Parameterising ergativity: an inherent case approach*

Michelle Sheehan, University of Cambridge

Abstract

This chapter posits a parameter hierarchy to capture micro-parametric variation in ergative (or rather non-accusative) alignment, building on the proposal that ergative is an inherent case, assigned by (a subset of) little vs (Levin 1983; Woolford 1997, 2006, amongst others).

* Many thanks to the European Research Council for funding this research under the auspices of the project Rethinking Comparative Syntax (ReCoS). Thanks also to the other members of that project: András Bárány, Tim Bazalgette, Theresa Biberauer, Alison Biggs, Georg Höhn, Anders Holmberg, Ian Roberts and Jenneke van der Wal for providing critical feedback at various stages. Different parts of this work were presented at *West Coast Conference on Formal Linguistics* (Arizona), the *Syntax of the World's Languages* (Dubrovnik), *GLOW Biolinguistics Workshop* (Lund), *Formal Ways of Analyzing Variation* (Reykjavik), *Towards a Theory of Syntactic Variation* (Bilbao), *International Congress of Linguists* (Geneva), *Societas Linguistica Europeae* (Split), *Workshop on Building Blocks* (Leipzig) and at *What Happened to Principles and Parameters?* (Arezzo). Thanks to the audiences at those venues as well as at the University of Cambridge for providing thought-provoking questions and critiques, especially Joe Perry, Katya Pertsova, Gereon Müller, Edith Aldridge, Amy Rose Deal, Adam Ledgeway and Bob Freidin. Finally special thanks to an anonymous reviewer and to Lisa Travis for providing detailed comments on an earlier draft of this chapter which have (hopefully) led to a great deal of improvements. As ever, I take full responsibility for the way I have interpreted and used comments and suggestions.

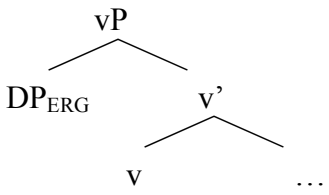
Initial parameters determine the distribution of this inherent case across instances of little v in a given language, sensitive to various thematic features, and subsequent dependent parameters determine further properties of ergative-assigning vs such as the presence of a movement trigger and the suppression of structural Case features. This gives rise to a number of distinct ergative types depending on (i) the distribution of ergative case, (ii) the presence/absence of syntactic ergativity and (iii) the source of absolutive case in transitive contexts. The resultant parameter hierarchy serves to restrict the space of variation, modelling a number of proposed implicational universals in this domain, and provides a potential solution to the subset problem in acquisition by encoding a notion of relative markedness. The dependencies (rankings) between the parameters in question, it is argued, stem from a version of the Case Filter, and the need to create convergent derivations. (Descriptively) all transitive thematic heads have the ability to assign a structural Case as a default (generalised Burzio's generalisation) but this possibility can be switched off, for principled reasons, where the head in question both (a) assigns a thematic (inherent) case and (b) bears an EPP movement trigger.

Keywords: ergativity, micro-parametric, parameter, micro-parameter, parameter hierarchy, parametric, variation, case, agreement. EPP, alignment, subset problem

1 Introduction: theta-roles and inherent case[1]

Many recent (and not so recent) approaches argue that ergative is an inherent case associated with the specifier of little v (see Aldridge 2004; Anand and Nevins 2006; Legate 2006, 2012; Levin 1983; Mahajan 1989; Massam 1998, 2006; Woolford 1997, 2006, amongst others):

(1)



GB versions of this proposal took inherent case to be assigned at D-structure, as opposed to structural case, which was assigned at S-structure. In Minimalist terms, inherent case can be thought of as a K-projection dominating DP, which is s-selected by a class of thematic heads, or simply as case-valuation coupled to theta-role assignment (Woolford 2006). The inherent case approach to ergativity is attractive because (i) inherent (theta-related) cases appear to be independently needed in order to model the case/agreement properties of accusative languages, making 'ergativity' (i.e. non-accusativity) less exotic, and (ii) if ergative is an inherent case, this immediately explains Marantz's (2000 [1991]) much discussed generalisation that non-thematic subjects do not bear ergative, as many others have noted (Woolford 2006, Legate 2012).

[1] In the following discussion, I use the term 'accusative' to denote languages which lack anything which could be classified as ergative case and 'non-accusative' to denote those languages which use ergative case in some way. This is intended to avoid the problem of referring to a rather heterogeneous class of languages as 'ergative' (complete with scare quotes).

Essentially, the inherent approach to ergative case makes four distinct kinds of predictions not made by structural or dependent case approaches:

A. Ergative will only occur on (a subset of) arguments externally merged in spec vP.
B. The presence of ergative may be independent of transitivity, so we might find ergative subjects without absolutive objects.
C. There will be no derived/non-thematic ergative subjects (no ergative expletives, raising to ergative or ergative subjects of passives, ditransitives or otherwise).
D. Ergative case will *not* be lost in contexts where structural case is not available (no change of case under ECM, no loss of ergative under raising).

While C and D can only be evaluated via in-depth language-specific consideration of raising passives and ECM in non-accusative languages (to the extent that they exist – see Rezac et al. 2014 on Basque), A and B should be much easier to evaluate on a broad cross-linguistic basis as they concern the surface distribution of ergative case.[2] Nonetheless, to my knowledge, no systematic cross-linguistic survey of the distribution of ergative case has been given in favour of the inherent case proposal. The main aim of this chapter, then, is to fill this gap, in the context of a broader parametric account of basic alignment.

The obvious challenge in relation to A is that the inherent case proposal only has predictive power inasmuch as there is an independent theory of theta-roles, distinguishing those arguments introduced by little v from those introduced by other (lower) thematic heads such as Appl and V. While there has been rich cross-linguistic research on argument

[2] Of course, the very real possibility exists that ergative has a different inherent/structural/dependent status in different languages. The null hypothesis, though, should be that it has the same status cross-linguistically.

structure, it is still much debated exactly how many thematic distinctions need to be made syntactically and even how best these thematic distinctions should be described: by distinct theta-positions (Baker 1988, 1997) or by the combination of proto-roles/features (Dowty 1990, Reinhart 2003), possibly accumulated via movement (Ramchand 2008). Nonetheless, certain proposals regarding theta-roles have become widely accepted. There is a general (empirically grounded) consensus, for example, that certain (proto) theta-roles are subject-like (agent, causer, initiator) whilst others are more object-like (theme, patient, undergoer, result), or lie somewhere in between (experiencer, recipient, process) (Platzack 2009, 2011, Baker 1997, 2009, Ramchand 2008 but see also Bowers 2013).[3] Here, I will adopt the conservative position, stemming from Baker (1988), that there are distinct theta-roles, which are configurationally determined.[4]

As Folli & Harley (2007) point out, there is good reason to take agents and (animate/inanimate) causers to be introduced by distinct little vs: v_{do} and v_{cause} respectively. The evidence for distinguishing these two theta-roles comes from the fact that some predicates require agent subjects, and cannot take causers (Oehrle 1976, Hale & Keyser 1993, Folli & Harley 2007 amongst others). For example, as Oehrle (1976) showed, prepositional datives require agent subjects but the double object construction takes a causer subject, at least with verbs of transfer of possession (see also Pesetsky 1995):

[3] Assuming that the goal theta-role in prepositional datives is distinct from the recipient theta-role in double object constructions, with recipients being externally merged higher than themes, unlike goals (see Pesetsky 1995, Harley 2002).

[4] For our purposes here, it is not important whether theta-roles can be acquired only by external merge or by either external *or* internal merge (Hornstein 1999), but see Sheehan (2014a) for arguments in favour of the second possibility.

(2) a. My relationship with him gave/brought me a daughter.

b. *My relationship with him gave/brought a daughter to me.

The fact that the same lexical verb occurs in both examples shows, moreover, that this is not a lexical but a syntactic effect. A similar contrast holds of certain transitive verbs in English: those derived from unaccusative change of state verbs allow causer subjects, unlike unergative activity verbs like *read*, which take only agents (Hale & Keyser 1993):

(3) a. *The homework assignment read several books.
(Intended. caused the reading of several books)

b. The snowfall closed several roads.

It has also been observed that in many languages anticausatives permit causers but not agents to be overtly expressed as PPs (headed by *from* in English) (Alexiadou & Schäfer 2006: 41):

(4) a. The window broke from the pressure / from the explosion / from Will's banging

b. *The window broke from John

The opposite pattern is observed with the by-phrase in passives in some languages, as Alexiadou & Schäfer also note. Finally, certain 'causative' constructions are actually 'agentive', requiring an agent and not a causer subject (see Folli & Harley 2007 on Romance 'causatives'):

(5) a. The fact that it was hot in the room made/?let/*had Mary take off her jacket.

b. The teacher made/let/had Mary take off her jacket.

The fact that both agents and causers can, nonetheless, be introduced as additional arguments in 'causative' constructions and (to varying degrees in different languages) appear as a by-phrase in the passive, provides strong evidence that they are both 'external arguments' introduced by little v. A first prediction of the inherent approach to ergative case is that agents and/or causers can appear as ergatives.

In many accusative languages there is also evidence that the subjects of some intransitive predicates are introduced by little v. As Burzio (1986) showed, intransitive verbs divide into those which have a thematic object or theme, externally merged as the complement of V (so-called unaccusatives) and those whose single argument is a thematic agent, now usually taken to be externally merged in spec vP (unergatives), following Koopman and Sportiche (1991).[5] A further prediction of the inherent case approach is therefore that, amongst intransitive subjects, only the subjects of unergatives should be able to surface with ergative case.[6]

[5] There is some disagreement with respect to the correct label or semantic characterization of the argument of unergative subjects, partly due to the fact that there is non-trivial cross-linguistic (lexical) variation regarding the unaccusative/unergative divide (see Rosen 1984, Sorace 2000). While these issues are of course interesting and relevant, we abstract away from them here for reasons of space (see Pesetsky 1995 for relevant discussion).

[6] It has sometimes been claimed, in fact, that the inherent case approach predicts that transitive and intransitive little v should pattern alike in this respect. As we shall see below, though, this does not necessarily follow if the distribution of inherent ergative is subject to more intricate parameterisation (see also Legate 2012).

In line with Alexiadou & Schäfer (2006), I take instrument subjects to reduce to either agents or causers. Differences in binding possibilities strongly suggest that subject instruments are externally merged in a higher position than PP instruments:

(6) a. *Mary hit him_i on the foot with $John_i$'s baseball bat

b. $John_i$'s baseball bat hit him_i on the foot (when it fell off the shelf).

It does not seem, though, that there is a dedicated theta-position for instruments high in the clause, but rather that subject instruments behave like either agents or causers. The main evidence for this comes from the fact that not all instruments can surface as subjects (examples adapted from Alexiadou & Schäfer 2006):

(7) a. The doctor cured the patient with a scalpel/chamomile tea.

b. ??The scalpel cured the patient.

c. The chamomile tea cured the patient.

(8) a. The crane picked up the crate.

b. *The fork picked up the potato.

Alexiadou & Schäfer (2006: 42) claim that instruments make good subjects when they can be conceived of as "acting on their own without being (permanently) controlled by a human agent", as is the case with chamomile tea and cranes (in German, Greek and Dutch as well as English). As such, there is no independent theta-role instrument introduced by little v, subject instruments are either agents or causers, depending on their semantics. In non-accusative languages, then, we expect to find ergative instruments to the extent that they are semantically permitted, but there might be quite subtle restrictions on their use.

Deciding which other kinds of arguments are introduced by little v is more difficult. The subjects of verbs of perception, though often labelled experiencers, actually pattern with agents/causers and unlike other experiencers in certain respects: they can form so-called agentive nominalisations (hearer, feeler, sooth-seer) for example, and can appear in by-phrases in the passive. Note also that verbs of perception also give rise to causative-like constructions in English and other languages (see Guasti 1993), again making them syntactically similar to causers/agents as 'external arguments'. There are other experiencers too, which pattern like this (lover, cheese-hater, ghost-fearer). Broadly speaking, these are the subjects of stative psych-predicates, which, in many accusative languages, surface as subject-experiencer predicates, taking a nominative subject (Grimshaw 1990). Eventive psych-predicates, on the other hand, often surface as object-experiencer predicates, taking a dative or accusative experiencer (Belletti & Rizzi 1988, Pesetsky 1995, Landau 2009). The fear/frighten contrast illustrates this difference in English:

(9) a. I fear ghosts

b. *I am fearing (some) ghosts (right now)

(10) a. Ghosts frighten me.

b. Some ghosts are frightening me (right now).

Building on Platzack (2011) and Ramchand (2008), I take the subjects of (stative) psych-predicates/verbs of perception to be holders rather than experiencers, introduced as external arguments by v_{hold}. The experiencers in eventive object-experiencer constructions, I take to bear the true experiencer theta-role, introduced by a lower thematic head (Appl) (in the spirit of Belletti & Rizzi 1988, Pesetsky 1995, Landau 2010). This means that we might expect to find a split in some non-accusative languages between stative psych-predicates which take an

ergative holder and eventive psych-predicates which take a dative or absolutive experiencer. As we shall see below, this is exactly what we find in many non-accusative systems. Additionally, the second argument in object-experiencer predicates is persuasively argued by Pesetsky (1995) to be either (i) an internal theme/target (with the unaccusative *piacere* class) or (ii) an external causer (with the causative *preoccupare* class). A further prediction, then, is that the non-experiencer argument of an eventive psych-predicate will also be able to surface with ergative case, again something which is born out in many cases.

Following Pylkkänen (2008) amongst others, I take recipients and benefactives to be introduced by low/high Appl heads respectively. Finally, themes/patients and goals, I assume to be externally merged low down inside VP. This gives the following range of thematic positions in the clause (not all of which can co-occur – see, again, Pesetsky 1995):

(11) $[_{vP}$ agent/causer/holder $v_{agent}/v_{causer}/v_{holder}$ $[_{ApplP}$ benefactive $Appl_{benefactive}$ $[_{VP}$ V $[_{ApplP}$ recipient $Appl_{recipient}$ theme $([_{PP}$ P goal$])]]]]$[7]

The prediction for ergative languages is therefore that only holders, agents and causers (including instruments and the non-experiencer arguments of eventive psych-predicates) should be able to bear ergative case.

In the remainder of this chapter I show that this prediction holds for a range of non-accusative languages, but that languages vary as to exactly which subset of little vs assigns

[7] Note that the theme appears as the complement of V where no recipient is present. Where a recipient is present, I assume that the theme is the complement of Appl, for the reasons discussed in Pylkkänen (2008). Likewise, where a PP goal is present, the theme is the specifier of P. As such, theta-roles are configurationally determined in a relative rather than an absolute sense. Thanks to Lisa Travis for asking me to clarify this point.

ergative case. In section 2 I consider the differing distribution of ergative case in Basque, Hindi, Tsez, Lezgian, Trumai, Cavineña and Chamorro. I argue that the best way to account for this variation is via a series of parameters arranged in transitive dependencies in the general way proposed by Roberts (2012). The section further considers two additional dependent parameters active only in languages with transitive-sensitive ergative case, determining the presence of syntactic ergativity (understood in the narrow sense) and the source of absolutive case (T or v). Section 3 briefly discusses the resultant parameter hierarchy and its theoretical status as well as raising some questions for future research. Finally, section 4 concludes.

2 The (parameterised) distribution of ergative case

This section considers variation in the distribution of ergative case across languages. It does not consider, for reasons of space, the kind of split-ergativity that Sheehan (to appear) calls 'variable alignment', whereby the same predicate in the same language displays different case/agreement properties depending on syntactic context (root/embedded and/or tense/aspect properties of the clause, person/animacy of the subject). This kind of variability, I assume, can be attributed to independent facts about the languages in question which serve to obscure basic alignment in certain contexts, rather than to variable parameter settings (see Laka 2006a, Coon 2013, Coon & Preminger 2012). As Hindi, Basque and Tsez show aspect-sensitive variability, Chamorro mood-based variability, and Yidiɲ personal sensitive

variability, I focus on the distribution of ergative case in ergative contexts here, to control for this effect.[8]

1.1 Ergative unergatives: Basque and Hindi

In Western Basque (henceforth Basque), it has been claimed that the subjects of unergatives surface with ergative case, while the surface subjects of unaccusatives surface with absolutive (Laka 2006b) [9, 10]

[8] An anonymous reviewer asks about the status of tripartite systems in this approach. Sheehan (2014b) shows one option regarding how such systems might be accommodated in the hierarchy, based on the idea that absolutive on transitive objections in some languages is underlying equivalent to accusative Case (Legate 2006, 2012). This would mean that whether a low ABS non-accusative language is ergative or tripartite is purely a matter for the morphology. I leave a discussion of this complication to one side here for reasons of space (see also Müller and Thomas 2014 for arguments that genuine tripartite systems do not exist).

[9] The following languages have been argued to behave similarly in this respect: Georgian, Kartvelian (Harris 1982); Chol, Mayan (Coon 2013); Lakhota, Siouan; Caddo, Caddoan (Mithun 1991), Hindi (Bhatt 2003). We consider Hindi shortly.

[10] Guaraní also displays a split regarding the behaviour of intransitive verbs. While Mithun (1991) characterizes this as an active-stative split, Velázquez-Castillo (2002) suggests that matters are more complex than this. Like the other split-S systems discussed here, Guaraní is not syntactically ergative (Velázquez-Castillo 2002), but it is not totally clear at present how to fit this language into the parameter hierarchy presented here. I therefore leave this as a matter for future research.

(12) a. Txalupa hondora-tu da. [Basque]
boat.DEF.ABS sink.PERF is
'The boat sank' (Laka 2006b: 376)

b. Klara-k ondo eskia-tzen du.
Klara-ERG well ski.IMPF has
'Klara skis well.' (Laka 2006b: 379)

The fact that the Basque verb *hondura* 'sink' occurs with an absolutive subject in (12a) follows if the surface subject is base-generated as the complement of V (i.e. it is unaccusative). The surface subject of the (unergative) verb *eskia* 'ski', on the other hand, surfaces as ergative because it base generated in spec vP. This structural difference is also illustrated by the different auxiliaries selected by the two kinds of predicates in Basque ('be' vs. 'have'). While many unergative Basque verbs are *N-do* compounds and hence might be considered transitive under some definitions (Bobaljik 1993, Laka 1993), Laka (2006b) and Preminger (2012b) show that this is not true of all unergative verbs, as is obvious from (12b). It therefore seems to be the case that in (Western) Basque *intransitive* little v also assigns ergative case to its specifier.

In fact, closer examination of Basque suggests that *all* arguments introduced by little v in transitive and intransitive contexts seem to bear ergative case. Consider first agents and animate/inanimate causers:[11]

(13) Maddi-k sagarr-a jan du. [Basque]
Maddi-ERG apple-DET eat 3SABS.AUX.3SERG

[11] Thanks to Maia Duguine for help with the Basque data.

‘Maddi ate the apple.’ (Oyharçabal 1992: 313)

(14) (Nik) zuri lan egin arazi dizut.
1.ERG you.DAT work do CAUS AUX.2DAT.1ERG
‘I made you work.’ (Oyharçabal 1992: 332 fn)

(15) Haize-a-k ate-a ireki du.
wind-DET-ERG door-DET open 3SABS.AUX.3SERG
‘The wind opened the door.’

Even instruments can surface with ergative case in Basque, as noted by Woolford (2006). This follows if, as discussed above, subject instruments are actually causers/agents:

(16) Giltz-a-k ate-a ireki zuen.
key-DET-ERG door- DET open 3SABS.AUX. PST.3SERG
'The key opened the door.'
(Woolford 2006: 124, citing unpublished work by Juan Uriagereka)

Turning to experiencers, we find that the latter surface either with dative, absolutive or ergative case, depending on predicate type (Etxepare 2003). These three options seem to be equivalent to the three kinds of psych-predicates identified by Pesetsky (1995) and Landau (2010), building on Belletti and Rizzi (1988). Thus unaccusative object experiencer verbs (the *piacere* class) surface with a dative experiencer and an absolutive theme/target (see Etxepare 2003, Rezac 2008):

(17) Ni-ri zure oinetako-a-k gustatzen zaizkit.
I-DAT your shoes-DET-PL like 3PLABS.AUX.1SDAT

'I like your shoes.' (Woolford 2006: 115, citing Austin and Lopez 1995:12)

Other verbs in this class include *interesatu* 'to interest' and *dolutu* 'to repent' (Etxepare 2003: 39).

Causative object experiencer psych-predicates follow an ERG-ABS pattern, whether or not the causer is animate (and hence potentially agentive) or inanimate:

(18) Mikel-ek ni haserretu nau.
Michael-ERG I.ABS angry-PERF 1SABS.AUX.3SERG
'Michael angered me.' (Woolford 2006: 124, citing Manandise 1988:118)

(19) Berri-ek (ni) haserretu naute.
new-DET.PL.ERG I anger 1SABS.AUX.3PLERG
'The news angered me.'

Verbs in this class, which often alternate with an intransitive form, include *kezkatu* 'to worry, to become worried', *gogoratu* 'to remember', *zoratu* 'to madden' (Etxepare 2003: 41). The ergative here is as expected if the non-experiencer argument is a causer rather than a theme, as discussed above. Moreover, the absolutive case on the experiencer is plausibly equivalent to the accusative case received by experiencers in the equivalent accusative structures (the *preoccupare* class) (but see Landau 2009 for complications).

There is a class of experiencers, though, including the subjects of verbs of perception, which surface with ergative case (including *miretsi* 'to admire', *gutxietsi* 'to despise', *desiratu* 'to desire' – Etxepare 2003: 41)

(20) Ni-k asko ikusi ditut

I-ERG many.ABS seen 3PLABS.AUX.1SGERG

'I saw many.' (Rezac et al 2014: 6)

(21) Jon-ek liburu hauek nahi/ezagutzen ditu.

Jon-ERG book these want/know 3PLABS.AUX.3SGERG

'John wants/knows these books.'

These appear to be equivalent to subject-experiencer (*temere* class) verbs in accusative languages. The case patterns observed in Basque are therefore exactly as expected if all little vs assign ERG to their specifiers and thematic structure in Basque follows expected universal patterns.[12]

Hindi shares many of these properties with Basque even to the extent that unergative but not unaccusative predicates can surface with ergative subjects. In Hindi, though, few intransitive verbs actually *require* ergative subjects, the verb 'to bathe' being a rare exception in this respect:

(22) Raam*(-ne) nahaayaa

Ram-ERG bathe.PERF

'Ram bathed.' (Mohanan 1994: 71)

[12] It may turn out, of course, that the inherent case approach to Basque fails for reasons C-D discussed above (as Rezac et al 2014 argue). If this is the case, the implication is merely that the approach to non-accusative alignment here is incomplete as there are other kinds of ergative languages in which ergative is *not* an inherent case. I leave this as a matter for ongoing research.

The verbs which behave in this way appear to have a reflexive meaning. In most cases, intransitive verbs take ergative subjects only optionally. More precisely, a subset of the class of verbs which satisfy independent diagnostics for unergativity can surface with either an absolutive or ergative subject (Bhatt 2003, Surtani, Jha & Paul 2011, Surtani & Paul 2012).[13] This includes *jhool* 'swing', *dauR* 'run', *kood* 'jump' *naac* 'dance', *hans* 'laugh' *tair* 'swim', *gaa* 'sing', *kʰel* 'play' and *chillaa* 'shout/scream' (Mahajan 1990, Mohanan 1994, Surtani, Jha & Paul 2011). As Mohanan (1994) shows, however, the choice between an absolutive and ergative subject with these verbs is not purely optional but correlates with a semantic difference: ergative subjects imply volition in intransitive contexts:

(23) raam-ko acaanak šer dikʰaa. vah/us-ne cillaayaa [Hindi]
Ram-DAT suddenly lion.ABS appear.PERF he/he.OBL-ERG scream.PERF
'Ram suddenly saw a lion. He screamed.' (Mohanan 1994: 71)

(24) Us-ne/*vah jaan buujʰkar cillaayaa
He.OBL-ERG/he.ABS deliberately shout.PERF
'He shouted deliberately.' (Mohanan 1994: 72)

Verbs which can be independently diagnosed as unaccusative, however, never take ergative subjects, even where volition is implied (*gir* 'fall' *soo* 'sleep', *jaa* 'go', *phail* 'spread'):

(25) Raam(*-ne) giraa

[13] These diagnostics include (i) the possibility of a cognate object, (ii) participation in impersonal passives, (iii) non-participation in participial relatives, (iv) compound verb selection of *le* 'take', *de* 'give', *daal* 'did' and not *jaa* 'go', and (v) inability to appear without genitive marking in non-finite clauses.

Ram-ERG fall.PERF

'Raam fell hard.'

The implication seems to be that unergative verbs in Hindi can, but need not, take ergative subjects; where they do, the subject is interpreted as volitional. These facts are consistent with ergative being an inherent case but they are not immediately explained by such an account. What is required is some further parameter differentiating intransitive little v in Basque from intransitive little v in Hindi.[14]

Because of these facts, Mohanan (1994) proposes to associate ergative case directly with the semantic feature [volition] across the board. The problem with this idea, though, is that ergative case assignment with transitive predicates is insensitive to [volition]. In fact, the distribution of ergative case across transitive predicates in Hindi follows very closely the Basque distribution. Non-volitional animate and inanimate causers receive ergative just as volitional agents do. This is true of instruments as well as the causers in object-experiencer constructions:[15]

(26) Havaa-ne patte bik^{h}er diye t^{h}e

Wind-ERG leaves scatter give.PERF be.PAST

'The wind scattered the leaves.' (Mohanan 1994:75)

(27) [Mina-ke cillaa-ne]-ne sab-ko Daraa diyaa

[14] Another complication in Hindi is that a small number of transitive verbs (verbs taking absolutive/ko-marked objects) fail to assign ergative case (*bolnaa* 'speak' and *laanaa* 'bring') or do so only optionally (*samaj^{h}naa* 'understand' and *jannaa* 'give birth to') (see Mohanan 1994). These appear to be idiosyncratic lexical gaps.

[15] Thanks to Rajesh Bhatt for help with the Hindi data.

Mina-GEN scream-INF/GER-ERG all-DOM scare give.PFV

Mina's screaming scared everyone.

(28) nayii khabaroN-ne Sita-ko dukhii kar diyaa

new news-ERG Sita-DOM sad do give.PFV

The new news saddened Sita.

(29) caabhii-ne taalaa khol-aa

key-ERG lock open.TR-PFV

The key opened the door.

Finally, holders of states also receive ergative with both verbs of perception and subject-experiencer verbs:

(30) tuṣaar-ne caand dek^{h}aa

Tushar-ERG moon see/look.at.PERF

'Tushar saw the moon.' (Mohanan 1994: 141)

(31) tuṣaar-ne vah kahaanii yaad kii

Tushar-ERG that story memory do.PERF

'Tushar remembered that story.' (Mohanan 1994: 141)

Eventive object-experiencers versions of these verbs surface with dative subjects:

(32) tuṣaar-ko caand dik^{h}aa

Tushar-DAT moon appear.PERF

'Tushar saw the moon.' (Mohanan 1994: 141)

(lit. The moon appeared to Tushar.)

(33) tuṣaar-ko vah kahaanii yaad aayii

Tushar-DAT that story memory come.PERF

'Tushar remembered that story.' (Mohanan 1994: 141)

(lit. The memory of that story came to Tushar.)

The correct characterisation of the distribution of ergative case appears to be that it surfaces wherever v is transitive and additionally in intransitive volitional contexts (a non-natural class).

The pattern observed in Basque falls out straightforwardly from a parametric approach along the lines proposed by Roberts (2012). Assuming that the basic alignment parameter concerns whether transitive v assigns a theta-related case, an alignment of the Basque kind arises where ergative is generalised to all little vs via 'input generalisation', an acquisition strategy. The Hindi system arises where instead of generalising the transitive system to all intransitives, the system is simply *extended* to a subset of all possible contexts (i.e. volitional intransitive vs). The non-natural class of ergative DPs arises as a result of this extension procedure. This can be represented via the following parameter hierarchy:

(34) Parameter hierarchy (first version, to be extended and revised)

P1: Does transitive v assign a theta-related case (ERG) in a language L?

N - accusative

Y – non-accusative

P2: is this *generalised* to all vs in L?

Y – Basque

N – P3: is this *extended* to intransitive [volition] vs in L?

Y – Hindi

N - …

The rather idiosyncratic Hindi system therefore reduces to an extension of the basic non-accusative system. In the following sections, we see that further parameterisation is also required in order to account for the distribution of ergative case in other contexts.

1.2 Instigators only: Tsez and Lesgian

The distribution of ergative case in Tsez and Lezgian suggests that a further kind of parameterisation must be added to (34). In these languages transitive agents and animate/inanimate causers receive ergative case, just as in Basque and Hindi (Comrie 2004, Comrie & Polinsky, in prep on Tsez, Haspelmath 1993 on Lezgian):[16]

(35) žek'-ā biš^{w}a r-ac'-xo [Tsez]
man-ERG food.ABS.IV IV-eat-PRS
'The man is eating the food.' (Comrie 2004: 115)

(36) žek'-ā is b-exu-r-si [Tsez]
Man-ERG bull.ABS.III III-die-CAUS-PST.WIT
'The man killed the bull.' (Comrie 2004: 116)

(37) C'i-d-ä ʕa^{ʕ}ɣur y-iku-r-si.
fire-ERG mill.ABS.II II-burn.INTR-CAUS-PST.WIT
'Fire burnt the mill.' (Comrie and Polinsky, in prep: 19)

(38) Nes-ä ža kaɣat kid-be-q t'et'r-er-si.
DEM.I-ERG DEM letter.ABS.II girl-OS-POSS.ESS read-CAUS-PST.WIT

[16] Tsez also marks accidental causation via the poss-essive case, though this is optional (Comrie 2004: 118; Comrie and Polinsky, to appear: 15) and does not seem to occur on inanimate causers (Bernard Comrie and Maria Polinksy, p.c.).

‘He made the girl read that letter.’ (Comrie and Polinsky, in prep: 41)

An apparent difference between the languages concerns instruments. In Tsez, instruments can also surface with ergative case, as expected:

(39) Yiła rek-ä ħišimuku r-aˁɣi-x. [Tsez]
DEM key-ERG lock.ABS.IV IV-open-PRS
‘This key opens the lock.’ (Comrie and Polinsky, in prep: 19)

While this was also previously true of Lezgian instruments, Haspelmath (1993: 84) claims that ergative instruments are “never used in the modern language”, raising some potential issues for the collapsing of instrument subjects with agents/causers.

This is where the similarities with Hindi and Basque end, however. The subjects of intransitive verbs always receive absolutive case in Tsez, regardless of the unaccusative/unergative distinction, which is independently diagnosable in the language (see Comrie and Polinsky, in prep: 2-4):

(40) is b-exu-s [Tsez]
bull.ABS.III III-die-PST.WIT
‘The bull died.’

(41) Ecru žek’u qoqoƛi-s
Old man.ABS laugh-PST.WIT
‘The old man laughed.’ (Comrie 2004: 115)

While this is also generally the case in Lezgian, there is a class of verbs derived from *N-do* compounds which take ergative subjects despite appearing intransitive:

(42) ada k'walax-zawa [Lezgian][17]
she.ERG work-IMPF
'She was working.' (Haspelmath 1993: 284)

Based on a range of facts, Haspelmath proposes that such examples involve incorporation of the nominal into the (light) verb do, giving rise to absolutive absorption in an otherwise transitive structure.[18] In other cases, though, Lezgian makes no distinction between unaccusative and unergative verbs, with both taking absolutive subjects (e.g. change of state verbs such as *kisun* 'fall silent', *kusun* 'fall asleep', *ifin* 'become hot', *q̄un* 'become cold', *q'ežin* 'become wet' and the verb of motion *juzun* 'move', which are presumably unaccusative, as well as verbs which are presumably unergative: *q̄uğun* 'play', *q^{h}ürün* 'laugh', *q̄eq̄ün* 'walk around' - Haspelmath 1993: 271):

(43) a. stxa k'wal.i-z xta-na [Lezgian]
brother.ABS house-DAT return-AOR
'The brother came back home.' (Hapelmath 1993: 5)

b. q'if wiči-n t'ekwen galaj.pataq^{h} kat-na.
mouse.ABS self-GEN hole toward run-AOR
'The mouse ran towards its hole.' (Haspelmath 1993: 223)

[17] Further examples include the verbs meaning 'howl' and 'dance' (Haspelmath 1993: 284).

[18] This recalls Hale and Keyser's (1993) analysis of unergative verbs as well as Bobaljik's (1993) account of Basque.

In both Lezgian and Tsez, then, intransitive v does not assign ergative, assuming that in examples like (42), little v is formally transitive.[19]

Another difference between Tsez/Lezgian vs. Basque/Hindi is that *holders* never seem to surface with ergative case in the former. The subjects of verbs of perception and psych-predicates surface with dative in Lezgian and either lative or absolutive in Tsez:

(44) Zamira.di-z Diana aku-na. [Lezgian]
Zamira-DAT Diana see-AOR
'Zamira saw Diana. (lit. Diana was visible to Zamia.) (Haspelmath 1993: 270)

(45) Elu-r mašina c'aq' b-et-äsi yoł. [Tsez]
1PL-LAT car.ABS.III very III-want-RES.PTCP AUX.PRS
'We badly need a car.' (lit.: car is wanted to us) (Comrie and Polinsky, in prep: 36)

(46) [Yedu kid] [meži-z ɣʷˁay-q] y-uƛ'-xo.
DEM girl.ABS.II 2PL-GEN2 dog-OS-POSS.ESS II-fear-PRS
'This girl is afraid of your dog.' (lit.: fears on your dog)

[19] In Lezgian verbs taking an oblique complement can also surface with either an absolutive or ergative subject. As is the case with Walpiri (Legate 2012) this appears to depend on the thematic status of the subject. Agents appear to surface with ergative (*q̄arğišun* 'curse', *ewerun* 'call', *ikramun* 'bow to', *taʔsirun* 'influence', *hürmetun* 'respect') (Haspelmath 1993: 284), whereas non-agents are absolutive *alatun* 'falls off, passes, exceeds', *eläč'un* 'crosses', *agaq'un* 'reaches' ac'un 'becomes full of', *gaw* 'is near' (Haspelmath 1993: 272-277). An apparent outlier is *raxun* 'talks to', which takes an absolutive subject, despite being apparently agentive.

(Comrie and Polinsky, in prep: 38)

Comrie and Polinsky (in prep) further show that these verbs can be causativised in Tsez, giving rise to two different patterns. The first pattern is as expected: an external causer is added:

(47) Eni-y-ä debe-q yedu čorpa b-et-ir-xo.
mother-OS-ERG 2SG-POSS.ESS DEM.NI soup.ABS.IV IV-like-CAUS-PRS
'The mother is making/will make you like this soup.'
(Comrie and Polinsky, in prep: 45)

In the second pattern, however, causativisation serves merely to alter the case and theta-role of the subject, making it ergative and agentive:

(48) Madin-ä [gagali-s maħ] b-iy-r-si.
Madina-ERG flower-GEN1 smell.ABS.III III-know-CAUS-PST.WIT
'Madina smelled flowers.' [ERG-agent, ABS-stimulus]
(Comrie & Polinsky, to appear: 44)

Based on other diagnostics such as binding and Control, it appears that the *like*-type verbs are unaccusative and equivalent to the *piacere* class in Italian (see Comrie & Polinsky, to appear: 44-47), meaning that the *smell*-type verbs are presumably subject-experiencer verbs. If this is the case then *holders* in these languages are not ergative. Finally, Tsez also has what appear to be object-experiencer verbs of the *preoccupare* class which take an ergative causer (ambiguous between direct and indirect causation) and an absolutive experiencer:

(49) Meži-z ɣʷˁay-ä kid y-uƛ’-er-xo. [Tsez]

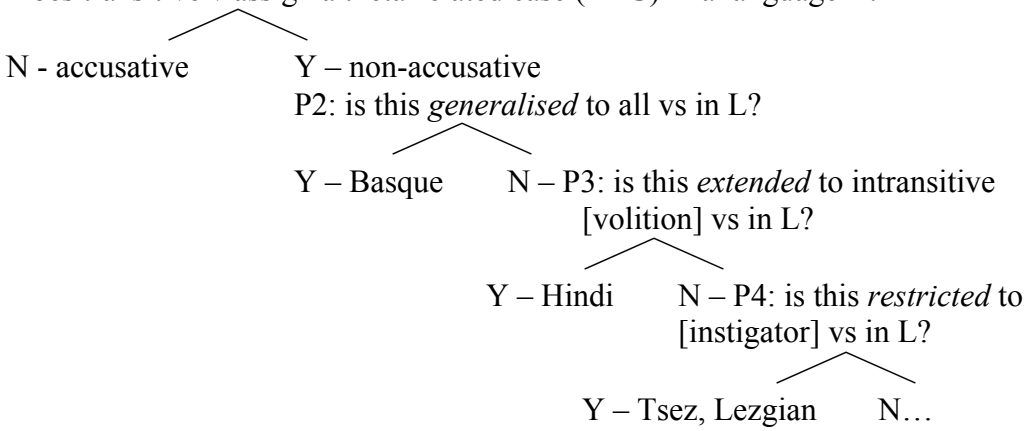
2PL-GEN2 dog-ERG girl.ABS.II II-fear-CAUS-PRS

‘Your dog frightens the girl.’ (Comrie & Polinsky, to appear: 48)

As such, both Tsez and Lezgian limit ergative to (animate and inanimate) causers and agents, with dative case surfacing on holders.[20] In order to capture the basic behavior of these languages a further kind of parameter must be added to the proposed hierarchy:

[20] A further difference, not encoded in the hierarchy is that Lezgian but not Tsez can have ergative subjects in the absence of absolutive case with a small class of intransitives (derived from *N-do* compounds) and with bivalent verbs taking oblique complements. It seems that this difference is due to an independent parametric difference between the languages, a discussion of which would take us too far afield here.

(50) Parameter hierarchy (second version, to be extended and revised)



The pattern in Tsez and Lezgian suggests that in addition to generalising and extending the distribution of ergative case it must also be possible to restrict it to a subset of transitive vs. As discussed in section 3, the parameters in (50) are not intended to be pre-specified by Universal Grammar, nor is their format intended to be fixed. Rather, the hierarchy, it is proposed, emerges as the result of acquisition based on the acquisition strategies of feature economy, input generalisation and analogy (see Roberts 2012).

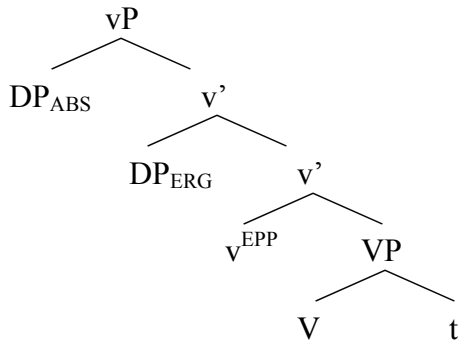
1.3 Default transitive ergativity: Trumai and Chamorro

The languages discussed up to now are all morphologically rather than syntactically ergative in that they do not have syntactic operations sensitive to the transitive/intransitive subject distinction. It is well known, however, that many non-accusative languages do display a form of syntactic ergativity in that they prohibit (straightforward) A-bar extraction of ergative DPs.[21] Following the general approach in Aldridge (2004, 2008a, b) and Coon, Mateo Pedro

[21] An anonymous reviewer asks about the other apparent instances of syntactic ergativity such as topic chaining in Dyirbal. These apparent instances of syntactic ergativity remain controversial (see Legate 2012). The ban on A-bar extraction is a much more robust effect,

and Preminger (2014), I assume that this property results from the presence of a movement-triggering EPP feature on ergative-assigning little v.[22]

(51)



This feature attracts the absolutive argument to the external specifier of v and serves to trap the ergative DP inside the vP phase.[23] Implementations of this basic idea differ in Aldridge

---

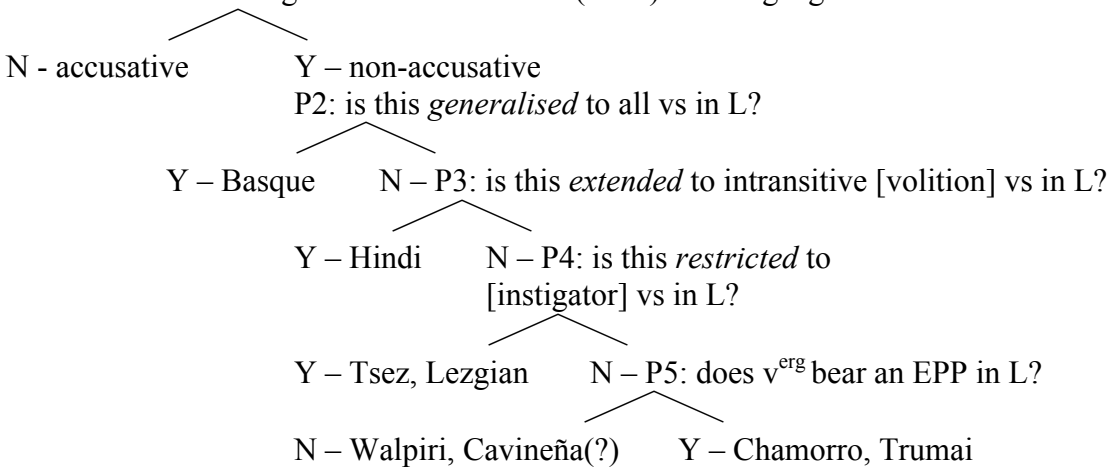
attested in many unrelated languages, and as such I limit the discussion to this narrower defiinition of syntactic ergativity here (see also Aldridge 2008). The typologically and genetically diverse languages displaying this restriction include some Mayan languages (Campana 1992, Coon et al. 2014, Assman et al. 2012), some Austronesian languages (Tongan, Otsuka 2006; Tagalog, Seediq, Aldridge 2004, 2012, Chamorro, Chung 1982), some Eskimo languages (Manning 1996) as well as Australian and Brazilian languages: Dyirbal (Dixon 1979, 1994), Trumai (Guirardello-Damian 2010), Karitiana (L. Storto, p.c.) and Katukina (Queixalós 2012).

[22] As an anonymous reviewer reminds me, the idea that syntactic ergativity can be attributed to movement of the absolutive DP past the ergative DP was first proposed by Bittner and Hale (1996a, b).

[23] Note that this movement must be covert in VSO languages (Aldridge 2004). In many languages it nonetheless triggers a Diesing-type effect on the absolutive DP. I leave a full

and Coon et al.'s work. I assume that it is an effect of anti-locality (see also Erlewine, to appear). This follows if only the outermost specifer of vP can avoid the phase impenetrability condition (PIC). As such the absolutive DP is always available for further extraction and lower adjuncts/locatives can raise to a further external spec vP, avoiding the PIC, past both the ergative and absolutive DPs. The ergative DP is, however, doomed to be trapped inside vP as it can never raise to the external specifier of vP, due to anti-locality (one cannot raise from the internal specifier of a given head to its external specifier).[24] In parametric terms then, syntactic ergativity of this kind arises where a dependent parameter associates an EPP feature with the ergative property, in the following way (see also Sheehan 2014b):

(52) Parameter hierarchy (third version, to be extended and revised)



A direct consequence of (52) is that P5 (the syntactic ergativity parameter) is only active in languages which answer Y to P1 and N to P2-P4. In other words, a prediction is that syntactic

---

exploration of the relationship between syntactic ergativity, object interpretation and word order to one side here.

[24] One assumption that needs to be made is that this movement does not lead to 'tucking in' (Richards 1997).

ergativity will be possible only in languages which have default (transitive) ergative alignment rather than generalised (Basque), extended (Hindi) or restricted (Tsesz, Lezgian) ergative alignment. This is a one-way implication, though, and there can be languages which are only morphologically ergative, such as Walpiri, but which have default ergative alignment (ergative on transitive causers, agents and holders – Legate 2012).[25]

Chamorro is an example of a syntactically ergative language displaying default non-accusative alignment, whereby ergativity is tied very closely to transitivity. In the realis mood, the verb in Chamorro displays ergative agreement with transitive subjects only, but this agreement is lost where such subjects are A-bar extracted, and the infix –um- is added instead (Chung 1982). This kind of morphological compliance strategy is common in syntactically ergative languages (see Coon et al. 2014, Erlewine, to appear, on Mayan Agent focus, Dixon 1994 on antipassives):

(53) a. Ha-fa'gasi si Juan i kareta. [Chamorro]
E3S-wash UNM Juan the car
'Juan washed the car.'

[25] An anonymous reviewer points out that some Mayan languages (Ixil and Chuj) are syntactically ergative in this sense but require unaccusative subjects to co-indexed by set A (ergative) marking on the verb in durative/progressive aspect (see Assmann et al. 2012). Crucially, these apparently ergative intransitive subjects can be A-bar extracted unlike their transitive counterparts. While a full discussion of these facts is beyond the scope of the present discussion, Coon (2013) argues convincingly that aspect-sensitive splits of this kind in Mayan result from embedded nominalisations, so that the set A marking is actually genitive rather than ergative case (the two are often homophonous in Mayan). As such, these examples are only a superficial counterexample to the above prediction.

b. Hayi f-um-a'gasi i kareta?
who UM-wash the car
'Who washed the car?' (Chung 1982: 49)

Extraction of objects and intransitive subjects, however, can proceed straightforwardly:[26]

(54) Hayi na famalao'an man-ma'pus ?
who? L women P1-leave
'Which women left?' (Chung 1982: 46)

(55) Hafa ha-fahan si Maria gi tenda?
what? E3S-buy UNM Maria LOC store
'What did Maria buy at the store?' (Chung 1982: 51)

In addition to agents, (animate/inanimate) causers trigger ergative agreement, including the subjects of object experiencer verbs, as do holders (*chat-* ‘hate’ patterns like *ya-* 'like', *ga'o-* 'prefer', *gusto-* 'like', *ga'ña-* 'prefer' in this respect - Chung 1982, 1998, p.c.):

(56) Hu-punu' i lalu' ni niuis. [Chamorro]
E1S-kill the fly OBL newspaper
'I killed the fly with the newspaper.' (Chung 1982: 51)

(57) a. Ha-istotba ham [na malagu' i lahi-nmami ni kareta].
E3S-disturb us COMP want the son-our OBL car

[26] Where obliques are extracted, the clause must be nominalised, however (Chung 1982: 51). It is not clear why this should be the case or to what extent this holds in other syntactically ergative languages.

'That our son wants the car disturbs us.'

b. Ha-istototba yu' si Juan.
E3S-disturb.IMPF me UNM Juan
'Juan is disturbing me.' (Chung 1982: 54-55)

(58) Ha-chatli'i' yu' atyu na taotao.
E3S-hate me that L man
'That man hates me.' (S. Chung, p.c.)

In causative object experiencer constructions, experiencers are absolutive (i.e. they do not trigger agreement as in (57) above). Where they take an oblique complement, psych-predicates also take an absolutive subject:

(59) Ma'a'niao yu' ni ga'lagu. [Chamorro]
fear I OBL dog
'I am afraid of the dog.' (Chung 1982: 51)

The subjects of intransitive predicates never trigger ergative agreement, regardless of the thematic status of the subject (in realis mood). In all cases, then, it seems that v inflects for ergative agreement exactly where it is transitive, due to its positive setting of P1 (and negative setting of P2-P4).[27]

Trumai is another syntactically ergative language which displays a strong connection between transitivity and ergative case (Guirardello-Damian 2003, 2010). In Trumai where an absolutive argument (subject or object) is relativized, the verb is modified by the relativizer *ke*:

[27] No data is available regarding the behavior of instrument subjects (S. Chung, p.c.).

(60) Ha hu'tsa chï_in [axos-a-tl]$_i$ [Ø$_i$ esa-t' ke] [Trumai]

I see FOC/TENSE child-EV-DAT dance-NZR.PAST REL

'I saw the boy who danced.' (Guirardello-Damian 2010: 218)

Where a (transitive) ergative subject is relativized, however, the verb is modified by *chïk*:[28]

(61) Ha hu'tsa ka_in [axos-a-tl]$_i$ [ha aton mud husa-t' chï-k Ø$_i$]

I see FOC/TENSE child-EV-DAT 1 pet neck tie-NZR.PAST REL

'I saw the boy who tied my pet.' (Guirardello-Damian 2010: 219)

As in Chamorro, agents and animate/inanimate causers alike take ergative case (Guirardello-Damian 2003), including the subjects of causative object experiencer verbs (Guirardello-Damian 2010: 221):

(62) [sud yi]-k [pike xop yi] mahan. [Trumai]

wind YI -ERG house mouth YI close

'The wind closed the door.' (Guirardello-Damian 2003: 201)

(63) [martelu yi]-k [atlat] mapa.

hammer YI-ERG pan break

'The hammer broke the saucepan (by falling on it).' (Guirardello-Damian 2003: 201)

(64) hai-ts Yakairu-*ø* *sa* *ka*

1-ERG Yakairu dance CAUS

'I made Yakairu dance.' (Guirardello-Damian 2003: 210)

[28] Note, though, that this is true also of recipients (Guirardello-Damian 2010: 219).

It is even possible to have two ergatives following the causativisation of a transitive verb:

(65) Hai-ts chï_in Atawa-k atlat-ø mapa ka
1-ERG FOC/TEMP Atawak-ERG pan-ABS break CAUS
'I made Atawak break the pan.' (Guirardello-Damian 2003: 210)

Somewhat surprisingly, instruments are reported never to be ergative:

(66) chavi letsi [pike xop yi] mahan. [Trumai]
key INSTR house mouth YI close
Lit. '*pro* closed the door with a key.' (Guirardello-Damian 2003: 201)

An apparent difference between Chamorro and Trumai is that in the latter, holders are never ergative, but rather surface with absolutive case (with verbs of perception like *see*, *hear*, *smell*, *feel* as well as subject experiencer verbs: *like*, *think*, *believe*, *forget*, *remember*):

(67) axos-ø hu'tsa de kasoro-tl [Trumai]
child-ABS see already puppy-DAT
'The child saw the puppy.' (Guirardello-Damian 2003: 204)

A crucial point here, though, is that the theme/target complement in such cases is always dative, meaning that the verbs in question are not formally transitive. Note that this situation is different from that displayed in Tsez/Lezgian where it is the holder which receives dative/lative while the theme/target is absolutive. In Trumai, unlike in Walpiri and Lezgian

oblique arguments can never count for transitivity. This is true even where the subject is an agent: if the complement of V is oblique, then the subject remains absolutive. This is the case with the heterogeneous class of verbs of routine events translating variously *eat*, *drink*, *cook*, *roast*, *kiss*, *hunt*, *fish*, which take absolutive subjects and dative complements. In fact, as Guirardello-Damian notes, many abs-dat verbs are direct synonyms of erg-abs verbs: *kapan*/*chuda* 'make/produce', *disi/fa* 'kill/beat' *tako*/*make* 'bite', *tuxa'tsi/dama* 'pull', *padi/fatlod* 'wait'. As long as dative objects never count for transitivity in Trumai, then, it shares with Chamorro the default ergative alignment whereby ergative case is simply tied to transitivty. Intransitive verbs, whether unergative or unaccusative always take absolutive subjects (Guirardello-Damian 2003: 196).[29]

1.4 Parameterising the source of absolutive Case

A final point of variation between non-accusative languages concerns the source of absolutive case (Legate 2006, 2012, Aldridge 2004, 2008, Coon et al. 2014). Whereas in some languages it appears that absolutive case has a mixed source, coming from v in transitive and T/Asp in intransitive contexts (mixed ABS), in other languages it appears to come from T/Asp across the board, leading to what has been called a 'high ABS' system. The evidence for this comes from the distribution of absolutive in non-finite contexts, where T/Asp loses it structural Case-assigning capabilities. It has been observed that at least in some accusative languages, non-finite T/Asp fails to assign nominative case and as such the only possible subject of such clauses is PRO (possibly derived via movement, at least in some

[29] As noted above, an independent parameter is needed to govern whether obliques count for transitivity.

cases – Hornstein 1999, Sheehan 2014a). In some non-accusative languages, we see that the absolutive on transitive objects is retained in non-finite contexts, suggesting it does not come from T/Asp, but from v. In other cases, we find that absolutive case in not straightforwardly available in non-finite clauses at all, so that the transitive object must be licensed in some special way, if transitive control is possible. In these high ABS languages, then, it seems that absolutive always comes from T/Asp.

Chamorro appears to be a high ABS language in these terms. The evidence for this is that the infix –um-, which surfaces where ergative subjects are extracted, also surfaces where a transitive predicate appears in a control context (Chung 1982: 49, fn 5):

(68) Malagu' gui' b-um-isita si Rita. [Chamorro]
want he UM-visit Unm Rita
'He wants to visit Rita.'

Plausibly, -um- serves to license the absolutive DP in (68), as is the case with the crazy antipassive in high ABS Mayan languages (Coon et al. 2014). In Tagalog, on the other hand, ABS is retained on the transitive object in non-finite contexts because it is a mixed ABS language (see Aldridge 2004, 2013):

(69) Nagba-balak ang babae-ng [PRO tulung-an ang lalaki] [Tagalog]
INTR.PROG-plan ABS woman-LK help-APPL ABS man
'The woman is planning to help the man.' (Aldridge 2013: 2)

There is some evidence that Trumai is also high ABS in these terms. Verbs like *padi* 'wait' can take reduced clausal complements which appear to give rise to ECM, whereby what

would be the absolutive argument of the embedded clause surfaces as an enclitic on the matrix verb:

(70) hai-ts chï_in [Kumaru-k tïchï] padi-n [Trumai]
1-ERG FOC/TENSE Kumaru-ERG scarify wait-3ABS
'I waited for Kumaru to scarify her.'

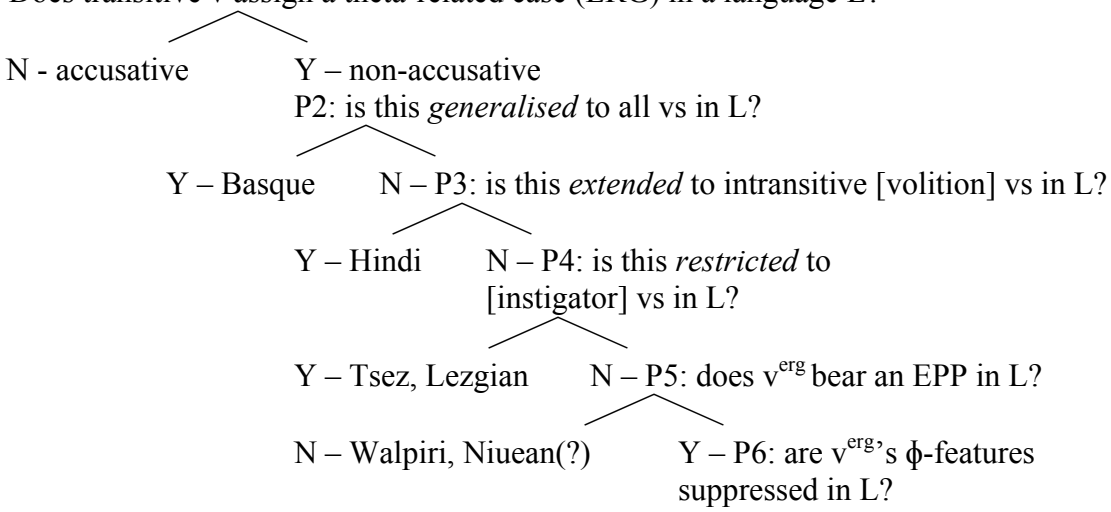
(71) hai-ts [huma] padi-n
1-ERG take.bath wait-3ABS
'I waited for her to take a bath.' (Guirardello-Damian 2010: 220-1)

The fact that this process applies uniformly to absolutive subjects and objects in Trumai, whereas ergative case is retained (as in (70)), suggests that both get case from T in finite contexts. In non-finite contexts, T fails to assign absolutive case, but ergative, from v, is still available, as expected.

High ABS languages appear to be a proper subset of syntactically ergative languages and given standard assumptions about intervention, there is a principled reason why this should be the case. In order for a lower DP_1 to receive structural Case from a higher head where another DP_2 intervenes, DP_1 must first move past DP_2. This is essentially the movement proposed to hold in syntactically ergative languages: v bears an EPP feature and attracts DP_1 past DP_2. No intervention obtains for this movement because DP_2 occupies the specifier position of vP and so is not c-commanded by v. To ensure that DP_1 receives case from this higher head (T), though, it must also be the case that it has not received Case from v, prior to movement. As such, the parameter distinguishing mixed ABS and high ABS languages is that which determined whether v loses its ability to assign a structural Case. In a mixed ABS language, v retains this ability (which is the default option for transitive vs –

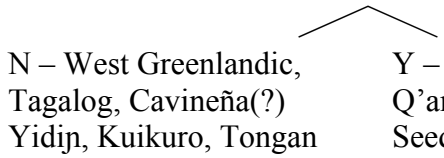
Burzio 1986). In a high ABS language, on the other hand, v loses the ability to assign a structural case (i.e. it bears no ϕ-features) and so DP_1 receives Case from T, after movement has occurred.[30] This final dependent parameter is thus active only in syntactically ergative languages for principled reasons, giving the following parameter hierarchy:

(72) Parameter hierarchy (fourth version)[31]



[30] This raises the question what happens to T's ϕ-features in mixed ABS languages transitive clauses, where both arguments get Case from v. Either T must simply lack ϕ-features in thus context or we must assume, following Preminger (2012a) that unvalued ϕ-features fail to crash the derivation.

[31] With extra languages tentatively added for purposes of illustration: see Dixon (2010) on Yidiɲ; Massam (1998, 2006) on Niuean; Otsuka (2006) on Tongan; Guillaume (2008) on Cavineña; Aldridge (2004) on Seediq and Tagalog; Franchetto (2010) on Kuikuro; Coon et al. (2014) on Mam and Q'anjobal. It is not actually possible to say, as of yet, whether Cavineña is syntactically ergative or not, though there is suggestive evidence that it is (Guillaume 2008, p.c.). I have not been able to ascertain whether Niuean patterns with Walpiri or Tsez/Lezgian, but it is reported not to be syntactically ergative (Levin and Massam 1984).



3 The status of the hierarchy

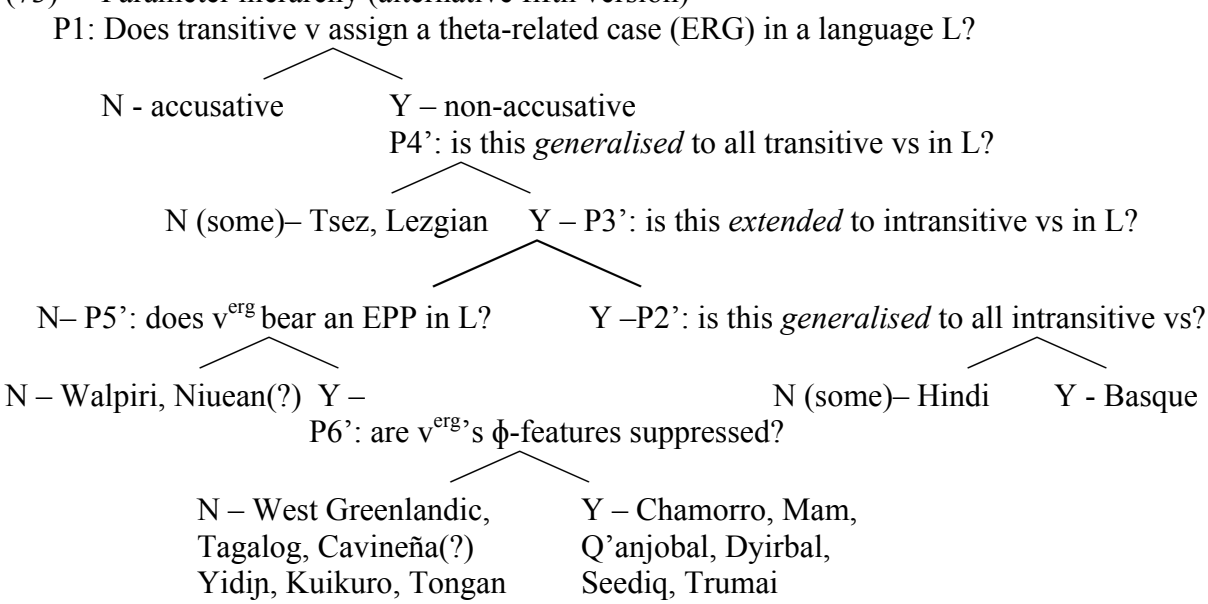
The parameter hierarchy in (72) serves to model micro-parametric variation amongst non-accusative languages. What is given, I assume, are the functional categories themselves, formal features such as EPP and ϕ (leading to structural Case valuation) and a requirement for nominal licensing. The other properties of v are open to parameterisation: whether v is overt/covert; whether it assigns a theta-related Case (always, never, sometimes); whether it assigns a structural Case; and whether it bears an EPP feature. The upper end of the hierarchy remains fairly descriptive and I have no deep explanation for the fact that P1 refers to transitive rather than intransitive v, though this is clearly empirically justified, given that all non-accusative languages seem to share this property. It is possible that transitive v is the most salient instantiation of the category v and as such has a privileged status for acquisition.

The format of P3-P4 is intended to be open rather than fixed by UG, the idea being that the child acquiring a non-accusative system can extend or restrict ergative case to any coherent class of vs, with Hindi and Tsez/Lezgian being just two possibilities (see Roberts 2012). While this is a fairly powerful model, it appears to be empirically necessary. It is an empirical question, though, to what extent all potential extensions/restrictions of ergative case are attested. I have found no language, for example, in which ergative is limited to agents, to the exclusion of causers, though there is at least one language which may limit ergative to animate DPs (Nepali).[32] The model can therefore be seen as a working hypothesis.

[32] Thanks to Joe Perry for providing me with and discussing the Nepali data.

P5-P6 are substantively different from P2-P4. First of all, the dependencies between P2-P4 are negative, so that they do not determine cumulative properties of a system but rather mutually exclusive properties. A language either generalises, extends or restricts ergative case, but it cannot, by hypothesis, do more than one of these things. P5-P6, however are different. Syntactically ergative high ABS languages are a subset of syntactically ergative languages. It is only positive dependencies of this kind which are truly dependent and hierarchical in this sense. P2-P4 are non-cumulative and so could be reordered without altering potential outputs, but the same is not true of P5-P6. An anonymous reviewer points out that it is possible to rephrase P2-P4 so that they too are cumulative in this sense, giving the following alternative parameter hierarchy:

(73) Parameter hierarchy (alternative fifth version)



In (73), there is only one negative dependency: that between extension of ergative to intransitive vs and the association of an EPP feature. Again there is a principled reason why these two grammatical properties would be incompatible: a language which extended ERG to intransitive contexts would have no argument to satisfy an EPP feature in such contexts. With this exception, though, the parameters in (73) all involve positive dependencies. This has the

advantage that, moving down the hierarchy, the output grammars stand in superset relations. The contexts in which ergative surfaces in Basque are a proper superset of the contexts where ergative surfaces in Hindi, which are a proper superset of the contexts where ergative surfaces in Tsez. Similarly, little v in Chamorro has all the properties of little v in West Greenlandic plus suppressed ϕ-features (the marked option) and little v in West Greenlandic has all the properties of little v in Walpiri plus an additional EPP feature. In this way, assuming that the hierarchy models acquisition, this is a process of selecting grammars of ever increasing complexity and size, providing a potential solution to the subset problem identified by Wexler and Manzini (1987) and Manzini & Wexler (1987). Essentially, as they point out, given the negligible role played by negative evidence in language acquisition, children face a superset trap, whereby if they posit a grammar consistent with the data they observe, but not restrictive enough, they may never be able to posit a grammar which is a subset of that initial hypothesis. The kind of parameter hierarchy in (73) addresses this problem head on by proposing that children start off by positing smaller grammars and only extend them in the face of positive evidence. Reordering the hierarchy in this way thus seems attractive, although it appears to involve some redundancy concerning the actual parameters required.

A remaining question concerns the relative ordering between parameters. Is there any deeper rationale for the positive dependencies between parameters in (73)? The answer appears to be that these dependencies are due to the need for convergence. We have already provided a potential explanation for the fact that syntactic ergativity is compatible only with transitive ergative alignment. A similar account emerges for the dependency between P1, P5/P5' and P6/P6'. In a language in which v fails to assign ergative and/or lacks an EPP feature, there will be no way for both arguments to receive Case if v loses its ability to assign a structural Case (i.e. loses its ϕ-features). In order for both DPs to get case in such as

context: (i) the higher DP must get a non-structural case, and (ii) the lower DP must scramble past the higher DP so that it is in a position to receive a higher structural case (from T) without defective intervention. It is only in such contexts, then, that Burzio's generalisation can be violated. All of this is implicit in the parameter hierarchies in (72)/(73).

4 Conclusions

This chapter has developed a parameter hierarchy for non-accusative alignment based on the hypothesis that ergative is an inherent Case. It has been shown that while there are minimal differences in the distribution of ergative case across languages, there are also many similarities all of which seem to be broadly in line with the predictions of the inherent case account, based on what is known about theta-roles in accusative languages. Of course, as mentioned in the introduction, the inherent case approach makes four different kinds of predictions and this chapter has focused mainly on the first of these (A):

A. Ergative will only occur on (a subset of) arguments externally merged in spec vP.
B. The presence of ergative may be independent of transitivity, so we might find ergative subjects without absolutive objects.
C. There will be no derived/non-thematic ergative subjects (no ergative expletives, raising to ergative or ergative subjects of passives, ditransitives or otherwise).
D. Ergative case will *not* be lost in contexts where structural case is not available (no change of case under ECM, no loss of ergative under raising).

In relation to B, it has been shown that Western Basque and Hindi both have ergative with unergative intransitives, but the possibility of ergative with oblique objects seems to be rarer

(though it is observed in Walpiri and Lezgian). The discussion of the source of absolutive case in Trumai and Chamorro touched on D, though, there is clearly much more to be said. Finally C has not been discussed at all. In a sense then, showing that ergative case occurs only on a (a subset of) arguments externally merged in spec vP is just the first step towards arguing that ergative is an inherent case. While the facts have been shown to be broadly compatible with the inherent case approach, the results are by no means conclusive (see especially Rezac et al 2014 on Basque). Given the parameter hierarchy approach, though there are added advantages to the inherent case approach, not least because it enables us to conceive of accusative/ergative variation in terms of variation of the properties of a single class of functional heads (little v), in line with the Borer-Chomsky conjecture. Parameter hierarchies, in these terms, are the pathways used by the child to acquire the properties of a class of functional heads, aided by the kinds of dependencies and acquisition strategies discussed above. The basic case/alignment properties of a language are thus effectively encoded on little v in systematically defined ways.

References

Aldridge, Edith. (2004). *Ergativity and Word Order in Austronesian Languages*. PhD dissertation, Cornell University.

Aldridge, Edith. (2006). 'Absolutive Case in Tagalog', in Jackie Bunting, Sapna Desai, Robert Peachey, Chris Straughn, and Zuzana Tomkova (eds.), *Proceedings from the 42nd Annual Meeting of the Chicago Linguistic Society*. Chicago: Chicago Linguistic Society, 1-15.

Aldridge, Edith. (2008a). 'Generative Approaches to Ergativity', *Language and Linguistics Compass* 2 (5): 966-95.

Aldridge, Edith. (2008b). 'Phase-Based Account of Extraction in Indonesian', *Lingua* 118: 1440-1469.

Aldridge, Edith. (2012). 'Antipassive and Ergativity in Tagalog', *Lingua* 122 (3): 192–203.

Aldridge, Edith. (2013). 'Origin of Ergative Variation in Austronesian Languages', paper presented at *Diachronic Generative Syntax (DiGS)*, Ottawa, 2013.

Alexiadou, Artemis, and Florian Schäfer. (2006). 'Instrument Subjects Are Agents or Causers', in Donald Baumer, David Montero and Michael Scanlon (eds.), *Proceedings of the 25th West Coast Conference on Formal Linguistics*. Somerville, Mass.: Cascadilla Proceedings Project, 40-48.

Anand, Pranav, and Andrew Nevins. (2006). 'The Locus of Ergative Case Assignment: Evidence from Scope', in Alana Johns, Diane Massam and Juvenal Ndayiragije (eds.), *Ergativity: Emerging Issues*. Dordrecht: Springer, 3-26.

Assmann, Anke, Doreen Georgi, Fabian Heck, Gereon Müller, and Philipp Weisser. (2012). 'Ergatives Move Too Early: On an Instance of Opacity in Syntax'. Unpublished manuscript to appear in *Syntax*.

Baker, Mark C. (1988). *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Baker, Mark C. (1997). 'Thematic Roles and Syntactic Structure'. In Lilianne Haegeman (ed.), *Elements of Grammar*. Dordrecht: Kluwer, 73–137.

Belletti, Adriana, and Luigi Rizzi. (1988) 'Psych-Verbs and Theta-Theory', *Natural Language & Linguistic Theory* 6: 291-352.

Bhatt, Rajesh. (2003). 'Causativisation: Topics in the Syntax of the Modern Indo-Aryan Languages'. Unpublished handout.

Bittner, Maria, and Ken Hale. (1996a). 'Ergativity: Toward a Theory of a Heterogeneous Class', *Linguistic Inquiry* 27 (4):531–604.

Bittner, Maria, and Ken Hale. (1996b). 'The Structural Determination of Case and Agreement', Linguistic Inquiry 27 (. 1–68.

Bobaljik, Jonathon. (1993). 'On Ergativity and Ergative Unergatives', *MIT Working Papers in Linguistics* 18: 45-88.

Bowers, John. (2013). *Arguments as Relations*. Cambridge, Mass.: MIT Press.

Burzio, Luigi. (1986). *Italian Syntax: A Government-Binding Approach*. Dordrecht; Lancaster: Reidel.

Chung, Sandra. (1982). 'Unbounded Dependencies in Chamorro Grammar', *Linguistic Inquiry* 13 (1): 39-77.

Chung, Sandra. (1998). *The Design of Agreement: Evidence from Chamorro*. Chicago; London: University of Chicago Press.

Comrie, Bernard. (2004). 'Oblique-Case Subjects in Tsez', in Peri Bhaskararao and Karamuri Venkata Subbara (eds.), *Non-Nominative Subjects*. Amsterdam: John Benjamins, 113-128.

Comrie, Bernard, and Maria Polinsky. (In prep). 'A Grammar of Tsez', unpublished manuscript.

Coon, Jessica. (2010). 'Rethinking Split-Ergativity in Chol', *International Journal of American Linguistics* 76 (2): 207–53.

Coon, Jessica. (2013). *Aspects of Split Ergativity*. Oxford: Oxford University Press.

Coon, Jessica, Pedro Mateo Pedro, and Omer Preminger. (2014). 'The Role of Case in A-bar Extraction Asymmetries: Evidence from Mayan'. To appear in *Linguistic Variation*.

Coon, Jessica, and Omer Preminger. (2012). 'Taking 'Ergativity' out of Split Ergativity: A Structural Account of Aspect and Person Splits', unpublished manuscript.

Dixon, Robert M. W. (1994) *Ergativity*. Cambridge: Cambridge University Press.

Dixon, Robert M. W. (2010). *A Grammar of Yidiɲ*. Cambridge: Cambridge University Press.

Dowty, David. (1991). 'Thematic Proto-Roles and Argument Selection', *Language* 67: 547-619.

Erlewine, Michael. (to appear). 'Anti-Locality and Optimality in Kaqchikel Agent Focus', to appear in *Natural Language & Linguistic Theory*.

Etxepare, Ricardo. (2003). *Valency and Argument Structure in the Basque Verb*. Berlin: Mouton de Gruyter.

Folli, Raffaela, and Heidi Harley. (2007). 'Causation, Obligation, and Argument Structure: On the Nature of Little v', *Linguistic Inquiry* 38 (2): 197-238.

Franchetto, Bruna. (2010). 'The Ergativity Effect in Kuikuro (Southern Carib, Brazil)', in Spike Gildea and Francesc Queixalós (eds.), *Ergativity in Amazonia*. Amsterdam: John Benjamins, 121-158.

Grimshaw, Jane B. (1990). *Argument Structure*. Cambridge, Mass: MIT Press.

Guasti, Maria Teresa. (1993). *Causative and Perception Verbs: A Comparative Study*. Torino: Rosenberg & Sellier.

Guillaume, Antoine. (2008). *A Grammar of Cavineña*. Berlin: Mouton de Gruyter.

Guirardello-Damian, Raquel. (2003). 'Classes verbais e mudanças de valência em Trumai', in Spike Gildea and Francesc Queixalós (eds.), *Proceedings of the Workshop Ergatividade Na Amazônia*. Paris: Centre d'études des langues indigènes d'Amèrique (CNRS, IRD) and Laboratório de Línguas Indígenas, 195-214.

Guiradello-Damian, Raquel. (2010). 'Ergativity in Trumai', in Spike Gildea and Francesc Queixalós (eds.), *Ergativity in Amazonia*. Amsterdam: John Benjamins, 203-234.

Hale, Ken, and Samuel J Keyser. (1993). 'On Argument Structure and the Lexical Expression of Syntactic Relations', in Ken Hale and Samuel J Keyser (eds.), *View from Building 20*. Cambridge, Mass.: MIT Press, 53-110.

Harley, Heidi. (2002). 'Possession and the Double Object Construction', *Linguistic Variation Yearbook* 2: 29-68.

Harris, Alice C. (1982). 'Georgian and the Unaccusative Hypothesis', *Language* 58 (2): 290-306.

Haspelmath, Martin. (1993). *A Grammar of Lezgian*. Berlin: Mouton de Gruyter.

Hornstein, Norbert. (1999). 'Movement and Control', *Linguistic Inquiry* 30 (1): 69-96.

Koopman, Hilda, and Dominique Sportiche. (1991). 'The Position of Subjects', *Lingua* 85: 211-258.

Laka, Itziar. (1993). 'Unergatives That Assign Ergative, Unaccusatives That Assign Accusative', *MIT Working Papers in Linguistics* 18: 149-72.

Laka, Itziar. (2006a). 'Deriving Split-Ergativity in the Progressive: The Case of Basque', in Alana Johns, Diane Massam and Juvenal Ndayiragije (eds.), *Ergativity: Emerging Issues*. Dordrecht/Berlin: Springer, 173-196.

Laka, Itziar. (2006b). 'On the Nature of Case in Basque: Structural or Inherent?', in Hans Broekhuis, Norbert Corver, Jan Koster, Riny Huybregts and Ursula Kleinhenz (eds.), *Organizing Grammar: Linguistic Studies in Honor of Henk Van Riemsdijk*. Berlin/New York: Mouton de Gruyter, 374-382.

Landau, Idan. (2009). *The Locative Syntax of Experiencers*. Cambridge, Mass.: MIT Press.

Legate, Julie. (2006). 'Split Absolutive', in Alana Johns, Diane Massam and Juvenal Ndayiragije (eds.), *Ergativity: Emerging Issues*. Dordrecht/Berlin: Springer, 143-72.

Legate, Julie. (2012). 'Types of Ergativity', *Lingua* 122 (3): 181-191.

Levin, Beth. (1983). *On the Nature of Ergativity*. PhD thesis, MIT.

Levin, Juliette, and Diane Massam. (1984). 'Surface Ergativity: Case-/Theta Relations Re-examined', in Stephen Berman, Jae-Woong Choe and Joyce McDonough (eds.), *Proceedings of NELS* 15:. Amherst, Mass.: GLSA, 286-301.

Mahajan, Anoop. (1989) 'Agreement and Agreement Phrases', *MIT Working Papers in Linguistics* 10: 217-252.

Mahajan, Anoop. (1990) *The A/A-bar Distinction and Movement Theory*. PhD thesis, MIT.

Manzini, Rita, and Kenneth Wexler. (1987). 'Parameters, Binding Theory, and Learnability', *Linguistic Inquiry* 18: 413–444.

Marantz, Alec. (2000). 'Case and Licensing', in Eric Reuland (ed.), *Explaining Burzio's Generalization*. Amsterdam: John Benjamins, 11-30. Previously published as Marantz, Alec (1991). 'Case and Licensing', in Germán F.Westphal, Benjamin Ao, and Hee-Rahk Chae (eds.), *Proceedings of the Eighth Eastern States Conference on Linguistics*, 234–253.

Massam, Diane. (1998). 'Instrumental Aki and the Nature of Niuean Transitivity', *Oceanic Linguistics* 37 (1): 12-28.

Massam, Diane. (2006). 'Neither Absolutive Not Ergative Is Nominative or Accusative', Alana Johns, Diane Massam and Juvenal Ndayiragije (eds.), *Ergativity: Emerging Issues*. Dordrecht/Berlin: Springer, 27-46.

Mithun, Marianne. (1991). 'Active/Agentive Case Marking and Its Motivations', *Language* 67 (3): 510-46.

Mohanan, Tara. (1994). *Argument Structure in Hindi*. Stanford, Calif.: CSLI Publications.

Müller, Gereon, and Daniela Thomas. (2014). 'Three-way Systems Do Not Exist', unpublished manuscript, University of Leipzig.

Oehrle, Richard. (1976). *The Grammatical Status of the English Dative Alternation*. PhD thesis, MIT.

Otsuka, Yuko. (2006). 'Syntactic Ergativity in Tongan', Alana Johns, Diane Massam and Juvenal Ndayiragije (eds.), *Ergativity: Emerging Issues*. Dordrecht/Berlin: Springer, 79-110.

Oyharçabal, Beñat. (1992). 'Structural Case and Inherent Case Marking: Ergaccusativity in Basque', *ASJU* 27: 309-42.

Pesetsky, David. (1995). *Zero Syntax: Experiencers and Cascades*. Cambridge, Mass.: MIT Press.

Platzack, Christer. (2009). 'Towards a Minimal Argument Structure', in Petra Bernardini, Egerland. Verner and Jonas Granfeldt (eds.), *Mélanges plurilingues offerts à Suzanne Schlyter à l'occasion de son 75ème anniversaire*. Lund, Sweden: Lund University: Språk-och litteraturcentrum, 353-371.

Platzack, Christer. (2011). 'Towards a Minimal Argument Structure', unpublished manuscript.

Preminger, Omer. (2012a). *Agreement as a Fallible Operation*. Ph.D dissertation: MIT.

Preminger, Omer. (2012b). 'The Absence of an Implicit Object in Unergatives: New and Old Evidence from Basque', *Lingua* 122: 278-88.

Pylkkänen, Liina. (2008). *Introducing Arguments*. Cambridge, Mass.: MIT.

Ramchand, Gillian. (2008). *Verb Meaning and the Lexicon*. Cambridge: CUP.

Reinhart, Tanya. (2003). 'The Theta System – an Overview', *Theoretical Linguistics* 28(3): 229-290.

Rezac, Milan. (2008). 'The Syntax of Eccentric Agreement: The Person Case Constraint and Absolutive Displacement in Basque', *Natural Language and Linguistic Theory* 26: 61-106.

Rezac, Milan, Pablo Albizu, and Ricardo Etxepare. (2014). 'The Structural Ergative of Basque and the Theory of Case', to appear in *Natural Language and Linguistic Theory.*

Roberts, Ian G. (2012). 'On the Nature of Syntactic Parameters: A Programme for Research', in Charlotte Galves, Sonia Cyrino, Ruth Lopes and Juanito Avelar (eds.), *Parameter Theory and Linguistic Change*. Oxford: OUP, 319-334

Richards, Norvin. (1997). *What moves where when in which language?* Ph.D. dissertation, MIT.

Rosen, Carol. (1984). 'The Interface between Semantic Roles and Initial Grammatical Relations', in David Perlmutter and Carol Rosen (eds.), *Studies in Relational Grammar* 2. Chicago: University of Chicago Press, 38-77.

Sheehan, Michelle. (2014a). 'Portuguese, Russian and the Theory of Control', in Hsin-Lun, Huang, Ethan Poole and Amanda Rysling (eds.), *Proceedings of the 43rd Annual Meeting of the North East Linguistic Society (NELS 43)*. Amherst, Mass.: GLSA, 115-26.

Sheehan, Michelle. (2014b). 'Towards a Parameter Hierarchy for Alignment', in Robert E. Santana-LaBarge (ed.), *Proceedings of the 31st West Coast Conference on Formal Linguistics*. Somerville, Mass.: Cascadilla Press, 399-408.

Sheehan, Michelle. To appear. 'Case and Ergativity', to appear in Antonio Fábregas, Jaume Mateu, and Mike Putnam (eds.), *Contemporary Linguistic Parameters.* London: Bloomsbury.

Sorace, Antonella. (2000). 'Gradients in Auxiliary Selection with Intransitive Verbs', *Language* 76 (4): 850-90.

Surtani, Nitesh, Khushboo Jha, and Soma Paul. (2011). 'Issues with the Unergative/Unaccusative Classification of the Intransitive Verbs', in *Proceedings of the International Conference on Asian Language Processing*, 2011, 55-58.

Surtani, Nitesh, and Soma Paul. (2012). 'Automatic Tripartite Classification of Intransitive Verbs', in *Proceedings of the 26th Pacific Asia Conference on Language, Information and Computation*, 446-455.

Velázquez-Castillo, Maura. (2002). 'Grammatical Relations in Active Systems: The Case of Guaraní', *Functions of Language* 9 (2): 133–67.

Woolford, Ellen. (1997). ‘Four-Way Case Systems: Ergative, Nominative, Objective and Accusative’, *Natural Language & Linguistic Theory* 15: 181-227.

Woolford, Ellen. (2006). ‘Lexical Case, Inherent Case, and Argument Structure’, *Linguistic Inquiry* 37 (1): 111-30.