheless, the assignment of Case in Chol does not follow a nominative pattern.* That is, we still consider the embedded transitive subject in (ia) to be an ergative subject, and the embedded intransitive subject in (ib) to be an absolutive subject. (Indeed, the appearance of a semantically intransitive form a construction like (ib) versus an B-Construction connects to the assignment of absolutive Case, as discussed in chapter 4.)

with the nominal=ergative/verbal=nominative pattern: the progressive. Examples of Mēbengokre progressives are given in (27). Here we see that the stem carrying the encyclopedic verbal information—*krēn*—is in its nominal form, but the subject nonetheless appears as a nominative pronoun.

(27) MĒBENGOKRE PROGRESSIVES

- a. ba [tɛp krēn ɔ=] jĩ
 1NOM fish eat.N INSTR= sit.SG.V
 ‘I’m eating fish (sitting down).’
- b. ba [tɛp krēn ɔ=] mō
 1NOM fish eat.N INSTR= go.PL.V
 ‘I’m eating fish (gradually).’
- c. ba [tɛp krēn ɔ=] dʒa
 1NOM fish eat.N INSTR= stand.SG.V
 ‘I’m eating fish (standing).’

(Salanova 2007, 60)

The now-familiar proposal is that the first person subjects in the forms in (27) are not subjects of *krēn* ‘eat’, but rather are subjects of a higher verb, usually a verb denoting motion or position. The embedded nominal form is subordinated by an instrumental postposition (Salanova 2007, 59). The proposal is that the subject receives nominative case and a θ -role from the higher verb. Indeed, this verb contributes not only a progressive reading, but also indicates the motion or position of the subject. Salanova (2007, 62) discusses the parallels between the Mēbengokre progressive and the Basque *ari* progressive, and concludes that Laka’s biclausal proposal may be extended to account for the Mēbengokre facts.

As further support, Reis Silva (2006) demonstrates the appearance of the nominative subject is dependent on the auxiliary being in its verbal form. Compare the pair in (28). In (28a) the matrix stem is in its verbal form and the subject is nominative; in (28b) the matrix stem is in its nominal form, and the subject is ergative.

- (28) a. ga tɛp krēn ɔ dʒa
 2NOM fish eat.N INSTR stand.SG.V
 ‘You are eating fish.’

(i) CHOL NOMINALIZATIONS ARE STILL ERGATIVE

- a. Mi [i- [PRO_{ERG} mek'-ety_{ABS}] jĩni x-`ixik_{GEN}].
 IMPF A3- hug-B2 DET CL-woman
 ‘The woman hugs you.’
- b. Mi [i- [PRO_{ABS} majl-el] jĩni x-`ixik_{GEN}].
 IMPF A3 go-NML DET CL-woman
 ‘The woman goes.’

While in Mēbengokre we find a nominative pattern in matrix clauses and an ergative pattern in embedded nominalizations, in Chol we find that verbs—whether they are nominalized higher up or not—always show an ergative pattern. Chol nominals (that is, those that are not nominalized verbs) do not take arguments, and we thus cannot evaluate whether they also follow an ergative pattern. See Salanova 2007 (and works cited therein) for a proposal regarding the appearance of ergativity in nominalizations, and Coon and Salanova 2009 for a discussion relating the patterns in Chol and Mēbengokre.

- b. aje tep krēn ɔ a-dzām
 2ERG fish eat.N INSTR 2-stand.SG.N
 ‘You are eating fish.’

Kīsédjê

A similar state of affairs is found in the related language Kīsédjê. Here too, we typically find nominative patterning in verbal forms (29a) and ergative patterning in nominalizations, like the one in (29b).

(29) KĪSĒDJÊ (JÊ)

- a. Wa tep ku.
 1NOM fish eat.V
 ‘I ate/eat fish.’
- b. Ire tep kuru mā.
 1ERG fish eat.N future
 ‘I’ll eat fish.’

In the progressive in (30), however, the verbs are in their nominal forms, yet we find a *nominative* subject. Again, the “progressive marker” is a position-denoting verb, which embeds the nominal stem.

(30) PROGRESSIVES

- a. Wa [tep kuru] ro nhy.
 1NOM fish eat.N with sit.V
 ‘I’m eating fish (sitting).’
- b. Wa [tep kuru] ro ta.
 1NOM fish eat.N with stand.V
 ‘I’m eating fish (standing).’

(Rafael Nonato, p.c.)

5.2.3 Indo-Aryan

The vast majority of Indo-Aryan languages show ergative systems with aspect-based splits. Here I review some facts from three different languages.

Hindi

In her article on the Basque progressive split, Laka (2006) notes some of the similarities between split ergativity in Hindi and split ergativity in Basque. The basic pattern is illustrated in (31). Both languages are head-final, and both show ergative case marking on transitive subjects in the ergative-patterning portions of the grammar. While Basque splits between progressive and non-progressive, in Hindi (as in Chol) we find a split between the perfective aspect (ergative-patterning) and the imperfective and progressive aspects (non-ergative patterning). In the perfective in (31a) the subject is marked with the ergative, *-ne*, while in the imperfective in (31b) both the subject and the object are unmarked (absolute).

(31) HINDI

a. PERFECTIVE

Raam-**ne** roTii_i khaayhii thii_i
 Raam-ERG bread.FEM eat.PRFV.FEM was.FEM
 ‘Raam had eaten bread.’

b. IMPERFECTIVE

Raam_i roTii khaataa thaa_i
 Raam.MASC bread eat.IMPF.MASC was.MASC
 ‘Raam (habitually) ate bread.’

(Mahajan 1990, 72–73)

As in Basque, as well as in the Nakh-Daghestanian biabsolutive construction discussed above, we find differences in agreement between the Hindi ergative- and nonergative-patterning constructions. In the ergative construction (31a) the verb agrees with the absolutive object; in (31b) agreement is with the subject.

In principle, the facts here could also be accounted for under the analysis of Basque above. Specifically, if the perfective in (31a) is monoclausal, while the imperfective in (31b) is biclausal (as represented in (32)), we derive the Case and agreement facts. In the imperfective the subject *Raam* would be the subject of an intransitive matrix verb, *thaa*, and we would thus explain the absence of ergative marking. Furthermore, the change in agreement could be characterized as the result of the fact that the object, *roTii* ‘bread’, is in an embedded clause.

(32) POSSIBLE IMPERFECTIVE ANALYSIS

Raam_i [roTii khaataa_i] thaa_i
 Raam.MASC bread eat.IMPF.MASC was.MASC
 ‘Raam (habitually) ate bread.’

To my knowledge, however, no proposals have suggested that the imperfective form involves more structure than the perfective form; both perfective and imperfective involve an auxiliary verb glossed ‘be’ (*thii* and *thaa*) and a participle form of the lexical verb (*khaayhii* and *khaataa*). The participles show the same agreement as the auxiliary, which Bhatt (2005, 769) proposes is the result of a *covaluation* process in which T⁰ and the participle have their ϕ -features valued together.

Furthermore, agreement in Hindi is more complicated than the above two forms suggest. As described in Bhatt (2005, 759): “The main verb (in participial form) and the auxiliary (if any) in Hindi-Urdu agree with the *structurally most prominent argument of the verb that is not case-marked overtly*. An argument is non-overtly case-marked if it is not marked with an overt case clitic” (emphasis added). As ergative case is marked with the clitic *-ne*, the verb never agrees with an ergative argument. Agreement with an imperfective object is possible in sentences where the subject receives dative (see (33b) below), so the difference in agreement between (31a) and (31b) could not be attributed simply to different structures, as in the biclausal analyses of Basque or Nakh-Daghestanian above.

Anand and Nevins (2006) propose that ergative case in Hindi, like dative and instrumental cases (also marked via clitics), is an inherent case, assigned to the transitive subject in situ. By positing that inherently marked nominals in Hindi are invisible to verbal agreement (their “VIVA” parameter), and that the verb agrees with the structurally highest available argument, they derive the facts in (31) above and (33) below. In structures where the transitive subject is not marked for

ergative, like the imperfective in (31b) or the progressive form in (33a), the verb agrees with the subject. If the subject is marked as in the dative in (33b) or the ergative in (31a), the verb agrees with the object. Finally, if both subject and object are marked, the verb defaults to third person singular masculine, as in (33c).

- (33) a. *aurat_i baccaa bulaa rahii hai_i*
 woman child call PROG.SG.FEM be.PRES.3SG.FEM
 ‘The woman is calling the child.’
- b. *aurat-ko santare_i pasand hāi_i*
 woman-DAT oranges like be.PRES.3PL.MASC
 ‘The woman likes oranges.’
- c. *caachii-ne laRkii-se pyaar kiyaa*
 aunt-ERG child-INST love do.PRFV.SG.MASC
 ‘The aunt loved the child.’ (Anand and Nevins 2006, 7)

This analysis does not appear to be *incompatible* with an analysis in which the nonperfective clauses are biclausal, though further work is needed to determine whether there is evidence in favor of biclausality. A potential complication for a biclausal analysis of the imperfective is raised by sentences involving quirky dative subjects (Pranav Anand, p.c.). In both forms in (34) the subject *aurat* ‘woman’ receives quirky dative case, triggered by the verb *pasand* ‘like’. This is true regardless of whether it is in the perfective (ergative-patterning) or imperfective (non-ergative patterning) aspect.

- (34) a. PERFECTIVE
aurat-ko santare pasand the
 woman-DAT oranges like be.PAST.3SG.FEM
 ‘The woman liked oranges.’ (Kush Varshney, p.c.)
- b. IMPERFECTIVE
aurat-ko [santare pasand] hāi
 woman-DAT oranges like be.PRES.3SG.FEM
 ‘The woman likes oranges.’ (Anand and Nevins 2006, 7)

The fact that the imperfective subject in (34b) receives quirky dative case suggests that *hāi* is *not* responsible for assigning the subject θ -role. To maintain that imperfective forms like (34b) are biclausal, while perfectives like (34a) are monoclausal, we would need to propose that the subject originates as the subject of the embedded verb *pasand*, where it is assigned its θ -role and quirky dative case, and then raises to the matrix clause.

Similar facts with quirky subjects are found in other languages. In Icelandic, for example, such facts were used to argue for the division between morphological case and abstract Case (or *licensing*), so such a proposal would not be without precedent (see Maling and Zaenen 1990; Sigurðsson 1991; and Zaenen et al. 1985; discussed in Marantz 1991). Though a raising analysis would mean that Hindi imperfectives are different from Basque imperfectives (which are proposed to involve *control*), the crucial point—that the split is the result of different structures—would be maintained.

Finally, while the picture remains unclear for the imperfective aspect, in the progressive forms in (35) a biclausal analysis appears more promising; Bhatt (2007) describes the the Hindi progressive

as being formed periphrastically. Note that even in the more clearly periphrastic progressive, a subject can be marked with quirky dative case, as in (35b), suggesting that a raising analysis like the one outlined above may be on the right track.

(35) PROGRESSIVE

- a. Lataa-ji [gaanaa gaa] rahī hĒ/thī
 Latta.FEM-HON song.MASC sing PROG.FEM.PL be.PRES.FEM.PL/be.PST.FEM.PL
 ‘Lataa-ji is/was singing (a song).’ (Bhatt 2007, 3)
- b. aurat-ko [santare pasand] aa rahe hāi
 woman-DAT oranges like come PROG be.PRES.3SG.FEM
 ‘The woman is liking oranges.’ (Kush Varshney, p.c.)

To summarize, though the Hindi facts are reminiscent of the Basque and Nakh-Daghestanian facts described above, and the progressive has been described as periphrastic, it is not at all clear at this point whether a biclausal analysis of split ergativity in the Hindi *imperfective* is well supported. Both the imperfective and progressive show a “split” pattern, and ideally would receive similar treatments. I leave this as a topic for future research.

Kashmiri

In Kashmiri we also find a difference in subject marking based on aspect. In (36a) the progressive subject is marked nominative, while in the perfective in (36b) it shows ergative marking. Note that while the progressive involves a verb glossed as ‘be’, the perfective does not. While more work is needed to confirm whether Kashmiri generally conforms to the pattern above, this pair suggests a biclausal analysis may be possible.

(36) KASHMIRI

- a. bi chu-s təm-is kita:b diva:n.
 I.NOM be-1SG her/him-DAT book giving
 ‘I am giving her/him a book.’
- b. me dits təm-is kita:b.
 I.ERG gave her/him-DAT book
 ‘I gave her a book.’ (Wali and Koul 1997, 252)

Kutchi Gujarati

Finally, I note that in Kutchi Gujarati, another Indo-Aryan language, we find no difference in case marking, but an agreement split similar to that noted for Hindi above. Here in the imperfective we find a final auxiliary, *ti* in (37b), not present in the perfective. This could lend support to a biclausal analysis of the agreement split, though again, further work is needed.

(37) KUTCHI GUJARATI (INDO-ARYAN)

- a. PERFECTIVE
 Mary John-ne_i adyo_i.
 Mary John-ACC touch.PRFV.MASC.SG
 ‘Mary touched John.’

b. IMPERFECTIVE

Mary_i [John-ne adthi] ti_i.

Mary John-ACC touch.IMPF.FEM.SG PAST.FEM.SG

‘Mary (habitually) touched John.’

(Pritty Patel, p.c.)

5.3 INTRANSITIVE ASPECTUAL PREDICATES

In the sections above we examined unrelated languages in which aspect-based “split ergativity” could plausibly be attributed to a difference in syntactic structure, rather than to different rules in how agreement or case is assigned. In all of these constructions, it was suggested that non-ergative-patterning forms lacked ergative marking because the subject was not a *transitive* subject, but rather, the subject of an intransitive aspectual verb. The basic pattern is schematized in (38) and (39) for a head-final language in which verbal agreement (marked with a dashed line) targets absolutive arguments (i.e. like Basque or Nakh-Daghestanian).

(38) ERGATIVE-PATTERNING = *monoclausal*

[SUBJECT_{ERG}] [OBJECT_{ABS}] [**Predicate = verb stem**]

↑-----↑

(39) SOURCE OF APPARENT SPLIT = *biclausal*

[SUBJECT_{ABS}] [*oblique verb stem* + OBJECT_{PP}] [**Predicate = aspectual**]

↑-----↑

In the monoclausal ergative-patterning construction in (38) the matrix predicate is the verb stem which carries the encyclopedic meaning. The object receives absolutive Case; the subject is a transitive subject and receives ergative Case. This analysis does not depend on the precise mechanisms of Case assignment, i.e. inherent or structural.

The “split” constructions, represented in (39), are those in which we do not find morphological ergative marking. Here there is a dissociation between matrix predicate and the stem which carries the encyclopedic verbal meaning. The syntactic matrix predicate is intransitive and takes the subject as its single argument. Like other intransitive subjects, it receives absolutive Case. The stem carrying the encyclopedic verbal meaning and its object (in the case of embedded transitives) are in an oblique form. Whether this PP is a complement (as proposed by Laka 2006 for Basque) or an adjunct (as in Polinsky and Comrie’s (2002) analysis of Tsez, or as I proposed for Chol in chapter 4 above) may be a point of cross-linguistic variation.

In Chol the construction in (39) was referred to as the “B-Construction”. Chol—along with other Mayan languages with aspectual splits—has another option, schematized in (40). Here the predicate is still the aspect marker but the argument it takes is not the notional subject, but rather, a nominalized clause in which the subject is expressed as a possessor. This option is apparently unavailable in the other languages described here.⁴

⁴A possible explanation for the availability of this second option in Chol—and in other Mayan languages with aspect-based split ergativity described in chapter 2.3—relates to the fact that Mayan languages are verb initial and lack an EPP which targets DPs (Coon 2010b). One possibility is thus that the other languages examined here (which all happen to be verb final) would not permit the type of construction in (40) because there is no matrix subject. Thanks to Norvin Richards for pointing out this possibility.

- (40) [POSSESSOR + *nominalized verb stem* + OBJECT]_{ABS} [Predicate = aspectual]
- ↑-----↑

The splits we saw above followed the general pattern in (41) (repeated from (14) above). That is, as noted in Dixon 1979, if a language makes a split along the lines of tense or aspect, the ergative pattern will always be found on the left side of the scale, never vice versa.

- | | | | | | |
|------|------------|----------------------|--------------|-----------------------|-------------|
| | ← | simple clause | | complex clause | → |
| (41) | ← | ergative | | non-ergative | → |
| | perfective | » | imperfective | » | progressive |

The question of why splits pattern in the way illustrated in (41) is thus reduced to the question of why progressive, and sometimes imperfective, constructions are more likely to involve complex structures—or perhaps more appropriately, why the perfective never does. We turn to this question now.

5.4 MOTIVATING ASPECT-BASED SPLIT ERGATIVITY

5.4.1 Progressive and locative expressions

Laka (2006) proposes that the Basque progressive shares its syntax with locative constructions. Above I argued the same for Chol, and noted that Salanova (2007) proposes a similar analysis for progressives in Mëbengokre. Likewise, Polinsky and Comrie (2002) argue that the biabsolutive in Tsez involves the lexical verb subordinated in a “locative-type adjunct”. Indeed, though the Chol morpheme *choñkol* is generally used for progressive constructions, it is possible to find sentences like the one in (42a), in which the locative/existential *añ*—also used in regular location constructions like (42b), see chapter A.5.1—conveys a progressive reading.

- (42) CHOL LOCATIVES
- a. Añ-oñ [pp tyi juch' ixim].
 LOC-B1 PREP grind corn
 ‘I’m grinding corn.’ (lit. ~ ‘I’m at corn-grinding.’)
- b. Añ-oñ [pp tyi k-otyoty].
 LOC-B1 PREP A1-house
 ‘I’m in my house.’

The same holds true in western varieties of Basque. While Laka focuses on the *ari* progressive used in the central and eastern varieties, she notes that the western-type progressive, exemplified in (43a), “has not generated much discussion in the literature, perhaps because the main verbs involved, *ibili* ‘to walk, to be about’ and *egon* ‘stative be’ are very patently unaccusative verbs that select locative PPs” (Laka 2006, 181). Compare the verb *egon* used in the locative construction in (43b).

- (43) BASQUE (WESTERN VARIETIES)
- a. emakume-a [pp ogi-a ja-te-n] da-go.
 woman-DET bread-DET eat-NML-LOC is-stay
 ‘The woman is (stays) eating bread.’

- b. emakume-a [pp Bilbo-n] da-go
 woman-DET Bilbao-LOC is-stay
 ‘The woman is in Bilbao.’ (Laka 2006, 180, 182)

The structural similarities between progressive and locative constructions in the world’s languages have not gone unnoticed. Laka (2006, 174) notes “that this biclausal structure of the progressive, for which there is ample evidence in [Basque], is not a language-particular quirk of Basque grammar, but rather, fits within a very widespread characteristic of human language: progressive is often realized in syntax in the form of a locative predication.” In their survey of tense and aspect systems, Bybee et al. (1994, 129) write that “The majority of progressive forms in our database derive from expressions involving locative elements.”

This is not limited to the progressive, but extends to imperfectives more generally: “The most widespread parallel is between progressive aspect and expressions referring to the place where something is located, though in some languages, as noted below, this locative form of the verb is also used with *habitual meaning*, i.e. *is imperfective rather than just progressive*” (Comrie 1978, 98) (emphasis added). This is the case for Chol, where we find locative-type constructions in both the progressive and the imperfective (i.e. habitual/generic) aspects, as shown in (44). There is no corresponding construction in the perfective (see chapter 4.1).

- (44) a. LOCATIVE
Añ-oñ tyi cholel.
 LOC-B1 PREP field
 ‘I’m in the field.’
- b. PROGRESSIVE
Choñkol-oñ tyi pāk’ bu`ul.
 PROG-B1 PREP plant bean
 ‘I’m planting beans.’
- c. IMPERFECTIVE
Muk’-oñ tyi pāk’ bu`ul.
 IMPF-B1 PREP plant bean
 ‘I plant beans.’

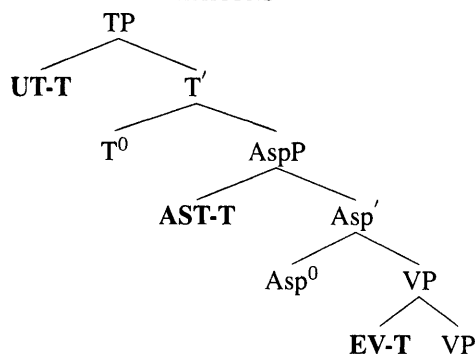
Cross-linguistically, the imperfective and progressive pattern together in other respects. As noted in chapter 2.2.4, languages frequently group these two aspects together in a single morphological form. I assume, following the proposal in Ferreira 2005, that both continuous (progressive) and habitual readings (e.g. in (44c)) are both subtypes of a larger *imperfective* category, and that both derive their meanings from a single imperfective head. I return to this issue below.

5.4.2 The grammar of spatiotemporal relations

One proposal for why progressive and locative constructions should share similar structures is made by Demirdache and Uribe-Etxebarria (2000), who suggest that Tense and Aspect heads denote *prepositional* meanings which relate the temporal arguments of a clause. In their theory, modeled on the proposal in Klein 1995, tense and aspect have a uniform structure in the world’s languages: both are predicates that relate—or establish an ordering between—two time-denoting phrases (see

Reichenbach 1947). Tense relates the UTTERANCE TIME (UT-T) and the ASSERTION TIME (AST-T) (see also Zagona 1990 and Stowell 1993), while aspect relates the ASSERTION TIME and the EVENT TIME (EV-T). Tense and Aspect are proposed to have the universal structure in (45).⁵

(45) TEMPORAL RELATIONS



The UT-T is the time at which the sentence is uttered, and the EV-T is the time at which the event/state denoted by the verb phrase occurs/holds. Tense does not directly relate these two times, but is mediated by *assertion time* (see e.g. Reichenbach 1947; Hornstein 1990; Giorgi and Pianesi 1991; Klein 1995; Thompson 1996). Assertion time (Reichenbach's *reference time*) is the "time for which an assertion is made or to which the assertion is confined; for which the speaker makes a statement" (Klein 1995, 687). A speaker may choose to represent an entire event, or only part of an event; the assertion time is the time for which an assertion is made. For example, in a progressive sentence like *John was reading a book* the AST-T is contained *within* the EV-T. No assertion is made about the endpoints of the event, which are outside of the focus of the assertion time. It is fine to continue: *John was reading a book, but he never finished it*. Even though the sentence is in the past, no assertion is made about its beginning or end points. For more on this and other issues in the progressive aspect, see discussions in Dowty 1977, Parsons 1990, Landman 1992, Bonomi 1997 and Portner 1998, among others.

To further illustrate the role of aspect, which mediates between the assertion time and the event time, Demirdache and Uribe-Etxebarria quote Smith (1991, 91), who writes:

Aspectual viewpoints function like the lens of a camera, making objects visible to the receiver. Situations are the objects on which the viewpoint lenses are trained. And just as the camera lens is necessary to make the object available for a picture, so viewpoints are necessary to make visible the situation talked about in a sentence.

What is visible by the camera lens, the analogy continues, is what is available to *semantic interpretation*; "Only what is visible is asserted" (Smith 1991, 99). The three basic temporal intervals are summarized in table 5.1.

Tense and aspect are heads that mediate between these three basic times: UT-T, AST-T, and EV-T. What do these heads denote? Drawing on the proposal in Hale 1984, Demirdache and

⁵Thanks to Sabine Iatridou for discussions clarifying these issues. I do not offer a detailed account of tense or aspect here, and ignore many long-standing problems in the tense/aspect literature. Instead I simply provide a sketch of an analysis for a difference between perfective and nonperfective aspects, resulting in the unidirectionality of split ergativity. I attempt to refer the reader to the relevant literature where appropriate.

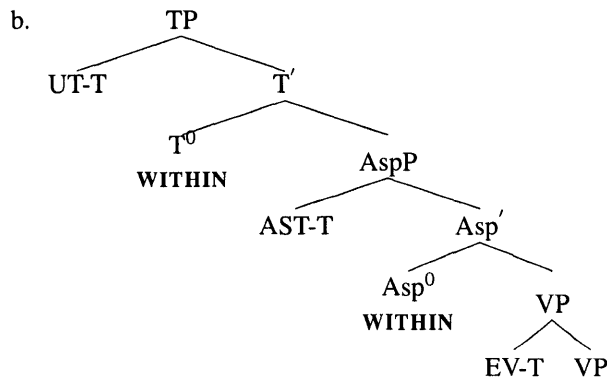
Table 5.1: TIME-DENOTING PHRASES

UT-T	<i>utterance time</i>	time at which the sentence is uttered
AST-T	<i>assertion time</i>	time for which an assertion about the event is made
EV-T	<i>event time</i>	time of the event

Uribe-Etxebarria make use of the opposition between *central* and *noncentral coincidence* to define the temporal relations. Hale proposes that both spatial and temporal relations can be understood as relations between a *figure* (or entity) and a *ground* (or place). *Central coincidence* is a relation in which the figure *coincides with* the ground, while *noncentral coincidence* means that the entity begins or ends at the ground (but extends beyond it). The former is expressed by English prepositions like *in*, *at*, *on*, *over*, and *through*, while the latter is expressed by English prepositions like *from*, *out of*, *up to*, *onto*, *into*. Demirdache and Uribe-Etxebarria (2000) note that using these notions as the universal building blocks for expressing tense and aspect, “explains the pervasive use, crosslinguistically, of prepositions as well as locative, motion, directional, postural, and stance verbs to express temporal and aspectual relations” (Demirdache and Uribe-Etxebarria 2000, 158).

The present tense is a temporal head with the meaning *WITHIN* (the UT-T is *WITHIN* the AST-T), while the progressive aspect is an aspectual head with the denotation *WITHIN* (the AST-T is *WITHIN* the EV-T). Similarly, under their proposal the past tense and perfect aspects denote the relation (of noncentral coincidence) *AFTER*.⁶ To illustrate, a representation of the present progressive sentence in (46a) is given in (46b).

(46) a. Mary is writing a book.



5.4.3 Evidence for a spatiotemporal connection

Demirdache and Uribe-Etxebarria (2000, 178) cite as evidence in favor of their proposal the fact that some of these spatiotemporal relations have *overt manifestations* in a number of languages. Bybee et al. (1994, 132), for example, note that in their sample of the world’s languages (a stratified probability sample, with languages chosen from all over the world): “The majority of progressive forms in our database derive from expressions involving locative elements.”

⁶Whether the perfect is in fact an aspect is a matter of debate; see, for example, Alexiadou et al. 2003. I return to the perfect below.

Specifically, as we have seen in a variety of languages above, verbs of *stance*, *posture*, or *location* are frequently used in progressive aspect constructions. In some cases this can be seen to be true historically, but the form has since been grammaticalized. For instance the Spanish verb *estar* used in progressive constructions is derived from the Latin *stare* ‘to stand’. In other cases, like Q’anjob’al in chapter 4.5 or Mëbengokre above, the progressive form has not been fully grammaticalized and appears not just in temporal but also *spatial* locative constructions.

As Bybee et al. (1994) note, the progressive verb can also express location with no specific posture, as in ‘be at’ or ‘stay’. They cite the Basque *ari* constructions discussed above, as well as French and Dutch examples in (47a–b). I add to these the Welsh and Middle English constructions cited in Laka 2006 and German. In these constructions, as argued for at length for Chol above, “the form of the main verb is usually nominal (cited as a verbal noun or a gerund)” (Bybee et al. 1994, 130).

- (47) a. FRENCH
 Zazie est *en train de* jouer.
 Zazie is in along of play
 ‘Zazie is playing.’
- b. DUTCH
 Ik ben het huis *aan* het bouwen.
 I am the house at the build
 ‘I am building the house.’ (Demirdache and Uribe-Etxebarria 2000, 178)
- c. WELSH
 Mae Rhiannon *yn* cysgu.
 is Rhiannon in sleep
 ‘Rhiannon is sleeping.’
- d. MIDDLE ENGLISH
 He is *on* hunting. (Laka 2006, 188)
- e. GERMAN (NONSTANDARD)⁷
 Ich bin *am* Buch lesen.
 I am on book reading
 ‘I’m reading the book.’ (Peter Graff, p.c.)

Citing Eloise Jelinek, Demirdache and Uribe-Etxebarria note that prepositions denoting central coincidence are even present in Modern English constructions, as in the examples in (48):

- (48) a. I am *in the middle of* washing the dishes.
 b. She is *at* rest.

Bybee et al. (1994, 132) write that in their sample of the world’s languages there are “no clear cases of progressives formed with a copula without a locative element.” In addition to the languages listed in (47), I include a portion of their table in 5.2

Furthermore, just as progressive constructions often involve verbs or prepositions of *central coincidence*, so too the prospective and perfect often involve verbs of *centripetal motion* (motion

⁷This construction is known as the “Rhinish progressive” (*Rheinische Verlaufsform*) and is found in some regional German dialects. It is increasingly being used by speakers of Standard German in informal contexts. See for example van Pottelberge 2004.

Table 5.2: PROGRESSIVE AS LOCATIVE (BYBEE ET AL. 1994, 128)

LANGUAGE	PROGRESSIVE VERB
Isl. Carib	here
Cocama	be located + complement of Place
Jivaro	be, sit
Alyawarra	sit, stay, be
Tahitian	be here
O'odham	sit, stay for a while
Baluchi	loc + be
Ngambay	be seated + verbal N
Shuswap	be there, stay
Haka	place, participle
Lahu	be in place, live
Cantonese	stay, reside
Dakota	sit, stand
Tok Pisin	stop, stay
Kui	be, live, exist + pres part
Maidu	be + participle
Buriat	be + gerund

of the figure toward the ground) and verbs of *centrifugal motion* (motion of the figure from the ground) respectively, or prepositions of *noncentral coincidence*. Demirdache and Uribe-Etxebarria (2000, 180) cite Bull (1960), who notes that in Gaelic a sentence like *He had already sung* translates literally to 'he was AFTER his singing' (*Rabh sé ndiaidh seinnm*). The same is true in Irish, as well as in Hiberno English, as shown in the examples in (49).

(49) a. IRISH

Bhí sé i ndiaidh an baile a fhágáil.
 was he after the home leave.NONFINITE
 'He had just left home.'

(Jim McCloskey, p.c.)

b. HIBERNO ENGLISH

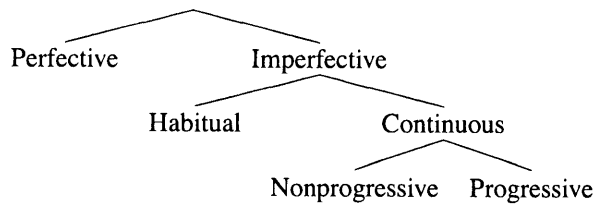
I'm *after* hearing the news.

(Cottell 2003, 4)

Progressive and imperfective

The analysis presented by Demirdache and Uribe-Etxebarria (2000)—and variants of it in a variety of works cited above and in their work—draws a connection between the spatial relations expressed in a locative construction, and the temporal relations expressed by the progressive. Both, in Hale's terminology, are relations of central coincidence. Though Demirdache and Uribe-Etxebarria (2000) do not discuss the *imperfective* aspect, I assume that a similar analysis can be made. Recall from chapter 2 the classification of aspectual oppositions made in Comrie 1976, repeated in (50).

(50) CLASSIFICATION OF ASPECTUAL OPPOSITIONS (COMRIE 1976, 25)



Different languages group together different portions of the aspectual system. Chol, for instance, makes a three-way distinction among perfective (*tyi*), habitual and continuous-nonprogressive (*mi*), and progressive (*choñkol*). Nonetheless, many languages group the progressive and imperfective together. Comrie (1976, 26) lists as examples French, Russian, Bulgarian, Modern Greek, and Georgian.

Bybee et al. (1994, 125) argue for a diachronic path in which the progressive construction is often generalized to form the imperfective (they cite evidence for Turkic, Celtic, and Dravidian languages). Though there are fewer cases of the imperfective involving a locative construction, Bybee et al. (1994, 141) note that they do find cases of “imperfectives with lexical sources similar to those found for progressives.” For example, the Kui past imperfective is formed “parallel to the present progressive, with the verb *man-* which earlier meant ‘live, exist’.” They note that the Tahitian imperfective is also built on a locative structure.

Semantically, both continuous and noncontinuous imperfectives can be given a coherent description of “expressing the idea that an event, state, or habit is ongoing” (Ferreira 2005, 91). Following Ferreira’s proposal, I assume that both progressive and imperfective (i.e. non-continuous imperfective) aspects are both represented as heads denoting the spatiotemporal relation WITHIN. The difference between them is that the former denotes an inclusion relation between the assertion time and a *singular* event, while the latter denotes an inclusion relation between the assertion time and a *plural* event. This is illustrated in (51), from Ferreira (2005, 98).

- (51) a. PROGRESSIVE
 [TP Past [ASPP Impf [VP-SG SG [VP John paint the house]]]]
 b. HABITUAL
 [TP Past [ASPP Impf [VP-PL PL [VP John paint the house]]]]

Ferreira (2005, 99) concludes that “as far as temporal semantics is concerned, continuous or habitual sentences are nearly synonymous, their logical forms differing minimally, and only with respect to the number specification of the VPs that combine with *Imp*.”

Finally, note that just as languages differ in how they divide the aspectual distinctions in (51) morphologically, so too we saw above that languages with splits differ in whether they split, for example, the progressive versus imperfective and perfective (as in Basque), or group the progressive and imperfective together in opposition to the perfective (as in Chol). If we adopt the proposals above, we assume that while all languages have an imperfective aspectual head denoting WITHIN, not all languages choose to fill it with overt lexical material.

Returning to splits

Finally, note that while this chapter has focussed on split patterns in languages which are generally otherwise morphologically *ergative*, the typology of spatiotemporal relations proposed in Demirdache and Uribe-Etxebarria 2000 is not limited to ergative language, but rather, is proposed to be a universal feature of human languages. Why, then, do we not see similar splits in languages which are nominative-accusative?

The answer is shown in the forms in (52) and (53). Imagine two “transitive constructions”, one a simple transitive in the past/perfective as in the (a) forms, and the other a complex progressive form, in which the lexical verb is in a nominal form under a locative PP and the main verb is an intransitive auxiliary, as in the (b) forms. By definition, in a nominative-accusative language, *both intransitive and transitive subjects receive the same marking* (nominative), and thus we do not see any evidence of a split. In an ergative language, in contrast, illustrated in (53), transitive and intransitive subjects receive differential marking and the result is the appearance of a case marking split. Nonetheless, both types of language may (and often do, as shown above) show a split in terms of the structures employed for each construction.

- | | |
|---|---|
| (52) ENGLISH | (53) IMAGINARY “ERGATIVE ENGLISH” |
| a. I _{NOM} read the book. | a. I _{ERG} read the book. |
| b. I _{NOM} am [PP at book reading]. | b. I _{ABS} am [PP at book reading]. |

Here we have examined an analysis for why imperfective (both continuous and noncontinuous) and locative constructions have similar structures, and thus, why the imperfective aspect is likely to involve a complex construction involving a matrix verb (with a “stance, posture, or location” reading). Recall that we want to explain here not just why the progressive/imperfective aspects pattern as verbs in many languages, but why the perfective aspect *does not*. We turn to this question in the next section.

5.5 PERFECTIVE AS DEFAULT ASPECT

Above we reviewed proposals that reduce tense and aspect to to a set of relations relating three times: the UTTERANCE TIME (UT-T), the ASSERTION TIME (AST-T), and the EVENT TIME (EV-T). Tense relates UT-T to AST-T, while aspect relates AST-T to EV-T. According to Demirdache and Uribe-Etxebarria (2000), these relations are constrained by Hale’s notions of *central coincidence* (location of figure coincides with the ground), and *noncentral coincidence* (location of the figure either begins or ends at the ground). The heads Tense and Aspect denote prepositional-type meanings of central and noncentral coincidence. The values of the tenses and aspects discussed in Demirdache and Uribe-Etxebarria 2000 are summarized in table 5.3 (following the discussion above, I include the imperfective with the progressive, though Demirdache and Uribe-Etxebarria 2000 focus only on the progressive). To give a couple of examples, the present tense has a denotation of “UT-T is WITHIN AST-T”, while the past tense is “UT-T is BEFORE AST-T”.

The imperfective/progressive, perfect, and prospective aspects are illustrated in (54), where the brackets are meant to indicate the AST-T (the time for which an assertion is made), and the dashes indicate the event.

Table 5.3: TENSE AND ASPECT

		WITHIN	BEFORE	AFTER
TENSE	(UT-T, AST-T)	present	past	future
ASPECT	(AST-T, EV-T)	imperfective/ progressive	perfect	prospective

- (54) a. IMPERFECTIVE/PROGRESSIVE
 AST-T | []
 EV-T | \\\\\\\\\\\\\\\\\\\\\\\
- b. PERFECT
 AST-T | []
 EV-T | \\\\\\\\\\\\\\\\\\\\\\\
- c. PROSPECTIVE
 AST-T | []
 EV-T | \\\\\\\\\\\\\\\\\\\\\\\

As Demirdache and Uribe-Etxebarria (2000, 177) put it: “the role of Aspect is to focus (locate) an interval in the internal temporal constituency of the event.” The EV-T is defined as Hale’s *ground* and the AST-T (the interval selected by aspect) as the *figure*; aspect locates the EV-T relative to a figure, just as a locative structure locates a figure relative to a spatial ground. The imperfective/progressive in (54a) makes use of Hale’s *central coincidence* relation (the AST-T is contained WITHIN the EV-T), while the perfect and prospective employ *noncentral coincidence*: the perfect in (54b) locates the interval, Hale’s *figure*, AFTER the endpoint of the event (the ground). The prospective in (54c), in contrast, locates the AST-T interval BEFORE the start of the event.

5.5.1 Representing the perfective

Notably absent from the discussion is the representation of the *perfective* aspect. Though often confused, the perfect and the perfective are quite different, and it is open for debate whether the perfect should be considered an aspect at all. Comrie (1976, 52), for instance, writes:

Aspect, as we have been concerned with it hitherto, has been concerned with different ways of representing the internal temporal constitution of a situation. The perfect is rather different from these aspects, since it tells us nothing directly about the situation in itself, but rather relates some state to a preceding situation... More generally, the perfect indicates the continuing present relevance of a past situation. This difference between the perfect and the other aspects has led many linguists to doubt whether the perfect should be considered an aspect at all.

See also the discussion in Alexiadou et al. 2003. I set aside the perfect for now, assuming that Demirdache and Uribe-Etxebarria’s proposal that it is the aspectual head denoting AFTER is correct (though this is not critical for the rest of the analysis).⁸

⁸According to their proposal, in a clause in which perfect is the only aspectual value, AFTER denotes a relation between the AST-T and the EV-T. In clauses with more than one aspectual layer, such as the perfect of a progressive (*Mary has been reading the book*), it would denote a relation between two assertion times (UT-T >> AST-T₁ >> AST-T₂

I now turn to the perfective. In the perfective aspect, the event is viewed in its entirety, as a whole, without any internal structure. As with aspect more generally, this does not mean that no internal structure is present (i.e. the event need not be punctual), simply that none is *asserted*. Comrie (1976, 18) writes of the perfective that it “reduces a situation to a blob, rather than to a point: a blob is a three-dimensional object, and can therefore have internal complexity, although it is nonetheless a single object with clearly circumscribed limits.” The perfective denotes a complete event, including its beginning, middle, and end, though “the perfective puts no more emphasis, necessarily, on the end of a situation than on any other part of the situation, rather all parts of the situation are presented as a single whole.”

The perfective is analyzed as the opposite of the imperfective (Klein 1995; Kratzer 1998). While the imperfective denotes that the assertion time is contained within the event time, the perfective denotes that the event time is contained within the assertion time. This is illustrated in (55).

- (55) IMPERFECTIVE: $AST-T \subseteq EV-T$
 PERFECTIVE: $EV-T \subseteq AST-T$

Put another way, while the imperfective in (55a), repeated in (56a), denotes an event *viewed from within* (using Smith’s metaphor, we can imagine the brackets here as the camera lense), with no explicit reference to start or endpoint, the perfective denotes an event *entirely contained within the viewpoint*. This is represented in (56b):

- (56) a. IMPERFECTIVE/PROGRESSIVE
 $AST-T \mid [\quad]$
 $EV-T \mid \text{// // // // // // // //}$
- b. PERFECTIVE
 $AST-T \mid [\quad]$
 $EV-T \mid \text{// // // // // // // //}$

The question now—not addressed in Demirdache and Uribe-Etxebarria 2000—is: what preposition or verb would convey the relation of AST-T to EV-T in the perfective in (56b)? Demirdache and Uribe-Etxebarria argue for a constrained theory of spatiotemporal relations:

Based on Hale (1984), we define spatiotemporal relations in terms of a single basic semantic opposition: that of central versus noncentral coincidence. This proposal constrains the number of logically possible temporal relations that we expect to find in natural languages by restricting the topological relations that Tenses and Aspects establish between their temporal arguments to three basic relations. (Demirdache and Uribe-Etxebarria 2000, 157)

Though they do not discuss this, the relation of the AST-T to the EV-T in the perfective in (56b) crucially *cannot be expressed via a relation of central or noncentral coincidence*. That is, we cannot say that the AST-T is contained within the EV-T (as in central coincidence), nor can we say that the AST-T begins or ends at the EV-T (noncentral coincidence).

The perfective aspect constitutes a relation that cannot be expressed under the spatiotemporal typology proposed by Demirdache and Uribe-Etxebarria. In fact, even if we loosen the requirement

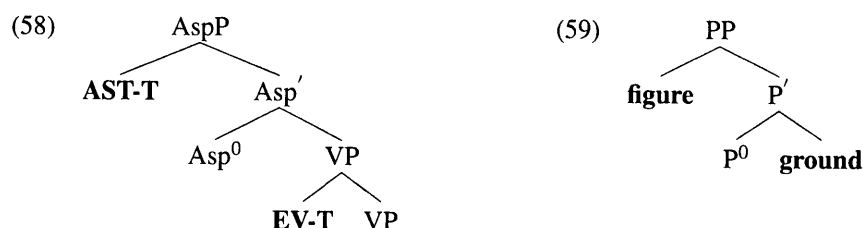
» EV-T). See Demirdache and Uribe-Etxebarria 2000 for a discussion of this, and a proposal constraining which types of aspectual recursion are possible.

that these relations be expressed only by the relations of coincidence in Hale's typology, it is not clear that the situation improves. That is, it is not obvious that there are *any* prepositions that adequately convey the relation of AST-T to EV-T in the perfective in (56b).

In (55) the order of arguments is simply reversed. Compare the English locative constructions in (57), where Hale's *figure* is italicized and the *ground* is underlined. As shown here, in a locative construction we can easily achieve the reverse meaning by simply reversing the arguments, that is, changing which argument is the figure and which is the ground.

- (57) a. *The circle* is in the square.
 b. *The square* is in the circle

The problem we run into with the perfective is that we cannot reverse the assertion time and the event time in the same way we reverse *the circle* and *the square* in (57); the structure in the tree in (45) above, repeated in (58), is proposed to be universal. The Aspect head combines first with the VP, denoting EV-T, in the same way that a preposition universally combines first with a complement denoting the ground (Svenonius 2007).⁹ Just as the AST-T is the specifier of the Aspect head, the figure is the specifier of the preposition. Again, in a locative construction involving two DPs, we can simply reverse which DP combines first (is the figure), and which combines second (is the ground). But in the construction of a sentence, aspect will always be merged above the VP.



Thus while the imperfective ($AST-T \subseteq EV-T$) can be logically represented as the opposite of the perfective ($EV-T \subseteq AST-T$) by flipping the order of arguments with respect to " \subseteq ", the proposal is that this flipping cannot actually happen in the syntax of a language. What we need is for the perfective to denote $AST-T \supseteq EV-T$ —the assertion time is a *superset* of the event time. In order to translate this into Demirdache and Uribe-Etxebarria's system, we need a preposition which conveys the *superset* relation (i.e. meaning something like "containing"), in the same way that the English preposition *in* denotes the subset relation.

One possible candidate would be *outside*, but I contend that this is not really the opposite of "in"/"inside" at all.¹⁰ Imagine two Russian dolls (hollow dolls which can be stacked inside each other), doll A and doll B, the first contained within the latter. The sentence in (60a) correctly and unambiguously describes this situation. The sentence in (60b), however, is ambiguous. It could mean that doll A is inside of doll B, but it could also be felicitously uttered in a context in which doll A is *next to* doll B and neither contains the other; a similar problem arises with *around*. The perfective, I conclude, cannot be an Aspect head which denotes *OUTSIDE* or *AROUND*.

⁹Svenonius (2007, 63) writes that the "internal argument of P is universally a 'Ground,' or location, while the external argument is a 'Figure' or theme of location or motion, and that this pattern is as robust as the principle that Agents or Causers are external arguments of V, while Themes or Patients are internal arguments."

¹⁰Thanks to Peter Svenonius, Jeremy Hartman, and Robert Henderson for helping clarify these issues.

- (60) a. Doll A is **inside** doll B.
 b. Doll B is **outside** doll A.

Another possibility for a preposition denoting the superset relation is *with* in alternations in (61), originally discussed in Fillmore 1968.¹¹ In these constructions, the preposition *with* in (61b) seems at first glance to denote the opposite of *in* in (61a).

- (61) a. Bees are swarming **in** the garden.
 b. The garden is swarming **with** bees.

However, Fillmore points out, the sentence in (61b) is not exactly the opposite of that in (61a): while in (61a) the bees can be contained to a small portion of the garden, the sentence in (61b) claims that the garden is full of bees. Furthermore, it is not simply the preposition *with* in (61b) which conveys this meaning, but a special construction: **The garden is with bees*. Perhaps related is the frozen form *Mary is with child*, meaning that Mary is pregnant (i.e. *A child is in Mary*), but this is neither productive, nor entirely locative (i.e. Mary must be pregnant).

Svenonius (2007) also discusses alternations like those in (61), and concludes that (61b) is not a counterexample to the universal that Ps always take *grounds* as complements. He notes that *with* in these constructions is “either extremely polysemous or extremely vague”. Compare the pair in (62) with the additional uses of *with* in (63).

- (62) a. We sprayed tomato juice **on** the dog.
 b. We sprayed the dog **with** tomato juice.
- (63) a. We sprayed the dog **with** a fire extinguisher.
 b. We sprayed the dog **with** glee.
 c. We sprayed the dog **with** an audience of boy scouts.
 d. We sprayed the dog **with** raincoats to protect us from spatter. (Svenonius 2007)

Svenonius concludes that the preposition *with* does not introduce a Figure, but rather an adjunct whose interpretation is derived from the entire verb phrase. He compares the *with* in the above constructions to passive *by*-phrases in which the thematic role of the complement of *by* comes from the verb, not from the preposition.

The absence of a preposition denoting a containment or superset relation may be connected to 1. the fact that in a prepositional relation, the Ground is universally the complement, and 2. the fact that a container is a more canonical instance of a Ground than a Figure. See, for instance, the discussion of Figures and Grounds in Talmy 1978, 2000, cited in Svenonius 2007:

The Figure is a moving or conceptually movable entity whose path, site, or orientation is conceived as a variable, the particular value of which is the relevant issue.

The Ground is a reference entity, one that has a stationary setting relative to the reference frame, with respect to which the Figure’s path, site, or orientation is characterized. (Talmy 2000, 312)

¹¹Thanks to David Pesetsky for pointing these out.

A preposition denoting the superset relation would take the semantic *Figure* as a complement, an impossibility according to Svenonius 2007.¹²

5.5.2 Perfective as default aspect

The absence of a preposition (denoting central/noncentral coincidence or not) able to appropriately convey the relation between AST-T and EV-T necessary for the perfective aspect is striking when considered in the light of the typology of aspect-based split ergativity. Recall again Dixon's generalization: if a language shows aspect-based split ergativity, the ergative pattern will always be in the *perfective* aspect; non-ergative patterns will be in the nonperfective aspects (though again, languages vary on where the split is made).

Above I proposed, extending the analysis made by Laka (2006) for Basque, that this boils down to a difference between those aspects which involve more structural complexity, and those which involve simple clauses. Structural complexity in the languages discussed above accounts for the absence of ergative patterning as follows: the aspectual verb is intransitive and takes the subject as its single argument; the lexical verb (the stem carrying the encyclopedic verbal meaning), is subordinated. The intransitive matrix verb is responsible for assigning a θ -role and Case to the subject—in an ergative language, this will be absolutive.

←	simple clause		complex clause	→	
←	ergative		non-ergative	→	
(64)	perfective	>>	imperfective	>>	progressive

The appearance of complex clauses thus gives us the absence of ergative case marking on the subject in what appears to be a transitive clause, but is in fact build on an intransitive locative verb. As noted in Laka, we can connect this to the general tendency for languages to use locative expressions to convey imperfective and progressive aspects. In this section, we examined a system which proposes to reduce *all* values of Tense and Aspect to the same set of values used for location, based on Hale's typology of central versus noncentral coincidence. As noted above, it is not just ergative languages that use complex constructions in the imperfective aspects—this is proposed to be a universal tendency. Nonetheless, in languages which are basically nominative-accusative we do not *see* a split in case marking or agreement, since both transitive and intransitive subjects receive the same morphological marking.

Returning to the split in (64): what if there is no prepositional/locative structure to convey the perfective (notably absent from the discussion in Demirdache and Uribe-Etxebarria 2000)? If the perfective is unable to be conveyed via a locative structure (like the Irish perfect or the Basque progressive), we straightforwardly derive Dixon's generalization. The logic goes as follows:

¹²While there is no lexical preposition denoting the superset relation, there is a verb: *contain*. Interestingly, at least in English, while there is a preposition which denotes the subset relation (*in*), it is not clear that a corresponding *verb* exists. One possibility would be *inhabit*, though this carries additional overtones (i.e. a circle does not usually *inhabit* a square). I do not know whether this is true in other languages, and if so, what significance it may have. Thanks to David Pesetsky for pointing this out.

(65) THE GRAMMATICAL BASIS OF ASPECT-BASED SPLIT ERGATIVITY

1. In an otherwise ergative language, complex locative structure creates the appearance of a nominative-accusative pattern (cf. (64));
 2. Locative structure is universally used to convey temporal and aspectual information in the world's languages. Specifically, the heads Tense and Aspect denote preposition-like relations between UT-T and AST-T and between AST-T and EV-T;
 3. Tense and Aspect heads denote preposition-like relations between two arguments, the meanings of which are constrained by Hale's (1984) notion of *central* and *noncentral* coincidence;
 4. **There is no preposition that describes the relationship of AST-T to EV-T as conveyed by the perfective;**
- ∴ The perfective aspect does not involve complex locative structure and maintains the ergative pattern of the language.

While this analysis predicts the universal tendency for aspectual splits to always split one way and never the other, this analysis raises the question of how the perfective aspect *is* conveyed. In a number of languages, the perfective aspect is morphologically unmarked. This is true in English, Shona (Bantu, Toews 2009), some Mayan languages, such as Mopan (Larsen and Norman 1979), French, Ancient Greek, Bulgarian, and Georgian (Comrie 1978). Nonetheless, this is not universal; in Slavic languages, for example, the perfective is often more marked than the imperfective (Comrie 1978, 21).

Despite the fact that not all languages have morphologically unmarked perfectives, Comrie proposes that the perfective “represents the action pure and simple, without any additional overtones. In effect, this claims that perfectives are the unmarked members of any aspectual opposition based on perfectivity” (Comrie 1978, 21). One suggestion would thus be that the perfective is simply what is denoted by the *absence* of any information in the Aspect head. An event is viewed as a whole, unless otherwise specified. Or, continuing the analogy above, the camera lens begins at a wide angle, shifting or focussing only if instructed.

5.6 ARE THEY STILL VERBS?

In the sections above I presented an analysis of why we never find a non-ergative pattern in the perfective aspect, in languages which show aspect-based split ergativity. I should emphasize that this proposal does *not* predict which languages will show a split, nor does it predict where along the continuum of the PERFECTIVE ≫ IMPERFECTIVE ≫ PROGRESSIVE scale the split will occur.

Nonetheless, following much previous work, I propose that the structure given for tense and aspect in (45) above is *universal*; all languages make use of Tense and Aspect heads which denote relations between UT-T, AST-T, and EV-T. While some languages make use of overt prepositions to fill these heads, others do not. In some cases, the prepositions may have become *grammaticalized*. Nonetheless, in languages which show split ergativity, the proposal is that these are prepositions (or verbs denoting spatial relations) in the *synchronic grammar of the language*.

In Chol we find two different types of nonperfective construction, the A-Constructions and the B-Constructions (see appendix B). The B-Constructions—also present in closely related Tsel'tal—show an overt preposition. The A-Constructions, in contrast, do not. Nonetheless, I argued above

that in both the nonperfective aspect marker serves as the matrix predicate. Under the analysis presented here, the A-Construction has a null preposition denoting the relationship of AST-T to EV-T and thus might be analyzed as further along the path of grammaticalization

As noted in chapter 3 above, the proposal that aspect splits in the Mayan family are connected to verbal aspect markers is not new. Nonetheless, previous authors have proposed that this provides only a *historical* explanation for the split (Larsen and Norman 1979; Bricker 1981; Zavala 1997). Above I argued for Chol that this analysis of the aspect markers as predicates is synchronically real—otherwise the syntactic differences between perfective and nonperfective constructions do not receive a clear explanation.

Similarly, Laka (2006) compares the eastern varieties of Basque in which the progressive is still marked with the progressive *ari*, yet the subjects *do* receive ergative marking, as shown in (66).

(66) EASTERN BASQUE PROGRESSIVE

ezpata-**k** eta gose-a-**k** gu xahu-tzen ari gaitu
 sword-ERG and hunger-the-ERG us.ABS destroy-IMP PROG 1PL.HAVE.3PL

‘The sword and the hunger are destroying us.’ (Michelena 1987, cited in Laka 2006, 189)

Laka proposes that the difference between the eastern Basque progressive and the central and western varieties discussed in section 5.1 above is that in the eastern varieties the progressive is *no longer biclausal*: “The element *ari* has undergone a process of grammaticalization, that is, it has become a member of a functional category.” It has become an aspectual head; the lexical verb, *xahutzen*, now functions as the matrix verb. The equivalent of the locative posposition (*-n*) in the split-patterning varieties has simply become part of the imperfective morphology of the verb. Citing Kuryłowicz 1964, Laka notes that this pattern of change—from lexical to functional material—is a common path.

In the words, the proposal is that in languages with aspectually based split ergativity, the *synchronic grammar* involves a complex construction. This explains the difference in case marking without the need for special rules. As we see in Basque, once the aspectual element becomes grammaticalized and is no longer a verb, we expect to see the ergative morphology reemerge.

5.7 SUMMARY

In this chapter we examined a variety of unrelated languages with aspect-based split ergativity. While the details of each individual language varied considerably, a common pattern emerged in which the aspects which are described as showing the “split” (that is, lacking ergative marking), were exactly those aspects for which more complex structure has been proposed. Just as in the Chol B-Constructions described above, repeated in (67a), the languages described here possess constructions in which the “transitive subject” is in fact the subject of an unaccusative matrix verb; the lexical stem is in an oblique locative phrase (brackets below are my own):¹³

¹³One could imagine a locative matrix verb which is not unaccusative, but *transitive*; such a verb would mark the subject ergative and take the embedded verb phrase as its internal argument. Compare for instance *John lives in this house* with *John inhabits this house*. I do not know whether languages employ any such verbs for the progressive or imperfective, though we predict that if they did we would not see a split, as the subjects would be marked ergative just as in a monoclausal transitive environment. Thanks to David Pesetsky for raising this point.

- (67) a. CHOL
 Choñkol-oñ [tyi juch' ixim].
 PROG-ABS I PREP grind corn
 'I'm grinding corn.'
- b. BASQUE
 emakume-a [ogi-ak ja-te-n] ari da
 woman-DET bread-DET.PL eat-NML-LOC PROG 3ABS.is
 'The woman is eating (the) bread.' (Laka 2006, 173)
- c. TSEZ
 už [čorpa b-iš-xosi] Ø-ič-āsi yoł
 boy(I) soup(III) III-eat-PTCP I-stay-PRT be.PRES
 'The boy is eating soup.' (Maria Polinsky, p.c.)
- d. MĚBENGOKRE
 ba [tɛp krɛn ɔ=] dʒa
 1NOM fish eat.N INSTR= stand.SG.V
 'I'm eating fish (standing).' (Salanova 2007, 60)
- e. KASHMIRI
 bi chu-s təm-is [kita:b diva:n].
 1.NOM be-1SG her/him-DAT book giving
 'I am giving her/him a book.' (Wali and Koul 1997, 252)

For Basque in (67b), Laka (2006) argues explicitly for biclausality as the source of the progressive-nonprogressive case split. A similar pattern was found in the Nakh-Daghestanian languages, discussed in Forker 2010; biclausal structures have been proposed for the biabsolutive construction in some of these languages, and Polinsky and Comrie (2002) argue that these structures, like the Tsez one in (67c), involve a locative-type adjunct. In the Jê language Měbengokre, Reis Silva (2006) and Salanova (2007) propose biclausal structure for the progressive, as in (67d). A similar pattern is found in Kĩsêdjê, which also lends itself to a biclausal analysis (Rafael Nonato, p.c.). Finally, we looked at Indo-Aryan languages. While the case and agreement pattern appears to be compatible with the type of analysis proposed above, further work is needed to determine whether this is otherwise motivated in this family.

Recall that Chol has a second option, the focus of preceding chapters, in which the nonperfective auxiliary combines not with the subject, but with a full nominalized clause. Though this form looks different from the types of constructions in (67), it still constitutes a construction in which the aspectual marker functions as the matrix predicate, causing the difference in morphological person marking.

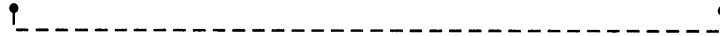
- (68) Choñkol [DP k-juch'-e` jĩni ixim].
 PROG A I-grind-DEP DET corn
 'I'm grinding the corn.'

It is important to note that in all of the cases examined thus far, it is not that the split involves an ergative pattern in the perfective and a clear *nominative-accusative* pattern in the nonperfective. Descriptively it is accurate to call the complex clauses *nominative-accusative*, if we simply mean that both subjects receive the same marking. Both subjects, however, receive *absolutive* (note of

course proposals in which the absolutive and the nominative are identical, see for example Legate 2008), and there is no special object case (i.e. no *accusative*). Rather, the object is simply embedded in the locative clause.

(69) a. TRANSITIVE

[SUBJECT_{ABS}] [*oblique transitive verb stem* + OBJECT_{PP}] [Predicate = aspectual]



b. INTRANSITIVE

[SUBJECT_{ABS}] [*oblique intransitive verb stem*_{PP}] [Predicate = aspectual]



We then turned in section 5.4 to the question of why it is always the imperfective and progressive aspects—never the perfective—in which we find this complex clause structure, and thus the appearance of nonergative patterns. Adopting the analysis of Demirdache and Uribe-Etxebarria (2000), we can view Tense and Aspect heads within the clause as denoting preposition-like relationships between the UTTERANCE TIME and the ASSERTION TIME (tense), and between ASSERTION TIME and EVENT TIME (aspect). The possible values for tense and aspect in the languages of the world, under Demirdache and Uribe-Etxebarria’s analysis, is constrained by Hale’s (1984) notion of *central coincidence* (the figure coincides with the ground) and *noncentral coincidence* (the figure either begins or ends at the ground). Transporting these ideas to temporal relations, we say that the AST-T (the figure) must either coincide with, or begin/end at the EV-T (the ground).

We thus have the following typology of tense and aspect: the relation WITHIN = present tense and progressive aspect; AFTER = past and perfect; BEFORE = future and prospective. Absent from their typology, however, is the perfective. In the perfective aspect the AST-T *contains* the event: $AST-T \supseteq EV-T$.

None of the relations which fall into Hale’s classification adequately describe this configuration. Indeed, it is difficult to imagine a preposition which would cover this notion. One possibility is that perfective is simply a “default”; unless otherwise specified, an event will be viewed in its entirety. Some typological work supports this idea (cf. the discussion in Comrie 1976). If there is no locative relation corresponding to the temporal notion of PERFECTIVE, we have a solution to why the perfective never shows a nonergative pattern in languages with aspect-based split ergativity.

CHAPTER 6

CONCLUSION

In this dissertation I argued that split ergativity—at least in a number of languages—does not mark a departure from the language’s basic pattern of Case assignment or agreement, but rather, a difference in syntactic structure. Specifically, I showed that in a number of languages, the nonperfective aspects which show nonergative “split” patterns can also be shown to involve more structure than the perfective (ergative-patterning forms). Following Laka (2006), I attributed this to the general tendency for languages to use locative-type structures for progressive or imperfective constructions. Finally, I proposed that locative structures are absent in the perfective aspect because there is no spatial preposition which conveys the temporal relation between the assertion time and the event time denoted by the perfective. The perfective, in contrast, represents a default aspect.

6.1 OVERVIEW OF MAJOR CLAIMS

We began with a detailed look at split person marking in the Mayan language Chol. Chol, we found, (along with Basque, languages of the Nakh-Daghestanian family, and perhaps some Indo-Aryan languages) shows a basic pattern of ergative morphology throughout the grammar. Splits are the result of an intransitive matrix verb in an apparently transitive clause. On the flip-side, we observed that the split in the Jê languages Mëbengokre and Kĩsêdjê could be attributed to the fact that all *verbs* follow a nominative-accusative pattern, while *nominals* show an ergative pattern (see also Johns 1992; Alexiadou 2001 for ergativity in nominalization). This paints a picture in which languages, within the verbal domain, follow one pattern or another consistently throughout the grammar.

Recall from chapter 1 that Dixon cites the list in (1) as the most common factors triggering split ergativity in the world’s languages:

- (1) FACTORS CONDITIONING SPLIT ERGATIVITY (DIXON 1994, 70)
 1. semantic nature of the core nominal arguments
 2. tense or aspect or mood of the clause
 3. semantic nature of the main verb (“Split-S”)
 4. the grammatical status of the clause (main or subordinate)

Chol, we found, shows the final three types of split. We began by looking at the Split-S system in chapter 3, which I attributed to a requirement that *v* in Chol—both transitive and intransitive—obligatorily assigns absolutive Case to internal DP arguments.

(2) CHOL LITTLE *v* GENERALIZATION

- a. All internal arguments must be assigned (absolutive) Case by a *v* head;
- b. All *v*'s must assign absolutive Case to an internal argument.

This gives the result that in Chol a stem which does not take a complement may not inflect as a verb. The Split-S system clearly involves a difference in structure—complementless unergative and antipassive forms require the use of a transitive light verb, resulting in Split-S marking. All internal arguments in the language receive absolutive Case from *v*. Transitive subjects and possessors receive ergative/genitive Case in situ from predicate-external functional heads. This is captured by the generalization in (3).

(3) CHOL PERSON MARKING GENERALIZATION

- a. **Set A** marks all external arguments (transitive subjects, unergative subjects, possessors)
- b. **Set B** marks all internal arguments (intransitive subjects, themes).

The division between complementing and complementless forms, captured by the generalization in (3), was shown to have consequences for the aspectual split as well. Specifically, given that the nonperfective aspect markers—*choñkol* (progressive) and *mi/muk'* (imperfective)—pattern as verbs, we predict from (3) that the complements they take must be nominals. Complementing forms take the form of *poss-ing* type nominalizations (full *v*Ps which undergo nominalization above the verbal layer), complementless stems are instantiated directly as nominals. Because the complementless stems contain no *v*P layer, the subject must be merged directly as the argument of a higher light verb.

This division, I proposed, provides a further piece of evidence for the hypothesis that transitive subjects are merged externally to the projection containing the lexical predicate, discussed further in Coon and Preminger (in progress). The proposal presented here is that Chol's aspectual split reduces to a split in subordination; the split in subordination in turn can be attributed to the fact that nonfinite subordinate clauses in the language are nominal. The final three splits listed by Dixon in (2) above can thus all be attributed to differences in syntactic structure, rather than special rules of Case assignment within a single language.

Finally, following the suggestion made by Laka (2006), I proposed that the directionality of aspectual splits (ergative in the perfective, "split" in the nonperfective) can be attributed to the universal tendency for languages to employ *locative* constructions to convey the progressive/imperfective aspect (see e.g. Bybee et al. 1994; Demirdache and Uribe-Etxebarria 2000). The perfective, I proposed, does not employ a locative construction (and thus does not show the complex structure which causes a split) because there is no preposition which captures the relation of ASSERTION TIME to EVENT TIME denoted by the perfective aspect. Perfective instead represents the default: an event is viewed in its entirety unless the grammar specifies otherwise.

6.2 AVENUES FOR FUTURE RESEARCH

Though the picture appeared fairly consistent for the languages examined in chapter 5, these represent only a small subgroup of the languages of the world which have been described as having

aspect-based split ergativity, and it remains to be seen whether evidence of more complex structure can be consistently found in the split portions of these languages.

In Chol, for instance, the complex structure of the nonperfective aspects is not immediately apparent. Compare again the perfective transitive in (4a) with the imperfective transitive in (4b). Though on the surface the structures look quite similar, careful investigation revealed that the syntax is actually quite different. The imperfective aspect marker *mi* is a verb, while the perfective *tyi* is not. The stem in the perfective is a verb stem, while the stem in the imperfective is a nominalization. The *i-* in the perfective marks *ergative*, while in the imperfective it is the *genitive*. The parallel structure of the clausal and nominal domain in Chol (a phenomenon not limited to Chol, see for example Szabolcsi 1983, 1994) accounts in part for the similar surface appearance.

- (4) a. Tyi i-ch'äx-ä ja` jiñi x-`ixik.
 PRFV A3-boil-TV water DET CL-woman
 'The woman boiled water.'
- b. Mi i-ch'äx ja` jiñi x-`ixik.
 IMPF A3-boil water DET CL-woman
 'The woman boils water.'

The Chol facts described in the chapters above, exemplified by the forms in (4), make it clear that detailed and comprehensive analyses of split-patterning languages—many of which to date remain under-documented—are needed in order to determine whether the picture proposed for splits above is truly universal.

In addition to further examination of languages with *aspectual* splits, note that this dissertation has made no claims about the nature of *person*-based splits, the first type of split listed by Dixon in (1) above. Recall that in the aspectual domain, if a language shows a split, it is the *perfective* that will always retain ergative marking. In languages with show splits based on the semantic features of the nominal arguments, it is always the *third person* arguments (or the lowest arguments along Silverstein's (1976) animacy hierarchy) that retain the ergative pattern. Above I suggested that the perfective (ergative-patterning) aspect should be viewed as the default aspect.

Just as the perfective can be viewed as the absence of aspectual specification, some authors have proposed that the third person is the *absence of person* (see e.g. Kayne 2000). Indeed, Wiltschko (2006) argues that the person split Halkomelem Salish should be attributed to a difference in structure in which first and second person arguments are projected higher in the clause. Relating person and aspect splits within this framework would be an interesting avenue for future research. In turn, the fact that in a person-based split it is also the least-marked member of the paradigm which maintains the ergative pattern, may lend support to the analysis above.

Furthermore, I have couched the above discussion as a discussion of *aspect-based* split ergativity. Note, however, that Dixon's original generalization is stated as follows: "If a split is conditioned by *tense* or aspect, the ergative marking is always found either in the *past tense* or the perfective aspect" (Dixon 1994, 99). If there are languages whose splits involve only tense (which can be shown to be operating independently from aspect), further work is needed to determine how to best account for these.

Finally, the proposal in chapter 5 that aspectual splits are connected to the presence of prepositional information in aspect heads (which in turn causes complex constructions in these aspects), makes certain predictions about the typology of splits we expect to find. Specifically, if the

perfect is indeed the result of a preposition meaning AFTER filling the Aspect head, we might expect to find a language in which the perfect shows a nominative-accusative (periphrastic) construction, while the other aspects are ergative-patterning; i.e. an ergative version of Irish. If such a language does not or could not exist, we need an account for why the imperfective aspects are more likely to involve periphrastic structure than the perfect.

Though detailed investigation into many more languages is needed to determine whether the proposal above can successfully account for splits more generally, I argue that at least in Chol, we find strong evidence that aspect-based split ergativity is not a deep fact about the Case or agreement system of the language. Rather, it is an epiphenomenon of the fact that imperfective and progressive constructions are periphrastic, involving an aspectual main verb, while the perfective is monoclausal—a pattern found in unrelated languages all over the world.

APPENDIX A

CHOL GRAMMAR

Some basics of Chol morphosyntax were presented in chapter 2 above. This appendix supplements the above discussion with an extended sketch of further issues in Chol phonology, morphology, and clause structure. The descriptions presented here are not intended to be exhaustive, but are included to give a general idea of some of the phenomena found in the language not covered in the above sections, to summarize parts of the existing literature, and to point to possible directions for future work.

A.1 PREVIOUS WORK

Previous works on Chol grammar include articles on phonology by Warkentin and Brend (1974) and Koob Schick (1979); grammatical descriptions by Schumann (1973) and Warkentin and Scott (1980); a dissertation on morphology by Attinasi (1973); a thesis on nominals by Meneses Méndez (1987); and three dictionaries: Torres Rosales 1974, Aulie and Aulie 1978 and INEA 1992. Montejo López (1999) offers a grammatical sketch written in Chol. This grammar was created for bilingual education programs and offers Chol words for many grammatical and linguistic terms. My own work on Chol, beginning with a B.A. thesis (Coon 2004), will also be referenced throughout.

More recently, native speakers of Chol have conducted in depth studies of the language in the masters program at CIESAS (*Centro de Investigaciones y Estudios Superiores en Antropología Social*) in Mexico. These include a detailed overview of Chol verbal morphology in Vázquez Álvarez 2002; a thesis on Chol verb classes by Gutiérrez Sánchez (2004); a thesis on Chol adjectives and property concepts by Martínez Cruz (2007); and a thesis on numeral classifiers by Arcos López (2009). These works will also be referenced throughout. A doctoral dissertation by Vázquez Álvarez is currently in progress, and will offer further information on Chol grammar (Vázquez Álvarez in progress).

Information on Chol culture and history can be found in a report by Josserand and Hopkins 2001, in the introductions of Attinasi 1973 and Vázquez Álvarez 2002, and to some extent in other works cited above.

A.2 PHONOLOGY

This section offers a brief overview of Chol phonology, including a discussion of its phoneme inventory and traditional orthography (§A.2.1), root and syllable structure and stress (§A.2.2), along with basic phonological processes (§A.2.3).

A.2.1 Phoneme inventory and orthography

Chol has twenty consonants and six vowels, shown in tables A.1 and A.2 below. The language is written in a Spanish-based practical orthography, which is used throughout this work. Notably, orthographic *j* = IPA [h], *y* = [j], *x* = [ʃ], and Chol's high mid unrounded vowel—IPA [i]—is written as *ä* (some older works use the wedge (Λ) or schwa (ə) for this vowel). I use the *grave* symbol (˘) to represent the glottal stop, and reserve the apostrophe for ejective consonants, as in [kʼ].

Consonants

Chol's consonants are shown in table A.1. IPA is shown on the left; in instances where the traditional orthography differs from IPA, this is given on the right side of the column. Here I do not include sounds found only in Spanish loanwords, such as [g] and [f]. Previous works (Schumann 1973; Attinasi 1973; Koob Schick 1979) have included [r], noting that it is highly marginal in the system. I follow Vázquez Álvarez 2002 in not listing it here, as it appears to be found mainly in Spanish loans or in onomatopoeic contexts. The non-palatal [t] is also sometimes listed as a separate phoneme; I discuss this below. As seen above, the vast majority of roots in Chol—and in the Mayan family more generally—are of the form CVC.

Table A.1: CHOL CONSONANTS – IPA & PRACTICAL ORTHOGRAPHY

	Labial	Alveolar	Post-alveolar	Palatal	Velar	Glottal
Implosive	ɓ (b)					
Plosive	p			t̚ (ty)	k	? (˘)
Ejective	pʼ	tsʼ (tsʼ)	tʃʼ (chʼ)	t̚ʼ (tyʼ)	kʼ	
Affricate		ts (ts)	tʃ (ch)			
Fricative		s	ʃ (x)			h (j)
Nasal	m			ɲ (ñ)		
Approximant	w	l		j (y)		

Chol's five ejective consonants contrast with their non-ejective counterparts in all positions. Compare for example: *ty'añ* 'word' with *tyañ* 'lime (calcium oxide)', and *buts'* 'smoke' with *buts* 'sprout'.¹ As in many Mayan languages, the only voiced obstruent is /b/. In Chol, this consonant is typically realized as [ʔ] or [p] word-finally and is pre-glottalized elsewhere (Attinasi 1973; Warkentin and Brend 1974).² Authors describing other Mayan languages have labelled the voiced bilabial as an implosive. In Mam, for example: "the imploded bilabial /b/ is always voiced in initial or medial position but is devoiced finally" (England 1983, 26). Based on the special behavior

¹See Gallagher 2010 for a detailed analysis of Chol ejectives.

²Words like *kabäl* 'many' and *xiba* 'demon' are often found written as *ka˘bäl* and *xi˘ba* respectively.

of this Chol consonant, I assume it is also implosive, though a detailed phonetic analysis remains to be done.

While Chol has palatal consonants [ɲ], [tɲ], and [tɲʰ], it lacks the non-palatal counterparts.³ Non-palatal [t] is found only in a few forms and never contrasts with [ts]. For example, the perfective marker is realized alternately as *ta`* or *tsa`*. Chol's palatal consonants correspond to non-palatals in cognate forms in other Mayan languages. For instance, Chol *muty* 'chicken', *tyuñ* 'stone', and *ty'ul* 'rabbit' correspond to Tzeltal *mut*, *ton*, and *t'ul* (Kirill Shklovsky, p.c.). Attinasi (1973, 28) lists Chol and Awakatek as the only Mayan languages with palatal consonants; Awakatek also has a palatal [k].

Vowels

Chol's vowels are listed in table A.2. While close relatives Tzeltal and Tzotzil have only five vowels—[a], [e], [i], [o], and [u] (Kaufman 1971; Haviland 1981)—Chol has a sixth: [i̯] (written as *ä*).

Table A.2: CHOL VOWELS – IPA & PRACTICAL ORTHOGRAPHY

	Front	Center	Back
High	i	i (ä)	u
Mid	e		o
Low		a	

This sixth vowel is contrastive, though it is more limited in its distribution and may be connected to a height contrast found in geographically close Yucatecan languages where [ä] appears in transitive stems and [a] is used to form corresponding intransitives (Lois and Vapnarsky 2003, 18). In these languages, Lois and Vapnarsky propose that “all roots share a general template CVC that is associated with a matrix in which both Cs are completely determined but V only partially so”. A related phenomenon is found in Chol's productive vowel length contrast, described below.

The connection between low central [a] and high central [i̯] (henceforth [ä]) is supported by language internal evidence, also discussed in Attinasi 1973, 55; see also Kaufman and Norman 1984. There are a number of minimal pairs, differing only with respect to the height of the vowel, which are clearly semantically related. These include pairs like *pak* 'seed' and *päk* 'to plant'; *x-pay* 'messenger' and *päy* 'to call'; *tyak'iñ* 'money' and *tyäk* 'to add'. Note that the [a] members are nouns while the [ä] members are verbs. This does not appear to be a synchronically productive alternation.

This pair of phonemes is also involved in two regular phonological processes. First, /ä/ becomes [a] in word initial (or unprefix) position, as seen in alternations with the root *äk* 'give'. Compare: *ak'-eñ* 'give it!' and *tyi y-äk'-e-yoñ* 'He gave it to me'. This explains the fact, noted by Warkentin and Brend (1974, 92) that there are no [ä]-initial roots. See also the discussion in chapter 2.2.5 above.

Second, transitive roots take a harmonic vowel suffix in the perfective aspect (discussed in chapter 2.2.3 above). The vowel suffix is always identical to the root vowel, except in a handful

³Informal spectographic analysis of Chol speech shows that these consonants are realized with palatal offglides (Gillian Gallagher, p.c.).

of forms where the root vowel is [a], the suffix is realized as [ä]. Compare: *tyaj-a* ‘find-SUF’ with *jap-ä* ‘drink-SUF’ and *jats’-ä* ‘hit-SUF’. See Vázquez Álvarez in progress for a diachronic explanation of these facts.

Laryngeal vowel features

The six plain vowels from table A.2 contrast with lengthened, aspirated vowels, represented orthographically as *Vj*, as in the minimal pair *sak’* ‘stinging’ and *sajk’* ‘grasshopper’. In addition to static forms like *sajk’*, *CVC*→*CVjC* is a productive means of forming an unaccusative stem from an otherwise transitive-forming root: *mek’* ‘hug’, *mej’* ‘be hugged’ (see section A.4). The lengthened-aspirated vowels also cause root-final consonants to devoice: [ʔam] ‘long’ vs. [ʔa^hm] ‘*mecapal*’ (a leather strap used for carrying).

Some authors claim that the Chol *CVjC* roots involve a “*j* infix” (Vázquez Álvarez 2002; Gutiérrez Sánchez 2004). Following Attinasi 1973, I maintain that the aspiration is a feature of the vowel and suggest that it may be related to other valence-related vowel contrasts in Yucatecan languages (cf. Lois and Vapnarsky 2003, 2006).⁴ Another possibility is that the aspiration in certain Chol roots is connected (via metathesis) to passivizing *-j* suffixes in languages like Tzeltal and Tojolabal (Roberto Zavala, p.c.). In either case, infixation is not found anywhere else in the language (or in any other Mayan language, to my knowledge), and under the lengthened-and-aspirated vowel analysis these roots conform to the canonical *CVC* root template found throughout the Mayan language family.

In a relatively small number of Chol roots we also find “broken” or “interrupted vowels”—vowels which are interrupted by glottal closure (see Silverman 1997). Examples include *ja`as* ‘banana’, *si`im* ‘mother’s brother’s wife’, and *jo`ox* ‘*achiote*’ (type of tree). There is no general requirement that vowels separated by a glottal stop assimilate (compare the perfective morpheme with a clitic attached, *tsa`-ix*, or the compound *tya`-ek* ‘excrement-star (meteor)’). As above, analyzing these roots as containing single interrupted vowels allows us to maintain the general *CVC* root pattern. See Silverman 1997 for arguments in favor of this analysis for interrupted vowels in the Mixtecan language Copala Trique.

A.2.2 Roots, syllables, and stress

As noted above, most lexical roots in Chol are of the form *CVC*. I suggested above that this includes roots in which the vowels have special laryngeal specifications, such as lengthening and aspiration in roots like *xujch’* ‘thief’, or glottal interruption as in *ja`as* ‘banana’. Apparent exceptions to the *CVC* template do exist, though in many cases it seems likely that these words are historically bimorphemic. For instance, the forms for ‘woman’ and ‘man’, *ixik* and *wiñik* respectively, both contain a final *ik*; this sequence is also found in the numeral classifier used for counting humans, *-tyikil*. Another frequently heard exception is the word for ‘corn’: *ixim*. Historically this can be decomposed into a Proto-Mayan root **ix* and a nominalizer **-im* (Roberto Zavala p.c.).

⁴Though Attinasi transcribes these vowels as *V*., he notes that they involve final aspiration.

Vowel-initial roots

The words *ixik* and *ixim* also warrant discussion as members of a class of so-called “vowel-initial” roots. These include roots like *ek* ‘star’, *ab* ‘hammock’, and *uj* ‘moon’. When surfacing unaffixed in word initial position, these are realized with an initial glottal stop: [ʔekʔ], [ʔab], [ʔuh]. When prefixed, the glottal stop does not surface. Compare: [ʔab] ‘hammock’; [k-ab] ‘my hammock’. This is a common phenomenon in Mayan languages, discussed for instance for Tzotzil (Haviland 1981) and Mam (England 1983). One possibility is that these roots are underlyingly /ʔVC/ and that the initial glottal stop is deleted in non-initial position. Alternately, the roots are underlyingly /VC/ and a surface requirement adds the glottal stop to maintain the CVC template. I do not take a stand on this here, though a couple of points are worth mentioning.

Possible evidence that the root is underlyingly /ʔVC/ comes from reduplicated roots: when a glottal/vowel-initial root is reduplicated, we find the glottal stop in the non-initial portion of the reduplicant. In Chol for instance, color terms often involve partial (CV-CVC) or full (CVC-CVC) reduplication of a root (discussed below). The form for ‘red’, for example, is *chächäk*; ‘black’ is *i`ik* or [ʔi-ʔikʔ]. The fact that we find the glottal stop in both the base and the reduplicant may suggest it is present underlyingly.⁵

However, if the forms are underlyingly /ʔVC/, we are still left with a puzzle in how to account for the insertion of glides in certain contexts. When these roots are preceded by a vocalic prefix, a glide appears between the prefix and the root. The second person genitive, for instance, is realized as *a-* before consonants, and *aw-* before vowels. We thus find paradigms like [ʔab] ‘hammock’; [k-ab] ‘my hammock’; [aw-ab] ‘your hammock’. A form like *[a-ʔab] is impossible.

I leave it open to future work what bearing these facts may have on the underlying status of the vowel-initial roots. I follow other Mayanists in not transcribing the initial glottal stop in initial position, which is never contrastive. Whatever the analysis of these roots, the fact that they surface with the glottal stop in initial position shows that there is a strong preference for CVC roots in the language.

Word and syllable structure

While lexical roots are typically CVC, we find many functional morphemes which are either V, C, VC, CV, or CVC.⁶ There are no morpheme-internal consonant clusters in the language, though consonant clusters do appear across morpheme boundaries. Syllables with complex onsets are possible when roots appear with the first person [k-] or the feminine [-]: [kʔitʃ] ‘my sister’; [ʃkʔa.li] ‘girl’. Coda clusters are unattested; there are no -C suffixes which appear word-finally.⁷

The minimal word requirement in Chol is CVC. While there are a few free-standing CV functional elements—namely, the aspect markers *mi* (imperfective) and *tyi* (perfective), as well as the preposition *tyi*—these elements always cliticize to the element at their right. This was discussed in the context of the aspect markers in chapter 4 above.

⁵These facts were first noted by Judith Aissen (Kirill Shklovsky, p.c.). Vowel hiatus in Chol is resolved either through deletion or the epenthesis of a glide, discussed below, making it unlikely that this is an epenthetic glottal stop.

⁶Many functional CVC morphemes appear to be further decomposable. See for instance Coon and Preminger 2009 for an analysis of *-tyäl* and *-tyel*, and Haviland (1981) and Shklovsky (2008) for a decomposition of Tzotzil and Tseltal *-bel*.

⁷Some works list CVCC and CCVCC as possible syllable types (Koob Schick 1979; INEA 1992). These analyses consider the lengthened and aspirated vowel—represented as an orthographic ‘j’ in forms like *tyajm*—to be a consonant, rather than a feature of the vowel as I analyze it here.

Stress

Stress in Chol, and in Mayan languages generally, is word final in declarative sentences. This is shown in the following examples from Vázquez Álvarez 2002.

- (1) a. wäy-él
sleep-NML
'sleep'
- b. Wäy-äl-oñ.
sleep-STAT-B1
'I am sleeping.'
- c. Wäy-äl-oñ-lá.
sleep-STAT-B1-PL
'We are sleeping.'
- (Vázquez Álvarez 2002, 26)

In interrogatives, the stress shifts to the initial syllable, as shown by the contrast in (2). Stress and intonation are often the only way in which yes/no interrogatives are distinguished from declaratives (see section A.7.2). Stress, prosody, and intonation in Chol deserve more detailed investigation. I leave this topic for future research.

- (2) a. Maystraj-éty.
teacher-B2
'You are a teacher.'
- b. Máystraj-ety?
teacher-B2
'Are you a teacher?'

A.2.3 Phonological processes

In this section I briefly review a few of the phonological processes found in Chol, including the resolution of vowel hiatus, assimilation, co-occurrence restrictions, and reduplication.

Vowel hiatus

Because of Chol's agglutinating morphology, vowels often come together across morpheme boundaries. Vowel hiatus is resolved in Chol by either epenthesis or deletion. The glide -y- (IPA [j]) is inserted in most cases, as in (3). I simply include epenthetic glides with other morphemes, and do not parse them out separately.

- (3) a. Tyi i-mek'-e-y-ety.
PRFV A3-hug-TV-EP-B2
'She hugged you.'
- b. Tyi a-jats'-ä-y-oñ.
PRFV A2-hit-TV-EP-B1
'You hit me.'

- c. Tyi jul-i-y-ob.
PRFV arrive.here-ITV-EP-PL
'They arrived (here).'

Note that in (3a–b) we find adjacent vowels across the boundary between the perfective marker and the verb stem. In non-careful speech, these forms are realized as *tyi`mek`eyety`* and *ta`jats`äyoñ* respectively. Similarly, the imperfective morpheme *mi* and the same following vowels would concatenate from *mi i-* and *mi a-* to *mi`* and *ma`*.⁸ Below I will continue to parse out the morphemes as above.

The second and third person forms *i-* and *a-* are realized as *iy-* (or just *y-*) and *aw-*, used when preceding vowel-initial roots. While the glide *y* is used epenthetically elsewhere, the appearance of a *-w-* with the second person is not phonologically predictable, so we may think of this as simply an allomorph. Compare for instance the different resolution of adjacent */a-o/*.⁹

- (4) a. Mi aw-och-el.
IMPF A2-enter-NML
'You enter.'
- b. Tyi i-tyaj-a-y-oñ.
PRFV A3-find-TV-EP-B1
'He found me.'

Finally, we find *-j-* (IPA [h]) inserted between Spanish loans and a following vowel, as in (5). As suggested by Attinasi (1973), a possible explanation for this is to propose that vowel-final words are borrowed with a final [h] to help these words conform to a general template in which lexical items begin and end with consonants. This final [h] would be either deleted or realized only weakly when appearing word-finally. See also AnderBois 2007 for a similar phenomenon in Yucatec.

- (5) a. Soltero-j-oñ-tyo.
single-EP-B1-still
'I was still single.' (B.73)
- b. Mediko-j-ob.
doctor-EP-PL
'They are doctors.'

Assimilation and co-occurrence restrictions

The nasal consonants [m] and [ñ] assimilate in place to following stops. The numeral *juñ* 'one', for instance, is realized as *jum* when preceding a numeral classifier beginning with a bilabial consonant. Compare: *juñ-tyikil wiñik* 'one man' with *jum-p`ej alaxax* 'one orange'. A case of [m] assimilating is seen in (6d) below; the root for 'die' is *chäm*.

We also find regressive anteriority assimilation in stridents (see Gallagher and Coon 2009). The feminine noun class marker *x-* (IPA [ʃ]) is realized as *s-* before certain roots containing a

⁸The same process is found between the preposition *tyi* and a following set A marker. See section A.7.6 below.

⁹Alternatively, one could propose that the underlying form of the second person morpheme is */aw/* and the glide is deleted before consonants. However, there is little language-internal motivation for such an analysis. The glide [w] is not deleted before consonants in compound forms, for example.

[+anterior] strident. Compare for example the forms *x-ixik* ‘woman’ and *x-wujty* ‘shaman’ with *s-tsats* ‘sardine’ and *s-ts’ijb* ‘scribe’ (Aulie and Aulie 1978).¹⁰ This is also seen in certain forms involving the causative suffix *-(i)sä*, as in (6).

- (6) a. Tyi **och**-i-yoñ.
PRFV enter-ITV-B I
‘I entered.’
- b. Tyi **y-ots-(s)**-ä-yoñ.
PRFV A3-enter-CAUS-DTV-B I
‘He made me enter.’
- c. Tyi **chäm**-i jiñi wakax.
PRFV die-ITV DET cow
‘The cow died.’
- d. Tyi **k-tsäñ-s-ä** jiñi wakax.
PRFV A1-die-CAUS-DTV DET cow
‘I killed the cow.’

Finally, Chol shows static co-occurrence restrictions between consonants in roots, discussed in detail in Gallagher and Coon 2009. The strongest restrictions are found within the classes of ejectives and stridents. While we find a number of CVC roots containing identical ejectives—*ch’ich* ‘blood’, *k’ok* ‘healthy’, *p’ip* ‘wild’—there are no attested roots with non-identical ejectives. That is, forms like **ch’ip*, **p’ak*, and **ty’ots* are completely unattested.

Similarly, we find a number of roots with identical non-ejective stridents: *xex* ‘shrimp’, *tsäts* ‘difficult’, *sus* ‘scratch’. Roots with distinct non-ejective stridents, such as **sats* or **xoch* are highly restricted. Finally, we find an interesting interaction between stridents and ejectives. Namely, two non-identical stridents may co-occur within a root so long as 1. they agree in anteriority and 2. one of the stridents is ejective. This gives us attested forms like *ts’is* ‘sew’ and *xujch* ‘thief’. This interaction is analyzed in Gallagher and Coon 2009 and Coon and Gallagher 2009).

Reduplication

Chol exhibits some reduplication, seen for instance in the five-term color system in table A.3. Here, the CV portion of the root is reduplicated in all cases except the form for ‘yellow’, in which we find full reduplication. (Recall that the term for ‘black’ involves an initial glottal stop.) The CVC roots from which these terms are derived have related meanings. The root *säk*, for instance, can be used as an adjective ‘clear’ or ‘clean’, while *k’añ* means ‘ripe’.

Numerals may also be reduplicated, resulting in a distributive reading, as in (7):

- (7) a. **Ju-jum**-p’ej mi la-k-xip-tyep’-e’.
REDUP-one-NC IMPF PL-A1-wrapped.in.something.thin-wrap-DEP
‘We wrap them up one by one.’ (T05/L14)
- b. **Ju-jum**-p’ej ju-juñ-tyikil
REDUP-one-NC REDUP-one-NC.people
‘One piece for each person’ (E.149)

¹⁰For Vázquez Álavarez (p.c.) these noun class clitics do not undergo assimilation. Further work is needed to determine whether this is a point of dialectal variation.

Table A.3: COLOR TERMS

<i>sä-säk</i>	'white'
<i>i-`ik</i>	'black'
<i>chä-chäk</i>	'red'
<i>yä-yäx</i>	'green'
<i>k'än-k'än</i>	'yellow'

Most instances of reduplication are of these two types—either total reduplication $C_1V_2C_3-C_1V_2C_3$, or partial reduplication $C_1V_2-C_1V_2C_3$. In some reduplicated forms, we find partial reduplication in which the vowel of the reduplicated syllable has undergone lengthening and aspiration: CVj-CVC. Attinasi (1973, 111) lists *pojpoñ* 'roasting', *chijchil* 'leaves for the dead'; Aulie and Aulie (1978) give 'yellow' as *yäjäx* and we can also add *pejpem* 'butterfly'. More work is needed to determine whether the reduplicated form is predictable from the root, or whether certain codas are more likely to be copied than others. See Martínez Cruz (2007, 87) for a discussion of various roots which appear reduplicated, often resulting in property-denoting stems.

A.3 EVENTIVE PREDICATES

This section begins our look into Chol morphosyntax. In chapter 2.2.3 I discussed the classification of Chol roots and their eventive stem forming possibilities, summarized in table A.4. I do not review these forms here.

Table A.4: EVENTIVE STEM FORMS

	perfective	nonperfective
root transitive	A- <u>root</u> -V-B	A- <u>root</u> -(e`)-B
non-root transitive	A- <u>root</u> -V-B	A- <u>root</u> -Vñ-B
intransitive	<u>root</u> -i-B	A- <u>root</u> -el
positional	<u>root</u> -li-B	A- <u>root</u> -tyäl

As noted above, all stems in the perfective aspect terminate in a vowel, proposed above to be an instantiation of a verbal functional projection, *v*. Nonperfective stems lack these vowel suffixes; the morphology they appear with was argued in the chapters above to be *nominal* morphology. It is in these nonperfective aspects that we find the apparent nominative-accusative pattern (i.e. all subjects are marked set A), the focus of the preceding chapters.

A.4 VALENCE CHANGING OPERATIONS

In this section we examine valence changing operations in these eventive constructions. These include passives (§A.4.1), causatives (§A.4.2), applicatives (§A.4.3). Chol does not have a verbal antipassive construction, though see the discussion in chapter 3 above on nominal forms related to antipassive constructions in other Mayan languages.

A.4.1 Passive

Root transitives

The majority of root transitives in Chol form passives by lengthening and aspirating the root vowel: CVC→CVjC (see section A.2 above). The resulting form behaves morphologically the same as underived unaccusatives. In (8a), for example, the transitive root *kuch* appears in a transitive stem form: it takes the harmonic vowel suffix *-u* and shows both set A (subject) and set B (object) markers. In the passive form in (8b) the root vowel is lengthened and aspirated (represented as orthographic *j*), and the agent is left unexpressed. This root now appears with the suffix *-i*, found on underived perfective intransitives, such as the one in (9).

- (8) a. PERFECTIVE PASSIVE
 Tyi i-kuch-u-yoñ.
 PRFV A3-carry-TV-B I
 'He carried me.'
- b. Tyi kujch-i-yoñ.
 PRFV carry.PASV-ITV-B I
 'I was carried.'
- (9) UNDERIVED PERFECTIVE UNACCUSATIVE
 Tyi wäy-i-yoñ.
 PRFV sleep-ITV-B I
 'I slept.'

Analogous facts are found in nonperfectives, as shown by the progressives in (10). In the passive in (10b) the agent is omitted and the CVjC root now appears with the suffix *-el*, found on underived nonperfective intransitives like the one in (11).¹¹

- (10) NON-PERFECTIVE PASSIVE
- a. Choñkol i-kuch ñeñe` jiñi x-`ixik.
 PROG A3-carry baby DET CL-woman
 'The woman is carrying a baby.'
- b. Choñkol i-kujch-el ñeñe`.
 PROG A3-carry.PASV-NML baby
 'The baby is being carried.'
- (11) UNDERIVED NONPERFECTIVE UNACCUSATIVE
 Choñkol i-wäy-el ñeñe`.
 PROG A3-sleep-NML baby
 'The baby is sleeping.'

While the majority of CVC roots form passives in this manner, the CVC→CVjC process is unavailable for transitive roots ending in a fricative consonant: *j*, *s*, or *x* (recall that these represent

¹¹It is worth pointing out that many apparently underived intransitives are also of the form CVjC (see table 2.1 above). The roots *majl* 'go' and *tyjip* 'jump' for instance appear in intransitive stems, but there are no transitive counterparts **mal* or **tyip*'. There are no transitive roots of the form CVjC.

IPA [h], [s], and [ʃ] respectively). This is likely a phonological fact banning adjacent fricatives. While fricative-final transitive roots behave identically to non-fricative-final roots in active stems (i.e. they appear in forms like (8a) and (10a)), fricative-final transitive roots must form passives with the suffix *-li* (perfective) and *-tyäl* (nonperfective), shown in (12).¹² Coon and Preminger (2009) argue that these suffixes are complex, and are composed of the regular intransitive stem-forming suffixes *-i* and *-el*, combined with morphemes *-Vl* (discussed in section A.5) and *-tyi* (the passive for derived transitives). The phonological reduction of *-Vl-i* to *-li* and *-tyi-el* to *-tyäl* is not unexpected.

(12) FRICATIVE-FINAL PASSIVES

- a. Tyi k'ux-**li**-yoñ.
PRFV bite-PASV.ITV-B I
'I was bitten.'
- b. Mi i-mos-**tyäl** ñeñe`.
IMPF A3-cover-PASV.NML baby
'The baby is covered.'

Non-root transitives

While CVC root transitives passivize either by lengthening and aspiration of the root vowel, or with the suffixes *-li/-tyäl*, derived or "non-root" transitive stems (see chapter 2.2.3 above) passivize with the suffix *-tyi* following the *-V/-Vñ* suffixes.¹³ In the nonperfective aspects, we then find the suffix *-el*, which also appears on underived intransitives in the nonperfective aspects (§10); vowel deletion gives us *-tyel*. Examples are shown in (13)–(14). As noted above, the *-V/-Vñ* stems with and without overt derivational morphology behave alike with respect to passivization.

(13) PASSIVIZED CAUSATIVES

- a. Tyi yä-s-**añ-tyi**-yoñ.
PRFV fall-CAUS-DTV-PASV-B I
'I was made to fall.'
- b. Mi k-yä-s-**añ-tyel**.
IMPF A1-fall-CAUS-DTV-PASV.NML
'I am made to fall.'

(Vázquez Álvarez 2002, 59)

(14) PASSIVIZED NON ROOT TRANSITIVE

- a. Tyi koty-**añ-tyi**-yety.
PRFV help-DTV-PASV-B2
'You were helped.'
- b. Mi a-koty-**añ-tyel**.
IMPF A2-help-DTV-PASV.NML
'You are helped.'

(Vázquez Álvarez 2002, 75)

¹²These are the same suffixes found on positional roots to form eventive stems; see Coon and Preminger 2009 for an analysis which unifies the two constructions.

¹³Note that here we find the *-Vñ* form in both nonperfectives and perfectives. Word-finally and before the set B morpheme we find simply *-V* in the perfective.

With respect to person-marking, these stems follow the split analyzed in the chapters above: the single argument of the perfective is marked with set B, while the single argument of the nonperfective is marked set A.

The appearance of *by*-phrases

The appearance of *by*-phrases with passives is restricted based on person and animacy. The restriction of voice constructions based on the relative animacy of the verbal arguments in Mayan languages was first noted in Aissen 1997, who connects these facts to *obviation*. Zavala (2007) describes the situation for Chol. He notes for that in clauses with two grammatically encoded arguments, the active form must be used if the agent is animate and the patient is inanimate. This is shown by the ungrammaticality of the passive with *by*-phrase in (15b). If the *by*-phrase is omitted, (15b) is grammatical.¹⁴

(15) AGENT \gg PATIENT = ACTIVE

- a. Tyi i-mel-e waj k-ñã`jel.
PRFV A3-prepare-TV tortilla A1-aunt
'My aunt prepared the tortilla.'
- b. *Tyi mejl-i waj tyi k-ñã`jel.
PRFV prepare.PASV-ITV tortilla PREP A1-aunt
'The tortilla was prepared by my aunt.'

(Zavala 2007, 297)

In contrast, the passive is the only option for a construction with two grammatically encoded third person arguments in which the patient outranks the agent in animacy. The active in (16a) is ungrammatical.¹⁵

(16) PATIENT \gg AGENT = PASSIVE

- a. *Tyi i-jats`-ä aj-Pedro li chajk.
PRFV A3-hit-TV DET-Pedro DET lightning
'The lightning hit Pedro.'
- b. Tyi jajts`-i aj-Pedro tyi chajk.
PRFV hit.PASV-ITV DET-Pedro PREP lightning
'Pedro was hit by the lightning.'

(Zavala 2007, 297–298)

Zavala, following the discussion in Aissen 1997, connects these facts to languages which grammatically encode obviation, for instance Algonquian languages: while Chol has no morphological inverse, the passive is required in contexts where we find inverse in languages that do show morphological inverse. In Chol, unlike Algonquian, this special construction is only required in clauses with two third person arguments (see also the discussion of the Tzotzil Agent Focus in Aissen 1999). As illustrated in (17), both active and passive forms are possible in constructions in which at least one argument is not third person.

¹⁴The sentence in (15b) can also be grammatical if it is interpreted as 'The tortilla was prepared at the place associated with my aunt', i.e., the *tyi*-phrase can receive a location interpretation.

¹⁵As Zavala notes, this sentence *is* grammatical under a VSO interpretation: 'Pedro hit the lightning'. Full DP objects are generally ungrammatical in VOS object position, as discussed in Coon 2010b. The facts in (16) still hold with a determiner-less patient.

- (17) a. Tyi i-jats'-ä-yety chajk.
 PRFV A3-hit-TV-B2 lightning
 'The lightning hit you.'
- b. Tyi jajts'-i-yety tyi chajk.
 PRFV hit.PASV-ITV-B2 PREP lightning
 'You were hit by the lightning.' (Zavala 2007, 298)

Finally, it is worth pointing out that unlike in English passive, there is no change in marking of the theme between an active and passive construction (as expected under the *Chol person marking generalization*, presented in chapter 2 above). In a perfective transitive like (18a), for example, the second person object is marked with the set B *-yety*; in the passive the same argument continues to receive set B marking.

- (18) a. Tyi k-jats'-ä-yety.
 PRFV A1-hit-TV-B2
 'I hit you.'
- b. Tyi jajts'-i-yety.
 PRFV hit.PASV-ITV-B2
 'You were hit.'

A.4.2 Causative

Morphological causative

Chol has one morphological causative, the suffix *-(i)s*, which is possible only on intransitive roots. In the perfective the suffix is followed by the vowel *-ä* and in nonperfective aspects it is followed by *-añ* (following the general pattern of derived transitives in the language). The appearance of the vowel *-i* does not seem to be phonologically predictable.

- (19) PERFECTIVE CAUSATIVE
- a. Tyi wäy-i ñeñe`.
 PRFV sleep-ITV baby
 'The baby slept.'
- b. Tyi k-wäy-is-ä ñeñe`.
 PRFV A1-sleep-CAUS-DTV baby
 'I made the baby sleep.'
- (20) NON-PERFECTIVE CAUSATIVE
- a. Mi i-wäy-el ñeñe`.
 IMPF A3-sleep-NML baby
 'The baby sleeps.'
- b. Mi k-wäy-is-añ ñeñe`.
 IMPF A1-sleep-CAUS-D.NML baby
 'I make the baby sleep.'

The causative suffix often triggers an irregular or reduced form of the root. These forms are not phonologically predictable, and are unique instances of irregularity in a language which is otherwise predictably agglutinating. For instance *yajl* ‘fall’ ~ *yä-s* ‘make fall’; *lok* ‘exit’ ~ *lo`-s* ‘make exit’; The suffix *-(i)s* also triggers regressive anteriority harmony, as in *chäm* ‘die’ ~ *tsän-s* ‘kill’ and *och* ‘enter’ ~ *ot(s)-s* ‘make enter’.

Finally, the causative suffix is impossible with roots denoting directed motion: *majl* ‘go’, *tyäl* ‘come’, *jul* ‘arrive here’ and *k’oty* ‘arrive there’. This same set of roots is also unable to appear with imperative morphology (§A.7.2). Both imperatives and causatives involve a volitional actor, though more work is needed to understand the connection to directed motion.

Periphrastic causatives

As noted above, the morphological causative is possible only with certain intransitive roots. All other causatives in the language are periphrastic. Examples with the verbs *xik* ‘order’ and *äk* ‘give’ are given in (21). These verbs take nonfinite complement clauses, discussed further in chapter 4.4 above.

- (21) a. *Tyi i-xik’-i-yoñ tyi juch’ waj.*
 PRFV A3-order-TV-B1 PREP grind corn
 ‘She ordered me to grin corn.’
- b. *Tyi k-äk’-ä-yety tyi soñ.*
 PRFV A1-give-TV-B2 PREP dance
 ‘I made you dance.’
- c. *Mi i-xik’-ety a-wuts’ pisil.*
 IMPF A3-order-B2 A2-wash clothes
 ‘She orders you to wash clothes.’

This type of construction is also found in the causativization of certain intransitives as in (22), though here we see the *transitive* (rather than ditransitive) stem form of *äk*’ (recall that transitive roots take no suffix in the imperfective; the ditransitive stem form of *äk*’ takes *-eñ* in the imperfective above). There also appears to be variation as to whether a preposition appears preceding the intransitive form, as shown in the following forms from Vázquez Álvarez 2002. More work is needed to determine what governs this variation, as well as whether there are semantic differences between intransitives causativized with *äk*’, and those causativized with the suffix *-(i)sä*.

- (22) a. *Mi k-äk’-ety (tyi) wäy-el.*
 IMPF A1-give-B2 PREP sleep-NML
 ‘I make you sleep.’ (Vázquez Álvarez 2002, 65, 322)
- b. *Mi k-äk’-ety lok’-el.*
 IMPF A1-give-B2 exit-NML
 ‘I make you leave.’ (Vázquez Álvarez 2002, 317)

A.4.3 Applicative

Transitive stems (derived or not) appear in double object constructions with the applicative suffix, *-b*, followed by *-e* in the perfective and *-eñ* in the nonperfective. The forms in (23) show that a

benefactive can be added to a transitive construction as an oblique marked by *cha`añ* ‘for’ (also a relational noun, described in this context as a preposition by Gutiérrez Sánchez 2004).

- (23) a. Tyi k-ch`äx-ä ja` .
 PRFV A3-boil-TV water
 ‘I boiled water.’
- b. Tyi k-ch`äx-ä ja` **cha`añ aj-Maria**.
 PRFV A1-boil-TV water for DET-Maria
 ‘I boiled water for Maria.’

Applicative constructions promote indirect objects, like *alob* in (23b), to primary argument status (Dryer 1986). That is, in the applicative, the applied argument patterns the same as the object of a mono-transitive construction. The theme is the “secondary object”. If the applied primary object is first or second person, it appears as set B marking on the stem, as in (24a–b). When the primary object is an overt third person nominal, the order is V-DO-IO-S, as in (24c).¹⁶ The applicative suffix appears only on transitive stems, never on intransitives. Vázquez Álvarez (2002) notes that the applied object may be benefactive, as in (23b–c), a malefactive as in (23a), a recipient, or a target.

(24) CHOL APPLICATIVES

- a. Choñkol i-tsil-**b-eñ-oñ** k-pisl-el jiñi alob.
 PROG A3-rip-APPL-D.NML-B1 A1-clothes-NML DET boy
 ‘The boy is ripping my clothes.’
- b. Tyi i-ch`äx-**b-e-yoñ** ja` x-`ixik.
 PRFV A3-boil-APPL-DTV-B1 water CL-woman
 ‘The woman boiled me water.’
- c. Tyi i-ch`äx-**b-e** ja` **alob** jiñi x-`ixik.
 PRFV A3-boil-APPL-DTV water boy DET CL-woman
 ‘The woman boiled the boy water.’

Vázquez Álvarez 2002 presents tests for objecthood of the applied or primary object in Chol applicative constructions, concluding that the applied objects in applicative constructions share characteristics with the single object in mono-transitive constructions. First, both trigger set B marking on the predicate. Second, the external argument controls reflexives in both mono-transitive objects (25a) and ditransitive applied objects (25b–c) (see section A.7.7):

- (25) a. Tyi k-jats`-ä **k-bä**.
 PRFV A1-hit-TV A1-self
 ‘I hit myself.’
- b. Tyi k-su(b)-b-e **k-bä** loty.
 PRFV A1-tell-APPL-DTV A1-self lie
 ‘I told myself lies.’

(Vázquez Álvarez 2002, 299)

¹⁶The vowel hiatus between the vowel in *-b-e* and the set B marker may also be resolved via deletion of the *-e*, rather than by glide epenthesis. The form in (24b), for example, would be *ich`äxboñ*.

- c. Ta` kej k-ty'ox-b-e-loñ **k-bä.**
 PRFV PROSP A1-divide-APPL-DTV-PL.EXCL A1-self
 'We began to divide it among ourselves.' (E.144)

Finally, both mono-transitive objects and ditransitive applied objects behave similarly under passivization, as shown by the pairs in (26) and (27). For ease of comparison, I use a derived mono-transitive in (26), which shows the same passive morphology as the applicative in (27). In the perfective, both mono-transitive objects and applied objects are marked with set B in the corresponding passive constructions. Vázquez Álvarez (2002, 302) notes that the secondary object or theme still retains its argument status. It is not (and cannot be) introduced by a preposition, and is able to control plural agreement on the predicate. Applicatives, like other derived transitives, are passivized with the suffix *-tyi*, as shown in (26b). Here the agent is omitted. As in the mono-transitive passives discussed above, the agent is omitted but the internal arguments (here theme and recipient) are marked identically as in the non-passivized version.

- | | |
|---|--|
| <p>(26) PASSIVIZED MONO-TRANSITIVE</p> <p>a. Tyi k-il-ä-yety.
 PRFV A3-see-DTV-B2 CL-woman
 'I saw you.'</p> <p>b. Tyi il-ään-tyi-yety.
 PRFV see-DTV-PASV-B2
 'You were seen.'</p> | <p>(27) PASSIVIZED APPLICATIVE</p> <p>a. Tyi k-ch'äx-b-e-yety ja`.
 PRFV A1-boil-APPL-DTV-B2 water
 'I boiled you water.'</p> <p>b. Tyi ch'äx-b-eñ-tyi-yety ja`.
 PRFV boil-APPL-DTV-PASV-B2 water
 'You were boiled water.'</p> |
|---|--|

External possession and coreference

The applicative suffix is also employed in external possession constructions, as shown in (28). Here the possessor of the theme is marked via set B morphology on the stem (null third person in (28b)).

- (28) a. Tyi a-ts'äk-ä-b-oñ **k-alob-il.**
 PRFV A2-cure-DTV-APPL-B1 A1-child-NML
 'You cured my child.' (Vázquez Álvarez 2002, 307)
- b. Ta` kaji j-k'el-b-eñ-loñ **iy-ok jiñi me`.**
 PRFV PROSP A1-see-APPL-DTV-PL.EXCL A3-foot/leg DET deer
 'We_{EXCL} began to see the deer's footprints.' (Coon 2004, 179, E.13)
- c. Tax i-tsäñ-s-ä-b-ety **a-chityam.**
 PRFV.already A3-die-CAUS-DTV-APPL-B2 A2-pig
 'He already killed your pig.'
- d. Chokoch mi i-k'ux-b-eñ **iy-ak' kixtyaño?**
 Why IMPF A3-eat-APPL-D.NML A3-tongue people
 'Why does he eat people's tongues?' (D.20)

Finally, it is worth noting that the applicative is required in constructions in which both the transitive subject and the possessor of the direct object are third person and *non-coreferential*. In regular non-applicative transitive constructions with a third person subject and third person possessor on the direct object, a coreference reading is obligatory, as in (29a). Aissen (1999) labels these constructions "extended reflexives"; see also the discussion in Coon and Henderson to appear.

- (29) a. EXTENDED REFLEXIVE
 Tyi i_i-boñ-o y_{i/*j}-otyoty jiñi wiñik.
 PRFV A3-paint-TV A3-house DET man
 ‘The man painted his (own) house.’
- b. APPLICATIVE
 Tyi i_i-boñ-be y_{*i/j}-otyoty jiñi wiñik.
 PRFV A3-paint-APPL A3-house DET man
 ‘The man painted his (someone else’s) house.’

Interestingly, in analogous disjoint reference constructions involving a non-third person argument, speakers accept forms either with or without the applicative, as shown in (30). This is also noted for Tzotzil (Aissen 1987, 141).

- (30) a. Tyi i-boñ-b-e-yoñ k-otyoty jiñi wiñik.
 PRFV A3-paint-APPL-DTV-B1 A1-house DET man
 ‘The man painted my house.’
- b. % Tyi i-boñ-o k-otyoty jiñi wiñik.
 PRFV A3-paint-TV A1-house DET man
 ‘The man painted my house.’

The verb *äk'*

In the context of applicative stems, I also mention the root *äk'* ‘give, put’. As noted by Vázquez Álvarez (2002, 295), this is the only Chol root which appears in ditransitive constructions without the addition of the applicative suffix *-b*, as shown in (31):

- (31) a. Tyi k-äk'-e-yety cha`-p'ej alaxax.
 PRFV A1-give-DTV-B2 two-NC.round orange
 ‘I gave you two oranges.’
- b. Mi k-äk'-eñ-ety cha`-p'ej alaxax.
 IMPF A1-give-DTV-B2 two-NC.round orange
 ‘I give you two oranges.’

This root, however, is not inherently ditransitive. When it appears with the *-V* suffix found on regular perfective transitive roots, it takes only two arguments. The applied object, here the second person set B, is impossible.

- (32) a. Tyi k-äk'-ä>(*yety) cha`-p'ej alaxax.
 PRFV A1-give-TV-B2 two-NC.round orange
 ‘I gave (*you) two oranges.’
- b. Tyi k-äk'-ä pusk'al.
 PRFV A1-give-TV heart
 ‘I made an effort.’ (lit.: ‘I gave my heart.’) (B.48)

One possibility is that the forms in (31) historically did contain the full applicative plus the theme vowel, *-b-e*, and the initial consonant deleted over time. This could be motivated

phonologically as a dispreference for two adjacent consonants specified for glottal features (recall that *b* is implosive). The appearance of the *-e/-eñ* suffixes here, strings that typically appear after the *-b* morpheme, lends support to this idea. Closely related Tselal has a cognate root *a`* which does appear with *-b* (Kirill Shklovsky, p.c.).

A.5 STATIVE PREDICATES

Stative predicates, also known as *non-verbal predicates* within Mayan literature, behave differently from the eventive predicates discussed above in important respects. Some examples of stative predicates are shown in (33).¹⁷

(33) STATIVE PREDICATES

- a. Wiñik-ety.
man-B2
'You are a man.'
- b. Ñox-oñ-ix.
old-B1-already
'I'm old already.'
- c. Buch-ul jĩni x-`ixik.
seated-STAT DET CL-woman
'The woman is seated.'
- d. Mejk'-em-oñ.
hug.PASV-PERF-B1
'I am hugged.'

The statives in (33) differ from the eventive predicates discussed in the previous sections in that they never appear with aspectual morphology. Temporal relations may instead be expressed via adverbs or recovered from context. With the exception of a limited number of transitive statives, like those shown in (34), stative predicates are generally intransitive (like those in (33)) and always mark their single argument with a set B morpheme, conforming to the general ergative-absolutive pattern of the language.

(34) STATIVE TRANSITIVES

- a. K-om waj.
A1-want tortilla
'I want tortillas.'
- b. Y-ujil-ix k'el juñ.
A3-know.how-already watch paper
'He already knows how to read.'

¹⁷Again, here we are distinguishing between eventive and stative *stems*; the same root may appear in eventive or stative contexts, as we will see below. The positional root *buch* seen in (33c), for instance, also appears in eventive positional constructions discussed in chapter 2.2.3 above.

All nominal and adjectival forms can appear directly in stative constructions, shown for instance in (33a–b) above with the noun *wiñik* ‘man’ and the adjective *ñox* ‘old’. Chol does not have an overt equative copula. In the remainder of this section I discuss the stative existential/locative morpheme *añ* (§A.5.1), and then discuss a few morphemes that form stative stems from the transitive, intransitive, and positional roots described above (§A.5.2). Affectives are discussed in section A.5.3.

A.5.1 The existential/locative *añ*

Existential and locative constructions in Chol involve the stative predicate *añ*. I gloss this morpheme alternately ‘LOC’ or ‘EXT’ while recognizing that these two functions are interconnected (see Freeze 1992). In locative constructions, like the ones in (35a–b), the theme follows the PP when it is a third person DP, and appears as set B marking on the predicate when it is first or second person. In existential constructions, like the one in (35c), the theme is a bare nominal immediately following the predicate. This basic pattern—a bare NP closer to the predicate than a full DP—is discussed in Coon 2010b.

- (35) a. LOCATIVE
Añ tyi otyoty jiñi ts’ĩ.
 LOC PREP house DET dog
 ‘The dog is in the house.’
- b. Kontento **añ-oñ** tyi k-otyoty.
 content LOC-B1 PREP A1-house
 ‘I’m content in my house.’ (B.138)
- c. EXISTENTIAL
 Wajali **añ-bi** juñ-tyikil x-ñek.
 back.then EXT-REP one-NC.people CL-ñek
 ‘Back then, they say there was a *xñek*.’ (D.1)
- d. **Añ** ts’ĩ tyi otyoty.
 EXT dog PREP house
 ‘There’s a dog in the house.’

Chol does not have a lexical verb meaning ‘have’. Instead possessive constructions involve the morpheme *añ* appearing with a possessed nominal, as in the examples in (36). Like other stative predicates, the aspectual morphemes discussed above are impossible in *añ* constructions. Instead, temporal information is inferred from the context, as in the example from a narrative in (36a), or temporal adverbs may be used, as in (36c).

- (36) a. **Añ**-tyo k-mama, **añ**-tyo k-ẽtyel.
 EXT-still A1-mother EXT-still A1-work
 ‘I still had my mother, I still had my work.’ (B.72)
- b. **Añ** i-chup jiñi ts’ĩ.
 EXT A3-worm DET dog
 ‘The dog has worms.’

- c. Wajali aň kabäl k-wakax.
back.then EXT a.lot A1-cow
'Back then I had a lot of cows.'

A.5.2 Derived statives

Attinasi (1973, 222) lists three types of participle, or (stative) adjectival forms, formed from otherwise eventive-stem forming roots: *-VI*, *-bil*, and *-em*. Each is discussed in turn below.

-VI statives

Stative predicates can be formed from CVC transitive and positional roots with a suffix of the form *-VI*, where the vowel is harmonic with the root vowel. Examples of statives formed from transitive roots are given in (37); examples with positional roots are shown in (37). I gloss this suffix 'STAT' for 'stative' here, though see Coon and Preminger 2009 for an analysis of this suffix.

(37) TRANSITIVE STATIVES

- a. Mos-**ol**-oň.
cover-STAT-B1
'I'm covered.'
- b. Juch'-**ul** li ixim.
grind-STAT DET corn
'The corn is ground.'

(38) POSITIONAL STATIVES

- a. Ts'ej-**el**-ety tyi ab.
lying.on.side-STAT-B2 PREP hammock
'You're lying (on your side) in the hammock.'
- b. Koty-**ol** jiňi wakax.
standing.on.4.legs-STAT DET cow
'The cow is standing.'

The perfect

The suffix *-em* is generally glossed as "perfect" and appears on intransitive roots or derived intransitive stems and forms a stative predicate. This suffix is realized as *-eň* when following a root which ends in a bilabial, as in (39b) (an instance of dissimilation). As with other intransitive statives, set B markers co-index the subject.

- (39) a. Jul-**em**-ety-ix.
arrive.here-PERF-B2-already
'You arrived here already.'
- b. Chäm-**eň** jiňi muty.
die-PERF DET chicken
'The chicken has died.'

This suffix can also appear on transitive roots which have undergone the CVC→CVjC vowel lengthening and aspiration process, used to form passives (see section 2.2.3 above), as well as on positional roots with an *-l* suffix (likely connected to the *-l* in the stative suffix discussed above, and the perfective-forming *-li* from chapter 2.2.3; see Coon and Preminger 2009).

- (40) a. Mejk'-em-oñ.
 hug.PASV-PERF-B1
 'I've been hugged.'
 b. Buch-l-em-ety.
 seated-POS-PERF-B2
 'You've sat.'

Unlike the *-Vl* and *-bil* forms discussed above, Martínez Cruz (2007, 84) notes that some of forms derived with the *-eñ* suffix may function as adjectives, directly modifying a noun (§A.6.4):

- (41) a. k-pul-em aj-kum
 A1-burn-PERF CL-*camote*
 'my burned *camote*'
 b. a-lujb-eñ kawayu`
 A2-tire-PERF horse
 'your tired horse'

(Martínez Cruz 2007, 84)

-bil

The suffix *-bil* appears on transitive roots resulting in stems meaning 'able to be X-ed', or 'X-able'. Some examples are given in table

Table A.5: -BIL FORMS (ATTINASI 1973, 224)

k'ux	'eat'	k'ux-bil	'edible'
choñ	'sell'	choñ-bil	'able to be sold, for sale'
chäx	'boil'	ch'äx-bil	'able to be boiled, requires boiling'
jap	'drink'	jap-bil	'drinkable, a drink'

A.5.3 Affectives

Here I include a brief discussion of *affectives* or *affect words* in Chol. These forms may serve as stative predicates, and also appear frequently as secondary predicates (§A.7.5). England (1983, 84) writes of Mam that affect words "describe an action, a movement, the moment of doing something, or a sound or noise." Chol affectives are formed from roots, usually positional, transitive, or onomatopoeic. They involve either total reduplication of the root followed by the suffix *-ña*—CVC-CVC-*ña*—or the CVC root plus *-Vk* followed by *-ña*: CVC-Vk-*ña*.

- (42) a. **Pots-pots-ña** i-lojk xapom.
 foaming-foaming-AFFC A3-foam soap
 'The soap is foaming.'

(Aulie and Aulie 1978, 95)

- b. **Aj-ak-ña** jiñi wiñik cha`añ k`ux i-jol.
 complain-AFFC-AFFC DET man because hurt A3-head
 ‘The man is complaining because his head hurts.’ (Aulie and Aulie 1978, 3)
- c. **Mäk-äk-ña** pañimil tyi tyokal.
 close-AFFC-AFFC world/sky PREP cloud
 ‘The clouds are closing in.’ (Aulie and Aulie 1978, 71)

These forms convey a wide range of meanings, and in many cases demonstrate the semantic richness available for descriptions of shape and form, also seen in the class of positionals. Indeed, many affectives are formed from positional roots. A small set of examples from the Aulie and Aulie 1978 dictionary are given along with their translations in table A.6.

Table A.6: CHOL AFFECT WORDS (AULIE AND AULIE 1978)

<i>chäk`chäk`ña</i>	‘dripping’
<i>chäläkña</i>	‘related to the form in which liquid falls continuously’
<i>jopjopña</i>	‘related to the movement of worms or ants’
<i>kech`ekña</i>	‘gnashing’
<i>kelekña</i>	‘in lines’
<i>kilikña</i>	‘related to the noise made by a dragging chain’
<i>lemlemña</i>	‘related to the way in which flames burn’
<i>tyip`tyip`ña</i>	‘palpitating’
<i>wotyokña</i>	‘related to the way in which a branch of flowers moves in the wind’
<i>woxokña</i>	‘related to the movement of a spherical object’

Though to my knowledge such alternations have not been previously discussed, the same CVC root may appear in both *CVC-CVC-ña* and *CVC-∇k-ña* forms, as shown by the pair in (43). In general, it seems that the former conveys disorderly or haphazard movement or position, while the latter conveys movement or a position that is more orderly, or along a trajectory. The following examples illustrate.¹⁸

- (43) a. **Wa`-wa`-ña** jiñi wiñik.
 on.2.legs-REDUP-AFFC DET man
 ‘The man is walking all around (haphazardly, no destination, all over the place).’
- b. **Wa`-ak-ña** jiñi wiñik.
 on.2.legs-AFFC-AFFC DET man
 ‘The man is walking (but in a specific place, or along a path, in a trajectory).’
- (44) a. **Mäk-mäk-ña** pañamil.
 cover-REDUP-AFFC sky
 ‘It’s partly cloud (clouds may be moving, sun coming out and then disappearing).’
- b. **Mäk-äk-ña** pañamil.
 cover-AFFC-AFFC sky
 ‘It’s cloudy (the sky is completely covered by clouds).’

¹⁸I am especially grateful to Matilde Vázquez Vázquez and Doriselman Gutiérrez Gutiérrez for their insights on this topic.

- (45) a. Buch-buch-ña jiñi baso.
 seated-REDUP-AFFC DET cup
 ‘The cup is sitting haphazardly (the bottom is not flat, or it is not on a flat surface).’
- b. Buch-uk-ña jiñi baso.
 seated-AFFC-AFFC DET cup
 ‘The cup is sitting (in a fixed position).’
- (46) a. Wil-wil-ña tyi majl-i.
 spin-REDUP-AFFC PRFV go-ITV
 ‘It went spinning around in circles, orbiting.’
- b. Wil-ik-ña tyi majl-i.
 spin-AFFC-AFFC PRFV go-ITV
 ‘It went spinning on its axis, but moving along a straight line.’

A.6 NOMINALS

The above sections dealt with eventive and non-eventive predicates in Chol. In this section we explore some basic properties of nominal phrases, before turning to clause structure in section A.7. As noted above, Chol nominals are not marked for morphological case. Nominal phrases in Chol can consist of bare nouns, as in (47a), or larger phrases which may include determiners and demonstratives, adjectives, relative clauses, numerals and classifiers, clitics, and plural marking, shown in the examples in (47b–d) and discussed in this section.

- (47) a. Y-om [ja`as].
 A3-want banana
 ‘He wants a banana.’
- b. Baki añ [iy-alob-il-ob aj-Maria]?
 where LOC A3-child-NML-PL DET-Maria
 ‘Where are Maria’s children?’
- c. Tyi k-mãñ-ä [ili cha`-p`ej kolem alaxax].
 PRFV A1-buy-TV DET two-NC.round big orange
 ‘I bought these two big oranges.’
- d. Choñkol i-wäy-el [jiñi x`-ixik ta`-bä jul-i abi].
 PROG A3-sleep-NML DET CL-woman PRFV-REL arrive.here-ITV yesterday
 ‘The woman who arrived (here) yesterday is sleeping.’

In his thesis on Chol adjectives and property concepts, Martínez Cruz (2007, 21) gives the break-down of Chol noun phrase components shown in table A.7, with elements appearing to the left of the noun at the top, and those to the right of the noun at on the bottom. I will use this as a rough outline for discussing elements of the Chol noun phrase below, but see also the discussion in Martínez Cruz 2007. I will also cover elements which appear on the noun head itself, which include plural marking and noun class clitics.

Within each of the sections below I also discuss information related to the category at hand in other parts of Chol grammar. For instance, I will discuss number marking on both the noun and

Table A.7: CHOL NOUN PHRASE (MARTÍNEZ CRUZ 2007, 12)

determiners	
demonstratives	
numerals with classifiers or measure/quantifier phrases	
set A (possessor) agreement	
adjectives and pre-nominal relative clauses	↑ <i>left of N</i>
NOUN	
possessor	↓ <i>right of N</i>
post-nominal relative clauses	
prosodic enclitic	

predicate in the section on number, and I will include a discussion of alienable and inalienable possession in the section on possession.

A.6.1 Determiners, demonstratives, and pronouns

As noted above, bare nominals in Chol may be interpreted as definite or indefinite. Nonetheless, Chol does have determiners and demonstratives, the topic of this section. Thus, while a definite reading is forced with certain D^0 elements, definite interpretations can also come from context. This can be seen in the sentences in (48) and (49), taken from a narrative about hunters with a dog hunting deer, transcribed in Coon 2004. The dog, which has already been introduced into the narrative, begins to follow some deer tracks:

- (48) Che` tyi i-säk-l-ä majl-el ts`i`...
 then PRFV A3-search-STAT-DTV go-NML dog
 ‘Then the dog went to search for it...’ (E.20)

The hunters see a deer, but it runs away. The dog chases after the deer but then loses its scent:

- (49) Ma`añ tyi i-ñä`-tyä baki tyi majl-i me`...
 NEG PRFV A3-know-DTV where PRFV go-ITV deer
 ‘It didn’t know where the deer went...’ (E.35)

Further evidence for the possibility of bare nouns being interpreted as definite is found throughout the scholarly work of native Chol speakers, where bare nominals are often translated into Spanish with definite articles, as in (50). Throughout this work I will simply gloss sentences using one possible interpretation, noting that others may also be available (this is also true for number and gender distinctions, discussed below).

- (50) a. Tyi i-ñup`-u otyoty aläl.
 PRFV A3-close-TV house child
 ‘The child closed up the house.’
 (‘*El niño cerró la casa.*’) (Gutiérrez Sánchez 2004, 8)

- b. Tyi y-il-ä **wiñik x`ixik**.
 PRFV A3-see-DTV man CL-woman
 ‘The woman saw the man.’
 (‘*La mujer vio al hombre.*’) (Vázquez Álvarez 2002, 28)
- c. Tyi tyäl-i **wiñik**.
 PRFV come-ITV man
 ‘The man came.’
 (‘*El hombre vino.*’) (Martínez Cruz 2007, 109)

Chol determiners and demonstratives are given in table A.8. All of these occupy a prenominal position, and I will gloss all of them ‘DET’ based on similar restrictions on word order found with these forms (discussed in Coon 2010b), despite differences among these forms discussed below.

Table A.8: DETERMINERS AND DEMONSTRATIVES

<i>li, ili, iliyi</i>	definite, ‘this’
<i>jiñ, jiñi</i>	definite, ‘that’
<i>ixä, ixäyi</i>	definite, ‘that over there’

Variation exists in how the forms in table A.8 are glossed, and some of this is likely due to dialectal differences. Martínez Cruz (2007) gives three determiners, *li*, *jiñ*, and *ixä*, with corresponding deictic forms *ili* ‘this’ (proximal), *jiñi* ‘that’ (medial), and *ixä* ‘that over there’ (distal). Aulie and Aulie (1978) and Warkentin and Scott (1980) list *jiñi* as a third person pronoun and give the demonstratives *ili* and *iliyi* ‘this’, *jiñi* ‘that’, and *ixäyi* ‘that over there’. Vázquez Álvarez (2002) and Gutiérrez Sánchez (2004) both cite *li* as the definite determiner, though Vázquez Álvarez (2002) clarifies that this is only true for the Tila dialect. They label *jiñ/jiñi* as a third person pronoun, though Vázquez Álvarez (p.c.) notes that there is more to be said about the distribution of *jiñ* versus *jiñi* and that further work is needed here.

The forms *li* and *jiñi* appear to be interchangeable for many speakers interviewed during this study, though subtle differences may well exist. The speakers I work with from Campanario typically translate sentences with definite NPs into Chol using *jiñi*; those from Tila proper seem to more frequently use *li* (Vázquez Álvarez and Gutiérrez Sánchez are also both from Tila proper).

While Martínez Cruz (2007) lists *li*, *jiñ* and *ixä* all as deictically neutral determiners, for my consultants *ixä* always seems to have deictic (distal) import. Indeed, Martínez Cruz notes that *jiñ* and *li* may co-occur with deictic demonstratives as in (51a), but *ixä* may not (51b). This complementarity would be expected if *ixä* is also a deictic demonstrative.

- (51) a. I-papaj-äch **jiñ ili** k-mamaj=i.
 A3-father-AFF DET DET A1-mother=ENCL
 ‘He is my mother’s father.’ (Martínez Cruz 2007, 24)
- b. *I-papaj-äch **ixä ili** k-mamaj=i.
 A3-dad-AFF DET DET A1-mother-ENCL
 ‘He is my mother’s father.’ (Martínez Cruz 2007, 23)

As noted in Martínez Cruz 2007, we find an enclitic =*i*—likely related to the final *i* in the forms in table A.8— appearing on the end of the noun phrase. Often the =*i* appears on both the

determiner/demonstrative form as well as on the noun phrase, as in (52b–c).

- (52) a. Mi i-ch'äm-ob majl-el **jiñ** lembal=i.
 IMPF A3-carry-PL go-NML DET liquor-ENCL
 'They bring the liquor.' (Martínez Cruz 2007, 22)
- b. Baki mi y-ajñ-el i-mañ-e` lembal **ili** wiñik=i?
 where IMPF A3-be.at-NML A3-buy-DEP liquor DET man-ENCL
 'Where did he buy liquor, this man?' (Martínez Cruz 2007, 26)
- c. Pero **jiñi** x-ñek=i ma`añ mi i-bä`ñ-añ pañämil.
 but DET CL-*ñek*=ENCL NEG.EXT IMPF A3-fear-DTV world
 'But that *xñek* isn't afraid of anything.' (D.10)

Martínez Cruz (2007, 42) notes that this clitic is always optional, though its discourse function has not been investigated. It is not frequently heard in elicitation contexts, but is often found in narratives, as in (52c) and (53). It seems likely that it serves to mark discourse prominence, though more work is needed here. With respect to =i and *jiñ*, see also the discussion on “phatic mantras” in section A.7.4 below.

- (53) Y-ik'oty **li** ch'ok bu`ul=i mi i-wiñ k'ux wajali.
 A3-RN.with DET early/sweet bean=ENCL IMPF A3-a.lot eat back.then
 'And back then he ate a lot of sweet beans.' (Martínez Cruz 2007, 43)

The demonstratives may stand alone as noun phrases:

- (54) a. K-om **jiñi**.
 A1-want DET
 'I want that one.'
- b. Pul-u **ixä!**
 burn-IMP DET
 'Burn that one!' (Martínez Cruz 2007, 25)

Finally, as noted above the form *jiñ*, and sometimes *jiñi*, is glossed by some as a third person pronoun. This would give us the pronominal forms in table A.9. An alternative possibility is that *jiñ* is simply a determiner, and that all pronouns are formed from a combination of the determiner plus the corresponding set B morpheme. This similarity between set B morphemes and overt pronouns is found throughout the Mayan family, and a similar story for the origin of the pronouns is proposed in Craig 1977 for Jakaltek. Since third person set B is null in Chol, this would give us *jiñ* as both a determiner and a possible pronominal form.

Table A.9: CHOL PRONOUNS

	PRONOUN	SET B (ABSOLUTIVE)
1 ST person	<i>joñoñ</i>	-oñ
2 ND person	<i>jatyety</i>	-ety
3 RD person	<i>jiñ</i>	-Ø

Martínez Cruz (2007) writes that *jiñ* (which is labelled the third person pronoun by Vázquez Álvarez (2002) and others) is unable to precede possessed nominals and proper names. This restriction does not appear to apply to the form *jiñi* (though this is also listed by some as a third person pronoun), which may precede not only possessed nominals and proper names, but also the first and second person pronouns. *Jiñ* is also labelled as a focus marker in Vázquez Álvarez 2002, Gutiérrez Sánchez 2004, and Martínez Cruz 2007, and appears in many texts as a type of discourse particle. Further work on these forms in Chol narrative is needed to say more about their distribution.

A.6.2 Numerals, numeral classifiers, and quantifiers

Numerals

Mayan languages have base 20 (“vigesimal”) numeral systems. In present-day Chol (as in many of the Mayan languages), Spanish numerals are being increasingly used by younger speakers for numbers larger than four or five. Nonetheless, many speakers still command at least part of the traditional number system. Numerals for 1–20 are given in table A.10.

Table A.10: CHOL NUMERALS

1	<i>juñ-</i>	11	<i>juñlujuñ-</i>
2	<i>cha`-</i>	12	<i>lajchãñ-</i>
3	<i>ux-</i>	13	<i>uxlujuñ-</i>
4	<i>chãñ-</i>	14	<i>chãñlujuñ-</i>
5	<i>jo`-</i>	15	<i>jo`lujuñ-</i>
6	<i>wäk-</i>	16	<i>wäklujuñ-</i>
7	<i>wuk-</i>	17	<i>wuklujuñ-</i>
8	<i>waxäk-</i>	18	<i>waxäklujuñ-</i>
9	<i>boloñ-</i>	19	<i>boloñlujuñ-</i>
10	<i>lujuñ-</i>	20	<i>juñk'al</i>

Note that the number 20 is the root for ‘1’ plus *-k'al*, behaves formally as a classifier used for counting groups of 20. The roots involved in the base 20 system are given in table A.11. (The form *-mil*, borrowed from Spanish, may also be used to counts units of 1,000.) For instance, *cha`-k'al* ‘two groups of twenty’ is 40 and *ux-bajk'* ‘three groups of 400’ is 1,200.

Table A.11: 20 BASE

20	<i>-k'al</i>
400	<i>-bajk'</i>
8000	<i>-pik</i>

Other numerals are formed as follows: subtract the largest multiple of 20 from the numeral. Call the largest multiple of 20 *x*, and the remainder after subtraction *y*. The Chol form will translate literally to: *y* of the multiple of twenty after *x*. So for instance, with 36 the largest multiple of 20 is 20 and the remainder is 16. The next largest multiple of 20 is 40, or two twenties. This gives us

the form in (55a), which we can think of roughly as ‘16 of the group of two twenties’ (the set A marker marks genitive, discussed below). Similarly, for 81 the largest multiple of 20 is 80 and the remainder is 1. The next multiple of 20 after 80 is 100 (or five twenties), so we have the form in (55b): ‘one of the group of five twenties’. A more complete list of numerals is listed in the appendix of Warkentin and Scott 1980.

- (55) a. wäk-lujuñ-p’ej i-cha`-k’al.
 six-ten-NC A3-two-twenty
 ‘36’
- b. jum-p’ej i-jo`-k’al.
 one-NC A3-five-twenty
 ‘81’

Numeral classifiers

As the hyphens after the forms in table A.10 suggest, numeral-denoting roots may not stand alone. Instead, all numerals in Chol must appear with a classifier, which varies depending on the nature of what is being counted. In (55) I use the classifier *-p’ej*, used to count round things. It also serves as a default classifier. Examples are given in (56). The head noun may be *pro*-dropped in numeral classifier constructions, as shown in (56b). The classifiers are obligatory.

- (56) a. Tyi j-k’ux-u ux-ts’ijty ja`as.
 PRFV A1-eat-TV three-NC.long.and.skinny banana
 ‘I ate three bananas.’
- b. Añ cha`-k’ej tyi mesa.
 LOC two-NC.round.and.flat PREP table
 ‘There are two (round flat things) on the table.’

As noted above, speakers are increasingly using numerals borrowed from Spanish for counting above four or five. Spanish numerals do not appear with classifiers:¹⁹

- (57) Tyi i-mañ-ä syete tyumuty.
 PRFV A3-buy-TV seven egg
 ‘She bought seven eggs.’

Lists of numeral classifiers may be found in Aulie and Aulie 1978 and in the appendix of Warkentin and Scott 1980. The vast majority of classifiers in the language are of the form -CVjC. (Final *l* is often dropped, for instance *-p’ejl* → *-p’ej* and *-k’ejl* → *-k’ej* in (57b). This is connected to the fact that lengthened and aspirated vowels, [Vj], trigger devoicing in following consonants, §A.2.2). Many or perhaps most of these classifiers are derived from corresponding CVC transitive or positional roots, as shown by the examples in table A.12 (a commonly heard exception is the classifier *-tyikil*, used to count people). This was also noted for Chontal by Keller (1955) and for

¹⁹The fact that numeral classifiers are obligatory with Chol numerals, but not with Spanish numerals, suggests that classifiers are needed not due to some property or deficiency of Chol NPs (cf. Chierchia 1998), but due to some property of the numerals, as argued for in Wilhelm 2008.

Tseltal by Berlin (1968). As the glosses suggest, the thing counted by the classifier corresponds to the internal θ -role assigned by the transitive, or to the single θ -role assigned by the positional.²⁰

Table A.12: NUMERAL CLASSIFIERS

classifier	for counting...	CVC root	gloss (CATEGORY)
- <i>xujty'</i>	pieces	<i>xuty'</i>	'divide' (TV)
- <i>kujch</i>	loads	<i>kuch</i>	'carry' (TV)
- <i>joj</i>	handfuls (of dry granular things)	<i>jop</i>	'gather together (dry granular things)' (TV)
- <i>kojty</i>	animals, 4-legged things	<i>koty</i>	'standing on 4 legs' (POS)
- <i>pajl</i>	clusters	<i>pal</i>	'clustered, bunched' (POS)
- <i>xejty</i>	convex objects	<i>xety</i>	'in a convex form' (POS)

Finally, it is not the case that a given noun always appears with the same classifier. Rather, Chol classifiers do semantic work. In the examples in (58), for instance, we find different classifiers used with the root *ja`as* 'banana', resulting in different interpretations—banana trees, individual bananas, or bunches of bananas. As the form in (58c) illustrates, numerals in Chol may be preceded by determiners/demonstratives. See Arcos López 2009 for further discussion of Chol numeral classifiers

- (58) a. Añ ux-**tyejk** **ja`as** tyi i-ty'ejl k-otyoty.
 EXT three-NC.tree banana PREP A3-side A1-house
 'There are three banana trees at the side of my house.'
- b. Tyi j-k'ux-u cha`-**ts'ijty** **ja`as**.
 PRFV A1-eat-TV two-NC.long.skinny banana
 'I ate two bananas.'
- c. Jiñi jum-**pajl** **ja`as** añ-ix i-k'añ-el.
 DET one-NC.cluster banana EXT-already A3-ripe-NML
 'That one bunch of bananas already has ripe ones.' (Aulie and Aulie 1978)

Quantifiers and quantification

Martínez Cruz (2007, 31) lists two quantifiers: *kabäl* 'many, a lot' and *ts'itya`* 'few, a little'. He also notes that *juñ-NC cha`-NC* 'one-NC two-NC' can be used to convey 'some', as in (59):

- (59) Wajali am-bi **juñ-tyikil** **cha`-tyikil** la-k-pi`äl.
 back.then EXT-REP one-NC.people two-NC.people PL-A1-friend
 'It's said that back then we had some friends.' (Martínez Cruz 2007, 31).

Chol does not have lexical items corresponding to English strong quantifiers 'every' and 'no'. The form *pejtyelex* appears to be closest in meaning to 'all'. The fact that *pejtyelex* can appear in the theme of an existential construction in (60a) suggests that it is not a strong quantifier (compare

²⁰Recall that CVC→CVjC is a productive means of forming unaccusative stems from transitive roots (§2.2.3). Coon and Preminger (2009) discuss this process with respect to positionals. A few classifiers are also formed from intransitive roots in their *-el* stem forms: *-ochel* to count entrances from *och* 'enter'; *-ñumel* to count passes or repetitions from *ñum* 'pass'. We might then say that all numeral classifiers are, in a sense, formally intransitive.

English ‘every’). This form sometimes appears preceding the noun it modifies, but can also appear following the preposition *tyi* (see also section A.7.6 on adverbial elements with and without *tyi*). More work is needed to understand these constructions.

- (60) a. Añ **pejtyelel** libru tyi mesa.
 EXT all book PREP table
 ‘All of the books are on the table.’
 b. Mi i-majl-el-ob tyi **pejtyelel**.
 PRFV A3-go-NML-PL PREP all
 ‘They all go.’

Constructions involving English translations ‘nothing’, ‘no one’, etc., are formed periphrastically in Chol using the negative existential and an indefinite pronoun:

- (61) **Ma`añ majch** añ tyi k-otyoty.
 NEG.EXT someone PREP EXT A1-house
 ‘There’s nobody at my house.’

Finally, numerals may be reduplicated to give a distributive reading, as shown by the examples in (62).

- (62) a. Ux-ux-tyikil tyi majl-i-yoñ-la.
 three-three-NC.people PRFV go-ITV-B1-PL
 ‘We_{INCL} went three-by-three.’
 b. Cha`-cha`-p`ej mi la-k-tyep`-e`.
 two-two-NC IMPF PL-A1-wrap-DEP
 ‘We wrap them two by two.’

A.6.3 Possession

Possessed nominals in Chol show person and possibly number agreement with the possessor, marked on the possessum via a set A morpheme (see table 2.5 above, also used to mark transitive subjects). The possessor (when overt) follows the possessed noun. Possessors may be stacked, as shown by the example in (63e).

- (63) a. Tax k-wuts`-u **k-pisl-el**.
 PRFV.already A1-wash-TV A1-clothes-NML
 ‘I already washed my clothes.’
 b. Baki añ **iy-otyoty jĩni x`ixik?**
 where LOC A3-house DET CL-woman
 ‘Where’s the woman’s house?’
 c. Mach y-ujil **la-k-ty`añ**.
 NEG A3-know PL-A1-word/speech
 ‘She doesn’t know Chol (lit.: our words/speech).’

- d. Chokoch mi i-k'ux-b-eñ iy-ak' kixtyaño?
 why IMPF A3-eat-APPL-D.NML A3-tongue people
 'Why does he eat people's tongues?' (D.20)
- e. Chuki i_i-k'aba` [i_j-chich aj-Morelia_j]_i ?
 what A3-name A3-older.sister CL-Morelia
 'What's Morelia's older sister's name?'

As the following narrative examples illustrate, possessed NPs may appear with determiners and demonstratives. The noun phrase in (64c) shows a determiner, numeral plus classifier, possession, and an adjective. Here the possessive marking precedes the adjective and noun, discussed in section A.6.4 below.

- (64) a. Pero mi ma`añ mi i-tyaj-b-eñ jiñi iy-ak' kixtyaño. ...
 but if NEG.EXT IMPF A3-find-APPL-D.NML DET A3-tongue people
 'But if he doesn't find anyone's tongues...' (D.24)
- b. Mu`-ix i-sujty-el li k-mamaj.
 IMPF-already A3-return-NML DET A1-mother
 'My mother is already going to return.' (Martínez Cruz 2007, 23)
- c. Tyi k-mañ-ä jiñi juñ-kojty j-kolem ts'ì.
 PRFV A1-buy-TV DET one-NC.animal A1-big dog
 'I bought my big dog.' (Martínez Cruz 2007, 36)

While many nouns in Chol are free to appear with or without possessors, some require a possessor. These include body part and kinship terms like *-ñi* 'nose' and *-ijts'ijñ* 'younger sibling', as well as relational nouns (discussed in section A.7.6 below). These inalienably possessed nouns may, however, appear without possessors if they take a *-Vl* suffix (*-äl* or *-il*), as discussed in Warkentin and Scott (1980, 15). Examples are given in table A.13. Nouns possessed by inanimate possessors also require a *-Vl* suffix, as shown by the forms in table A.14. See also the related discussion of alternations between alienable and inalienable possession interpretations in chapter 3.3 above.

Table A.13: INALIENABLY POSSESSED NOUNS (WARKENTIN AND SCOTT 1980, 15)

<i>i-chich</i>	'his older sister'	<i>chich-äl</i>	'older sister'
<i>i-pixol</i>	'his hat'	<i>pixol-äl</i>	'hat'
<i>i-ñäk'</i>	'his stomach'	<i>ñäk'-äl</i>	stomach

Table A.14: IMPERSONAL POSSESSION (WARKENTIN AND SCOTT 1980, 17)

<i>iy-ixim i-tyaty</i>	'his father's corn'	<i>iy-ixm-al cholel</i>	'the field's corn'
<i>i-tye` i-tyaty</i>	'his father's wood'	<i>i-tye`-el otyoty</i>	'the house's wood'
<i>iy-äts'am i-ñä`</i>	'his mother's salt'	<i>iy-äts'm-il tyumuty</i>	'the egg's salt'

Finally, possession may also be expressed with the relational noun *-cha`añ*, discussed in section A.7.6. Some examples are given in (65).

- (65) a. **K-cha`añ** ili tsuts.
 A1-RN.of/for DET blanket
 'This is my blanket.'
- b. Maxki **i-cha`añ** jĩni?
 who A3-RN.of/for DET
 'Whose is that?'

A.6.4 Adjectives

In his recent master's thesis on adjectives and property-denoting words in Chol, Martínez Cruz (2007) argues that Chol, like other Mayan languages, *does* possess a distinct class of adjectives (see also England 2004 on Mam). The number of adjectival roots is given as around 50 (Terrence Kaufman p.c., cited in Martínez Cruz 2007, 66). Though many concepts which are expressed in languages like English as adjectives are lexicalized as positionals in Mayan languages (see section 12), Martínez Cruz 2007 argues that the class of adjectives can be distinguished by their ability to directly modify a nominal head without the addition of special morphology, as shown by the bold-faced adjectives in (66).

- (66) a. Mi i-kej i-lets-el ili **tsiji`** jabil.
 IMPF A3-PROSP A3-ascend-NML DET new year
 'It will go up in this new year.'
- b. Juñ-kojty **kolem säsäk** yewa, che`-bi.
 one-NC.animal big white mare so-REP
 'It's a big white mare, he said.' (Martínez Cruz 2007, 70)

Other lexical items must appear as relative clauses with the relative clause marker *-bä* when modifying a noun, as shown by the stative positional form in (67). Relative clauses are discussed in section A.7.3 below.

- (67) Ch`äm-ä tyäl-el **wel-el-*(bä)** tye`!
 grab-IMP come-NML flat-STAT-REL wood
 'Bring me a flat piece of wood.' (Martínez Cruz 2007)

Bare adjectives like those in (66) and (68a) must precede the head noun, while modifiers with the relative marker may either precede or follow the head.

- (68) a. Tyi i-tsäñ-s-ä jĩni **chächäk muty**.
 PRFV A3-die-CAUS-DTV DET red chicken
 'She killed the red chicken.'
- b. *Tyi i-tsäñ-s-ä jĩni **muty chächäk-*(bä)**.
 PRFV A3-die-CAUS-DTV DET chicken red-REL
 'She killed the chicken that is red.'

Bare adjectives differ from *-bä*-marked relative clauses in other respects as well. Martínez Cruz notes that while the set A possessive marker may be prefixed to a bare adjective when marking possession of a nominal phrase (69), it may not directly precede modifiers marked by *-bä*, as shown

by the ungrammaticality of (70a). Here the possessive morphology must appear directly on the nominal head; the modifier may either precede or follow the possessed nominal.

- (69) Añ i-säsäk pech.
EXT A3-white duck
'He has a white duck.'
- (70) a. *Ch'am-ä tyäl-el k-wel-el-bä tye`!
bring-IMP come-NML A1-flat-STAT-REL wood
'Bring me my flat piece of wood!'
- b. Ch'am-ä tyäl-el wel-el-bä k-tye`!
bring-IMP come-NML flat-STAT-REL A1-wood
'Bring me my flat piece of wood!'

(Martínez Cruz 2007, 79)

Other properties distinguish the class of adjectival roots from nominal and verbal roots. First, while both nouns and adjectives form non-verbal predicates (§A.5), adjectives (unlike nouns) require *-bä* in order to serve as arguments:²¹

- (71) a. Tyi k-mään-ä jñi muty.
PRFV A1-buy-TV DET chicken
'I bought the chicken.'
- b. Tyi k-mään-ä jñi säsäk-*(bä).
PRFV A1-buy-TV DET white-REL
'I bought the white one.'

Finally, adjectives may be distinguished from the class of verbal roots in requiring inchoative morphology to form eventive forms. To form inchoatives, adjectival roots appear with the suffixes *-ä/-añ*, this time forming eventive intransitive (inchoative) stems. This appears to be a completely regular process applying to CVC adjectives, and always involves the vowels *ä/a*. Examples are given in table A.15, and shown in the perfective and nonperfective aspects in (72).

Table A.15: INCHOATIVES

ach'-añ	'get wet'
al-añ	'get heavy'
k'am-añ	'get sick'
ñox-añ	'get old'
bib-añ	'get dirty'
k'ään-añ	'get ripe'
k'ok'-añ	'get healthy'
yaj-añ	'get skinny'

²¹Previous works have listed *-bä* as a derivational morpheme which forms adjectives from nouns (Aulie and Aulie 1978).

- (72) a. *Tyi ñox-ä-yoñ-la.*
 PRFV old-INCH-B1-PL
 ‘We_{INCL} got old.’
- b. *Choñkol k-ñox-añ-la.*
 PROG A1-old-INCH.NML-PL
 ‘We_{INCL} are getting old.’

A.6.5 The head noun: noun class clitics, plural, -*VI* and derived nouns

Noun class clitics

Many nominals in Chol—most often those referring to humans, animals, and plants—appear with one of two noun class clitics: *x-* and *aj-*. Historically, these marked feminine and masculine noun classes, respectively. In present-day Chol, however, it appears that there is a distinction not between feminine nouns and masculine nouns, but rather between nouns which may appear with the clitics, and nouns that do not. That is, while many words typically appear with one of the two noun class markers, it appears that nouns that appear with *x-* may also appear with *aj-* and vice versa, as shown in table A.16. This does necessarily indicate a distinction in actual gender. A male shaman, for instance, may be referred to as either *x-wujty* or *aj-wujty*.²² In contrast, other nouns never appear with either clitic.

Table A.16: NOUN CLASS CLITICS

✓ <i>x-`ixik</i> / ✓ <i>aj-`ixik</i>	‘woman’
✓ <i>x-wujty</i> / ✓ <i>aj-wujty</i>	‘shaman’
✓ <i>x-mis</i> / ✓ <i>aj-mis</i>	‘cat’
✓ <i>x-chil</i> / ✓ <i>aj-chil</i>	‘grasshopper’
* <i>x-wiñik</i> / * <i>aj-wiñik</i>	‘man’
* <i>x-chityam</i> / * <i>aj-chityam</i>	‘pig’
* <i>x-bajlum</i> / * <i>aj-bajlum</i>	‘jaguar’
* <i>x-chäy</i> / * <i>aj-chäy</i>	‘fish’

Arcos López (2010) provides an analysis of the pragmatic factors involved in the use of one clitic over another in Chol; see also Tuz Noh 2010 for analogous facts in Yucatec Maya. The use of these clitics on proper names is discussed in Coon 2010b. These clitics are also used to form agentive nominals, noted in chapter 3 above.

Plural

The morphemes *la* and *lojoñ*, or its contracted form *loñ*, are used with local (first and second) persons; *la* is used for first person plural inclusive and second person plural, while *lojoñ/loñ* is

²²Attinasi (1973, 147) notes that some nouns may appear with either marker, and at least in the case of the noun *wujty*, the feminine noun class clitic can refer to a shaman of either gender, while the *aj*-marked nouns is only for male shamans. More work is needed to see if this holds more generally for the forms discussed in this section. For other nominals, Attinasi writes that the markers are in complementary distribution. This could be a point of dialectal variation, or it could be that the distinction has been neutralized over time.

used for first person exclusive. These morphemes appear alternately prefixed or suffixed. The non-local (third person) plural *-ob* is always suffixal. Plural marking is not necessary for a plural interpretation, and non-animate nominals are rarely marked for number. This is discussed more in section A.6. A few examples are given in (73).

- (73) a. Porke jiñ-ix jap-lembal-**ob** ñoj p'ump'um-**ob**-ix.
 because DET-CL drink-liquor-PL very poor-PL-CL
 'Because the ones who drink are very poor.' (B.125)
- b. Entonses, ta` k-sub-e-**yob** pi`äl-**ob**, koñ-la k-ajñ-isañ me`.
 and.so PRFV A1-say-TV-PL friend-PL go.EXH-PL A1-run-CAUS deer
 'And so I said to my friends, let's go hunt deer.' (E.7)
- c. Ta` kaji i-k'el-b-e-**loñ** iy-ok jiñi me`.
 PRFV PROSP A3-see-APPL-DTV-PL.EXCL A3-foot/leg DET deer
 'We_{EXCL} began to see the deer's footprints.' (E.13)
- d. Eske mi i-jub-sañ-oñ-**la** tyi wokol.
 it's.that IMPF A3-descend-CAUS-B1-PL PREP problem
 'It makes us_{INCL} fall into problems.' (B.58)

As noted above, bare nominals in Chol are unmarked with respect to number; they may be interpreted as singular or plural, depending on context. Morphological plural marking is also possible for some nouns. The suffix *-ob* (often written *-o`*, see discussion on the behavior of [b] in section A.2.1) marks plural for humans and some animals.²³ This suffix may show up both on the plural noun itself, and as agreement marking on the predicate, as shown in (74). Plural marking may reference either ergative or absolutive arguments, as shown by the pair in (74), where the plural marker *-ob* always reflects plural of the third person argument, regardless of its grammatical function.

- (74) a. PLURAL MARKING ON ABSOLUTIVE ARGUMENT
 Tyi k-jats'-ä-**yob** jiñi wiñik-**ob**.
 PRFV A1-hit-TV-PL DET man-PL
 'I hit the men.'
- b. PLURAL MARKING ON ERGATIVE ARGUMENT
 Tyi i-jats'-ä-yoñ-**ob** jiñi wiñik-**ob**.
 PRFV A3-hit-TV-B1-PL DET man-PL
 'The men hit me.'

Additional examples are given in (75). The form in (75b) shows plural agreement on the predicate with a *pro*-dropped argument. (75c) shows plural agreement on the theme of an intransitive (stative) predicate.

- (75) a. Entonses ta` k-sub-e-**yob** k-pi`äl-**ob**, koñ-la k-ajñ-isañ me`!
 and.so PRFV A1-tell-APPL-PL A1-friend-PL go.EXH-PL A1-run-CAUS deer
 'And so I said to my friends, let's go hunt deer!' (E.7)

²³Martínez Cruz (2007) writes that *-ob* is impossible with all non-human referents, though Warkentin and Scott (1980) give a few examples of *-ob* appearing on words denoting animals, which are also accepted by my consultants. This may be a point of dialectal variation.

- b. Ta` i-tyujk'-ä-**yob** lets-el tyi pañ-lum.
PRFV A3-drag-DTV-PL ascend-NML PREP surface-earth
'They dragged him up to the ground.' (E.125)
- c. Jiñi x-jap-lembal-**ob** ñoj p'ump'uñ-**ob**-ix.
DET CL-drink-liquor-PL very poor-PL-already
'Those that drink liquor are already very poor.' (B.125)

Again, plural interpretations may arise with no overt morphological marking. However, the predicate only shows plural marking if the nominal (when not *pro*-dropped) is overtly marked. This is true both for *-ob* marking with the ergative argument, as in (76), and with the absolutive argument, as in (77).

- (76) a. Tyi i-jats'-ä-yoñ-(**ob**) wiñik-**ob**.
PRFV A3-hit-TV-B1-PL man-PL
'The men hit me.'
- b. *Tyi i-jats'-ä-yoñ-**ob** wiñik.
PRFV A3-hit-TV-B1-PL man
- (77) a. Tax majl-i-(**ob**) wiñik-**ob**.
PRFV.already go-ITV-PL man-PL
'The men left already.'
- b. *Tax majl-i-**yob** wiñik.
PRFV.already go-ITV-PL man

There is another marker which has been glossed as third person plural: *-tyak*. This suffix has received different treatments in the literature (see discussion in Vázquez Álvarez 2002). Aulie and Aulie (1978) and Warkentin and Scott (1980) list it as a plural marker for non-human entities. Vázquez Álvarez (2002) and Martínez Cruz (2007) call it a partitive marker, which can be used with either human or non-human entities. Vázquez Álvarez notes that *-ob* and *-tyak* may cooccur, giving the following example:

- (78) Tyi y-il-ä-**yob-tyak** li ts'i`.
PRFV A3-see-DTV-PL-PART DET dog
'Some of them saw the dog.' (Vázquez Álvarez 2002, 101)

First (inclusive) and second person plural is marked with *la*, while first person plural exclusive is marked with *-lojoñ* or the shortened version *loñ*. Again, these markers co-index either ergative or absolutive arguments, as shown in (79a-c), and may co-occur with *-ob*, as in (80) (other orders of morphemes are not possible). In the example in (79), *-ob* marks plural of the set A argument, while *-la* marks plural of the set B argument.

- (79) a. Tyi k-läty'-ä-**la** ja`.
PRFV A1-heave-TV-PL water
'We_{INCL} carried water.'
- b. Tyi wäy-i-**yety-la**.
PRFV sleep-ITV-B2-PL
'You_{PL} slept.'

- c. Tyi **k-jap-ä-loñ** kajpej.
 PRFV A1-drink-TV-PL coffee
 ‘We_{EXCL} drank coffee.’
- (80) Tyi y-il-ä-yety-ob-la.
 PRFV A3-see-DTV-B2-PL-PL
 ‘They saw you_{PL}.’

While *-ob* is only possible as a suffix, *la* and the concatenated *loñ* may appear optionally prefixed when marking plural of the ergative (set A) argument, as shown in (81a); this is not possible when they mark plural of absolutive (set B) arguments, as in (81b).

- (81) a. Tyi {loñ}-**k-päk’-ä**-{loñ} bu`ul.
 PRFV PL-A1-plant-TV-PL bean
 ‘We_{EXCL} planted beans.’
- b. Tyi (*loñ)-i-mek’-e-**yoñ-loñ**.
 PRFV PL-A3-hug-TV-B1-PL
 ‘She hugged us_{EXCL}.’

Finally, it is worth noting that in addition to the ability to appear as either prefixes or suffixes, the local person markers *la* and *loñ* occupy different morphological positions from the plural *-ob*. In (82) we observe that while *-la* follows the second position clitic *-ix* (see section A.7.4 below) and is separated from the set B marker, *-ob* precedes the second position clitic.

- (82) a. Ñox-oñ-ix-**la**.
 old-B1-already-PL
 ‘We_{INCL} are already old.’
- b. Ñox-**ob**-ix.
 old-PL-already
 ‘They are already old.’

A.6.6 *-VI* suffixes and derived nouns

-VI suffixes

Suffixes of the form *-VI* are found on nominals throughout Chol. This was important to the argument for the nominal nature of nonperfective stems in chapter 3 above. Attinasi, for instance, writes:

The most frequent form of the nominalizing suffix can be generalized in the formula: X_0^3VI , where X_0^3 stands for any phonological sequence of from zero to three segments (Attinasi 1973, 152). (He goes on to note that not all segment combinations are possible).

The table in A.17 gives examples of various *-XVI* suffixed nominals; some are nominals derived from verbal or adjectival roots, while others change the meaning of an already CVC nominal. Those that appear with a possessor in the table are obligatorily possessed. More can be found in Aulie and

Aulie 1978 and Warkentin and Scott 1980. Recall also from chapter 3 above that many complements of the light verb are roots which take *-VL* suffixes, like *-bal*, to form action nominals.²⁴

Table A.17: -VL NOMINALS (AULIE AND AULIE 1978; WARKENTIN AND SCOTT 1980)

<i>lum</i>	'land'	<i>i-lum-al</i>	'his country'
<i>tyaj</i>	'pine'	<i>tyaj-ol</i>	'place where pines grow'
<i>ja`as</i>	'banana'	<i>ja`as-il</i>	'banana tree'
<i>jam</i>	'grass'	<i>jam-il</i>	'lawn'
<i>bäx</i>	'active'	<i>i-bäx-lel</i>	'his energy'
<i>jab</i>	'year'	<i>i-jab-ilel</i>	'her birthday, age'
<i>juñ</i>	'paper, book'	<i>i-juñ-ilel</i>	'birth certificate, personal documents'
<i>k'iñ</i>	'sun, day'	<i>k'iñ-ijel</i>	'party'
<i>k'am</i>	'sick'	<i>k'am-äjel</i>	'sickness'
<i>kuch</i>	'carry'	<i>kuch-äjel</i>	'load'
<i>mel</i>	'make'	<i>mel-ojel</i>	'judge'
<i>ch`äk</i>	'to curse'	<i>ch`äk-ojel</i>	'curse'

Martínez Cruz (2007, 83) describes the suffix *-lel* as a suffix which forms abstract nominals from adjectives. The resulting nominal appears to be obligatorily possessed (also true for some of the forms in the table above). Examples include: *säk* 'white', *i-säk-lel* 'its whiteness'; *kolem* 'big', *i-kolem-lel* 'its bigness'; and *ñox* 'old', *i-ñox-lel* 'its oldness'.

Other deverbal nouns

The suffix *-ib* appears on intransitive stems to form nominals, most often with a resulting meaning of 'place where one does X', or sometimes with the meaning 'thing used for doing X' (i.e. an instrumental). Intransitive roots appear directly with *-ib*. Transitives appear either with the antipassive morpheme *-oñ*, or the suffix *-l*. Positionals appear with *-l*, discussed in Coon and Preminger 2009 and analyzed there as a passive. Examples are shown in table A.18. Many of these forms appear to be inalienably possessed.

Compounds

Roots which form transitive stems may be joined to nominal roots with *-o`* in order to form compounds: *japo` ja`* 'cup' (*jap* 'drink', *ja`* 'water'); *lucho` ja`* 'ladle' (*luch* 'take out', *ja`* 'water'); *k'elo` k'iñ* 'clock' (*k'el* 'look, watch', *k'iñ* 'sun') (Warkentin and Scott 1980, 22).

There are also many noun-noun compounds in the language, for instance *tyaty-muty* 'father-chicken (=rooster)', *tya`-jol* 'excrement-head (=vulture)', *tyu(ñ)-muty* 'rock-chicken (=egg)', *chu`-tyuñ* 'nipple-rock (=stalagmite)'.

²⁴Vázquez Álvarez (p.c.) notes that many of these forms also appear contracted: *ibäxel*, *ijabil*, *ijuñil*, *melol*, *chäkol*. He says they maintain the same meaning and distribution.

Table A.18: THE SUFFIX *-ib* ON INTRANSITIVE STEMS (AULIE AND AULIE 1978; WARKENTIN AND SCOTT 1980)

<i>wäy</i>	'sleep'	<i>wäy-ib</i>	'bed'
<i>och</i>	'enter'	<i>och-ib</i>	'entrance'
<i>majl</i>	'go'	<i>i-majl-ib k'iñ</i>	'West' (lit.: 'where the sun goes')
<i>pas</i>	'rise' (the sun)	<i>i-pas-ib k'iñ</i>	'East' (lit.: 'where the sun rises')
<i>choñ</i>	'sell'	<i>choñ-oñ-ib</i>	'store'
<i>chuk</i>	'grab'	<i>chuk-oñ-ib</i>	'handle'
<i>jam</i>	'open'	<i>jam-oñ-ib</i>	'opener'
<i>jul</i>	'shoot'	<i>jul-oñ-ib</i>	'rifle'
<i>ts'äb</i>	'light, turn on'	<i>ts'äb-oñ-ib</i>	'lighter'
<i>k'äk</i>	'raise'	<i>k'äk-l-ib</i>	'base'
<i>jok'</i>	'hang'	<i>jok'-l-ib</i>	'hook, place for hanging'
<i>ty'uch</i>	'perched atop'	<i>ty'uch-l-ib</i>	'perch'

A.7 CLAUSE STRUCTURE

In this section I review some basics of Chol clause structure. This section will not exhaust the constructions of Chol, and I will make an effort to refer the reader to additional literature where possible. Above in chapter 2 I presented an overview of basic declarative sentence formation in the language, reviewed in section A.7.1 here. We turn in section A.7.2 to a discussion of non-declarative sentences, including questions, imperatives, and exhortatives. Relative clauses are examined in section A.7.3. I turn in section A.7.4 to Chol's second position clitics, which include modal markers, evidentials, and aspect-related clitics. Secondary predication, a topic which has received much recent attention within Mayan literature, is dealt with in section A.7.5. Obliques and adverbs are presented in section A.7.6. We look at reflexives and reciprocals in section A.7.7 and negation is examined in section A.7.9. I discuss verbs of motion and directional constructions in section A.7.8. Finite embedded clauses and conditional constructions will be discussed in section A.7.10. Non-finite subordinate clauses are not presented here, but see the discussion in chapter 4.4 above.

A.7.1 Basic declarative sentences

Relative positions of the main elements in a Chol declarative construction are given in (83). Each position is discussed below.

(83) CHOL DECLARATIVE

topic – focus – negation [**aspect – predicate – object – subject**]

As we have seen in the above sections, Chol is an agglutinating language and a large amount of information is carried on the predicate itself. Event-denoting predicates like the one in (84) appear obligatorily preceded by an aspect marker (§2.2.4), while statives like (84b) never appear with aspect.

- (84) a. Tyi i-jap-ä kajpej x-k'aläl.
 PRFV A3-drink-TV coffee CL-girl
 'The girl drank coffee.'
- b. Y-om i-juch' waj x-k'aläl.
 A3-want A3-grind corn CL-girl
 'The girl knows how to grind corn.'

Also as we saw above, Chol is a head-marking *pro*-drop language: grammatical relations are marked on the predicate via the set A and set B morphemes discussed in chapter 2 above, and full nominal arguments may be dropped. Full first and second person pronouns are typically used only for emphasis, and generally precede the predicate in topic or focus position. Overt third person nominals follow the basic order of VOS in transitives, VS in intransitives (Vázquez Álvarez 2002). Though transitives with two overt third person post-verbal arguments are rare in naturally occurring discourse, examples are available. A transitive is given in (85a) and an intransitive in (85b).

- (85) a. VOS TRANSITIVE
 Tyi i-ña'-tyä pañämil kixtyaño.
 PRFV A3-know-DTV world people
 'The people understood (lit.: knew the world).' (D.175)
- b. VS INTRANSITIVE
 Ta-x lajm-i jiñi x-ñek.
 PRFV-already die-ITV DET CL-ñek
 'The *xñek* died.' (D.30)

In Coon 2010b I propose that predicate initial order in Chol is the result of fronting of the phrasal predicate to a position above the subject. VSO order is also possible for transitives, argued to be the result of remnant VP movement.

Though predicate initial order is basic in discourse neutral contexts, both subjects and objects can be fronted to pre-verbal topic and focus positions (see Aissen 1992 for a discussion of topic and focus in Tzotzil, and Coon 2010b for more examples from Chol). All six possible orders of subject, verb, and object are thus possible. Examples in (86) are from naturally occurring text. There is no specific topic or focus morphology in Chol, as there is in some Mayan languages.²⁵

²⁵The enclitic *=i* discussed above frequently appears on fronted material, though it is not obligatory, and is also possible on post-verbal nominals.

- (86) a. TOPICALIZED STATIVE SUBJECT
 Pero kome **joñoñ** aläl-oñ-tyo...
 but because 1PRON child-B1-still
 ‘But because I was still a child...’ (B.25)
- b. TOPICALIZED INTRANSITIVE SUBJECT
Jiñi wakax t-äch kej-i tyi p’ojl-el.
 DET cow PRFV-AFF begin-ITV PREP reproduce-NML
 ‘The cows did begin to reproduce.’ (C.11)
- c. TOPICALIZED TRANSITIVE SUBJECT
 Entonses **jiñi me`** ta` y-il-ä-yoñ-lojoñ.
 and.so DET deer PRFV A3-see-DTV-B1-PL.EXCL
 ‘The deer saw USEXCL.’ (D.27)
- d. FOCUSSED OBJECT
Yambä tyi i-tyaj-a ts’i`.
 other PRFV A3-find-TV dog
 ‘It was another that the dog had found.’ (E.95)

Sentential negation appears after topicalized or focussed constituents and before aspect, and is described in §A.7.9 below.

A.7.2 Non-declarative sentences

Question formation

As noted in section A.2 above, yes/no questions in Chol may be formed by shifting the stress from the final (declarative) position, to a phrase-initial position, as in (87). Yes/no questions may also be formed with the second position interrogative clitic *-ba* (§A.7.4).

- (87) a. Maystraj-éty.
 teacher-B2
 ‘You’re a teacher.’
- b. Máystraj-ety?
 teacher-B2
 ‘Are you a teacher?’

Wh-questions in Chol—perhaps more appropriately called *ki*-questions—are formed with the question words in table A.19. The question root *jay-* must be followed by a numeral classifier (see §A.6.2 above); *bakibä* ‘which’ appears to be composed of *baki* ‘where’ plus the relative clause marker *-bä*; literally ‘the one where’.

The morpheme *ki* is present in the majority of these and when the *ki* is subtracted we find the roots used as indefinite pronouns. Examples are given in (88).

- (88) a. Ya` mi la-k-jap sa` **ba`**-añ chuty ja`.
 there IMPF PL-A1-drink *pozol* where-LOC small water
 ‘We’re going to drink *pozol* there by the small creek.’ (Aulie and Aulie 1978)

Table A.19: CHOL QUESTION WORDS

<i>maxki</i> (or <i>majchki</i>)	'who'
<i>chuki</i>	'what'
<i>baki</i>	'where'
<i>jalajki</i>	'when'
<i>jay-</i>	'how many'
<i>bajche`</i>	'how'
<i>bakibä</i>	'which'

- b. ... mi añ-tyo **majch** mi i-kol-tyañ-oñ.
 if EXT-still someone IMPF A3-help-DTV-B1
 '... if there is still someone who will help me.' (B.174)

In Chol *wh*-questions, the question word always appears in a clause-initial position, as shown by the examples in (89). *Wh*-words left in situ are ungrammatical.²⁶ Unlike many other Mayan languages (and many ergative-patterning languages more generally), no special antipassive or agent focus construction is used in contexts in which the external or ergative-marked argument is extracted, as illustrated by the form in (89c).

- (89) a. **Chuki** tyi i-mää-ä a-chich?
 what PRFV A3-buy-TV A2-older.sister
 'What did your older sister buy?'
 b. **Jay-k`ej** waj tyi a-k`ux-u?
 how.many-NC.flat tortilla PRFV A2-eat-TV
 'How many tortillas did you eat?'
 c. **Maxki** tyi y-il-ä a-wakax?
 who PRFV A3-see-DTV A2-cow
 'Who saw your cow?'
 d. **Maxki** tyi aw-il-ä?
 who PRFV A2-see-DTV
 'Who did you see?'

While possessors typically appear after the possessum, as discussed in section A.6.3, a *wh*-possessor must precede the possessum. This is shown by the contrast in (90) (see also Aissen 1996 on Tzotzil).

- (90) a. Tyi chäm-i [i-wakax aj-Pedro].
 PRFV die-ITV A3-cow DET-Pedro
 'Pedro's cow died.'
 b. [**Maxki** i-wakax] tyi chäm-i?
 who A3-cow PRFV die-ITV
 'Whose cow died?'

²⁶Speakers dislike multiple *wh*-word constructions, like the English 'Who bought what?'. However, if forced to choose between multiple fronted *wh*-words and a *wh*-word left in situ, speakers tend to prefer the former.

The example in (90b) above shows the possessum “pied-piped” along with the possessor. Possessors may also be extracted *out of* their nominal phrases when these NPs are internal arguments, as shown in (91a–b). Possessors within external arguments or adjuncts may not extract, as in (91c). These facts are discussed in greater detail in Coon 2009.

- (91) a. **Maxki**_i tyi chäm-i [i-wakax t_i]?
 who PRFV die-ITV A3-cow
 ‘Whose cow died?’
- b. **Maxki**_i tyi aw-il-ä [i-mama t_i]?
 who PRFV A2-see-DTV A3-mother
 ‘Whose mother did you see?’
- c. ***Maxki**_i tyi y-il-ä-yety [i-mama t_i]?
 who PRFV A3-see-DTV-B2 A3-mother
 ‘Whose mother saw you?’

Imperatives

As noted in Vázquez Álvarez 2002, imperatives in Chol provide further evidence for the classification of eventive stem-forming roots presented in chapter 2.2.3 above. The suffixes found on roots which form transitive, intransitive, positional, and *-V/-Vñ* stems are shown in table A.20. Examples of each are given in (92).²⁷

Table A.20: IMPERATIVE-FORMING SUFFIXES

transitive	- <i>∇</i>
intransitive	- <i>eñ</i>
positional	- <i>i`</i> , - <i>leñ</i>
derived transitive, inchoative	- <i>Vñ</i>

In affirmative imperatives, as in (92), no person marker is present. In commands addressed to a group, the second person plural may be added, as in (92b).

- (92) IMPERATIVES
- a. K’ux-u!
 eat-IMP
 ‘Eat it!’
- b. Och-eñ-la!
 enter-IMP-PL
 ‘Come in (you all)!’
- c. Buch-i`!
 seated-IMP
 ‘Sit down!’

²⁷Note that just as in the perfect we find intransitives appearing with *-em* and positionals appearing with *-lem*, here we find intransitives with *-eñ* and positionals with *-leñ*. See Coon and Preminger 2009 for a discussion of the role of the *-l* in positionals.

- d. Cha`l-eñ!
do-IMP
'Do it!'

Negative imperatives differ from the affirmatives. While the affirmatives in (92) are not marked for person, the negative imperatives are marked with second person morphology. Transitives take the set A marker, while intransitives and positionals take set B. Transitive and intransitive roots appear with no suffix; positionals appear with *-wañ*, while *-V/-Vñ* stems appear with their *-Vñ* suffix. The negative morpheme *mach* is discussed in section A.7.9.

(93) NEGATIVE IMPERATIVES

- a. Mach a-k'ux!
NEG A2-eat
'Don't eat it!'
- b. Mach och-ety-la!
NEG enter-B2-PL
'Don't you all come in!'
- c. Mach buch-wañ-ety!
NEG seated-IMP-B2
'Don't sit down!'
- d. Mach a-cha`l-eñ!
NEG A2-do-IMP
'Don't do it!'

The verbs of directed motion — *majl* 'go', *tyäl* 'come', *jul* 'arrive here', and *k'oty* 'arrive there' — lack regular imperative forms. The imperative for 'go' is *kuku*, while the imperative for 'come' is *la`*.

Exhortatives

Exhortatives in Chol are formed with the imperative *la`* 'come' and a first person plural set A marker. The root appears in its nonperfective/embedded stem form (see chapter 2.2.3). Examples are taken from Vázquez Álvarez 2002, given in (94):

- (94) a. La` la-k-mek'.
come PL.EXCL-A1-hug
'Let's hug him.'
- b. La` la-k-wäy-el.
come PL-A1-sleep-NML
'Let's sleep.'
- c. La` la-k-wa`-tyäl.
come PL-A1-stand-POS.NML
'Let's stand.'

(Vázquez Álvarez 2002, 153)

There is an irregular form of the verb 'go' used in exhortative constructions. This is shown in (95). The regular root is *majl*.

- (95) **Koñ-la** k-ajñ-isañ me`!
 go.EXH-PL A1-run-CAUS deer
 ‘Let’s go hunt deer!’ (E.7)

A.7.3 Relative clauses

Chol relative clauses are marked with the morpheme *-bä* (a borrowing from the Mixe-Zoquean language, Zoque (Martínez Cruz 2007)), which appears as a second position clitic, attached to the first element of the relative clause (see also section A.6.4 above). As the forms in (96) illustrate, both ergative (set A) and absolutive (set B) arguments may be relativized with no special antipassive or agent focus marking on the predicate (compare discussions in Aissen 1999; Stiebels 2006). This contrasts with some of the other Mayan languages (e.g. Mam, Jakaltek, and Q’anjob’al), where a special form is required to relativize the agent argument.

- (96) a. Tyi chäm-i abi **jiñi x`ixik** [ta`-bä i-käñ-tyä-yoñ che`
 PRFV die-ITV yesterday DET CL-woman PRFV-REL A3-care.for-DTV-B1 when
 x-k`aläl-oñ-tyo].
 CL-girl-B1-still
 ‘The woman who took care of me when I was a girl died yesterday.’
- b. Tyi chäm-i abi **jiñi x`ixik** [ta`-bä j-käñ-tyä che`
 PRFV die-ITV yesterday DET CL-woman PRFV-REL A1-care.for-DTV when
 x-k`aläl-oñ-tyo].
 CL-girl-B1-still
 ‘The woman who I took care of when I was a girl died yesterday.’

Because nominals are not marked with morphological case, and third person set B agreement is null, this results in potential ambiguity in relative clauses with two third person arguments:

- (97) Tyi och-i tyi y-otyoty aj-Maria **jiñi lukum** [ta`-bä i-k`ux-u ts`i].
 PRFV enter-ITV PREP A3-house CL-Maria DET snake PRFV-REL A3-bite-TV dog
 ‘The snake that bit a dog in the woods entered Maria’s house.’
 ‘The snake that a dog bit in the woods entered Maria’s house.’

While relative clauses most often follow the head noun, they may also precede it, as shown by the textual example from Martínez Cruz 2007. This is unlike most other Mayan languages, where relative clauses obligatorily follow the head. Martínez Cruz 2007 attributes this again to contact with Zoque.

- (98) ... che` bajche` [choñkol-bä i-kol-el] uj.
 so how PROG-REL A3-grow-NML moon
 ‘...like the waxing moon’ (T.17/L.51)

A.7.4 Second position clitics

The clitics

Chol has a number of second position clitics, shown in table A.21 (see also Vázquez Álvarez 2002).

Table A.21: SECOND POSITION CLITICS (VÁZQUEZ ÁLVAREZ 2002)

<i>-ix</i>	'already'	
<i>-äch, -ku</i>	affirmative	(AFF)
<i>-tyo</i>	'still, yet'	
<i>-ba</i>	interrogative	(INT)
<i>-bi</i>	reportative	(REP)
<i>-ik</i>	irrealis	(IRR)
<i>-ka</i>	dubitative	(DUB)
<i>-me</i>	"predictive"	

Attinasi (1973, 192) groups the first three—*-ix*, *-äch*, *-ku*—into a subset “without specific lexical meaning [whose] members serve as position fillers in the prosody of the language.” This may seem strange for a clitic meaning ‘already’. Chol *-ix* can be translated into English as ‘already’, but is more like its Spanish counterpart *ya*, which Koike (1996, 267) describes as “a reflector of aspect as well as a discourse marker that can serve to transmit an emotional intensity about designated information and to create cohesion in the discourse.” I gloss it alternately as ‘already’ or simply as ‘CL’. Textual examples of the clitics *-ix* and *-äch* are given in (99).

- (99) a. Porke jiñ-**ix** jap-lembal-ob ñoj p'umpuñ-ob-**ix**.
 because DET-CL drink-liquor-PL very poor-PL-CL
 ‘Because those who drink liquor are very poor indeed.’ (B.125)
- b. Pero solo dyos y-ujil mi muk'-**äch** k-cha` tyaj jiñi k-wakax...
 but only god A3-know if IMP-AFF A1-again find DET A1-cow
 ‘But only god knows if I'll again have cows...’ (C.63–64)
- c. Añ-**äch-ix** juñ-kojty wa`li.
 EXT-AFF-already one-NC.animal now
 ‘Now there's already one (animal).’ (C.65)

The clitics *-äch* and *-ku* are both used in affirmations. Attinasi (1973, 194) notes that *-ku* appears in greeting forms and as a “phatic echo in concatenation with Tense/Aspect markers”. Chol does not have a single word that translates to ‘yes’. Instead, the appropriate aspect marker combines with *-ku*: *tsa`-ku*, *mu-ku*, *choñkol-ku* (PRFV-AFF, IMPF-AFF, and PROG-AFF, respectively). For instance, when asked if you finished washing the dishes, you could respond *tsa`-ku*. If someone calls and asks if you are in the middle of cooking, you could answer *choñkol-ku*.

The clitic *-tyo* can be translated fairly straightforwardly to English ‘still’ or ‘yet’. The clitic *-ba* may be used in interrogative constructions, though as noted above the difference between interrogative and declarative sentences is frequently marked only by intonation. The evidential *-bi* is found throughout narratives and indicates that the speaker does not have direct evidence for what is being discussed. The irrealis clitic *-ik*, glossed ‘subjunctive’ in Vázquez Álvarez 2002, will be discussed in section A.7.10 below in the context of counterfactual conditionals. The ‘dubitative’ *-ka* is used “to express uncertainty” (Vázquez Álvarez 2002, 157). Finally, Vázquez Álvarez lists the clitic *-me* as the ‘predictive’, which he writes gives information about “warning, exclamation, or surprise”.

In a simple declarative sentence, the clitic will attach to the aspect marker in the case of an eventive predicate like (100a), and directly to the predicate in an aspect-less stative construction, as in (100b). Recall that the perfective and imperfective aspect markers—*mi* and *tyi*—have larger CVC allomorphs (see table 2.4 above), which must be used when clitics are hosted. In some cases these aspect markers are contracted with -VC clitics, for example: *ta`-äch* → *täch*; *ta`-ix* → *tax*; *muk`-ix* → *mux*. The example in (100a) also shows that the clitics do not attach to topicalized or focussed NPs. The clitics also do not attach to fronted *wh*-words.

- (100) a. Jiñi wiñik mux i-majl-el tyi cholel.
 DET man IMPF.already A3-go-NML PREP field
 ‘He’s going to the field already.’
 b. Chañ-ety-ix.
 tall-B2-already
 ‘You’re tall already.’

ba`añ

We find an interesting interaction between certain clitics and negation. When the irrealis marker *-ik* attaches to a declarative eventive construction, as in (101a), it attaches directly to the initial aspect marker, as expected. In negated constructions, it attaches to the negative morpheme *mach* (101b). Here, however, the locative pronoun *ba`* plus the existential *añ* appears, followed by the aspect marker and predicate. Compare this with the clitic-free negated form in (101c). The presence of *ba`añ* in these forms is not expected, and is glossed as ‘??’ in Vázquez Álvarez.

- (101) a. Tsa`-ik i-mek`-e-yety...
 PRFV-IRR A3-hug-TV-B2
 ‘If he had hugged you...’ (Vázquez Álvarez 2002, 155)
 b. Mach-ik ba`añ tyi i-mek`-e-yety...
 NEG-IRR where.EXT PRFV A3-hug-TV-B2
 ‘If he hadn’t hugged you...’ (Vázquez Álvarez 2002, 180)
 c. Ma`añ tyi i-mek`-e-yety.
 NEG.EXT PRFV A3-hug-TV-B2
 ‘He didn’t hug you.’

A similar pattern is found with *-ka*, and with the clitic *-tyo*, though this also triggers an irregular form of the negative morpheme, giving us *maxtyo*, as in (102). The negative form with no clitic is shown in (102c).

- (102) a. Ma`-ix-bi mi ke k-majl-el.
 NEG-CL-REP IMPF PROSP A2-go-NML
 ‘He says he’s not going now.’
 b. Max-tyo ba`añ mi ke k-majl-el.
 NEG-still where.EXT IMPF PROSP A1-go-NML
 ‘He’s still not going.’

- c. Ma`añ mi ke k-majl-el.
 NEG.EXT IMPF PROSP A1-go-NML
 'I'm not going.'

Interestingly, *ba`añ* does not appear in equivalent stative constructions, as shown by the examples in (103).

- (103) a. Wiñik-ety-ik.
 man-B2-IRR
 'If you were a man...'
 (Vázquez Álvarez 2002, 155)
- b. Mach-ik wiñik-ety.
 NEG-IRR man-B2
 'If you weren't a man...'
 (Vázquez Álvarez 2002, 177)
- c. Mach wiñik-ety.
 NEG man-B2
 'You're not a man.'

A comparison of the (c) forms in (101–103) may shed some light on this puzzle. As discussed in the section below on negation (§A.7.9), individual-level predicates like the one in (103) are negated with the simple negative morpheme *mach*, while stage-level predicates like the ones in (101) and (102) are negated with *ma`añ*—a combination of the negative morpheme, and the existential/locative *añ* (§A.5.1). One possibility is that the *añ* in the *ba`añ* is the same *añ* that would otherwise appear together with negation. The locative pronoun *ba`* serves as some sort of host. The question is then whether *añ* is more generally incompatible with clitics like *-tyo* and *-ik*, and what the function of *añ* is in these constructions. I leave the analysis of this form as a topic for future work.

“Phatic mantras”

Finally, in the context of these clitics, I include a discussion of what Attinasi (1973, 204) calls “phatic mantras”, (a term which he attributes to Bronislaw Malinowski) and refers to speech which serves a social, rather than a referential or communicative, purpose. He writes:

Chol speakers frequently make use of phatic speech to affirm propositions, as hesitation phenomena between subjects in a conversation, to keep the conversational contact in lieu of eye contact, and as an integral part of elaborate greeting and leave-taking formulas. (Attinasi 1973, 204)

These phatic mantras are composed of clitics, most often *-äch*, *-ix*, *-ku*, *bä*, *me*, and *-i*. The first element is frequently *che`* (which Attinasi calls a clitic but which may be related to the complementizer (§A.7.10)), or the determiner *jiñ*. He writes that “The permutational possibilities of the affirmative mantra are practically limitless” (Attinasi 1973, 206), and gives the examples in table A.22.

In negative mantras, the clitics may combine with the negative morpheme *mach*, as in *mach-ku* or *mach-ix*. These strings are infrequently heard in elicited material, but are an important part of any Chol dialogue. In (104) I give an example of part of a conversation between ‘S’ and ‘M’. Here I

Table A.22: PHATIC MANTRAS (ATTINASI 1973, 207)

che`-äch-bä-yi
che`-ku-ch(e`)-äch-i
che`-ix-bä-ku-yi
che`-me`-ku
jiñ-ix-me`-ku

do not give morpheme-by-morpheme glosses, but simply highlight the clitics and “phatic” elements described in this section. I include the original Spanish translation in parentheses.

(104) PART OF CHOL DIALOGUE (VTA.976–976)

- s; **jiii sij tyak`iñ yoñx tyi kolelob alpeñal wäbäyi**
 ‘Now you need a lot of money to raise children.’
 (*Ahora quiere puro dinero para que crezcan los niños*)
- m; **che`ku wäli**
 ‘It seems that’s true.’ (*Parece que si*)
- s; **che`ixi**
 ‘Indeed.’ (*Así es*)
- m; **che` tsa` cheñi**
 ‘Well, that’s how it is.’ (*Así es pues*)
- s; **jixkuyi, jäjä`**
 ‘That’s how it is, yes.’ (*Así es, si*)
- m; **chä`ächi**
 ‘That’s how it is.’ (*Así es*)
- s; **che`i, mach ya`añ amamabä**
 ‘Like that, your mother wasn’t like that.’ (*Así, no estaba tu mamá*)
- m; **chä`äch je`e machku lajal bajche` wa`wäl**
 ‘Indeed, it wasn’t the same, as you say.’ (*Así es, no es igual como dices*)
- s; **machku lajal**
 ‘It’s not the same.’ (*No es igual*)
- m; **machix**
 ‘No indeed.’ (*No pues*)
- s; **machäch lajal**
 ‘It’s not the same.’ (*No es igual*)

This dialogic repetition or “parallelism” is characteristic of Mayan speech, and has been discussed in Norman 1980, Brody 1986, Hofling 1993, and Brown 1998, to name just a few.

A.7.5 Secondary predication

Depictive secondary predicates in Chol appear immediately before the main predicate and may contribute meanings related to: physical state or condition; role, function, or stage of life; quantity; and manner (Vázquez Álvarez 2002, 229). Secondary predicates (italicized in (105)) are always optional, and give additional information about one of the arguments of the clause. This argument is referred to as the “controller” of the secondary predicate (Schultze-Berndt and Himmelmann 2004). The primary predicate appears in its regular inflected form. As shown in (105b), the secondary predicate may optionally show set B morphology co-indexing the controlling argument of the primary predicate.

(105) DEPICTIVE SECONDARY PREDICATES

- a. *Buch-ul* tyi i-juch'-u ixim.
seated-STAT PRFV A3-grind-TV corn
'She ground corn seated.'
- b. *Tyij-ik-ñā-(yoñ)* tyi majl-i-yoñ.
happy-AFFC-AFFC-B1 PRFV go-ITV-B1
'I went happily.'
- c. *Ñoty-ñoty-ñā* mi i-lets-el majl-el tyi tye`jñi x-ch'ejku.
stick-stick-AFFC IMPF A3-ascend-NML go-NML PREP tree DET CL-woodpecker
'The woodpecker goes up the tree (sticking to it).' (Aulie and Aulie 1978, 83)

Schultze-Berndt and Himmelmann 2004 note:

One of the essential characteristics of a secondary predicate construction is the fact that a single clause contains two predicative constituents, which do not form a complex predicate in the way serial verbs or periphrastic predicates do. (Schultze-Berndt and Himmelmann 2004, 59)

Vázquez Álvarez (2002) demonstrates that secondary predicates in Chol, like those in (105), indeed belong to the same clause as the primary predicate. First, fronted arguments must appear before the secondary predicate. If they appear between the primary and secondary predicates, as with the first person pronoun in (106a), a biclausal interpretation is forced; Vázquez Álvarez cites prosodic evidence for this. Second, second position clitics, like the irrealis in (106b), attach to the secondary predicate. Finally, negation appears before the secondary predicate, and can scope over the entire clause, as in (106c).²⁸

- (106) a. *Buch-ul-oñ.* Joñoñ tyi k'oty-i-yoñ.
seated-STAT-B1 PRON1 PRFV arrive.there-ITV-B1
'I'm seated. I arrived.' (Vázquez Álvarez 2002, 231)
- b. *Buch-ul-ik* tyi k'oty-i aj-Pekro...
seated-STAT-IRR PRFV arrive.there-ITV DET-Pedro
'If Pedro had arrived seated...' (Vázquez Álvarez 2002, 235)

²⁸The negative morpheme *mach* is also possible in (106c). As discussed in section A.7.9 below, *mach* typically negates aspectless stative predicates, while *ma`añ* negates clauses with aspect marking. When *mach* is used in place of *ma`añ* in (106c) the reading becomes 'Pedro arrived not seated' — that is, the negation scopes only over the secondary predicate.

- c. **Ma`añ** buch-ul tyi k'oty-i aj-Pekro.
 NEG.EXT seated-STAT PRFV arrive.there-ITV DET-Pedro
 'Pedro didn't arrive seated.' (Vázquez Álvarez 2002, 236)

All core arguments—intransitive subjects and transitive subjects and objects—may control the secondary predicate. As shown by the forms in (107), where the primary predicate has two potential controllers, set B person marking on the secondary predicate disambiguates. If there is no set B person marking on the secondary predicate, there seems to be a preference for the internal (set B) argument to be the controller, though more work is needed here.

- (107) a. Buch-ul-ety tyi k-tyaj-a-yety.
 seated-STAT-B2 PRFV A1-find-TV-B2
 'I found you (while you were) seated.'
 b. Ch'ijyem-oñ tyi k-tyaj-a-yety.
 sad-B1 PRFV A1-find-TV-B2
 'I found you (while I was) sad.'

Secondary predicates may consist of any stative predicate. They may include positionals in their stative -VI forms (§A.5.2); nominal or adjectival predicates; affectives (§A.5.3); and others predicates discussed more in Vázquez Álvarez 2002 and in section A.5 above. The secondary predicate never appears with aspect morphology or with the vocalic “theme vowel” suffixes discussed in chapter 2.2.3—that is, it behaves as other stative predicates. While Vázquez Álvarez discusses only depictive secondary predicates, resultatives also appear in secondary predicate constructions, as in (108). Further work is needed to determine what differences may exist between depictive and resultative secondary predicates (see Schultze-Berndt and Himmelmann 2004 for a cross-linguistic discussion, and Mateo-Toledo 2010 on depictive and resultative secondary predicates in Q'anjob'al).

- (108) Chächäk tyi k-boñ-o k-otyoty.
 red PRFV A1-paint-TV A1-house
 'I painted my house red.'

A.7.6 Adverbs and obliques

This section examines the introduction of oblique arguments in Chol via the preposition *tyi* and relational nouns, as well as a class of adverbial roots which appear adjacent to the verb stem. Other adverbial information is expressed via the secondary predicates discussed above. The position of temporal adverbs is discussed to some degree in the context of word order in Coon 2010b.

Prepositions and relational nouns

Chol has one true preposition: *tyi*. This preposition introduces the oblique argument in passives (seen in section 2.2.3 above), all locative relations (Vázquez Álvarez 2002, 32), as well as some adverbial elements. The preposition will also be discussed in more detail in the context of embedded clauses in chapter 3. Examples are given in (109).

- (109) THE PREPOSITION *tyi*
- a. Mi a-mos-tyäl **tyi** tsuts.
PRFV A2-cover-PASV.NML PREP blanket
'You are covered by the blanket.'
 - b. Añ waj **tyi** mesa.
EXT tortilla PREP table
'There are tortillas on the table.'
 - c. Añ chityam **tyi** otyoty.
EXT pig PREP house
'There's a pig in the house.'
 - d. Mi k-majl-el **tyi** chol-el.
IMPF A1-go-NML PREP field-NML
'I'm going to the field.'
 - e. Tsajñ-ety **tyi** Salto.
return-B2 PREP Salto
'You returned from Salto.'

More specific spatial relations are encoded with possessed body part terms and other relational nouns, as in the examples in (110). In non-careful speech, *tyi i-paty* is concatenated to *tyi` paty*, etc.

- (110)
- a. *tyi i-paty* otyoty
PREP A3-back house
'behind the house'
 - b. *tyi i-jol* otyoty
PREP A3-head house
'on top of the house'
 - c. *tyi i-mal* otyoty
PREP A3-inside house
'inside the house'
 - d. *tyi y-ebal* mesa
PREP A3-under table
'under the table'

Relational nouns, described for languages throughout the Mayan family, are also used to express notions of concomitance and possession, as shown with *ik'oty* and *cha`añ* in (111). Relational nouns appear with possessive (set A) marking co-indexing the introduced argument. These relational nouns need not be introduced by the preposition *tyi*, and thus differ from other modifiers. The Chol relational noun *-ik'oty* may show just set A agreement with the introduced argument as in (111c), or may show set A and set B agreement, as in (111d–e). In the latter examples, the set B marking must co-index the introduced argument (null in (111e)).

- (111)
- a. *Tyi majl-i y-ik'oty* k-mama.
PRFV go-ITV A3-RN.with A1-mom
'He went with my mom.'

- b. Maxki **i-cha`añ** ili pisił?
 who A3-RN.for/of DET clothes
 ‘Whose clothes are these?’
- c. Mi ke k-majl-el **k-ik`oty-ety**.
 IMPF PROSP A1-go-NML A1-RN.with-B2
 ‘I’ll go with you.’
- d. Ya` ta` k-wiñ cha`l-e e`tyel **k-ik`oty** jiñi k-papa.
 there PRFV A1-a.lot do-DTV work A1-RN.with DET A1-father
 ‘There I worked a lot with my father.’ (B.19)

While relational nouns like *-ik`oty* and *-ebal* are obligatorily possessed, this is not the case with *cha`añ*, which often appears with no set A marker with readings like ‘for’, ‘because of’. This suggests that the relational noun may be grammaticalizing into a second preposition. *Cha`añ* can also introduce full embedded clauses, discussed in section A.7.10 below.

- (112) a. Mi i-k`uñ-añ lum **cha`añ** ja`al.
 IMPF A3-soft-INCH land because rain
 ‘The land is softening because of the rain.’ (Aulie and Aulie 1978)
- b. Tyi i-mel-e waj **cha`añ** y-alobil.
 PRFV A3-make-TV tortilla for A3-child
 ‘She made tortillas for her children.’

Finally, the preposition *tyi* is also used to introduce certain non-locative/non-temporal adverbial elements, often in a post-predicate position. Some examples are given in (113).

- (113) a. ... cha`añ mi k-cha` lok`-el **tyi libre**.
 so IMPF A1-again exit-NML PREP free
 ‘...so I come out free again.’ (B.158)
- b. Poreso jiñi x-ñek mi i-sub-eñ-ob, cha`añ lu`-i`ik` **tyi pejtyelel**.
 that’s.why DET CL-ñek IMPF A3-say-DTV-PL because all-black PREP all
 ‘That’s why they call him the *xñek*, because he’s all black.’ (D.49)

At least in some cases, this appear to be an alternative to the secondary predicate construction discussed above. That is, the adverbial element can appear either clause-finally with the preposition *tyi*, or as a secondary predicate. Compare for instance (113a) and (114).

- (114) **Libre** mi k-cha` lok`-el.
 free IMPF A1-again exit-NML
 ‘I come out free again.’

CVC adverbs

A class of CVC roots may appear immediately preceding the root (after the set A marking, when present). Attinasi (1973, 160) writes that aside from these forms “there is no special class of adverbs, and no special marking for adverbial function” (though the *tyi* constructions in (113) may be an exception). Some examples are given in table A.23; see also Attinasi 1973, 122.

Table A.23: ADVERBIAL PARTICLES

<i>lu`</i>	‘completely, all’
<i>cha`</i>	‘again’
<i>bele</i>	‘continuously, always’
<i>weñ</i>	‘well, thoroughly, many’
<i>wa`</i>	‘quickly’

- (115) a. Tyi i-**lu`** k`ux-u i-waj.
PRFV A3-all eat-TV A3-tortilla
‘She ate all her tortillas.’
- b. Mi i-**bele** choñ waj.
IMPF A3-always sell tortilla
‘He always sells tortillas.’
- c. Nuebamente choñkol k-**cha`** tyech yambä k-e`tyel.
newly PROG A1-again begin other A1-work
‘I’m beginning new work again.’ (C.37)

While Attinasi lists these as a special class of adverbs (he calls them “derivational particles”), many of them are found elsewhere in the grammar. For instance, *cha`* is simply the numeral ‘two’ (though here it really means ‘again’ and not necessarily ‘twice’); *weñ* is also an intensifier, meaning ‘very’ or ‘a lot’ (from Spanish *bueno* ‘good’).

Vázquez Álvarez (2002) also discusses the fact that many roots which appear in secondary predicate constructions (in their stative forms) can also appear in their bare root forms in this immediately pre-root position. For instance, positional roots may appear here (indeed, some of the particles listed by Attinasi are simply positional roots).²⁹

- (116) a. POSITIONAL AS SECONDARY PREDICATE
Buch-ul mi k-wäy-el.
seated-STAT IMPF A1-sleep-NML
‘I sleep sitting up.’
- b. POSITIONAL “INCORPORATED”
Mi k-**buch** wäy-el.
PRFV A1-seated sleep-NML
‘I sleep sitting up.’

Though Vázquez Álvarez calls forms like (116b) instances of incorporation, Attinasi (1973, 120) discusses phonological evidence for a word boundary between these morphemes and the verb root. Recall from section A.2.1 above that the vowel *ä* is realized as *a* in word-initial position. Compare, for example the alternation in the root *äk`* ‘give’ in (117).

²⁹Though further work is needed here, the forms in which the positional is “incorporated” into the verb stem complex sometimes have irregular meanings. Incorporating *buch* as in (116) can mean that the event happened accidentally, while incorporating the positional *wa`* ‘standing on two legs’ can mean that the event happened quickly.

- (117) a. Tyi k-äk'-e-yety alaxax.
 PRFV A1-give-APPL.DTV-B2 orange
 'I gave you oranges.'
 b. Ak'-eñ-oñ!
 give-IMP-B1
 'Give it to me!'

Attinasi notes that when this root is preceded by one of the morphemes in table A.23, the initial vowel is realized as *a*, suggesting that the adverb plus root do not form a single phonological word (indicated by the # in (118)). See also the discussion of vowel alternations in chapter 2.2.5 above. See Coon 2010b for an analysis of the structure of these forms.

- (118) Ma-a-cha` #ak'.
 IMPF-A2-again#give
 'You return in.' (Attinasi 1973, 120)

A.7.7 Reflexives and reciprocals

Both reflexives and reciprocals in Chol involve the relational noun *-bäj* or *-bä*, which can be glossed as 'self'. This form always appears with possessive (set A) marking, which is co-referential with the external argument of the reflexive construction. Note that the possessed *-bä* form is itself a third person nominal (regardless of the set A possessive marker), and so all of the forms in (119) show null third person set B marking with the reflexive object.

- (119) CHOL REFLEXIVES
- a. Tyi k-il-ä k-bä.
 PRFV A1-see-TV A1-RN.self
 'I saw myself.'
- b. Tyi a-tsep-e a-bä.
 PRFV A2-cut-TV A2-RN.self
 'You cut yourself.'
- c. Jiñi xiba mi i-päñty-es-añ i-bä tyi ts'ì.
 DET demon IMPF A3-transform-CAUS-DTV A3-RN.self PREP dog
 'The demon transforms himself into a dog.' (Aulie and Aulie 1978)

Reciprocals are formed in much the same manner, as shown by the form in (120).

- (120) Tyi i-jats'-ä-yob i-bä jiñi wiñik-ob.
 PRFV A3-hit-TV-PL A3-RN.self DET man-PL
 'The men hit each other.'

While transitive objects are generally free to undergo fronting for topic of focus, this appears to be impossible with the reflexive, suggesting a very tight relation between the verb stem and the reflexive stem.

A.7.8 Verbs of motion and directional constructions

Within intransitive roots we find a subclass of roots which can be characterized as *verbs of motion*, listed in table A.24.

Table A.24: VERBS OF MOTION (VÁZQUEZ ÁLVAREZ 2002)

<i>majl</i>	'go'
<i>tyäl</i>	'come'
<i>jul</i>	'arrive here'
<i>k'oty</i>	'arrive there'
<i>och</i>	'enter'
<i>lok'</i>	'exit'
<i>lets</i>	'ascend'
<i>jub</i>	'descend'
<i>suity</i>	'return'

The roots in table A.24 are distinguished from other intransitives in their ability to appear as “directionals” in serial verb constructions, as in the forms in (121). In all of these constructions, we find a fully conjugated stem (in italics) followed by a directional (in boldface). The directional is a verb of motion in its non-finite/nominal form (discussed in more detail in chapters 3 and 4). The directional form in these constructions may not appear with person morphology.³⁰

- (121) a. ... baki tyi *och-i* **majl-el** jiñi me`.
 where PRFV enter-ITV go-NML DET deer
 '... there where the deer went in.' (E.70)
- b. Mi *k-chuk-ety* **majl-el**.
 IMPF A1-carry-B2 go-NML
 'I'll carry you away.'
- c. Tyi *wejl-i-yoñ* **jub-el**.
 PRFV fly-ITV-B1 descend-NML
 'I flew down.'
- d. Tyi *i-chok-o* **och-el** tyuñ jiñi alob.
 PRFV A3-throw-TV enter-NML stone DET boy
 'The boy threw the rock in.'

The directional specifies the motion/trajectory of the *internal* argument. In (121d), for instance, we know the stone entered (for example, into the house), but nothing is said about the movement of the boy. Most of these can be translated with English adverbial particles like 'in', 'away', 'out', 'up', etc.

This construction is limited to verbs of motion. Compare for example the sentence in (121c) above with the one in (122a). In (121c) the conjugated verb is *wejl* 'fly'; it is followed by the non-finite form of the directional *jub* 'descend'. Contrast this with the ungrammatical form in

³⁰See Craig 1993, Haviland 1993, Zavala 1993, and Aissen 1994, among others, for discussions of directional constructions in other Mayan languages.

(122a). Here we find the same two verbs, but the order is reversed: the directional is conjugated, and the non-directional intransitive *wejl* appears in its non-finite form after the verb stem.

- (122) a. *Tyi jub-i-yoñ wejl-el.
 PRFV descend-ITV-B1 fly-NML
 'I descended flying.'
- b. Tyi jub-i-yoñ.
 PRFV descend-ITV-B1
 'I descended.'
- c. Y-om wejl-el.
 A3-want fly-NML
 'He wants to fly.'

Though we can assign a plausible meaning to the sentence in (122a), the result is ungrammatical. The grammatical form in (122b) is provided to illustrate that the problem is not with conjugating a directional; all directionals may also appear in regular intransitive constructions, but it is only the directionals which may appear in the position occupied by *wejl* in (122a). Finally, the form in (122c) shows that the regular intransitive *wejl* can appear in a non-finite stem form.

In constructions like those in (121), there appears to be a very tight bond between the directional and the predicate stem. As discussed in Coon (2010b), a bare nominal object like *xajulel* 'stone' may not be separated from the stem by adverbs like *abi* 'yesterday', but instead must appear adjacent to verb stem, as shown by the contrast in (123).

- (123) a. Tyi i-chok-o tyuñ **abi** jiñi alob.
 PRFV A3-throw-TV stone yesterday DET boy
 'The boy threw the stone yesterday.'
- b. *Tyi i-chok-o **abi** tyuñ jiñi alob.
 PRFV A3-throw-TV yesterday stone DET boy
 'The boy threw the stone yesterday.'

Directionals, however, must appear immediately adjacent to the verb stem. The bare nominal *xajulel* follows the directional in (121c) above; it cannot intervene, as shown by the ungrammaticality of (124). This shows that directionals are structurally different from other adverbials.

- (124) *Tyi i-chok-o tyuñ **och-el** jiñi alob.
 PRFV A3-throw-TV stone enter-NML DET boy
 'The boy threw the stone in.'

Examples like the one in (125) illustrate that directionals can be stacked (also noted in Vázquez Álvarez 2002, 46). There appear to be restrictions on the order of the directionals, as well as on which directionals may combine, though further work is needed in this area.

- (125) Tyi wejl-i lok'-el majl-el.
 PRFV fly-ITV exit-NML go-NML
 'He flew out and away.'

Finally, motion verbs in Chol may also appear in *motion-cum-purpose* constructions (cf. Zavala 1993, 40), as in (126a). Here the verb of motion inflects as a regular intransitive encoding the motion of the subject; the embedded clause (in brackets) specifies the “target event” or purpose of the motion. This construction is impossible with non-directionals like *wejl* ‘fly’, as shown by the example in (126b). This would instead involve a regular subordinate construction, discussed in chapter 4.

- (126) a. Jiñi matyemuty tyi **majl-i** [i-mel i-mety].
 DET bird PRFV go-ITV A3-make A3-nest
 ‘The bird went to make its nest.’
- b. *Jiñi matyemuty tyi **wejl-i** [i-mel i-mety].
 DET bird PRFV go-ITV A3-make A3-nest
 ‘The bird flew to make its nest.’

A.7.9 Negation

Chol has two main negative forms, *mach* and *ma`añ*. In the case of verbal predicates, the former is typically used with stative clauses which do not take one of the aspect markers, while the latter is used when aspect markers appear, as shown in (127).

- (127) a. **Mach** k-om sa`.
 NEG A1-want *pozol*
 ‘I don’t want *pozol*.’
- b. **Ma`añ** mi i-majl-el tyi klase.
 NEG.EXT IMPF A3-go-NML PREP class
 ‘She doesn’t go to class.’

As the gloss in (127b) suggests, the form *ma`añ* is most likely bimorphemic—a contraction of the negative *mach* and the existential/locative *añ* (see section A.5.1) (see also Vázquez Álvarez 2002). Evidence for this is found in the existential and negative existential constructions in (128).

- (128) a. **Añ** k-wi`ñal.
 EXT A1-hunger
 ‘I’m hungry.’
- b. **Ma`añ** k-wi`ñal.
 NEG.EXT A1-hunger
 ‘I’m not hungry.’

Turning to nominal and adjectival predicates, we find variation in which negative form is used, as shown by the forms in (129) and (130). Based on data like these Coon 2006 argues that *mach* is used to negate individual-level predicates, while *ma`añ* negates stage-level predicates.

- (129) NEGATION WITH *mach*
- a. **Mach** bi`tyik-ety.
 NEG ugly-B2
 ‘You’re not ugly.’

- b. **Mach** p'ip'-oñ.
NEG intelligent-B1
'I'm not intelligent.'
- c. **Mach** muty jiñi.
NEG chicken DET
'That's not a chicken.'
- (130) NEGATION WITH *ma`añ*
- a. **Ma`añ** mich'-oñ.
NEG.EXT angry-B1
'I'm not angry.'
- b. **Ma`añ** lujbeñ-oñ.
NEG.EXT tired-B1
'I'm not tired.'
- c. **Ma`añ** ach' jiñi pisil.
NEG.EXT wet DET clothes
'The clothes aren't wet.'

While the above forms are those most readily offered by speakers, in some cases we find minimal pairs with the same predicate, lending further support to the individual-/stage-level hypothesis. For instance, *mach* can be used to negate the predicate *mich'* 'angry' in (130a), but the reading is then one in which the speaker is asserting that she is, in general, not an angry person. See Coon 2006 for more examples and further discussion of negation in Chol.

A.7.10 Embedded clauses

In this section I briefly cover embedded finite clauses. Embedded non-finite clauses were discussed in chapter 4.4 above. Embedded declarative clauses in Chol may be introduced with the complementizer *che`* 'that' as in (131). Basic order in the embedded clause is still VOS/VS, though as in main clauses, both subject and object can front within the embedded clause to topic or focus positions, as in (131).

- (131) a. Tyi j-k'el-e [che` tyi i-ch'il-i ja`as jiñi x-k'aläl].
PRFV A1-watch-TV that PRFV A3-fry-ITV banana DET CL-girl
'I saw that the girl fried bananas.'
- b. Tyi j-k'el-e [che` ja`as tyi i-ch'il-i jiñi x-k'aläl].
PRFV A1-watch-TV that banana PRFV A3-fry-TV DET CL-girl
'I saw that it was bananas that the girl fried.'
- c. Tyi j-k'el-e [che` jiñi x-k'aläl tyi i-ch'il-i ja`as].
PRFV A1-watch-TV that DET CL-girl PRFV A3-fry-TV banana
'I saw that the girl fried bananas.'

Embedded clauses may also be introduced with *cha`añ*, 'because' or 'in order to':

- (132) Ch'ijyem jiñi x-Ana [cha`añ x-Pedro tyi majl-i tyi Tila].
 sad DET CL-Ana because CL-Pedro PRFV go-ITV PREP Tila
 'Ana is sad because Pedro went to Tila.'

Embedded questions are introduced with the conditional marker *mi* 'if', as shown by the examples in (133).³¹

- (133) a. pero solo dyos y-ujil [**mi** mu-tyo ke j-k`el-e` k-e`tyel].
 but only god A3-know if IMPF-still PROSP A1-see-DEP A1-work
 'But only God knows if I'll still see my work.' (B.177)
- b. pero solo dyos y-ujil [**mi** muk`-äch k-cha` tyaj jiñi k-wakax.]
 but only god A3-know if IMPF-AFF A1-again find DET A1-cow
 'But only God knows if I'll find my cows again.' (C.63-64)

Conditionals are also introduced by *mi*, as shown by the examples in (134).

- (134) a. **Mi** tyi ñum-i ja`al, ma`-ix mi k-majl-el.
 if PRFV pass-ITV rain NEG-already IMPF A1-go-NML
 'If it rains I won't go.' (Warkentin and Scott 1980, 102)
- b. **Mi** tyi la-k-päs-b-e ts`i`, mi ke i-tyaj.
 if PRFV PL-A1-show-APPL-DTV dog IMPF PROSP A3-find
 'If we show the dogs, they'll find him.' (E.77)
- c. **Mi** aw-om a-wiñik-añ, mi k-päy tyäl-el.
 if A2-want A2-man-INCH IMPF A1-call come-NML
 'If you want to employ him, I'll bring him.' (Aulie and Aulie 1978)

Examples of counterfactual conditionals are given in (135). The irrealis clitic *-ik* appears in the second position of the antecedent clause, while the consequent shows no special marking. It seems that the particle *mi* 'if' may optionally precede the antecedent, though more work is needed here.

- (135) a. Añ-**ik** k-tyak`iñ, mi k-mañ j-karu.
 EXT-IRR A1-money, IMPF A1-buy A1-car
 'If I had money, I'd buy a car.'
- b. Ta`-**ik** i-jap-ä ts`ak, ta`-äch lajm-i.
 PRFV-IRR A3-drink-TV medicine PRFV-AFF improve-ITV
 'If he had taken the medicine, he would have gotten better.'
- c. Mach-**ik** ba`añ tyi majl-i-yety tyi k`iñejel, ma`añ tyi a-k`ux-u tamal.
 NEG-IRR where.EXT PRFV go-ITV-B2 PREP party NEG.EXT PRFV A2-eat-TV tamale
 'If you hadn't gone to the party, you wouldn't have eaten tamales.'

³¹It is unknown whether this is connected to the homophonous nonperfective aspect morpheme.

APPENDIX B

SUMMARY OF BASIC CONSTRUCTIONS

	Perfective	Nonperfective
Complementing	<p>(1)</p> <p>a. Tyi k-mel-e waj. PRFV A1-make-TV tortilla 'I made tortillas.'</p> <p>b. Tyi majl-i-yoñ. PRFV go-ITV-B1 'I went.'</p>	<p>(2) A-CONSTRUCTIONS</p> <p>a. Choñkol [DP k-mel waj PRO]. PROG A1-make tortilla 'I'm making tortillas.'</p> <p>b. Choñkol [DP k-majl-el PRO]. PROG A1-go-NML 'I'm going.'</p> <p>• lit. ~ 'My X is happening.'</p>
Complementless	<p>(3) LIGHT VERB</p> <p>a. Tyi k-cha'l-e <u>k'ay</u>. PRFV A1-do-DTV song 'I sang.'</p> <p>b. Tyi k-cha'l-e <u>wuts'-oñ-el</u>. PRFV A1-do-DTV wash-AP-NML 'I washed.'</p> <p>• lit. ~ 'I do X.'</p>	<p>(4) B-CONSTRUCTIONS</p> <p>a. Choñkol-oñ [PP tyi <u>k'ay</u>]. PROG-B1 PREP song 'I'm singing.'</p> <p>b. Choñkol-oñ [PP tyi <u>wuts'-oñ-el</u>]. PROG-B1 PREP wash-AP-NML 'I'm washing.'</p> <p>• lit. ~ 'I'm at/engaged in X.'</p>

APPENDIX C

ABBREVIATIONS AND SYMBOLS

*	ungrammatical construction	EXT	existential
%	inter-speaker variation	FOC	focus
-	morpheme boundary	GEN	genitive
=	clitic boundary	HON	honorific
()	optional	IMP	imperative
1, 2, 3	1 ST , 2 ND , 3 RD person	IMPF	imperfective
A	set A (ERGATIVE, GENITIVE)	INCH	inchoative
ABS	absolutive	INC	incomplete
ACC	accusative	INCL	inclusive
AFF	affirmative	INSTR	instrumental
AFFC	affective	IRR	irrealis
AP	antipassive	ITV	intransitive verb suffix
APPL	applicative	LOC	locative
ASP	aspect	NC	numeral classifier
AUX	auxiliary	NCL	noun class marker
B	set B (ABSOLUTIVE)	NEG	negative
CAUS	causative	NML	nominal
CL	clitic	NOM	nominative
COM	completive aspect	NONFUT	nonfuture
COMP	complementizer	OBL	oblique
DEM	demonstrative	PART	partitive
DEP	dependent	PASV	passive
DET	determiner	PERF	perfect
DIR	directional	POS	positional suffix
DTV	derived transitive	PL	plural
DUR	durative	PREP	preposition
ENCL	enclitic	PRFV	perfective
EP	epenthesis	PROG	progressive
ERG	ergative	PRON	pronoun
EXCL	exclusive	PROSP	prospective
EXH	exhortative	PRES	present

PTCP	participle
Q	interrogative marker
PST	past
REDUP	reduplication
REL	relative clause suffix
REP	reportative
RN	relational noun
SG	singular
STAT	stative suffix
SUF	suffix
SV	stative verb
TV	transitive verb suffix

APPENDIX D

NARRATIVE TEXT ABBREVIATIONS

Below, 'XX' stands in for cited text and line numbers.

B.XX	from the narrative <i>Ipapa Abram</i> , given in Appendix B of Coon 2004
C.XX	from the narrative <i>Ye`tyel Abram</i> , given in Appendix C of Coon 2004
D.XX	from the narrative <i>Xñek</i> , given in Appendix D of Coon 2004
E.XX	from the narrative <i>Me`</i> , given in Appendix E of Coon 2004
XXX/LXX	abbreviations from Martínez Cruz recorded texts, cited in Martínez Cruz 2007
VTA.XX	from the dialogue <i>Viejita</i> , recorded in Campanario and transcribed by Matilde Vázquez Vázquez

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