TAM SPLIT ERGATIVITY*

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Abstract: This article surveys empirical and theoretical work on Tense-Aspect-Mood ("TAM") based split ergativity, and offers an account for how it arises. While these splits are typically assumed to represent a unified phenomenon, I demonstrate that non-ergative portions of split systems exhibit different patterns, and argue that these reflect at least two different processes which trigger the splits: **(i)** non-perfective aspects are more likely to be built on complex auxiliary constructions, and **(ii)** imperfectivity is associated with demoted objects or lower transitivity. Both motivations trigger the same result: in the "split" portions of the grammar the transitive subject is not marked with ergative case because *it is not a transitive subject*. This structural account of split ergativity allows us to avoid positing different variable feature inventories on the same functional head (cf. Ura 2006), and also provides a straight-forward account of the so-called "counter-universal" splits (Gildea and de Castro Alves 2010), which cause problems for purely functionalist accounts (e.g. DeLancey 1981). Furthermore, it is shown that the factors which trigger these splits are not limited to ergative languages, but are present cross-linguistically—they are not visible in nominative-accusative systems because (by definition) there is no visible difference between transitive and intransitive subjects. The prevalence of splits in ergative systems is thus not taken to reflect any deep instability of ergativity.

keywords: split ergativity, ergativity, aspect, transitivity, typology

1 Introduction

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 (*absolutive*), while the transitive subject patterns distinctly (*ergative*) (see e.g Dixon 1979, 1994; Comrie 1978). This contrasts with more familiar nominative-accusative ("accusative") systems in which both transitive and intransitive subjects pattern alike (*nominative*), to the exclusion of transitive objects (*accusative*). Ergativity has played an increasingly important role in our understanding of the nature of case, agreement, argument structure, and the relationship among them. According to some counts, roughly one quarter of the world's languages have been characterized as "ergative" (Dixon 1994). Accounts for explaining ergative case and agreement patterns within the generative tradition have been numerous, and raise questions about the range and limits of cross-linguistic variation; see Aldridge 2008 for a survey. Further questions are raised by the fact that ergative languages do not appear to be consistently ergative; rather, they show ergative patterns only in a subset of their grammar (Silverstein 1976; Moravcsik 1978). This stands in stark contrast with the casual observation that there are plenty of languages which—at least in the verbal domain—appear to be consistently nominative-accusative.

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> "[N]o ergative language is fully consistent in carrying through the ergative principle throughout its entire morphology, syntax, and lexicon: all languages that exhibit ergative patterning in their commonest case-marking system also exhibit some accusative pattern somewhere in the rest of their grammar" (Moravcsik 1978, 237)

At a morphological level, splits in case-marking and agreement may be triggered by certain aspects, by the type of nominal arguments involved (e.g. pronouns vs. common nouns), or by the semantics of the verb. At a syntactic level, it is common to find morphologically ergative languages whose syntax nonetheless follows a nominative-accusative pattern (see e.g. Legate 2008; Coon et al. 2011). Accounts for split-ergativity have similarly varied and include different Case-assigning properties of v^0 heads, structural differences between ergative and split environments, and functional notions of affectedness or markedness, all discussed below.

This article aims to summarize existing empirical and theoretical work on one type of split ergativity, Tense–Aspect–Mood or "TAM" Splits, and to offer a proposal for how it arises. An overarching theme of this work is to show that the factors which trigger the appearance of split ergativity are not specific to ergative-patterning languages, but are found cross-linguistically; these split-conditioning characteristics are obfuscated in nominative-accusative patterns because—by definition—transitive and intransitive subjects pattern alike. Moravcsik's generalization above thus does not reflect any instability of ergative systems or a deep asymmetry between ergativity and accusativity. The resulting picture is instead one in which languages are either consistently ergative or consistently accusative in the core verbal domain. Though the focus is on TAM splits, I briefly review the extension of these ideas to NP splits below.

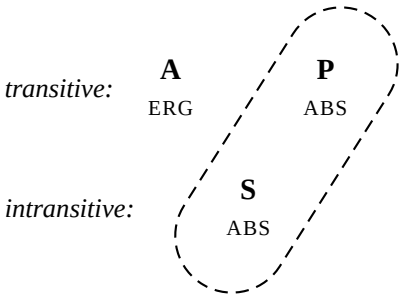
The remainder of this paper is organized as follows. In section 2 I provide some background on ergativity (2.1) and split ergativity (2.2). While TAM splits are commonly described as a uniform phenomenon, I show that they come in (at least) three basic types, outlined in section 2.3. The bulk of the data is presented in section 3. I begin in section 3.1 with the proposal that so-called "TAM" splits can be reduced to simply aspectual splits. The three different types of aspectual splits are outlined in sections 3.2–3.4, and then summarized in section 3.5. Section 4 presents previous accounts (4.1) of TAM/aspectual split ergativity and then lays out a proposal which I suggest is better able to account for the full range of patterns (4.2). The so-called "counter-universal" splits are addressed in 4.3. I conclude in section 5.

2 Background: ergativity and splits

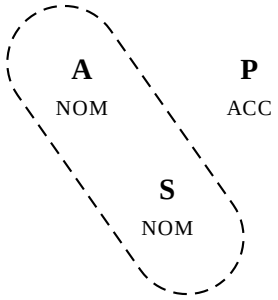
2.1 Ergativity

Ergative and accusative alignments are schematized in (1) and (2) below. Absolutive 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. I follow Dixon (1979) in using the following labels: **A** = transitive subject; **P** = transitive object; and **S** = intransitive subject.

(1) ERGATIVE-ABSOLUTIVE SYSTEM:



(2) NOMINATIVE-ACCUSATIVE SYSTEM:



The manner in which these alignment systems are manifested may vary from language to language. Here I will concentrate on *morphological* ergativity, seen in the case and agreement system of a language.[1] Ergative case patterns are exemplified by the Dyirbal and Chol pairs in (3) and (4). In Dyirbal, transitive subjects are marked with *-ŋgu*, while both transitive objects and intransitive subjects are unmarked. In Chol grammatical relations are head-marked on the predicate: **A** is marked with a prefix, while **P** and **S** (= absolutive) are marked with suffixes.[2]

(3) DYRIBAL (PAMA-NYUNGAN)

a. yabu ŋuma-**ŋgu** bura-n
mother(ABS) father-ERG see-NONFUT
'Father saw mother.'

b. ŋuma banaga-n^{y}u
father(ABS) return-NONFUT
'Father returned.' (Dixon 1994, 10)

(4) CHOL (MAYAN)

a. Tyi **i**-kuchu-**yety**.
PRFV 3ERG-carry-2ABS
'He carried you.'

b. Tyi juli-**yety**.
PRFV arrive-2ABS
'You arrived.'

2.2 Splits: Overview and motivations

Above I have been careful to talk about ergative *patterns*, rather than ergative languages. In fact, a given language rarely shows a consistent ergative pattern of alignment throughout grammar. It is common to find morphologically ergative languages in which the syntax nonetheless follows a nominative-accusative pattern; this is the case in Chol (Mayan), Basque (isolate), and Hindi (Indo-Aryan), for example. The label "split ergative", however, is generally reserved for languages in which the split is found *within* the morphology: e.g. an ergative case marking pattern in one portion of the grammar, and a non-ergative pattern in another (Silverstein 1976; Comrie 1978; Moravcsik 1978; Tsunoda 1981; DeLancey 1981). Using this as rough criteria what what counts as "split ergativity", the three main triggers of splits are those shown in (5):[3]

(5) COMMON TYPES OF SPLIT ERGATIVITY (DIXON 1994)[4]

1. tense, aspect, mood (TAM) splits
2. NP splits
3. Clause type

The first two—TAM splits and person splits—have been the focus of the majority of work on split ergativity. In TAM splits, the split pattern is conditioned by the tense, aspect, or mood of the verb, while in NP splits, splits are conditioned by nominal type. Both types of split are widespread. TAM splits are found,

[1] Ergative patterns may also be seen in the syntax of a language, known as "syntactic ergativity", in which certain operations (e.g. extraction) are sensitive to **A** vs. **P**/**S** division.

[2] Abbreviations in glosses are as follows: 1, 2, 3 – 1st, 2nd, 3rd person; ABS – absolutive; AOR – aorist; ASP – aspect; AUX – auxiliary; DET – determiner; EMPH – emphatic; ERG – ergative; FEM – feminine; FUT – future; HON – honorific; IMPF – imperfective; IRR – irrealis; LOC – locative; MASC – masculine; NF –non-finite; NML – nominal; NONFUT – non-future; PL – plural; PRES – present; PRFV – perfective; PROGRESSIVE; PREP – preposition; PST – past; PL – plural; POSS – possessive; PTCP – participle; REL - relative; SG – singular; STAT – stative; V – verbal. In some cases, glosses have been simplified or modified from those of the original author for consistency. I follow the original authors' format for capitalization and punctuation.

[3] Here I omit "Split-S" or "split intransitivity", which is sometimes grouped together with split ergativity. In a Split-S system, intransitive subjects (**S**) will pattern alternately with either **A** or **P** arguments, depending on factors such as agency or eventivity; see for example Mithun 1991; Dixon 1994.

[4] Below I will propose that the "TAM" category should be reduced to simply "aspect splits", and that true tense or mood splits do not exist.

for example, in Hindi and Kurmanji (Indo-Aryan), Basque, Chol (Mayan), Tongan (Polynesian), Georgian (Kartvelian), Avar and Adyghe (Causasian), and Yukulta (Tangkic) (Tsunoda 1981). Examples of languages with person splits include Dyirbal and Yidiny (Pama-Nyungan), Mocho' (Mayan), Kham (Tibeto-Burman), Cashinawa (Panoan), and Halkomelem (Salish). Strikingly, these splits share a common profile: in TAM splits, the non-ergative pattern is always found in the past/perfective, while in person splits, the non-ergative pattern is found with NPs ranked higher on a universal "prominence" hierarchy (Silverstein 1976). Clause-type splits show differences in alignment between matrix and subordinate clauses; these are less common but also geographically dispersed, found in (Jakaltek) Mayan, Päri (Nilotic), Shokleng (Jê), and Tsimshian (Salish). Though not the focus of this work, clause-type splits will be shown to factor into some TAM splits below. A single language may show more than one of the splits in (5).

2.3 Split patterns

While the splits in (5) are often casually described as a language switching from an *ergative-absolutive* to a *nominative-accusative* pattern, in fact a split system like the one illustrated in (6) is not the norm. Even taking into consideration the possibility that, at least in some languages, *nominative = absolutive* (i.e., a single unmarked case)—and thus in the "split" we would see absolutive on both subjects and a special marking for objects—it is rare that a dedicated object (accusative) marker appears in splits.[5] Rather, a language will typically split in to one of several possible *non-ergative* patterns.

(6) ERGATIVE TO ACCUSATIVE

ergative		*"split"*
$\mathbf{A}_{ERG}$ $\mathbf{P}_{ABS}$	➡	$\mathbf{A}_{NOM}$ $\mathbf{P}_{ACC}$
$\mathbf{S}_{ABS}$		$\mathbf{S}_{NOM}$

One common possibility is that languages with split ergativity may show a neutral alignment in the split, in which all core arguments receive absolutive marking—frequently the absence of any overt marking—as illustrated in (7). This will be the case in the Hindi, Basque, and Nakh-Daghestanian splits discussed below.

(7) ERGATIVE TO NEUTRAL

ergative		*"split"*
$\mathbf{A}_{ERG}$ $\mathbf{P}_{ABS}$	➡	$\mathbf{A}_{ABS}$ $\mathbf{P}_{ABS}$
$\mathbf{S}_{ABS}$		$\mathbf{S}_{ABS}$

Still other languages show what has been termed "extended ergativity" (Dixon 1979). Here in the "split" portion of the grammar the marking typically reserved for **A** arguments is extended to intransitive **S** subjects. This pattern—which can be characterized as "split intransitivity"—is schematized in (8), is found in many Mayan languages, and differs from a typical nominative-accusative pattern in that the nominative is marked.

(8) ERGATIVE TO EXTENDED-ERGATIVE

ergative		*"split"*
$\mathbf{A}_{ERG}$ $\mathbf{P}_{ABS}$	➡	$\mathbf{A}_{ERG}$ $\mathbf{P}_{ABS}$
$\mathbf{S}_{ABS}$		$\mathbf{S}_{ERG}$

[5] Note that this may provide an answer to the following reasonable question: why do we call languages with splits "split ergative" rather than "split accusative"? The answer, I believe, lies in the fact that we typically do not see a real accusative pattern at all, discussed further in the sections below.

Finally, we will see patterns in which in the split portion of the grammar one of the transitive arguments is marked as an oblique, having varying effects on the marking of the remaining argument (e.g. ERG-OBL, ABS-OBL, OBL-ABS). A common pattern, discussed for Georgian and Samoan below, is one in which the **P** is marked as an oblique and both subjects receive absolutive. This also resembles a "nominative-accusative" pattern insofar as **A** and **S** pattern to the exclusion of **P**, but crucially the actual forms on the nominals are familiar from elsewhere in the grammar, i.e. the **P** patterns with other oblique arguments.

(9) ERGATIVE TO ABS-OBL

ergative			*"split"*	
$\mathbf{A}_{ERG}$	$\mathbf{P}_{ABS}$	➡	$\mathbf{A}_{ABS}$	$\mathbf{P}_{OBL}$
$\mathbf{S}_{ABS}$			$\mathbf{S}_{ABS}$	

3 Splits

Here we delve into the split data. I begin in section 3.1 with the proposal that TAM splits are best reduced to simply *aspect* splits. Next, sections 3.2–3.4 examine three types of split patterns, which follow the schematized patterns in (6)–(9) above. Section 3.5 summarizes.

3.1 (T)A(M) splits

Perhaps following Dixon's seminal work, splits of the type discussed here are frequently referred to as TAM (*tense*/*aspect*/*mood*) splits. Of these three possibilities, however, aspect appears to be by far the most common. For example, in his survey on split ergativity, DeLancey (1981) refers simply to "aspectual splits". Comrie (1978) discusses what he labels "tense/aspect splits", though no examples are clearly exclusively about tense. The existence of purely mood or tense-based splits is questionable. I begin here by discussing possible cases of purely tense- or mood-based splits and conclude that this category is best described as simply *aspect-based split ergativity*.

With respect to mood-based splits, Dixon (1994, 101) writes "imperative constructions may show accusative marking while most or all other moods are ergative". He cites Päri (Nilotic, Anderson 1988), Sumerian (Anatolian, Michalowski 1980), and Kuikúro (Carib, Franchetto 1990) as examples of languages with mood-based splits. In Päri, a non-ergative pattern is found in imperatives, which pattern with *subordinate clauses* (Anderson 1988); I thus assume that the split in Päri can be reduced to a clause-type split.[6] In addition to showing a non-ergative pattern in imperatives, Sumerian—like Päri—shows a clause-type split (Michalowski 1980, 98), as well as aspectual and person splits (Dixon 1994, 104), making this a difficult case for a purely mood-oriented split.[7]

Dixon notes that ergative is obligatory in "descriptive" moods in Kuikúro, but optional in "interactive" (imperative, hortative, or intentional) moods. Franchetto (1990, 412) discusses the factors triggering what she calls "de-ergativization" (i.e. split patterning) in Kuikúro. In addition to the "interactive moods" noted by Dixon, de-ergativiziation is present in cleft constructions, relative clauses, and content questions in which the direct object is questioned. She continues: "each of these constructions is *based on nominalized verb forms*" (Franchetto 1990, 412, emphasis mine). Returning to the "interactive moods", Franchetto notes that

[6]These in turn may be reducible to a split in the behaviour of *verbal* versus *nominal* forms; see e.g. Salanova 2007, Coon 2010a.

[7]The fact that imperative subjects are necessarily interpreted as *agentive* could also mean that in some languages a split in imperatives may be analyzable as a *Split-S* system. See for example Dixon 1994, 101 and Mauck et al. 2005, 134, who note: "Imperatives are used to get the addressee to do something, so there must be a way to ensure that the addressee plays an appropriately agentive role in the called-for action."

these are conditioned by a set of "performative speech act markers", including the intentional and hortative moods. These similarly appear with the special de-ergative morpheme on the stem, and the subjects may not appear with ergative marking. Given the formal similarity between these moods and the "interactive mood" constructions, it seems reasonable to conclude that these also involve subordination, and that this split is thus also reducible to a clause-type split.

With respect to the existence tense-based splits, the picture is complicated by the fact that tense and aspect are frequently intertwined, and some descriptive work does not distinguish between the two. For example, Georgian's split, discussed below, is traditionally described as a split between *aorist* and *non-aorist* tenses (see e.g. Tsunoda 1981, 415, citing others), but the aorist is more accurately characterized as an aspect (Melikishvili 2008). In fact, Tsunoda writes that Georgian has "ERG-ABS in the so-called aorist series of tenses (i.e. perfective or punctual)"—note that *perfective* and *punctual* are both aspectual categories (Comrie 1976).[8] Burushaski (a language isolate of Pakistan) has similarly been described as having a tense-based split: "A function is obligatorily marked for ergative case (with the suffix -ɛ), only if the transitive verb is in a past-based tense (i.e. preterite, perfect, pluperfect past participle or static participle active" (Dixon 1994, 99, citing Lorimer 1935, 64). Consistent with the forms Dixon cites, Tiffou and Morin (1982, 88) state in a more recent study that "the opposition between past-based and present-based tenses may be better understood as an opposition between durative and perfective" (i.e. aspects).

In his survey of TAM splits, Salanova (2007, 47) concludes: "As far as we can ascertain, then, so-called tense-aspect-mood splits essentially boil down to aspectually conditioned splits; in no case known to us are splits based unequivocally on tense (i.e., situating the proposition with respect to utterance time) or mood." Below I will assume that aspect is the only true trigger of this type of split—though perfective aspect frequently overlaps with past tense. As (10) shows, while languages may make the split in different places, ergativity remains consistently on the right side of the scale.

(10) DIRECTIONALITY OF ASPECTUAL SPLITS

← ERGATIVE		NON-ERGATIVE →
perfective ≫	imperfective ≫	progressive

Note that since progressive aspect is a sub-type of imperfective aspect, the hierarchy in (10) is not surprising; the split can either traget just the progressive, or the imperfective, which properly contains the progressive; see Coon 2010a for discussion. In the sections that follow, I examine splits of this type, grouping them by the type of case/agreement patterns found in the "split" or non-ergative aspect or aspects.

3.2 Ergative to neutral

An aspectual split is found in Basque (Laka 2006). In the perfective and imperfective aspects, Basque shows an ergative-absolutive alignment in terms of a system of suffixal articles: **A** arguments are marked with *-ak*, while **P** and **S** (absolutive) arguments are marked with *-a*.

[8]The possible exception is the so-called "imperfect aorist", which follows the ergative-absolutive pattern. However, while it is labeled "imperfect", it necessarily implies that the event was unsuccessful. For example, 'I opened the door' in this form would mean that I tried, but failed, to open the door. In contrast, a standard imperfective simply does not assert anything about the endpoint of the event (i.e. whether it was successful or not) (Comrie 1976). The fact that an assertion is made about the endpoint of the event seems consistent with this being analyzed as a type of perfective, which would also account for why it takes the aorist stem form. I am grateful to Thomas Weir for discussion of these examples.

(11) BASQUE PERFECTIVE

a. [$_{\mathbf{A}}$ Ehiztari-**ak**] [$_{\mathbf{P}}$ otso-**a**] harrapatu du.
hunter-DET.ERG wolf-DET.ABS caught AUX(have)
'The hunter has caught the wolf.'

b. [$_{\mathbf{S}}$ Otso-**a**] etorri da.
wolf-DET.ABS arrived AUX(be)
'The wolf has arrived.' (Laka 1996)

In the progressive, however, the ergative marking is lost. Here all three core arguments receive the (absolutive) *-a* suffix, as shown in (12). Furthermore, while the verb+auxiliary form agree with both the subject and the object in the ergative-patterning transitives, agreement is found *only* with the **A** argument in the progressive transitives.

(12) BASQUE PROGRESSIVE

a. [$_{\mathbf{A}}$ emakume-**a**] [$_{\mathbf{P}}$ ogi-**a**] ja-te-n ari da.
woman-ART.ABS bread-ART.ABS eat-NML-LOC PROG AUX(be)
'The woman is eating the bread.'

b. [$_{\mathbf{S}}$ emakume-**a**] dantza-n ari da.
woman-ART.ABS dance-LOC PROG AUX(be)
'The woman is dancing.' (Laka 1996)

Basque split ergativity thus represents an *ergative-to-neutral* type split, of the type illustrated in (7) above. Similar patterns are found in Nakh-Daghestanian and Indo-Aryan languages. In both Hindi (13) and Gujarati (14) the split is between perfective and non-perfective. Here, as in Basque, the ergative marking is lost from the **A** subject in the "split" or non-perfective aspects (I omit intransitive examples for reasons of space, but see references cited). The verb and auxiliary agree with the highest absolutive argument, regardless of whether this is the **P**, as in the perfective examples, or the **A** in the "split" examples.[9]

(13) HINDI

a. [$_{\mathbf{A}}$ Lataa-ji-**ne**] [$_{\mathbf{P}}$ kai gaane]$_i$ gaa-ye$_i$
Latta.FEM-HON-ERG many song.MASC(ABS) sing-PRFV.MASC.PL
'Lataa-ji sang several songs.'

b. [$_{\mathbf{A}}$ Lataa-ji]$_i$ [$_{\mathbf{P}}$ gaane] gaa-tii hɛ̃ / thĩ$_i$
Latta.FEM-HON song.MASC(ABS) sing-HAB.FEM be.PRES.PL be.PST.FEM.PL
'Latta-ji sings/used to sing songs.' (Bhatt 2007, 3)

(14) GUJARATI

a. [$_{\mathbf{A}}$ ramesh-**e**] [$_{\mathbf{P}}$ pen$_i$] khərid-y-i$_i$.
Ramesh.MASC-ERG pen.FEM(ABS) buy-PRFV-FEM
'Ramesh bought the pen.'

b. [$_{\mathbf{A}}$ ramesh$_i$] [$_{\mathbf{P}}$ pen] khərid-t-o hə-t-o$_i$.
Ramesh.MASC(ABS) pen.FEM(ABS) buy-IMPF-MASC AUX-IMPF-MASC
'Ramesh was buying the pen.' (Mistry 1976, in DeLancey 1981)

[9]Hindi **P** arguments may also appear marked with the dative postposition, *-ko*. The appearance of *-ko* is determined by the animacy and specificity of the object, though this is independent of the marking on the **A** argument, see for example Anand and Nevins 2006. Since agreement is possible only with unmarked NPs, in a clause with an ergative-marked subject and a dative-marked object, agreement defaults to third person masculine.

The verb-second language Kashmiri (Indo-Iranian, Wali and Koul 1997) also shows a pattern of this type, where the "split" progressive construction, shown in (15b) involves an auxiliary not present in the perfective in (15a).

(15) KASHMIRI

a. [**A** me] dits təm-is [**P** kita:b].
I.ERG gave her/him-DAT book
'I gave her a book.'

b. [**A** bi̱] chu-s təm-is [**P** kita:b] diva:n.
I.NOM be-1SG her/him-DAT book giving
'I am giving her/him a book.' (Wali and Koul 1997, 252)

A similar pattern is found in Nakh-Daghestanian languages (see e.g. Kibrik 1979, Kazenin 1998, 2001; Kazenin and Testelec 1999, Polinsky and Comrie 2002, and Forker 2010 for an overview). These languages show a split *within* the imperfective aspect, in a construction known as the "bi-absolutive". In regular transitives, as exemplified by (16a), the subject is marked with a special suffix (*ergative*)—but this suffix is absent from transitive objects and intransitive subjects (*absolutive*). However, in the *bi-absolutive* construction, shown in (16b), even transitive subjects are unmarked (*absolutive*). Accounts vary as to the exact interpretational differences between the regular transitives and bi-absolutives, but the latter seem to indicate a de-emphasis or demotion of the **P**, and a focus on the **A** (Forker 2010)—see the discussion of aspect and affectedness in section 3.4 below. Again, as in Indo-Aryan, the matrix verb agrees with the highest absolutive, this time in noun class (labelled with Roman numerals).

(16) TSEZ (NAKH-DAGHESTANIAN)

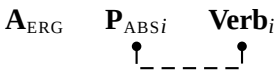
a. REGULAR TRANSITIVE
[**A** už-**ā**] [**P** čorpa$_i$] b-iš-xo$_i$
boy.I-**ERG** soup.III(ABS) III-eat-PRES
'The boy is eating soup.'

b. s
BI-ABSOLUTIVE
[**A** užī$_i$] [**P** čorpa] b-iš-xosi Ø-ič-ā̱sī̱ yoł
boy.I(ABS) soup.III(ABS) III-eat-PTCP I-stay-PTCP be.PRES
'The boy is eating soup.' (Maria Polinsky, p.c.)

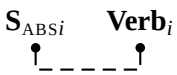
A striking pattern emerges in all three of these unrelated language families, schematized in (17)–(18) below: In the ergative patterning transitives, represented in (17a), the transitive subject, **A**, receives a special ergative marking, while the **P** argument is in the unmarked absolutive form. The verb either agrees with only the **P** argument (as in Indo-Aryan and Nakh-Daghestanian), or with both **A** and **P** (as in Basque). In the split-patterning transitives, schematized in (18a), we find a number of differences: **(i)** the **A** argument no longer receives ergative, but is now also in the unmarked absolutive form; **(ii)** in most languages, we find a more complex *verb + auxiliary* construction (compare (11a)/(12a), (13a)/(13b), (14a/b), (16a/b)); **(iii)** the agreement pattern changes. In Basque and Indo-Aryan, the **P** no longer triggers any agreement, while in Tsez the lexical verb—*eat* in (16b)—agrees with **P** and the auxiliary agrees with **A**.

(17) ERGATIVE-PATTERNING

a. TRANSITIVE

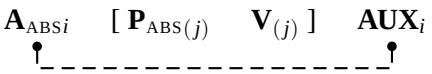


b. INTRANSITIVE

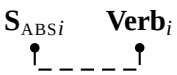


(18) SPLIT-PATTERNING

a. TRANSITIVE



b. INTRANSITIVE



For Basque, Laka (2006) argues that the progressive "split" forms are actually *biclausal*, involving a locative matrix verb (the progressive *ari* in (12a)), and a locative-marked subordinate clause containing the lexical verb and the object. This proposal accounts elegantly for the facts listed above. The **A** argument in (18a) is not marked ergative *because it is not a transitive subject*; it is the subject of an intransitive auxiliary which takes an embedded complement (marked e.g. locative in Basque, or as a participle in Tsez). The **P** does not trigger agreement because it is in a lower clause. Similar proposals have been made for Nakh-Daghestanian languages, for example in Kazenin 1998, 2001; Kazenin and Testelec 1999, discussed in Forker 2010. This analysis is advanced in Coon 2010a, where I develop the idea that the potential for this type of clausal bifurcation exists universally in *non-perfective aspects* because these are built on spatio-temporal locative constructions (Bybee et al. 1994; Demirdache and Uribe-Etxebarria 2000).

Further evidence for this comes from Balochi (NW Iranian) a language with both an aspectual and a person split: third person subjects are marked ergative in the perfective aspect. Farrell (1995, 226), however, explains that the picture is more complicated than this: the case marking on the subject depends not only on aspect, but on the *transitivity* of the final verbal element in the clause, whether this is the lexical verb or an auxiliary. When a final auxiliary is intransitive—even if the lexical verb is transitive—the **A** argument does not receive ergative morphology. A similar phenomenon is found in Hindi compound verb constructions, discussed in Mahajan 2012. Both sentences in (19) involve the same lexical verb *pəʈh* 'read', and both are in the perfective (ergative-patterning) aspect. However, when the final light verb is intransitive, as in (19b), no ergative case may appear on the **A** subject.[10]

(19) HINDI

a. Kabir-**ne** vo kitaab jəldii-se pəʈh **lii**
Kabir(MASC)-ERG that book(FEM) quickly read take.PRFV.FEM
'Kabir read that book quickly.'

b. Kabir-(*ne) vo kitaab jəldii-se pəʈh **gəyaa**
Kabir(MASC)-ERG that book(FEM) quickly read go.PRFV.MASC
'Kabir read that book quickly.' (Mahajan 2012)

There are two important consequences of this analysis. **First**, as Laka (2006) notes, under this type of analysis no special rules of case-assignment or agreement are needed to capture the facts; the progressive subject behaves like any other *intransitive* subject in the language. Regardless of what theory of ergativity is adopted (i.e. inherent ergative, dependent case), the **A** argument will not receive ergative because it is the subject of an intransitive verb. **Second**, a natural picture emerges for the absence of such "splits" in nominative-accusative languages. Just as in Basque and Tsez, in many languages the progressive and sometimes the imperfective are built on locative constructions, as in the French and Dutch examples in (20).

[10] However, the subject marking is also not completely independent of properties of the main verb, as discussed in more detail in Mahajan 2012.

(20) 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)

The difference is that in a nominative-accusative system we *do not see the split*: by definition **A** and **S** arguments receive the same (*nominative*) marking. The difference is illustrated below.

(21) ENGLISH

a. I_{NOM} read the book.

b. I_{NOM} am [$_{PP}$ at book reading].

(22) IMAGINARY "ERGATIVE ENGLISH"

a. I_{ERG} read the book.

b. I_{ABS} am [$_{PP}$ at book reading].

We return to a formalization and further discussion of this analysis in section 4.2 below.

3.3 Ergative to extended-ergative

Aspectual splits are found in a number of languages of the Mayan family, for example Yucatec (Bricker 1981), Chol (Vázquez Álvarez 2002; Coon 2010a), Q'anjob'al (Mateo-Toledo 2003; Mateo Pedro 2009); see Larsen and Norman 1979 and Dayley 1981 for overviews. In all of these languages, the "split" or non-ergative patterning aspects follow an *extended ergative* pattern; this can be seen in the Chol examples in (23)–(24). In the perfective forms in (23) we see the ergatively aligned pattern of head-marking from (4) above. In non-perfective (imperfective and progressive) aspects, we find a split. Unlike Basque, Indo-Aryan, and Nakh-Daghestanian, however, the marking on transitives like (24) remains identical; it is the *intransitive* marker that changes. Because in the non-perfective aspects both **A** and **S** arguments pattern alike, this has been described as a *nominative-accusative* pattern.

(23) CHOL PERFECTIVE

a. Tyi k-mek'-e-yety.
PRFV 1ERG-TV-hug-2ABS
'I hugged you.'

b. Tyi wäy-i-**yety**.
PRFV sleep-ITV-2ABS
'You slept.'

(24) CHOL IMPERFECTIVE

a. Choñkol k-mek'-ety.
PROG 1ERG-hug-2ABS
'I'm hugging you.'

b. Choñkol **a**-wäy-el.
PROG 2ERG-sleep-NML
'You're sleeping.'

Mayan languages make splits in different places along the aspectual scale in (10), but follow the same universal pattern shown in (10) above. That is, while Chol makes the split between perfective and non-perfective aspects (like Hindi), in Q'anjob'al we find the split between progressive and non-progressive (like Basque).

Strikingly, the differences between the ergative (23) and "split" (24) patterns is more than just person marking; it is structural. Note that the stem forms in Chol change as well. In the perfective, the root appears with a "status suffix", which varies with transitivity. These are absent in the non-perfective (split) forms, in (24). Here the transitive appears with no suffix, and the intransitive is suffixed with *-el*, a common nominalizing suffix across the Mayan family (see e.g. Bricker 1981). As has been suggested by previous

authors (Larsen and Norman 1979; Bricker 1981; Coon 2010b; Mateo Pedro 2009), the split patterning in the Mayan family can be straightforwardly accounted for under an analysis in which non-perfective aspect markers are predicates embedding a *nominal or nominalized* form. The unexpected "ergative" marker on the intransitive **S** augment is in fact marking a grammatical possessor—ergative and possessive prefixes are identical throughout Mayan, known in Mayanist literature simply as "Set A". Compare the progressive intransitive in (25a) with the possessive phrase serving as the subject of another stative predicate in (25b).

(25) a. Choñkol-Ø$_i$ [$_{NP}$ **i**-wäy-el **aj-Maria**]$_i$.
PROG-3ABS 3POSS-sleep-NML DET-Maria
'Maria is sleeping.'

b. Buch-ul-Ø$_i$ [$_{NP}$ **i**-mama **aj-Maria**]$_i$
seated-POS-3ABS 3POSS-mother DET-Maria
'Maria's mother is seated.'

Importantly, just as in the *absolutive-to-neutral* splits in the previous section, here the crucial difference between split and non-split aspects is the use of an aspectual predicate in the non-perfective forms. In (25a) the progressive predicate embeds a nominal form; since third person absolutive is null, and nominalized forms are always third person, we see no overt reflex of the agreement. In (26a) we see that *choñkol* can also embed simple event-denoting nouns like *ja`al* 'rain', and in (26b) we find evidence that *choñkol* can take a thematic subject, discussed further in Coon 2010a.

(26) a. Choñkol ja`al.
PROG rain
'It's raining.'

b. Choñkol-oñ tyi k'ay.
PROG-1ABS PREP song
'I'm singing.' (∼ 'I am at/engaged in song.')

Here, just as above, the "split" is not a split in how grammatical relations are marked: throughout the language **S** and **P** are marked absolutive; **A** arguments and possessors are marked ergative. The difference is structural: non-perfective aspects are expressed by predicates. The similarity between progressive and imperfective forms on the one hand, and locatives on the other—all discussed for Basque in Laka 2006—can be seen by comparing (26b) with (27).

(27) Añ-oñ tyi bij.
LOC-1ABS PREP path
'I'm in the path.'

The formal similarity found cross-linguistically between progressive/imperfective aspects and locative expressions receives a natural account: these aspects focus on the *internal structure* of the event, or represent the event "viewed from within". That is, just as a physical entity is located in space with a locative expression like (27), an aspectual viewpoint is located *in* a temporal event with the imperfective/progressive aspects; see e.g Bybee et al. 1994, Demirdache and Uribe-Etxebarria 2000, and references cited therein.

To summarize to this point, the aspectual splits seen above vary in where along the scale in (10) they make the split, but all conform to the generalization that the ergative pattern is retained the perfective, while a non-ergative pattern is found either the progressive, or the progressive and imperfective aspects. Independent work on the languages above suggests that all of these "splits" can be analyzed as involving more complex structure, namely, an (intransitive) aspectual predicate which either takes the notional **A** argument as its

single thematic argument and embeds a locative-type clause (as in Basque), or embeds a nominalized clause, as in Mayan. In the *ergative-to-neutral* splits, the apparent split is then reduced to the fact that the **A** argument is *no longer the subject of a transitive verb*. In Mayan the extended ergative pattern is explained by the independent fact that embedded clauses throughout the language take the form of nominalizations, and that ergative and possessive marking are identical. The alignment of these splits follows naturally from the observation that imperfective and progressive—but not perfective—pattern cross-linguistically with locative expressions; see Coon 2010a for discussion.

3.4 Ergative to ABS-OBL

The remaining languages with aspectual splits show a different pattern than those examined above. Georgian (Kartvelian) shows a split between aorist and non-aorist aspects (simplifying to certain verb classes). The aorist ergative pattern of case suffixes can be seen in (28), and the split in (29). Note that just as in Basque, Hindi, and Tsez in section 3.2 above, the ergative marking is lost on the transitive subject and instead absolutive marking is found marking **A** in (29a). However, while above we saw absolutive marking retained on **P**, here the **P** argument takes an oblique *dative* suffix (also found e.g. on indirect objects and triggered by postpositions, see Hewitt 2005).[11]

(28) GEORGIAN AORIST

a. [$_{\mathbf{A}}$ Student-**ma**] [$_{\mathbf{P}}$ ceril-**i**] dacera.
student-ERG letter-ABS wrote
'The student wrote the letter.'

b. [$_{\mathbf{P}}$ Student-**i**] mivida.
student-ABS went
'The student went.'

(29) GEORGIAN NON-AORIST

a. [$_{\mathbf{A}}$ Student-**i**] [$_{\mathbf{P}}$ ceril-**s**] cers.
student-ABS letter-DAT writes
'The student writes the letter.'

b. [$_{\mathbf{S}}$ Student-**i**] midis.
student-ABS goes
'The student goes.' (Comrie 1978, 351)

A similar pattern is found in Samoan (Polynesian). The basic ergative pattern is shown in (30), where the **A** argument in (30a) appears with the ergative case marker *e*; absolutive arguments, like the subject in (30b), are unmarked.

(30) SAMOAN ERGATIVE PATTERN

a. Na fasi [$_{\mathbf{A}}$ **e** le tama] [$_{\mathbf{P}}$ Sina].
PST hit ERG DET boy Sina
'The boy hit Sina.'

b. 'olo'o moe [$_{\mathbf{S}}$ le tama].
PRES.PROG sleep DET boy
'The boy is sleeping.' (Ochs 1988, 89)

A split is seen between perfective and imperfective aspects, shown in (31). Forms like those in (31a) are known as "ergative", while those in (31b) are labelled "objective" (Milner 1973).[12]

[11] Comrie actually glosses the case marking on **A** and **P** in (29) as "NOM", and the suffix on **P** as "ACC", noting however that he glosses them "according to their role in the ergative-absolutive or nominative-accusative system" (Comrie 1978, 352), in order to avoid confusion. In other sources, the absolutive is glossed consistently as nominative (Melikishvili 2008).

[12] Though the distinction between forms like (31a) and (31b) and previously been treated as a *voice* contrast, Milner argues that the distinction is aspectual and that the English translations of some pairs are often best captured by using distinct lexical items (e.g. *spotted* vs. *looked at*, one which emphasizes the "totality" (perfective) of the action, the other which focuses on "the action itself" (imperfective) (Milner 1973, 631). See the discussion of Tsunoda 1981 below. See Mosel 1991 for a more recent discussion.

(31) SAMOAN SPLIT

a. PERFECTIVE
na va'ai-a [$_{A}$ **e** le tama] [$_{P}$ le i'a]
PST look.at-PRFV ERG the boy the fish
'The boy spotted the fish.'

b. IMPERFECTIVE
na va'ai [$_{A}$ le tama] [$_{P}$ i le i'a]
PST look.at the boy OBL the fish
'The boy looked at the fish.' (Milner 1973)

The object in the "split" pattern in (31b) takes the oblique marker *i*: "Throughout Polynesian, *i* 'at' is used to indicate locatives, time expressions, sources, and objects of comparison" (Chung 1978, 26)—see (32).

(32) 'Olo'o l$\bar{a}$tou nonofo **i** se motu **i** le Pasefika.
PROG they stay.PL at a island in the Pacific
'They are living on an island in the Pacific.' (Chung 1978, 26)

We also see this type of pattern in Warrungu (Pama-Nyungan): the ABS–DAT form in (33b) emphasizes the "continuousness/progressiveness of the action" (Tsunoda 1981, 417).

(33) WARRUNGU

a. [$_{A}$ pama-**ngku**] [$_{P}$ yuri] nyaka-n.
man-ERG kangaroo(ABS) see-NONFUT
'a Man saw (found, etc.) a kangaroo.'

b. [$_{A}$ pama] [$_{P}$ yuri-**wu**] naka-kali-n.
man(ABS) kangaroo-DAT see-*kali*-NONFUT
'A man was (or is) looking for a kangaroo.' (Tsunoda 1981, 417)

The Georgian, Samoan, and Warrungu case marking patterns look formally similar to the ERG-ABS and ABS-OBL patterns in Adyghe (NW Causasian), shown in (34). Note, however, that here the difference between (34a) and (34b) is not one in grammatical aspect, but rather in the choice of lexical verb: *kill* follows an ergative pattern, while *stab* follows the ABS-OBL pattern. A similar pattern is reported for Tongan (Chung 1978).

(34) ADYGHE (NW CAUCASIAN)

a. [$_{A}$ bojetsi-**m**] qamemk'e [$_{P}$ piji-**r**] iwik'iʁ
warrior-ERG dagger-INST enemy-ABS killed
'The warrior killed the enemy with his dagger.'

b. [$_{A}$ bojetsi-**r**] qamemk'e [$_{P}$ piji-**m**] jcpidʒiʁ
warrior-ABS dagger-INST enemy-OBL stabbed
'The warrior stabbed the enemy with his dagger.' (Tsunoda 1981, 415)

Tsunoda (1981) articulates the parallels between splits based on grammatical aspect (i.e. perfective vs. imperfective) and *lexical aspect* (i.e. verb semantics, as in Adyghe). He proposes that an "Effectiveness Condition" (EF-CON)—which governs the "effectiveness/conclusiveness/definiteness/actualness/etc." of transitive constructions—can account for both types of splits. The parameters of the EF-CON are shown in (35). Similar ideas were developed independently in the study of transitivity by Hopper and Thompson (1980); see Malchukov 2005 for a more recent survey.

(35) EFFECTIVENESS CONDITION (TSUNODA 1981, 393)

	IS MET: **…ergative**	IS NOT MET: **…non-ergative/split**
a.	action	state
b.	impingement on **P**	non-impingement on **P**
c.	**P** attained	**P** not attained
d.	**P** totally affected	**P** partially affected
e.	completed	uncompleted, or in progress
f.	punctual	durative
g.	telic	atelic
h.	resultative	non-resultative
i.	specific or single activity/situation	customary/general/habitual activity/situation
j.	**P** definite/specific/referential	**P** indefinite/non-specific/non-referential
	…	…

Tsunoda notes that aspectual and verb-type splits share common properties: both a failure to meet some portion of the EF-CON criteria. In the Adyghe form in (34a) the **P** is fully affected—see (35d)—while this may not necessarily be the case in (34b). In fact, in Samoan it is only verbs lower on the effectiveness scale, like *look at* (Milner's "Category I") which show the aspectual split illustrated in (31). Verbs higher on the effectiveness scale (Milner's "Category II"), like *make* below, show an invariant ergative-absolutive pattern, regardless of whether or not they take the aspectual suffix.

(36) SAMOAN

na fai(-a) [$_{\mathbf{A}}$ **e** le tama] [$_{\mathbf{P}}$ le mea'ai]
PST make-PRFV ERG DET boy DET food
'The boy made the food.' (Milner 1973, 629)

Tsunoda (1981, 407) notes that Warrungu also shows a verb-type split in addition to the aspectual split illustrated in (33). He concludes: "verb-split and TAM-split are fundamentally no different from each other, their semantics and case-marking mechanisms involving common principles" (Tsunoda 1981, 391). In non-perfective aspects, objects are generally more likely to be indefinite, non-referential, and less affected; in the perfective the focus is on the culmination of the event, and objects are more likely to be affected. Writing about Caucasian languages, for example, Catford (1975) concludes: "In the ergative construction, the V–O linkage is close, effective, penetrating. In the nominative construction, the V–O linkage is looser, less effective, superficial" (Catford 1975, 37).

Tsunoda further makes the important point that verb-type splits are not limited to languages with ergative patterns. I return to this in section 4.2 below. Take for example the English conative alternation in (37): in (37a) *the bear* receives accusative and is clearly affected; in (37b) the object is expressed as a PP and there is no requirement that the act of shooting was successful—that is, the bear may be totally unaffected. Of course in English, subjects are unmarked nominative *regardless* of whether they are transitive or intransitive subjects. If English were ergative, we would expect to find ergative on the (transitive) subject in (37a), but absolutive on the (intransitive) subject in (37b).

(37) a. Sam$_{\mathbf{A}}$ shot [$_{\mathbf{P}}$ the bear].
b. Sam$_{\mathbf{S}}$ shot [$_{\mathbf{OBL}}$ at the bear].

I do not review accounts of conative alternations here, which is outside the scope of this work, but see for example Levin 1993 and Borer 2005. Ultimately, I propose, whatever analysis accounts for alternations like those in (37) can also account for the split patterns seen in this section.

3.5 Summary

In this section we looked at three main types of aspectual splits: ergative-to-neutral (§3.2), ergative-to-extended-ergative (§3.3), and ergative-to-ABS-OBL (§3.4). While aspect splits are frequently treated as a unified group (cf. DeLancey 1981; Ura 2006), we find in fact that the types of split patterns can be very different. Nonetheless, commonalities are found, even within unrelated languages. We began with splits in which the ergative pattern is simply neutralized: all core arguments appear in absolutive. Interestingly, most of these splits also involve the addition of an auxiliary, and a change in agreement consistent with a biclausal or subordinate clause analysis. Under such an analysis, these languages follow a consistent pattern of ergative marking; the difference in the split forms is that the notional **A** argument is actually the subject of an *intransitive* auxiliary verb, making the absence of ergative marking entirely expected.

We next turned to Mayan languages, to my knowledge the only aspectual split system which results in an "extended ergative" pattern, in which the **S** marking unexpectedly appears with ergative in the split aspects. Here too, the difference can be reduced to a structural one: across the Mayan family, non-perfective aspectual markers are derived from verbs. Mayan languages also require nominalization in many (possibly all) non-finite embedded clauses. The fact that ergative is also used to mark possessors naturally explains the extended use of "ergative" marking in specifically these split aspects. Note that here there is no split in the *verbal* domain; rather, the split is between verbal and nominal forms, a common cross-linguistic pattern (Koptjevskaja-Tamm 1993).

Finally, aspectual splits which result in an ABS-OBL pattern are found in a number of languages. As discussed in Tsunoda 1981, this pattern is not limited to aspectual splits, but is a more general pattern found with certain *verb classes*—that is, ABS-OBL patterning is conditioned by both grammatical and lexical aspect. Even within some of the languages discussed, it is not only non-perfective aspects which trigger ABS-OBL patterning, but many verbs in which the object can be considered "less affected". Since imperfectivity does not focus on the result or end-point of an event, it is no surprise that these aspects would pattern with other verbs low in effectiveness.

4 Analyses

Above I surveyed aspectual splits in which the split or non-ergative portion of the grammar take three different forms: **(i)** neutral, as in Basque and Tsez; **(ii)** extended ergative, as in Mayan; and **(iii)** ABS-OBL as in Georgian and Warrungu. As I suggested above, I believe these splits can be attributed to a single underlying characteristic, namely the transitive subject, which would normally be marked ergative, behaves as an *intransitive* subject. Nonetheless, these arise via different mechanisms: In the first two types of split, this is due to the fact that imperfective and progressive aspects are built on complex structures, resulting in a configuration in which the subject is the subject of an aspectual auxiliary. In the third type of split, this results from the fact that the **P** argument is demoted. In this section I formalize this proposal. First I review previous accounts of splits, noting that each falls short of capturing the full range of data seen above.

4.1 Previous analyses

DeLancey (1981) offers an analysis which seeks to provide a functional account for both NP- and aspect-based split ergativity. Recall that both follow a universal trend: just as ergative patterns are always retained in the perfective in aspectual splits (10), in a person split the ergative pattern will always be followed with NPs ranked lower on a "salience" hierarchy (Silverstein 1976); high ranked NPs (e.g. first and second person pronouns) do not receive ergative marking. DeLancey argues that both NP and aspectual splits can be captured under the psychological notions of "attention flow" (AF) and "viewpoint". Attention flow determines the linear order of NPs, "presented in the order in which the speaker wishes the hearer to attend

to them", and which may or may not line up with the *actual order* of the temporal phases of the event; in a canonical transitive, from **A** to **P**.[13] Viewpoint is the perspective from which the speaker describes the event.

DeLancey proposes that ergative alignment arises to signal situations in which there is a *conflict* between AF and viewpoint. In a transitive in which the **A** is high on the hierarchy (e.g. a first person pronoun), VIEWPOINT (perspective) and AF (the event's starting point) coincide; when **A** is, e.g. a third person, they do not—the **A** argument is thus marked ergative to show this atypical relation (see also Silverstein 1976). With respect to aspectual splits, DeLancey proposes that there is an association between perfective aspect and the *termination* of an event, and hence "terminal viewpoint". When the starting point of the event is not also the viewpoint, ergative alignment arises. Since attention flow proceeds naturally from the beginning of an event, in the perfective the **A** must be marked (ergative) to indicate that it is, nonetheless, the starting point.

Here it must be stressed that—as in functionalist literature more generally—this is stated in terms of tendencies: some languages may be more consistently ergative, while some may be more consistently nominative, a state of affairs which DeLancey does not account for. That is, while languages with splits exhibit a sensitivity to the conflict described above, others apparently do not. We find further differences in whether languages are sensitive to this "conflict" for person or NP splits, aspect splits, neither, or both. Given that the ergative alignment is more "marked", one might expect to find very few languages which show ergativity beyond a small corner of the grammar, contra to fact. Furthermore, since DeLancey's account relies on the markedness of the **A** argument, he runs into problems with the Mayan splits discussed in section 3.3. Recall that here the marking on transitives remain the same between perfective and non-perfective aspects (an "extended ergative" pattern), while only the marking on *intransitives* changes in the split pattern. Nonetheless, the splits in Mayan language occur exactly in the places found in the other language examined, and thus under a purely functionalist account should receive a unified explanation.

Tsunoda (1981) one of the first studies of aspect-based split ergativity based on a broad sample of languages. In his account, a parallel is drawn between ergative- and non-ergative-patterning languages. In both, factors involving telicity and aspect affect the ability of the object to appear in an oblique (e.g. dative) vs. non-oblique (absolutive or accusative) case. If the object is oblique, the subject will be treated as an intransitive subject. In a language in which transitive subjects are marked ergative (for whatever reason, historical, formal, etc.), the ergative marking will be absent. This basic insight works well for languages like Warrungu, in which the "split" portion of the grammar involves and oblique-marked **P** argument.

In order to account for languages which do not fall into the ABS-OBL type of split, Tsunoda appeals to a markedness hierarchy of morphological case realizations, shown in (38):

(38)

marked case	≫	unmarked case	≫	oblique cases
ERG, ACC		ABS, NOM		DAT, LOC, INST, etc.

The hierarchy ranks ERG ≫ ABS ≫ OBL for ergative systems; ACC ≫ NOM ≫ OBL for accusative systems. The core idea is that in a regular transitive in which the EF-CON is met, the result is either ERG-ABS or NOM-ACC; when EF-CON is *not* met, one or both arguments gets *demoted* on the scale in (38). In an ABS-OBL split system, both subject and object are demoted; in an ABS-ABS system, only the subject is demoted. The basic insight is that when EF-CON fails the result is in some sense not a true transitive—"the predication will not have the relevant car frame for a 'true' two-place predication" (Tsunoda 1981, 401). I adopt this core idea below, but allow for multiple sources of non-transitivity, which allows us to predict what the resulting case pattern will be.

In addition to being unable to predict whether a language will shift from ergative to ABS-OBL (e.g. Georgian) vs. ABS-ABS (e.g. Hindi), Tsunoda does not discuss aspect-based splits in Mayan languages,

[13] DeLancey notes that he is not able to account for languages in which the subject does not precede the object; many Mayan languages, for example have basic VOS order (England 1991).

which do not lend themselves well to his account. The EF-CON account crucially relies on notions of transitivity and the resulting behaviour of arguments in transitive constructions, and thus runs into the same problems accounting for Mayan languages as DeLancey's account above—in the Mayan-type splits, the marking on transitive arguments does not change.

Ura (2006) comes close to formalizing the idea presented in Tsunoda, in that he attributes aspectual splits to differences in aspectual features of v^0, and drawing parallels between *lexical aspect* (e.g. telicity and boundedness) and *grammatical aspect* (perfective versus imperfective): "the aspectual feature appears on v^0 when the telicity due to the lexical aspect and/or the temporal boundedness due to the grammatical aspect is involved in the clause" (Ura 2006, 138). Languages differ, according to Ura, in whether lexical or grammatical aspect introduces the relevant feature on v^0.[14] In a nominative-accusative language, this feature licenses the accusative object, while in an ergative language, this feature licenses the ergative subject. This approach falls short for a couple of reasons. First, it fails to capture the parallels between oblique or dative-marked subjects in the same environments in both aspectual and verb type splits.[15] Second, Ura is left without a clear account of what happens in languages which show ergative patterning consistently in all aspects—similar to the problem faced by DeLancey's account above. He stipulates that there is a parameter which permit some languages to license ergative subjects consistently, regardless of the aspect of the clause (Ura 2006, 113).

4.2 Split subjects are intransitive subjects

In the survey of aspectual splits in 3 above, I provided evidence that aspectual splits do not form a uniform group. Nonetheless, under the analysis outlined above and detailed in this section, all of these splits share the following two properties: **First**, the split is not the result of special rules of case assignment or agreement, active only in certain aspects. The accounts above make it possible to—at least in principle—avoid relativizing the featural content of certain heads to different aspects (cf. Ura 2006). **Second**, the split is not specific to *ergative*-patterning languages. The phenomena above are also found in predominantly nominative-accusative languages—for example, progressive constructions in Dutch (20) and English conative alternations (37). The difference between Samoan and English is that, by definition, transitive and intransitive subjects are marked alike in a nominative-accusative system, making it impossible to see what would otherwise be a split in subject marking. To emphasize this point, the proposal here is that some languages are consistently ergative in the alignment found in verbal clauses, while others are consistently accusative. Certain constructions trigger structural differences which render an otherwise transitive subject intransitive. Only in the ergative system—in which **A** and **S** subjects pattern differently—does this result in the appearance of a split.

For example, the Basque progressive transitive repeated in (39a) (from (12a) above), has the structure in (39b). Here, ergative marking does not appear on the subject because the subject is *not a transitive subject*, but is instead a subject of the intransitive aspectual auxiliary, *ari*.

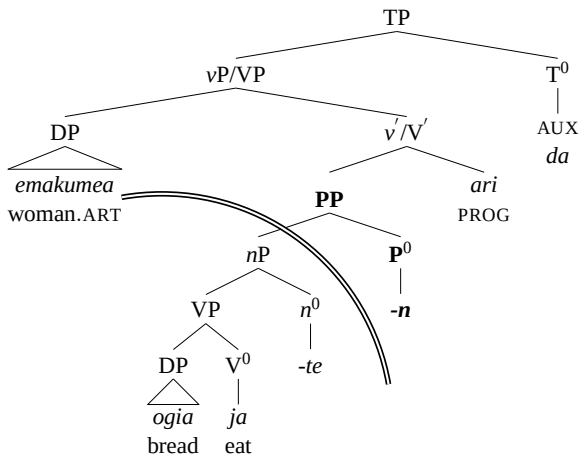
(39) BASQUE NEUTRAL "SPLIT"

a. emakume-**a** [ogi-**a** ja-te-n] ari da.
woman-ART.ABS bread-ART.ABS eat-NML-LOC PROG AUX(be)
'The woman is eating the bread.'

[14] Anand and Nevins 2006 offer a proposal of this type for the aspect split in Hindi.

[15] Ura discusses data primarily from Georgian and Hindi, referring to the case found on objects as "accusative". Ura focuses primarily on *-ko*-marked objects in Hindi, but see fn. 9

b.



Note that the absence of ergative marking in (39a) is derived regardless of the theory of how Case is assigned. Suppose that the brackets in (39a) are boundaries for the calculus of Case. In the system of Marantz (1991), this amounts to saying that the **A** DP cannot see the **P** DP for the purposes of case-competition, and thus will not receive ergative marking—this is the same logic that applies to more familiar examples, such as two DPs separated by a finite clause boundary. In a *probe-goal* case assignment system (Chomsky 2000, 2001), we could simply consider the progressive *ari* to be an embedding predicate. Its transitivity will depend only on the category of its complement (PP, in 39), not on the valence of the lexical predicate. Under either of these approaches, the result is that the case-marking of the subject will not alternate based on the valence of the lexical predicate. As discussed above, the Chol ergative-to-extended-ergative pattern can be accounted for using the same basic idea: progressive and imperfective aspects are expressed as verbs, while perfective is not—see Coon 2010a for details.[16]

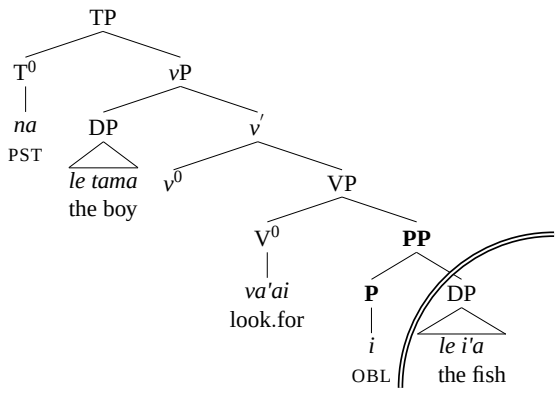
Finally, turning to the ABS-OBL splits examined above, we find a similar state of affairs. Here, rather than an intransitive aspectual auxiliary selecting for a PP, the main lexical verb selects for a PP (rather than a DP) complement. The Samoan "split" example from (31b) above is repeated in (40a). Just as in (39), the **A** argument is not a *transitive* subject because there is no true DP object. The fact that the object is a PP rather than a DP (or appears in an "oblique" rather than "direct" case) is in turn derived from general notions of transitivity, for example, Tsunoda's EF-CON in (35), and is furthermore present in both ergative and non-ergative patterns (compare the English glosses of (30) above: '**spot** the fish' vs. '**look at** the fish'). Again, here the absence of ergative can be derived regardless of the theory of case assumed.

[16] Coon and Preminger (to appear) extend this analysis to account for person splits. Crucially, in person splits, just as in the aspectual splits in section 3 above, *ergative* and *non-ergative* patterns are each aligned to a single side of some hierarchy (i.e. of aspects or person features), in a cross-linguistically stable way. The proposal laid out in Coon and Preminger to appear is that in both person and aspect splits, added structure on one end of the hierarchy disrupts the case calculus, resulting in a non-ergative pattern. The added structure in this domain is the result of a functional projection required to license first and second person ("highly prominence") arguments, analogous to that proposed to account for PCC effects (see e.g. Béjar and Rezac 2003).

(40) SAMOAN ABS-OBL "SPLIT"

a. IMPERFECTIVE
na va'ai [**A** le tama] [**P** i le i'a]
PST look.at the boy OBL the fish
'The boy looked at the fish.'

b.



4.3 Structure and "counter-universal" splits

Some of the clearest evidence in favour of a structural vs. (purely) functionalist approach may come from languages of the Amazon, as described in Gildea and de Castro Alves 2010, in particular their description of "counter-universal" splits. These authors examine what they call *nominative-absolutive* constructions in five different languages. For example, in the Canela (Jê) NOM-ABS pattern, both **A** and **S** arguments (=nominatives) are marked by a pronominal element, *wa* in (41). However, **S** and **A** (=absolutives, bold-faced) both trigger agreement marking on the verb.

(41) CANELA (JÊ)

a. wa ha **i**-wrɨk narɛ
1 IRR 1-descend.NF NEG
'I will not descend.'

b. wa ha **iʔ**-pir na
1 IRR 3-grab.NF NEG
'I will not grab it (e.g., the knife).' (Castro Alves 2004)

If the absolutive agreement portion of this construction is taken to represent an "ergative" pattern—which the authors acknowledge is not an obvious assumption—the nominative-absolutive constructions are not distributed as one would expect; it is found in future, imperfective, progressive, irrealis, and negative polarity: "It is remarkable that the nominative-absolutive construction is on the wrong side of every single one of the semantic values expected to condition non-ergative alignment" (Gildea and de Castro Alves 2010, 191). Regardless of whether these should be considered "ergative", the fact that in Canela aspects that trigger the pattern include aspects from opposite ends of the continuum—completive and continuative; terminative and progressive—suggests that a functional story for where these splits are found is going to encounter problems.

A structural analysis allows us to abstract away from questions about whether this pattern should be considered "ergative" (on the basis of the agreement) or "accusative" (on the basis of the pronominal forms). Crucially, the NOM-ABS patterns are always conditioned by auxiliaries and the inflecting part of the lexical

verb stem behaves as a subordinate clause: "at least in the five languages surveyed here, the absolutive pattern is not created in main clauses as a part of a semantically driven diachronic process—it is merely the default pattern inherited from subordinate clauses" (Gildea and de Castro Alves 2010, 195). In fact, in the discussion of Canela, the authors suggest that these forms are in fact subordinate clauses; the auxiliary takes the nominative-marked pronoun as its subject, and the embedded clause is nominalized and appears as the complement.

This analysis is developed more fully for the related Jê language, Mẽbengokre, in Salanova 2007 and Salanova 2009. Salanova verbal clauses, like those in (42) show a nominative-accusative pattern. The ergative pattern in Mẽbengokre forms like those in (43) is always the result of *nominalization*; on the association between nominalization and ergativity see for example Koptjevskaja-Tamm 1993 and Alexiadou 2001. What appear to be matrix clauses in (43) are again subordinate nominalizations, here embedded by a null auxiliary. As support Salanova notes that forms like the one in (43) are ambiguous between a clausal (perfect) reading, 'I've broken it', and a nominal reading: '(the event of) my breaking it'.

(42) ACCUSATIVE PATTERN

a. **ba** ku-kwũr
1NOM 3-break.SG.V
'I broke it.'

b. **ba** tẽ
1NOM go.SG.V
'I went.'

(43) ERGATIVE PATTERN

a. **ijɛ** kwũŋ
1ERG 3.break.SG.N
'I've broken it.'

b. i-tẽm
1ABS-go.SG.N
'I've gone.' (Salanova 2007, 16)

An example of a form equivalent to that in (42a) is shown in in a clearly embedded context in (44a); compare this with the progressive "nominative-absolutive" construction in (44b). The embedded form is identical, except the ergative subject is no longer expressed. Presumably, the relevant difference here is that the subjects are disjoint in (44a), but coreferential in progressive—and other nominative-absolutive—constructions, as in (44). This analysis can be extended to the formally similar nominative-absolutive patterns discussed in Gildea and de Castro Alves 2010.

(44) a. ba [**kutɛ** tɛp krẽn] pumũ
1NOM 3ERG fish eat.N see.V
'I saw him eating fish.' (Salanova 2007, 56)

b. ba [tɛp krẽn] ɔ= ŋũũ
1NOM fish eat.N INSTR= sit.SG.V
'I'm eating fish (sitting down).' (Salanova 2007, 60)

This analysis thus accounts for the "nominative-absolutive" pattern without making reference to special rules: as in many languages (e.g. German), an ergative pattern is present in nominalizations. In the verbal domain, we find a consistently nominative-accusative alignment. The nominative-absolutive constructions are complex clauses, involving a matrix auxiliary (which is verbal, and thus takes nominative subjects), and an embedded nominalization. When matrix and embedded subjects are disjoint, we find the embedded subject appearing as an ergative pronoun; the embedded pronoun does not surface when they are coreferential. The result is nominative-marked (matrix, verbal) subjects and absolutive-marked (embedded, nominal) arguments.

As Gildea and de Castro Alves (2010) express—a functionalist account has a difficult time accounting for the range of constructions which show the nominative-absolutive pattern. If, on the other hand, splits are simply a reflection of differences in structure, these so-called "counter-universal" splits are exactly what we expect. While it may be the case that the *progressive* aspect is frequently expressed as a complex (e.g.

auxiliary) construction, there is nothing which would prohibit this from occurring in a "completive" aspect, so long as the completive involved a matrix auxiliary with a meaning like 'finish'—which is exactly what we find in the "counter-universal" splits in Canela.

5 Summary and conclusions

For people who become nervous when confronted with data from less familiar languages, the words "split ergativity" induce an additional level of distress. It is easy to see why this might be the case: under the common view of split ergativity, a language appears to represent two distinct systems, complicating any theories of how case or agreement is determined. Further questions arise: why do we have "split ergativity" but not "split accusativity"? Is there something "unstable" or dispreferred about an ergative system? How is this learned? Why do splits split in a common direction?

The overarching theme of the work above has been to show that once we take as a given that when we restrict ourselves to the verbal domain some languages are basically ergative, while others are basically accusative, the splits fall out naturally from independently observable differences in clausal structure and transitivity. It is not the case that ergative systems have special properties which cause them to split. Rather, the factors that trigger splits are present across languages, but only show their effects in an ergative system. The two main factors contributing to aspectual splits seem to be **(i)** the fact that non-perfective aspects involve more complex structure than the perfective (Comrie 1976; Bybee et al. 1994; Demirdache and Uribe-Etxebarria 2000; on motivations for this, see Demirdache and Uribe-Etxebarria 2007; Coon 2010a); **(ii)***imperfective* aspect is associated with atelicity and lower transitivity which some languages encode with a non-transitive verb frame. The two options are illustrated with pseudo-English examples in (45)–(46).

(45) MORE STRUCTURE

a. $\text{I}_{\mathbf{A}}$ read the book

b. $\text{I}_{\mathbf{S}}$ am [at reading **the book**$_{abs}$]

(46) REDUCED TRANSITIVITY

a. $\text{I}_{\mathbf{A}}$ ate the apple

b. $\text{I}_{\mathbf{S}}$ ate [at **the apple**$_{obl}$]

Of course, further work is needed to confirm that the splits above, as well as those in languages not discussed here, can be productively analyzed in this way. For most languages above I have only sketched the idea of an analysis based on surface forms and only a few examples available in different sources. Though some work has dealt specifically with this topic, for example Laka's work on Basque, for other languages more thorough work would be required. While nothing stated here necessarily rules out the possibility that some splits are simply conditioned by different Case-assigning features present in certain aspects (as in Ura 2006), I suggest that this should be a last resort move, requiring clear motivation. In the meantime, developing this general approach, I believe we can keep the basic insight from Tsunoda 1981, 424: "A split is not a conflict of two (or more) different case-marking systems, but is conditioned by one single, integrated scheme."

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