Correlates of ergativity in Mayan*

Judith Aissen

November 9, 2015

X.1 Introduction

The title of this chapter references an earlier paper, 'Correlates of ergativity in Mayan grammar' (Larsen and Norman 1979), which identified already many of the issues that have driven research on ergativity in Mayan since 1980. As they observed, there is no question that Mayan languages are morphologically ergative. The question is to what extent ergativity is an organizing principle at other levels and, if it is, how that is related to the morphology.

Larsen and Norman (1979) provided a lucid discussion of the issue. They pointed out that not every process which treats S and O alike, and differently from A, is a syntactic correlate of ergative morphology – for such processes are found in languages of various alignment types. An example from discourse structure is the preference to introduce new discourse referents as S and O, but not as A (Du Bois

*I would like to thank Jessica Coon, Amy Rose Deal, and Yuko Otsuka for their helpful comments and suggestions. I am solely responsible for the content.

1987, this volume). Although DuBois argues that this preference can be grammaticized through ergative morphology, the preference itself is not restricted to morphologically ergative languages.[1] Only a syntactic process which aligns S and O against A *and* which is found discriminately in languages with ergative alignment is a good candidate for a syntactic correlate of ergativity.

The best candidate for such a correlate in Mayan involves constraints on extraction. Larsen and Norman noted that while absolutives freely extract in Mayan, some languages restrict the extraction of ergatives. Their approach was typological and they proposed that only languages with ergative morphology would treat ergatives and absolutives asymmetrically in extraction. I will refer to this general phenomenon as the ERGATIVE EXTRACTION CONTRAINT (EEC).

Larsen and Norman did not address the question *how* the EEC is related to ergative morphology nor what exactly 'causes' the EEC. Two main approaches to these questions have been explored in subsequent work. One derives the EEC from the way nominal arguments are Case-licensed in EEC-sensitive languages (Campana 1992; Ordóñez 1995; Coon et al. 2014). The key structural assumption is that in such a language O comes to occupy a position above A in canonical transitive clauses. In this view, the EEC reflects a distinctively ergative syntax, one which is also reflected in the morphology. The other approach links the EEC to the availability of distinct, dedicated morphosyntax which is used when the external argument is extracted. In contexts where this morphosyntax is required, extraction

[1]Recent work on preferred argument structure in Tsotsil and Ch'ol (Martínez 2012; Vázquez and Zavala 2013) has argued that the preference does not actually pick out S and O. Rather it picks out O's and inactive (or unaccusative) S (see also Durie 1988, 2003). Thus, the underlying contrast in Tsotsil and Ch'ol is active/inactive, not ergative/absolutive.

from the corresponding transitive is blocked, yielding the EEC (especially Stiebels 2006; also Aissen 2003 and Erlewine to appear). In this view, no special syntax is implied for languages which are EEC-sensitive and there is no bifurcation of languages (or constructions) into those which are 'syntactically ergative' and those which are not.

Central to any study of the EEC in Mayan are the constructions which are used instead of canonical transitives to extract A – what are called AGENT FOCUS (AF) constructions in the Mayan literature. The aim of this chapter is to lay out some of the basic facts concerning the EEC and its relation to AF. There is a good deal of variation in the 'reach' of the EEC in Mayan and, correspondingly, in the distribution of AF. We describe some of that variation in §3 and then turn in §4 to the two approaches sketched above.

A note on terminology: I use *A, S*, and *O* as follows: *A* for the external argument in a 2-argument clause (including the subject of an antipassive clause), *O* for the internal argument in a 2-argument clause (including the 'demoted' object in an antipassive) and *S* for the sole arument in a one-argument clause. The term *ergative* refers to the subject of a transitive clause and *absolutive* to the object of a transitive clause or the subject of an intransitive. Hence, when I speak of 'ergative extraction', I mean extraction *from a transitive clause*, i.e., one with *canonical transitive morphosyntax*.

X.2 Background

X.2.1 Historical relations

The Mayan family includes some 30 extant languages, 20 spoken primarily in Guatemala and 10 in Mexico. A commonly accepted genetic grouping, involving four primary branches, is shown in Table X.1, following Kaufman (1976). There is disagreement on some points, in particular, the affiliation of Tojolab'al (whether it should be classified with Q'anjob'alan or with Tseltalan). In addition to the genetic groupings, there are two groups in which language contact has resulted in diffusion of features across genetic lines. One is the so-called 'Greater Lowland Mayan Subgroup' which includes the Yucatecan, Ch'olan, and Tseltalan languages and, more peripherally, Tojolab'al, Q'eqchi', Poqom, and possibly Ixil (see Law 2014 for discussion). The other is the Huehuetenango diffusion area, where speakers of Mamean and Q'anjob'alan languages interacted. These groupings will be relevant below.

X.2.2 Sets A and B

Typologically, Mayan languages are fairly agglutinative, with rich derivational morphology. They are head-initial and exhibit a high degree of head-marking; personal pronouns are usually not pronounced unless emphatic. As Mayan languages are head-marking, the locus of morphological ergativity lies in the agreement system. Agreement in all Mayan languages involves two sets of morphemes, so-called Sets 'A' and 'B'. Finite intransitive verbs contain one morphological position for agree-

Table 1: Mayan family

Huastecan			Huastec Chicomuceltec
Yucatecan			Yucatec Lacandon Mopan Itzaj
Western Maya	Q'anjob'alan (Q)		Popti' (Jakaltek) Akatek Q'anjob'al Mocho'
			Tojolab'al Chuj
	Ch'olan-Tseltalan	Tseltalan (T)	Tsotsil Tseltal
		Ch'olan	Ch'ol Chontal Ch'orti'
Eastern Maya	K'ichean (K)		Q'eqchi' Poqomchi' Poqomam
		Central K'ichean	K'iche' Sipakapense Sakapultek Tz'utujil Kaqchikel
			Uspantek
	Mamean		Mam (Tekti)tek Awakatek Ixil

ment, finite transitive verbs contain two. Intransitive verbs use Set B to index the subject (S). Transitive verbs use Set A to index the external argument (A) and Set B to index the internal one (O). This pattern is summarized in Table X.2 and is illustrated by (1) from Tsotsil.

Table 2: Ergative pattern

	Set A	Set B
S		✓
A	✓	
O		✓

(1) Tsotsil

a. *Ch-i-'abtej av-u'un ok'ob.*
ICP-B1S-work A2-RN tomorrow
'I will work for you tomorrow.' (Haviland 1981: 146)

b. *L-i-s-vula'an j-me'.*
CP-B1-A3-visit A1-mother
'My mother visited me.'

c. *Ta j-maj.*
ICP A1-hit
'I will strike him/her/it/them.'

Note that the marker for 1st person S in (1a) and 1st person O in (1b) is the same and distinct from the marker for 1st person A in (1c). These examples illustrate two further properties of Mayan agreement. First, in most languages, 3rd person singular S/O are not indexed by any overt marker (see (1c)). I assume there is no Set B3 marker and do not represent any such marker in examples. Second, Set A

markers are also used to index nominal possessors, as in (1b): the 1st person prefix marking the possessor in (1b) is identical to the 1st person prefix marking A in (1c).

Nominal possession also plays a role in licensing oblique arguments and adjuncts. These relations are often expressed in Mayan by so-called 'relational nouns' (RN), as in (1a), where *-u'un* denotes a benefactive relation (it has other meanings as well). The nominal that bears the relation, e.g., the 2nd person in (1a), functions syntactically as possessor of the RN and, like other nominal possessors, is indexed by Set A. The use of RN's to express oblique relations will be relevant below.

The Set A markers are prefixing in all Mayan languages, but the position of Set B varies. In some languages, Set B markers precede the agreeing stem (2a), in others, they follow it (2b), and in yet a third set, their position is variable (see also Table X.3 below).

(2) a. Tz'utujil (Dayley 1985: 89)

x-at-nuu-ch'ey
CP-B2S-A1S-hit

'I hit you'

b. Tseltal (Polian 2013: 127)

la s-koltay-at
CP A3-help-B2S

'S/he helped you'

Tsotsil and Q'eqchi' (distantly related) are 'variable' languages. In the presence of a preverbal aspect prefix or particle, Set B suffixes to the aspect prefix, as in (1a,b); otherwise, it suffixes to the verb, as in (3a,b).

(3) Tsotsil

a. *tal-em-on*
come-PF.IV-B1S
'I have come'

b. *j-chuj-oj-ot*
A1-tie-PF.TV-B2S
'I have tied you up'

A plausible scenario is that the Set B markers were second-position clitics in Proto-Mayan (T. Kaufman, p.c., 1978, see also Robertson 1992). As aspect markers generally developed from independent words or clitics, Set B clitics would have attached to the right of the aspect marker, if one was present, (4a), and to the predicate if one was not, (4b).

(4) a. ASP=B (A)-V

b. (A-)V=B

These patterns were then grammaticized in different ways in different languages, with Tsotsil and Q'eqchi' reflecting something close to the original distribution.

Finally, note that it is a consequence of various features of Mayan (verb-initiality, head-marking, the way agreement is organized) that a single nominal expression in a transitive clause may be ambiguous as to grammatical function. In (5), for example, verb inflection indicates that both A and O are 3rd person, but there is

nothing in the structure itself – not case, agreement, or word order – to determine whether the single overt argument is A or O.

(5) Tsotsil (Haviland 1981: 244)

I-s-mil *li* *Antun-e.*
CP-A3-kill DET Antonio-ENC

'He killed Antonio' *or* 'Antonio killed him/it'

(5) contrasts with (1b) where the persons of A and O are different and the 3rd person argument is unambiguously identified as A by agreement morphology.

X.3 Correlates of ergativity

X.3.1 Ergative extraction constraint

There is one class of constructions which, in a subset of Mayan languages, distinguish absolutives and ergatives. These are constructions involving extraction of a core argument to a non-argument position (what is known as '*wh*-Movement', 'A-bar movement', etc.). Constructions formed with A-bar movement in Mayan include interrogatives, focus constructions, relative clauses, and certain indefinite constructions. The basic observation is that while absolutives can be extracted in all Mayan languages without modification to the verb or to clausal organization, there is substantial variation when it comes to extraction of ergatives. Some permit ergative extraction (i.e., from a transitive clause) without modification, while others require the use of a dedicated construction to extract the external argument, at least in some contexts.

The morphosyntactic properties of this contruction and the conditions under which it is required vary from language to language. Regardless of its properties, I will refer to constructions dedicated to agent extraction as AGENT FOCUS (AF), i.e. AF refers to the *function* of the construction, not to its form.

Consider first Ch'ol, a Ch'olan language which lacks AF morphosyntax and permits ergative extraction.

(6) Ch'ol (Coon et al. 2014)

Maxki tyi y-il-ä jiñi wiñik?
who ASP A3-see-TV DET man

'Who saw the man?' *or* 'Who did the man see?'

(6) is ambiguous between extraction of A and extraction of O, as the grammatical functions of the core arguments are not identified by case, word order, or agreement (both arguments being 3rd person). This ambiguity is resolved by agreement when the two arguments differ in person (Coon et al.).

(7) *Maxki tyi y-il-ä-yety?*
who ASP A3-see-TV-B2
'Who saw you?'

Languages which lack AF morphology and permit ergative extraction include most of the Yucatecan languages (all except Yucatec), the Tseltalan-Ch'olan languages (except, to a limited degree, Tsotsil), and Tojolab'al.

At the other extreme are most of the K'ichean, Q'anjob'alan, and Mamean languages, which have dedicated AF morphosyntax and require it to extract A. Formally, AF constructions come in two main types. Both involve detransitivization of

the verb, but they differ in how O is syntactically realized. In one type, O is realized as an oblique; in the other, it is realized as a direct argument.

Consider first Q'eqchi' (K'ichean). From the transitive clause in (8a), extraction of A is impossible, *(8b).

(8) Q'eqchi' (Berinstein 1985: 162-165)

a. *X-in-x-sak'* *li* *wiinq.*
RCP-B1S-A3S-hit DET man
'The man hit me.'

b. ** Ha' li wiinq k-in-ix-sak'.*
FOC DET man CP-B1S-A3S-hit
('That's the man who hit me.')

To extract A in Q'eqchi, the construction in (9a,b) is required. The verb is intransitive and O is oblique.

(9) a. *Ha' li wiinq ki-sak'-o-k w-e.*
FOC DET man CP-hit-AF-IV A1S-DAT
'That's the man who hit me.'

b. *Ani ta-paab'aa-n-q r-e?*
who POT-ask-AF-IV A3S-DAT
'Who will ask him?'

Morphological evidence that the verbs in (9a,b) are intransitive includes the fact that they do not carry Set A markers (nor in these cases any overt Set B marker, since the sole direct argument, the subject, is 3rd singular). On the other hand, they do carry aspect-related 'status' suffixes (*-k*/*-q*) which are restricted to intransitive stems.[2] There is also syntactic evidence that (9a,b) are intransitive, namely

[2]Status suffixes, which index the distinction between transitive and intransitive, often con-

the fact that O is oblique. Formally, O is realized as possessor of the RN *-e* which licenses indirect objects in Q'eqchi' (recall the discussion of RN's in connection with (1a)).

Putting this all together, it is clear that AF clauses in Q'eqchi' have the form of a canonical demotional antipassive (see Polinsky, this volume). In Q'eqchi', antipassive structures with O realized as oblique, are found *only* when A is extracted. Hence it is a structure which is specialized for agent extraction, possibly a 'last resort' to enable extraction of A.[3]

The second type of AF construction also involves detransitivization of the verb but now with no visible demotion of O. (10a) is a canonical transitive clause in Akatek (a VSO, Q'anjob'alan language). In contrast to Ch'ol, extraction of a core argument from a transitive clause can only be interpreted as O-extraction, (10b). To extract A, the verb is detransitivized by the suffix *-on*, (10c).

(10) Akatek (Zavala 1992: 279)

a. *[X]-s-ma' ix malin naj xhunik.*
CP-A3-hit CLS:DET Maria CLS:DET Juan
'Maria hit Juan.'

b. *Maj [x]-s-ma' naj xhunik?*
who CP-A3-hit CLS:DET Juan
'Who did Juan hit? '(*not* 'Who hit Juan?')

flated with aspect and mood categories, are common in Mayan. In some languages, their occurrence or form is prosodically determined (Henderson 2012).

[3]The detransitivizing suffixes in (9a,b), *-o* and *-n* are used elsewhere in Q'eqchi' for other antipassive constructions (without oblique O) and they have cognates elsewhere in Mayan which are associated with antipassive and AF. The choice in Q'eqchi' between *-o* and *-n* is determined by whether the verb stem is a 'root' transitive (*-o*) or a 'derived' transitive (*-n*). 'Root' transitive stems are CVC in form, 'derived' transitives are usually longer.

c. *Maj [x]-ma'-on naj xhunik?*
who CP-hit-AF CLS:DET Juan
'Who hit Juan?'

The verb in (10c) – like the ones in (9a,b) – is morphologically intransitive: it lacks a Set A marker and, if it occurs sentence-finally, carries a intransitive status suffix (see (11)). But in this case, the O argument is not oblique. An obvious possibility is that (10c) *is* an antipassive, but with a 'masked' oblique. However, the verb can agree with O, showing that O is, in fact, maintained as a direct argument. Agreement is via Set B:[4]

(11) *Maj x-in-ma'-on-i?*
who CP-B1SG-hit-FOC-IV
'Who hit me?'

Structures like (11) – with a morphologically intransitive verb but two direct arguments – are possible only when A is extracted.

I refer to both the oblique AF (e.g., 9a,b) and the 'direct' one (e.g., 10c, 11) as AGENT FOCUS (AF), distinguishing them as AF_{obl} and AF_{dir} when necessary. The availability of the two AF structures is summarized below (see Stiebels 2006 for extended discussion). Semi-colons separate languages belonging to different branches.

(12) a. only AF_{obl}: Mam; Q'eqchi'

b. only AF_{dir}: Popti', Q'anjob'al, Akatek, Chuj: Tsotsil; Poqom; Yucatec

c. both AF_{obl} and AF_{dir}: K'iche', Tz'utujil

In languages with both, the same morphology is involved, whether the construction is direct or oblique. An example from Tz'utujil is shown in (13). Note that the

[4]No Set B marker occurs in (10c) because O is 3rd person singular.

internal argument is indexed on the oblique marker in the AF_{obl} structure (13a) and on the verb itself in the AF_{dir} structure (13b). We will come back to this.

(13) Tz'utujil (Dayley 1985: 350-351)

a. *Jaa' n-ili-n w-xiin.*
she ICP-serve-AF A1SG-OBL
'She's the one who serves me.' AF_{obl}

b. *Jaa' n-in-ili-n-i.*
she ICP-B1SG-serve-AF-IV
'She's the one who serves me.' AF_{dir}

The previous discussion may have suggested that Mayan languages can be bifurcated into two distinct classes: those which lack AF morphosyntax and permit ergative extraction, and those which have AF morphosyntax and disallow ergative extraction. However, the situation is more complex. For one thing, at least one language, Tsotsil (Zinacantec dialect), has AF, but nonetheless permits (in fact, requires) ergative extraction in most contexts. For example, ergative extraction is possible in examples like (14); as in Ch'ol, the result is ambiguous (cf. 6).

(14) Tsotsil (Aissen 1999: 459)

Buch'u i-s-kolta li tseb-e?
who CP-A3-help DET girl-ENC

'Who helped the girl?' *or* 'Who did the girl help?'

But AF is used when, roughly, *only the wrong interpretation* is likely to result without it. AF is possible only when both arguments are 3rd person – in any other case, agreement fully determines grammatical function. And then, AF is only used

if O has the properties statistically associated with A – when O is higher in animacy than A, (15a), or when O is the sentence topic, (15b) (Aissen 1999, 2003).

(15) Tsotsil (Aissen 1999: 464, 469)

a. *K'usuk nox tij-on-uk li j-malal-e.*
whatever just awaken-AF-IRR DET A1-husband-ENC
'Just anything wakes my husband.'

b. *Pero buch'u i-mil-on?*
but who CP-kill-AF
'But who killed her (i.e., the woman, mentioned in previous sentence)?'

Beyond Tsotsil, all languages which are subject to the EEC appear to have contexts in which ergative extraction is possible, sometimes, in fact, the only option. These 'exceptional' contexts need to be accounted for and they provide several dimensions along which alternative accounts can be compared. Three are discussed in the next section. Two involve binding and one involves certain A-O person settings.[5]

X.3.2 Exceptions to the EEC

Reflexive clauses

Reflexive clauses *look* transitive across Mayan. The verb is transitive (it inflects with Set A markers and carries transitive status suffixes) and it takes the reflexive anaphor as object. Much like English *my-self, your-self*, etc., the reflexive anaphor

[5]A further exceptional context is noted in Aissen (2011): K'iche' permits ergative extraction when O is a bare nominal. AF is also possible. The choice appears to have interpretive consequences related to specificity, though this needs to be further investigated.

is a possessed noun whose possessor agrees in person and number with its antecedent. The features of the possessor are indexed on the anaphor by Set A, while those of the antecedent are indexed on the verb, also by Set A, as expected for transitive subjects. The anaphor, being always 3rd person singular, is not indexed by any overt Set B marker. (16), from K'iche', is typical.

(16) K'iche' (López Ixcoy 1997: 236)

X-aw-il aw-iib' pa ja'.
CP-A2S-see A2-RR in water

'You saw yourself in the the water.'

While reflexive clauses are transitive, many Mayan languages otherwise subject to the EEC permit (or require) that the external argument be extracted as an ergative from a transitive construction. In K'iche', for example, A extracts as ergative from a reflexive clause.

(17) K'iche' (Mondloch 1981: 233)

a *Aree xun kumatz u-b'aq'ati-m r-iib'.*
FOC one snake A3S-roll-PRF.TV A3S-RR
'It was a snake that coiled itself (around the tree).'

b. ** Aree xun kumatz b'aq'ati-n-naq r-iib'.*
FOC one snake roll-AF-PF.IV A3S-RR
('It was a snake that coiled itself (around the tree).')

Extended reflexive clauses

These are clauses in which A binds the possessor of O, e.g., *he$_i$ saw his$_i$ (own) sister, who$_i$ saw his$_i$ (own) sister?* They are also transitive. Again, some languages

which restrict ergative extraction from a transitive clause nonetheless permit (or require) it when the object is an 'extended reflexive'. K'iche' is one that requires ergative extraction, precluding the use of AF.

(18) K'iche' (Mondloch 1981: 235, 237)

a. *Aree lee Axwaan x-u-k'at r-aqan.*
FOC DET Juan CP-A3S-burn A3S-foot
'Juan is the one who$_i$ burned his$_i$ foot.'

b. *(*) Aree lee Axwaan x-k'at-ow r-aqan.*
FOC DET Juan CP-burn-AF A3S-foot
'Juan is the one who$_i$ burned his$_{j/*i}$ foot.'

The paradigm in (18) clearly has to do with binding, as (18a) is possible only with a bound reading, and (18b) is possible only under a disjoint reading.

Table X.3 shows how A is extracted from reflexive and extended reflexive clauses in several EEC-sensitive languages where the facts have been documented. It appears that reflexive clauses permit ergative extraction more readily than extended reflexive ones. Note that this domain is characterized by a good deal of optionality, perhaps reflecting change in progress.

Table 3: Agent extraction from (extended) reflexive clauses

	REFLEX	EXT REFLEX	REFERENCES
Tsotsil (T)	TV	TV	Aissen 1999
K'iche' (K)	TV	TV	Mondloch 1981:232ff.
Q'anjob'al (Q)	TV	TV	Pascual 2007:75ff.
Popti' (Q)	TV	TV/AF	Craig 1977:217ff.
Q'eqchi' (K)	TV	AF$_{obl}$	Berinstein 1985:102ff.
Tz'utujil (K)	TV/AF	AF$_{dir,obl}$	Aissen 2011
Chuj (Q)	TV/AF	TV/AF	Hou 2013

Person of A and/or O

Some languages which otherwise restrict ergative extraction nonetheless permit (or require) it under certain person combinations of A and O (Stiebels 2006).

- Local A or Local O: In Tsotsil, AF is possible only when both arguments are 3rd person. In any other setting, ergative extraction is the only possibility (Aissen 1999)

- Local A: In Popti' and Q'anjob'al, AF is impossible when the external argument is 1st or 2nd person. In this case, ergative extraction is fully grammatical (Craig 1979: 59; Pascual 2007).

- Local A & Local O: In dialects of K'iche' with access only to AF_{dir} structures, AF is impossible if *both* A and O are 1st or 2nd person. In this setting, A extracts as an ergative (Mondloch 1981: 223) (see below for further discussion and a refinement). It appears that person-based restrictions arise only for AF_{dir}, not for AF_{obl}, a point we come back to.

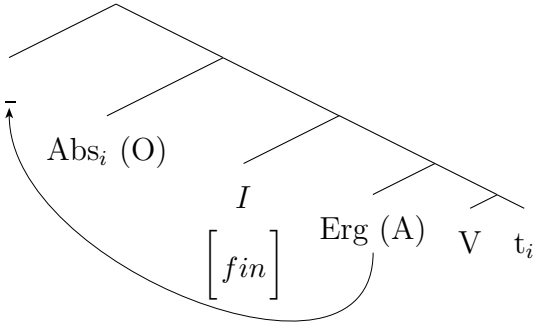
X.4 Approaches to the EEC

X.4.1 Case-based approach

Within the tradition of Government Binding Theory/Minimalism, Case-based approaches to the EEC have been pursued since the early 90's. In this approach, the EEC is a consequence of the way Case is assigned to the object in a transitive clause. In a syntactically ergative language, absolutives – both S and O –

enter into a Case-licensing relation with the same head, one usually associated with finiteness. I refer to it here as 'finite I'. Crucially, while O starts below A, it moves to a structural position above A in order to enter into the proper structural relation with finite I. For locality-related reasons (relativized minimality or phasehood/barriers), the resulting structure traps the ergative, preventing it from moving to a higher A-bar position (Campana 1992; Ordóñez 1995; Aldridge 2004; Bittner and Hale 1996ab; Coon et al. 2014). (19) shows the problem schematically; the path represented by the arrow is blocked by the intervening absolutive.

(19)



AF constructions function then as 'last resort' which permit O to be Case-licensed without raising over the ergative and thereby allow extraction of the ergative.

It is straightforward to see how AF$_{obl}$ (i.e., antipassive) remedies the situation: O is Case-licensed in a low position by a preposition or relational noun and does not raise. Hence no intervening argument prevents A from moving to its target A-bar position.

It is less obvious how the AF$_{dir}$ construction avoids the problem posed by (19), but Ordóñez (1995) made the influential suggestion for Popti' that AF morphology itself Case-licenses the internal argument, permitting it to remain low.[6] Since AF

[6]In Ordóñez's account, the AF suffix is an incorporated preposition, so licenses Case as a preposition.

morphology does not occur freely in Popti', he took it to be a 'last resort', to permit extraction of the external argument while still case-licensing the internal one.

What about the 'morphologically ergative' languages which lack AF constructions and where ergative extraction from a transitive clause is possible (e.g., Ch'ol)? Early approaches assumed that S and O were licensed by the same head (e.g., finite I) in ergative languages (accounting in that way for their morphological identity), but that the position in which O was licensed could vary. In syntactically ergative languages, it raised above A, while in morphologically ergative ones, it remained below A (Bittner and Hale 1996a). More recent work has suggested that there are deeper differences between the two types of languages, that in syntactically ergative languages, finite I licenses both S and O in a high position, while in morphologically ergative ones, finite I licenses S, but a lower head, e.g., v, licenses O (Aldridge 2004; Legate 2006, 2008). Legate calls the case associated with finite I 'nominative' and the one associated with v 'accusative'. In morphologically ergative languages, the syntactic distinction between nominative and accusative is neutralized in the morphology, yielding what we call 'absolutive'.

Coon et al. (2014) (CMP) adopt this framework and apply it to Mayan. Their analysis of languages which observe the EEC follows that of earlier work. These are the languages in which O is licensed by finite I, requiring raising of O to a high position, and trapping the ergative. This is the source of the EEC. Further, as in earlier work, AF constructions permit O to be licensed in a low position, either by a relational noun or by a v head associated with AF morphology. Because AF occurs only when ergative extraction is impossible, these constructions are a 'last resort'

option.

What is new is their proposal for languages which permit ergative extraction. CMP propose that in these, O is licensed by a lower head, v, and remains low. CMP call the two types of languages 'high-abs' and 'low-abs' respectively.

The Case-centered approach to the EEC has some very attractive features. Since the EEC is a consequence of the way O is Case-licensed, it *predicts* Larsen and Norman's implicational universal: if a language treats ergative and absolutive differently in extraction, it has ergative morphology. It provides a structural Case-based explanation for why some languages are not subject to the EEC. And finally, it can (and does) appeal to exactly the same explanation for areas of exceptionality within languages that *are* subject to the EEC: in these contexts, for whatever reason, O does not raise past A for case-licensing and hence does not 'trap' A.

At the same time, the CMP analysis and the larger framework in which it is embedded raise a number of issues, three of which I discuss in the next section. Two of these pertain to particular analyses which put Case at the center of further (possibly) EEC-related phenomena, and the third more generally to the role played by 'last-resort'.

X.4.2 Issues

X.4.2.1 Case and the position of Set B

CMP's proposal that licensing of O involves I in some Mayan languages, but v in others is motivated in part by a very interesting observation made in Tada (1993). The observation was that there is a correlation between the *position* of the Set

B marker and sensitivity (or not) to the EEC. The correlation is not exact, but roughly, it is that languages which are sensitive to the EEC attach Set B high, while languages which are not attach it low. Table X.4, taken from CMP, shows the correlation.

Table 4: Position of Set B marker and sensitivity to EEC

	+ extraction asymmetry	- extraction asymmetry
high attachment	Q'anjobal, Akaktek, Popti', Chuj, Q'eqchi', Uspantek, K'iche', Poqomam, Poqomchi', Kaqchikel, Tz'utujil, Sakapultek, Sipakapense Mam, Awakatek	
low attachment	Yucatec, Ixil	Lacandon, Mopan, Itzaj, Ch'ol, Chontal, Tseltal, Tojolab'al

Source: Coon et al. (2014)

CMP derive the presence/absence of the EEC and the position of the Set B marker from the same underlying factor, namely, the head involved in licensing O. They propose that low attachment of Set B reflects *in situ* case licensing by v, high attachment reflects raising to finite I for licensing. Since for them it is this raising which underlies the EEC, they predict the pattern seen in Table X.4: languages with low Set B markers will permit ergative extraction from transitive clauses, while languages with high Set B markers will not.

Taken at face value, the position of the Set B marker should correlate with its licensor. But this is not always the case. For example, O in an AF clause in Q'anjob'al is licensed by v (per CMP), but its Set B marker attaches high (see

(11)). CMP assume an EPP feature to force the internal argument to a high position. This results in high attachment of Set B, but now the connection between the licensing head and the position of Set B has become opaque. An alternative possibility is that the position of Set B is a matter of the morphology, and that Q'anjob'al is a language in which Set B attaches high, regardless of how the corresponding argument is licensed.

The indexing of intransitive S in the low attachment languages presents the converse problem. CMP assume that S is always licensed by I in finite clauses, even when O is licensed by *v*. If the position of Set B identifies the licensing head, Set B should attach high when it indexes S and low when it indexes O. But with few exceptions, the position of Set B is the same, whether it indexes S or O, i.e., its position is fixed in a language, regardless of what the licensing head is. If S and O are in fact licensed by different heads, morphological rules are needed in any case to position Set B, as its placement is not in fact determined by the licensing head. The syntactic account of CMP then does not really explain the correlation shown in Table X.4.

There is an alternative, historical explanation for Tada's generalization: the languages in the upper left cell are from the Q'anjob'alan, K'ichean, and Mamean branches, while the languages which populate the lower right cell are Yukatekan, Tseltalan and Ch'olan, the branches which make up the Greater Lowland Mayan Subgroup.[7] This latter group shares a range of properties as a result of areal diffu-

[7] AF in Yucatec is probably an innovation, since it is not found in the other Yucatecan languages. Further the form it takes is different from that of the rest of the family. Ixil has become a suffixing language under influence from the languages which populate the lower right cell (see text).

sion, e.g., a phonemic distinction between /p'/ and /b'/ and a distinction between 1st plural inclusive and exclusive. Set B suffixation and loss of AF might be other independent developments shared by these languages for areal reasons (Law 2014).

X.4.2.2 Case and reflexives

Here we consider two of the systematic 'exceptional' contexts that permit ergative extraction in some languages, namely reflexives, and extended reflexives. The strategy for the Case-based approach is clear: explore analyses in which the problematic configuration, (19), does not arise.

Ordóñez (1995) proposed for Popti' that reflexive objects do not raise for Case but are licensed through incorporation (Baker 1988). Consequently, the ergative is not trapped, it extracts without a problem and last-resort Case licensing is not triggered. CMP suggest this analysis for both reflexives and extended reflexives in Q'anjob'al. Reflexive objects in a number of Mayan languages do show a kind of quasi-incorporation in that they occur adjacent to the verb (even if the corresponding non-reflexive would not). This is true in Popti' and Q'anjob'al and provides some evidence for an incorporation account of reflexives (though not for extended reflexives, which fail to show the same adjacency effects). Incorporation would also unify reflexives and extended reflexives with bare N (possibly NP) objects which, at least in some languages, also constitute an exceptional context (see fn. 5).

However, the incorporation solution is problematic for Q'anjob'al (likely also for Popti') because reflexive and extended reflexive O's do not otherwise share the

distribution of incorporated nouns. Q'anjob'al has two canonical incorporation constructions which permit as object only an N (or possibly NP) without a determiner. One involves a finite antipassive verb formed with the suffix *-w*, (20a), and the other involves infinitives, (20b). (Determiners in Q'anjob'al, as well as personal pronouns, are drawn from a set of classifiers and vary according to features of the head noun or the referent.)

(20) Q'anjob'al (Pascual 2007: 69, 91)

a. *k'am=to ch-in='uk'-wi (*an) an*
NEG=CL ICP-B1S-drink-AP CLS:DET liquor
'I still don't drink (*the) liquor.'

b. *k'am mak x=y-i=toq y-etoq [say-oj (*xim) ixim].*
NEG who CP=A3-take=DIR A3-with seek-INF CLS:DET corn
'He didn't take anyone with him to look for (*the) corn.'

As neither context permits a full DP object, the obvious hypothesis is that these minimal objects do not require Case, perhaps because they are incorporated, or for some other reason. However, reflexives and extended reflexives cannot function as the object in either construction.[8]

(21) Finite antipassive

a. ** Chi lotze-wi s-b'a ix.*
ICP feed-AP A3-RR PRO:FEM
('She feeds herself.')

b. ** Ch uk'-wi y-an naq.*
ICP drink-AP A3-liquor PRO:M
('He$_i$drinks his$_{i/j}$ liquor.')

[8]I am indebted to B'alam Mateo Toledo for these examples.

(22) Infinitive

a. * *Max s-cheq-toq ix heb' naq winaq [kol-oj s-b'a].*
CP A3-send-DIR PRO:FEM PL CLS:DET man help-INF A3-RR
('She sent the men to help each other.')

b. * *Max toj ix ix [lotz-oj s-kalnel].*
CP go CLS:DET woman feed-INF A3-sheep
('The woman$_i$ went to feed her$_{i/j}$ sheep.')

Hence with respect to Case, reflexive and extended reflexive objects pattern with DP's, not with incorporated N's, suggesting that Case (or at least Case alone) is not responsible for the exceptional behavior of (extended) reflexive clauses with respect to the EEC.[9]

Another question arises in those languages where Agent extraction from reflexive or extended reflexive clauses has two options and can come either from a transitive clause or an AF clause (see Table X.3). If extraction from a transitive clause is possible, how does the last resort option get triggered? This seems to require two modes of generating clauses with reflexives, one of which precludes ergative extraction and one which does not, together with an appropriate conception of how 'last resort' is triggered.

X.4.2.3 Person exceptionality and 'last resort'

We saw earlier that in some languages, the EEC is inactive under particular A-O person settings – permitting ergative extraction – and that these settings vary according to the language. The question for the Case-based account is how just these

[9] Analogous problems arise in K'iche'. Space limitations preclude discussion.

structures avoid the problematic configuration which *blocks* ergative extraction, (19).

CMP discuss Q'anjob'al, where the EEC is inactive when A is 1st or 2nd person. They suggest that because of its indexical properties, a local person A might originate in a higher position than usual, in particular, higher than the position to which O moves. The local argument is not 'trapped', and can move to a higher A-bar position (if different from its initial position). Here I want to consider a different case of person exceptionality, that of K'iche' and Tz'utujil. The facts are different from those of Q'anjob'al and there is no reason to think that the same solution would apply. However the Case-based approach to the Q'anjob'al problem gives us a starting place.

Extraction of A in K'iche' and Tz'utujil requires AF in 3–3 settings, as well as in 3-Local and Local-3 settings. Recall that AF verbs have only a single position for agreement and that agreement is by Set B. In K'iche' and Tz'utujil, Set B can index either argument, but only one of them. *Which* argument is indexed in AF_{dir} clauses is determined not by grammatical function, but by the person-number hierarchy in (23), with Set B indexing the higher-ranked argument (see Dayley 1981 and Mondloch 1981 for fuller descriptions; Stiebels 2006 and Preminger 2011 for recent theoretical accounts; and Coon and Preminger, this volume, for a wider perspective).

(23) LOCAL $\gg$ PL $\gg$ 3

Hence, when one argument is local and the other is 3rd, the appropriate Set B marker indexes the local person, whether it is A or O. (24a,b) show this in a strik-

ing way: the verb forms are the same, with Set B1s indexing A in (24a) but O in (24b).

(24) K'iche' (Mondloch 1981: 114, 64)

a. *In* *x-in-il-ow-ik.*
PRO.1S CP-B1S-see-AF-IV
'I was the one who saw it.'

b. *Jachin x-in-il-ow-ik?*
who CP-B1S-see-AF-IV
'Who saw me?'

The examples are unambiguous, since the AF verb signals that the extracted (preverbal) argument must be A.

This is very interesting, but our concern is with another aspect of the interaction of AF and person, namely the outcome when both arguments are local. Speakers who have access to an AF_{obl} structure use that construction (all Tz'utujil speakers, some K'iche' speakers). A is indexed on the verb (by Set B), and O on the oblique relational noun (by Set A).

(25) Tz'utujil (Dayley 1985: 350)

Inin *x-in-ch'ey-o* *aw-xiin.*
PRO.1S CP-B1S-hit-AF A2S-RN

'I was the one who hit you.'

However for speakers (or dialects) who have access only to an AF_{dir} structure (e.g., those speakers described in Mondloch 1981), extraction of A proceeds from a transitive clause.

(26) K'iche' (Mondloch 1981: 223)

a. *In* *k-at-in-to'-oh.*
PRO.1S ICP-B2S-A1S-help-TV
'I myself will help you.'

b. *At* *x-in-aa-yoq'-oh.*
PRO.2S CP-B1S-A2S-mock-TV
'You yourself mocked me.'

The question is how to generate these sentences in the Case-based approach. In the logic of that approach, ergative extraction is expected unless it is blocked. In K'iche' it *is* blocked in in every other A-O person setting because O raises over A for licensing. What then is *syntactically* special about a clause with two local person arguments such that the associated structure does not involve raising of O over A for licensing?

Rather than speculate on this, I turn to a different perspective on the possibility of ergative extraction in (26), one which relates it to the priority that most Mayan languages place on indexing 1st and 2nd person arguments through agreement (Stiebels 2006). Given what we have observed, it is clear that this requirement cannot be satisfied in AF_{dir} clauses when both arguments are local, as only one of them can be indexed by means of a Set B marker. In the dialect described by Mondloch (1981), the resolution is to extract the ergative from a transitive clause so that both arguments are indexed on the verb.[10]

Several observations suggest that this is the relevant perspective. First is the fact that person-based exceptions to the EEC arise only when *both* arguments are

[10] According to López Ixcoy (1997: 369), some speakers permit an extracted local person A argument to be unindexed on the AF verb.

local. If either A or O is 3rd person, the EEC is in full effect, ergative extraction is blocked, and AF is required.

(27) K'iche' (Mondloch 1981: 226)

a. * *Laa at k-aa-b'an lee ch'ajo'n?*
Q PRO.2S ICP-A2S-do DET washing
('Are you the one who does the washing?') TV

b. *Laa at k-at-b'an-ow lee ch'ajo'n?*
Q PRO.2S ICP-B2S-do-AF DET washing
'Are you the one who does the washing?' AF

On the morphological account, this is expected, as it is only in Local–Local settings that two positions are required for agreement. Whether it is expected on a syntactic account would depend on the details of such an account and, as far as I know, none has been proposed.

Second is the fact that person exceptionality only arises for AF_{dir} structures, not AF_{obl} structures. It does not arise in Mam and Q'eqchi', which have only the oblique version, nor in Tz'utujil, which has both. From the morphological perspective, the reason is clear: the oblique construction makes available two agreeing heads, the verb and the oblique relational noun. A is indexed on the first, O on the second, and the requirement that local persons be indexed through agreement is satisfied.

And third, K'iche' has a 2nd person formal category which is indexed by a clitic which does not belong to either Set A or Set B. Rather than occupying the positions associated with Sets A and B, these morphemes (*lah* in the singular and *alaq* in the plural) cliticize to the right of the head. Consequently when one of the

two arguments in an AF clause is 2nd person formal, there is still space available on the verb to index the other argument. Hence even when both arguments are local in K'iche', as long as one of them is 2nd person formal, the EEC is in full force and extraction of A proceeds from the AF clause, not the transitive.

(28) K'iche' (Mondloch 1981: 221)

In *x-in-ch'aab'e-n* *alaq.*
PRO.1S CP-B1S-talk.to-AF PRO.2P.F

'I am the one who talked to you (pl).'

In short, it is not the indexical character of 1st and 2nd person that makes Local–Local clauses exceptional, but their morphological properties. It seems highly likely then that in K'iche', ergative extraction from a transitive clause with local A and O is the solution to a morphological problem, not the reflection of a special syntax which is available only when both arguments are local.

This problem is worth dwelling on because it bears on the 'last resort' character of AF in the Case-based approach. For a morphological problem to arise with AF, an AF derivation must exist. This implies in turn that a derivation with ergative extraction (from a transitive clause) must have failed. But how then can the transitive derivation be resurrected to 'repair' the morphological problem? However 'last resort' is understood, it needs to be able to deal with cases like these.[11]

[11] See also the discussion in Erlewine (to appear) which makes the same point.

X.4.3 A marking approach to the EEC

A different approach to the EEC is suggested by the typological fact that various unrelated languages use special marking of some kind when the subject is focused. Hartmann and Zimmermann (2007) discuss several Chadic languages of this type. They explain the special status of subject in terms of information structure: the default status for subjects is *topic*, not *focus*. Obligatory 'focus' marking serves then to signal their non-canonical status (see also Schultze-Berndt, this volume).

It is not hard to see why Mayan languages in particular might have specialized constructions for extraction of A. As we observed earlier, in the absence of disambiguating agreement morphology, extraction from a transitive clause is structurally ambiguous. Given the canonical status of transitive subjects as topics, when all else is equal, focus, interrogative, and indefinite extraction from such a clause is more likely to be interpreted as O-extraction than A-extraction. Hence there are clear functional reasons why special marking would exist for A-extraction.

In a marking account of the EEC in Mayan, there is no structural problem with ergative extraction from a canonical transitive clause. Rather, the expected output is blocked by the existence in the language of an alternative structure which is specialized for extraction of A. Languages which are sensitive to the EEC would be ones which *have* AF morphosyntax, the other languages would not. When such a construction exists, it will usually be preferred when A is extracted. If, however, AF is blocked for some reason, either syntactic or morphological, then the language will fall back on a less specialized construction, e.g., a canonical transitive clause.

Since there is no structural problem with extraction from a transitive clause, extraordinary means to permit it (e.g., incorporation of reflexives and extended reflexives, an unusually high position for a local person A) are not required. Further, since there is no structural problem with either ergative extraction or AF, the possibility that the two might coexist in some contexts (i.e., optionality) is not so problematic.

The marking approach has been most fully developed in Stiebels (2006). Her account is fundamentally morphological and has little to say about the syntax of AF, which she assumes to be essentially the same as the syntax of a transitive clause. Raising of O for Case-related reasons plays no role. In Stiebels' implementation, the AF morpheme competes with the Set A morpheme to index the external argument in a transitive clause as both are restricted to ergatives. The key difference between them is that the AF morpheme has a FOC feature, but no *phi* (ϕ) features, while the Set A marker has ϕ features but no FOC feature. Embedded in an OT architecture, the choice then between the transitive verb and the AF verb is determined by a language-particular ranking of constraints which enforce faithfulness to, or penalize the markedness of, particular features. Languages which show no EEC effects are ones in which faithfulness to ϕ features outranks faithfulness to the FOC feature. In those which show EEC effects, faithfulness to the FOC feature outranks faithfulness to at least some ϕ features.

Stiebels' account is intended to deal with morphological constraints on AF verbs, so has an elegant account, for example, of the fact that particular A-O person settings block the AF form in some languages. Further, in this logic, AF is not a 'last

resort'. The transitive verb and the AF verb compete and depending on constraint ranking and input, which emerges as optimal will vary. Thus the problem of 'resurrecting' the transitive form to repair a problem with the AF form does not arise (§4.2.3).

The OT architecture also makes it possible to see how Tsotsil, a language which has AF morphosyntax, but uses it very sparing, is related to the other languages with AF. The transitive form competes with the AF form, but the former is always preferred over the latter, as long as the intended interpretation is recoverable. When it is not, the AF form emerges as optimal, a state of affairs which can be modelled through *bidirectional* optimization (see Aissen 2003 for such an analysis).[12]

What is lacking in Stiebels' analysis is enough of a syntax to account for those properties which are probably determined by the syntax or semantics, e.g., exceptional contexts involving reflexives, extended reflexives, and bare nouns, or the differences between AF_{dir} and AF_{obl}. Stiebels does not propose a formal analysis of reflexive or extended reflexive clause exceptionality. She assumes that AF morphology arose to disambiguate clauses in which A is extracted (i.e., in 3–3 clauses) and that it became grammaticized and extended in K'ichean, Mamean, and Q'anjob'alan to clauses where no ambiguity could arise, e.g., to clauses with one or more local persons. Reflexive and extended clauses are other clause types where, for binding reasons, no ambiguity can result from extraction as only the external argument can extract. The idea then is that the extension of AF morphol-

[12]Roughly, bidirectional optimization identifies the optimal form from which the intended meaning is recoverable. See, for example, the papers in Benz and Mattausch 2011.

ogy through grammaticization is expected to reach such clauses late and to varying degrees. The optionality of AF in these contexts (see Table X.3) might indicate that grammaticization is still in progress. This makes some sense of why we find exceptionality and optionality in precisely this domain, but does not shed light on how it might be formally represented. The 'marking' framework needs to be harnessed to a syntax which is capable of accounting for the non-morphological factors that are relevant to the distribution of AF.

X.5 Conclusions

We started with the proposal that there is at least one correlate of morphological ergativity in Mayan, namely asymmetric restrictions on the extraction of ergatives and absolutives. Our main task here has been to try understand what implications that has for the syntax of these languages. The situation is complex and interesting because there is a good deal of variation across the family regarding the contexts in which ergative extraction is blocked and the properties of the alternative AF structures.

We have discussed here two approaches, both interesting, both as yet incomplete. One, based on Case, has a substantial tradition within generative syntax, it is linked to formal work on other ergative languages, and it has been elaborated in far-reaching directions by recent work. The other, based on 'marking', is more closely linked to typological work and to traditional ideas about agent focus in Mayan. It too has been developed in very promising ways. With respect to the

question what the EEC and AF tell us about syntactic organization, the two approaches diverge. Under the Case-based account, transitive clauses in EEC-sensitive languages have a distinctive ergative syntax, one in which O ends up in a position higher than A. The EEC is thus a bona fide syntactic correlate of morphological ergativity. Under the marking approach, the EEC is *not* a syntactic correlate of morphological ergativity. First, it implies nothing distinctive about the *syntax* of the EEC-sensitive languages – ergatives appear to be treated differently from absolutives only because AF structures exist as alternatives to transitive clauses, not intransitive ones. And second, since special marking of subject extraction is not found discriminately in morphologically ergative languages, it is not clear, under the marking approach, that the EEC would be a correlate of ergativity at all.

Much has been learned about the variation in this domain since the publication of Larsen and Norman (1979), but much remains to be documented. How is agent extraction realized in the exceptional contexts that have already been identified? are there further contexts in which ergative extraction is (unexpectedly) possible? how does agent extraction proceed from complement clauses of different types? does 'salience' play a role in the distribution of AF in languages other than Tsotsil? We can hope that with further empirical and analytical work, the relations among the various phenomena discussed here will become clearer, bringing us closer to a better understanding of the larger questions.

Abbreviations

A	Set A
ACT	active
AF	agent focus
AP	antipassive
ASP	aspect
B	Set B
CLS	classifier
CP	completive
DAT	dative
DET	deteminer
DIR	directional
ENC	enclitic
F	formal
FEM	female
FOC	focus
ICP	incompletive
INF	infinitive
IRR	irrealis
IV	intransitive status suffix
M	male
NEG	negation
OBL	oblique
P	plural
PRF	perfect
POT	potential
PRO	pronoun
Q	polar question particle
RCP	recent past
RN	relational noun
RR	reflexive/reciprocal
S	singular
TV	transitive verb *or* transitive status suffix

References

Aissen, Judith. 1999. Agent focus and inverse in Tzotzil. *Language* 75:451–485.

Aissen, Judith. 2003. Differential coding, partial blocking, and bidirectional OT. In *Bls 29*, ed. Pawel Nowak and Corey Yoquelet, 1–16. Berkeley, CA: BLS.

Aissen, Judith. 2011. On the syntax of agent focus in K'ichee'. In *Proceedings of Formal Approaches to Mayan Linguistics I*, ed. Kirill Shklovsky, Pedro Mateo Pedro, and Jessica Coon, 1–16. Cambridge, MA: MITWPL.

Aldridge, Edith. 2004. Ergativity and word order in Austronesian languages. Doctoral Dissertation, Cornell University.

Baker, Mark. 1988. *Incorporation*. Chicago: University of Chicago Press.

Benz, Anton, and Jason Mattausch, ed. 2011. *Bidirectional optimality theory*. Amsterdam: John Benjamins.

Berinstein, Ava. 1985. *Evidence for multiattachment in K'ekchi Mayan*. New York: Garland.

Bittner, Maria, and Ken Hale. 1996a. Ergativity: Towards a theory of a heterogeneous class. *Linguistic Inquiry* 27:531–604.

Bittner, Maria, and Kenneth Hale. 1996b. The structural determination of case and agreement. *Linguistic Inquiry* 27:1–68.

Campana, Mark. 1992. A movement theory of ergativity. Doctoral Dissertation, McGill University.

Coon, Jessica, Pedro Mateo Pedro, and Omer Preminger. 2014. The role of Case

in A-Bar extraction asymmetries: Evidence from Mayan. *Linguistic Variation* 14:179–242.

Craig, Colette. 1977. *The structure of Jacaltec*. Austin: University of Texas Press.

Craig, Colette. 1979. The antipassive and Jacaltec. In *Papers in Mayan linguistics*, ed. Laura Martin, 139–165. Colombia, MO: Lucas Bros. Publishers.

Dayley, Jon P. 1981. Voice and ergativity in Mayan languages. *Journal of Mayan Linguistics* 2:3–82.

Dayley, Jon P. 1985. *Tz'utujil grammar*. Berkeley: University of California Press.

Du Bois, John W. 1987. The discourse basis of ergativity. *Language* 63:805–855.

Durie, Mark. 1988. Preferred argument structure in an active language: arguments against the category 'intransitive subject'. *Lingua* 74:1–25.

Durie, Mark. 2003. New light on information pressure: Information conduits, "escape valves", and role alignment stretching. In *Preferred argument structure: Grammar as architecture for function*, ed. John W. DuBois, Lorraine E. Kumpf, and William J. Ashby, 159–196. John Benjamins.

Erlewine, Michael Yoshitaka. to appear. Anti-locality and optimality in Kaqchikel Agent Focus. *Natural language & linguistic theory* .

Hartmann, Katharina, and Malte Zimmermann. 2007. In place - out of place? Focus in Hausa. In *On information structure, meaning and form*, ed. Kerstin Schwabe and Susanne Winkler, 365–403. John Benjamins.

Haviland, John. 1981. *Sk'op sotz'leb: el tzotzil de San Lorenzo Zinacantán*. Mexico, D.F.: UNAM.

Henderson, Robert. 2012. Morphological alternations at the intonational phrase edge: the case of K'ichee'. *Natural language & linguistic theory* 30:741–787.

Hou, Liwen. 2013. Agent focus in Chuj reflexive constructions. BA thesis, McGill University.

Kaufman, Terrence. 1976. Archaeological and linguistic correlations in Mayaland and associated areas of Meso-America. *World Archaeology* 8:101–118.

Larsen, Thomas, and William Norman. 1979. Correlates of ergativity in Mayan grammar. In *Ergativity: towards a theory of grammatical relations*, ed. Frans Plank, 347–370. New York: Academic Press.

Law, Danny. 2014. *Language contact, inherited similarity and social difference*. Amsterdam: John Benjamins.

Legate, Julie. 2006. Split absolutive. In *Ergativity*, ed. Alana Johns, Diane Massam, and Juvenal Ndayiragije, 143–171. Dordrecht: Springer.

Legate, Julie. 2008. Morphological and abstract case. *Linguistic Inquiry* 39:55–101.

López Ixcoy, Candelaria Dominga. 1997. *Gramática K'ichee'*. Guatemala City: Cholsamaj.

Martínez, Rosendo. 2012. Las manifestaciones sintácticas, semánticas y discursivas

de la agentividad en el tsotsil de Huixtán, Chiapas. MA thesis, CIESAS, Mexico D.F.

Mondloch, James. 1981. Voice in Quiche-Maya. Doctoral Dissertation, SUNY at Albany.

Ordóñez, Francisco. 1995. The antipassive in Jacaltec: a last resort strategy. *CUNYForum: Papers in Linguistics* 19:95–108.

Pascual, Adán. 2007. Transitividad y dependencia sintáctica y discursiva en q'anjob'al. Master's thesis, CIESAS, Mexico, D.F.

Polian, Gilles. 2013. *Gramática del tseltal de Oxchuc*. Mexico, D.F: CIESAS.

Preminger, Omer. 2011. Agreement as a fallible operation. Doctoral Dissertation, MIT.

Robertson, John. 1992. *The history of tense/aspect/mood/voice in the Mayan verbal complex*. Austin: University of Texas Press.

Stiebels, Barbara. 2006. Agent focus in Mayan languages. *Natural Language & Linguistic Theory* 24:501–570.

Tada, Hiroaki. 1993. A/A-bar partition in derivation. Doctoral Dissertation, MIT.

Vázquez, Juan Jesús, and Roberto Zavala. 2013. La estructura argumental preferida en chol, una lengua agentiva. In *Memorias del VI Congreso de Idiomas Indígenas de Latinoamérica, 24-26 de octubre de 2013, Universidad de Texas en Austin*. URL `http://www.ailla.utexas.org/site/events.html`.

Zavala, Roberto. 1992. *El kanjobal de San Miguel Acatán*. Mexico City: Universidad Nacional Autónoma de México.