3. Case and Ergativity*

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1. Introduction[1]

The expression of (nominal) case and (verbal) agreement is one of the most obvious points of variation across natural languages. Firstly, it is well known that some (analytic) languages lack morphological case and agreement altogether:

1) (ta) kanjian (ta) le [Mandarin]
   3SG see 3SG ASP
   'He saw him.'

It is a controversial topic, however, whether such languages nonetheless require a syntactic notion of (abstract) Case (see Li 1985 and Huang, Li and Li 2009 for arguments that Mandarin does and Sheehan and van der Wal in progress for a cross-linguistic study of superficially similar languages).[2] Other languages have only case or dependent marking and lack agreement or head marking (Japanese) or vice versa (Swahili):

2) Makiko-ga Yoko-o mita [Japanese]
   Makiko-NOM Yoko-ACC see
   'Makiko saw Yoko.'

3) (yeye) a-li-mw-ona (yeye) [Swahili]
   3SG SM1-PST-OM1-see 3SG
   'S/he saw him/her.'

A final group of languages have both case and agreement, with the two sometimes fitting together in predictable ways (though not always, as we shall see below). Thus in many languages, it is the nominative argument which triggers verbal agreement in finite clauses. In Icelandic this holds regardless of *which* argument is nominative (see Bobaljik 2008 for discussion):

4) Jóni *líkuðu þessir sokkar* [Icelandic]
   Jon.DAT like.PL these socks.NOM

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[1] The abbreviations used in this chapter are as follows: A = set A (ergative, genitive), ABS = absolutive, ACC = accusative, ASP = aspect, AV= active voice, B = set B (absolutive), DAT = dative, DEM = demonstrative, DET = determiner, DTV = derived transitive suffix, ERG = ergative, INF = infinitive, LOC = locative, N = nominal, NFUT = non-future, NMLZ – nominaliser, NOM = nominative, NPST = non-past, OM = object marker, OV = objective voice, P = preposition, PART = participle, PASS = passive, PERF = perfect, PL = plural, PRES = present, PRFV = perfective, PROSP = prospective, PST = past, RECIP = reciprocal, REL- relative, SG = singular, SM = subject marker, TNS = tense, TV = transitive verb suffix, v = verbal

[2] It is the convention in generative grammar to use capitalization to indicate that Case refers to the abstract syntactic notion as opposed to morphological case.

'Jon likes these socks.' (Jónsson 1996: 143)

Even amongst those languages which have case and/or agreement, though, there is considerable variation with respect to what we shall call 'alignment'. In many familiar Indo-European languages the subjects of intransitive predicates generally behave like the subjects of transitives in terms of case/agreement, bearing nominative case and triggering agreement on the verb:

5) a. *Sie* *sahen* **ihn** [German]
3PL.NOM see.3PL 3SG.ACC
'They saw him.'
b. *Sie* *kamen*
3PL.NOM came.3PL
'They arrived.'

Such a pattern is usually called 'nominative-accusative' or simply 'accusative', and we use the shorter label here.[3] According to Chomsky (1995: ch4), case/agreement morphology are surface realisations of a single deep Agree operation. If this is correct, then in syntactic terms, Japanese, Swahili (and English for that matter) like German have a basic accusative alignment, whereby both transitive and intransitive subjects agree with T/INFL.[4]

An apparently less frequent but nonetheless widely-attested pattern arises where the subjects of (some or all) intransitives pattern like the *objects*, rather than the *subjects*, of transitives in terms of case and/or agreement, bearing absolutive case, for example, in Yup'ik, or triggering object-like agreement on the verb in Chol (see Dixon 1994 for an overview):

6) a. **Angute-m** *qusngiq* ner-aa. [Yup'ik, Eskimo-Aleut]
man-ERG reindeer.ABS eat-TR.3SG/3SG
'The man is eating (the) reindeer.'
b. *Qusngiq* ner'-uq.
reindeer.ABS eat-INTR.3SG
'The reindeer is eating.' (Bobaljik 1993: 3)

7) a. Tyi **i-**kuchu**-***yety***.** [Chol, Mayan]
PRFV 3ERG-carry-2ABS
'He carried you.'
b. Tyi juli-*yety*.
PRFV arrive-2ABS
'You arrived.' (Coon and Preminger 2012: 4)

[3] Note, however, that even languages with basic accusative clausal alignment may nonetheless have a series of predicates which assign some other case(s) to certain arguments, for example dative, as in the Icelandic example in (4) (see Woolford 2006a for discussion). While it is a matter of considerable interest how to analyse such examples in the context of case theory, we will sidestep such a discussion here for reasons of space, but see section 4.6 for a related discussion.

[4] There are well-known challenges for this view of case/agreement from (i) languages like Icelandic in which the argument with subject-like properties is not always that which bears nominative case (Zaenen, Maling & Thráinsson 1985) and (ii) languages in which case/agreement do not match up, a point to which we return in section 3.3.

This basic distinction in the behaviour of intransitive subjects can be graphically described as follows, following Plank (1979) and Dixon (1979, 1994) where A = transitive subject, S = intransitive subject and O = transitive object:

Fig. 1: Representation of ergative and accusative alignments

Ergative-absolutive (ergative) Nominative-accusative (accusative)

The question of how best to account for ergativity in parametric terms has long occupied generative syntacticians, with various competing analyses having been proposed (see section 4, below).[5] From the very earliest studies it has been recognised that there are different kinds of ergativity: so-called deep ergativity vs. shallow (morphological) ergativity being a common distinction (see Levin 1983, Marantz 1984). As such, it appears that any parametric account of 'ergativity' will involve several distinct parameters rather than a single macro-parameter. In other words while languages in which (some or all) intransitive subjects pattern like transitive objects are often grouped together as 'ergative', this is a simplification of the truth as this group of non-accusative languages is heterogeneous in character. In fact, it has often been claimed that while a language can be fully accusative in alignment, no language is fully ergative (Moravcsik 1978, Dixon 1994).

The aim of this chapter is to consider the implications of variation in alignment for parametric theory. To this end, section 2 examines the phenomenon of variable alignment, whereby a language appears to display ergativity only in a given domain (sensitive to tense/aspect, clause type or the properties of its DP arguments). Section 3 introduces the various types of (split) ergative systems which have been described in the literature, and mentions some of the theoretical challenges they pose. Section 4 describes the main generative approaches to ergativity and discusses their implications for parametric theory. Finally, section 5 concludes and proposes some areas for future research.

2. On variable alignment

Traditionally, the term 'split alignment' is used to refer to two very different phenomena. On the one hand, a language is called split ergative if it displays only partially ergative behavior, for example if its case pattern is ergative in alignment but its agreement is not, or if only a subset of its intransitive subjects pattern like transitive objects. On the other hand, languages which appear to be ergative only in certain syntactic contexts, for example in the presence of perfective aspect, are also termed 'split ergative'. To distinguish these very different phenomena and avoid ambiguity, we shall reserve the term 'split ergativity' for the partially ergative

[5] Another kind of alignment, termed *eccentric agreement* by Hale (2001) and *agreement displacement* by Béjar & Rezac (2009), is determined by the features of both of the arguments in question, subject to Silverstein's (1976) person hierarchy. We return to the related phenomenon of differential marking in 2.3. Needless to say, such agreement patterns pose additional challenges for any parametric approach to case/agreement.

systems described in section 3. For the other phenomenon, which we consider in this section, we will use the term 'variable alignment'.

In many unrelated languages, ergativity (the patterning of some or all intransitive subjects with transitive objects) appears to arise only in certain restricted syntactic contexts, typically sensitive (in cross-linguistically stable ways) to tense/aspect, the matrix/embedded distinction or the features of DP arguments (Dixon 1994). Thus, in many unrelated languages, pronominal transitive subjects fail to be inflected as ergative unlike full DPs, or ergative case surfaces in perfective/non-progressive but not imperfective/progressive aspects. Finally, it has been claimed that some languages display an ergative alignment only in embedded but not matrix clauses.

Variable alignment poses potential challenges for a parametric approach to alignment. On the surface, the implication seems to be that the very same language can have multiple parameter settings for alignment relative to distinct syntactic domains. While it is at least possible that different tense/aspect heads might assign different cases in the same language (see Ura 2006 for a proposal along these lines), having a different parameter setting in say embedded vs. matrix clauses seems more problematic.[6] Interestingly, though, it has recently been argued that variable alignment may actually be an illusion (see Laka 2006a, Coon 2012, Coon and Preminger 2012 for discussion). We consider the three kinds of variability in turn here.

2.1. Sensitivity to T/Aspect

Consider first the sensitivity to tense/aspect, attested in Basque (isolate), Tsez (Nakh-Daghestanian), Georgian (Kartvelian), Q'anjob'al, Chol (Mayan) and Hindi (Indo-Aryan) amongst other languages (see Tasaku 1981, DeLancey 1981, Coon 2012, Coon and Preminger 2012). It is very generally the case in such languages that ergative alignment surfaces only in perfective contexts, something that has led to various functionalist explanations. Consider, for example, DeLancey's (1981) approach which attributes the occurrence of ergative case morphology in the perfective to the need to mark the subject as viewpoint, because, he claims, perfective aspect, like the passive, leads to default viewpoint on the patient.

An alternative account of this apparently universal tendency attributes it to a well-known process of diachronic change whereby a passive form is reanalyzed as active and the oblique marker surfacing with the agent is reanalyzed as ergative (see Anderson 1988). As Anderson notes, the fact that ergative alignment is often associated with perfective aspect is thus merely due to the fact that perfectives are often used to form passives, and where a passive is reanalyzed as active it leads to ergative alignment, as passives are typically (though not always) limited to transitive predicates.[7] Note that if this is the explanation for language-internal variation, though, we would still need a model with variable alignment parameter settings to model the synchronic status of languages like Basque.

[6]Note, however, that if T inherits is phi-features from C, as Chomsky 2008 has proposed, then it is not altogether beyond the realm of possibilities as matrix and embedded Cs appear to differ considerably in their other syntactic properties.

[7] Note moreover that even where passives of intransitives are possible, this is true only of unergative and not unaccusative verbs, providing a potential account for the existence of split-S languages of the kind discussed in section 3.2.

Laka (2006a) argues convincingly, however, that (8-9) does not represent an instance of variable alignment but rather an alternation between transitive and intransitive clauses.

8) emakume-a-k ogi-a jaten du [Basque]
woman-DET-ERG bread-DET eating has
'The woman eats (the) bread'

9) emakume-a [ogi-a jat-e-n] ari da
woman-DET bread-DET eat-NMLZ-LOC engaged is
Lit. 'The woman is engaged in eating the bread.' (Laka 2006a:173)

In (8), *emakume-a* 'the woman' is the subject of the transitive predicate *jaten* 'eat' and so it receives ergative case. In (9), however, *emakume-a* 'the woman' is actiually the subject of the predicate *ari* 'be engaged in', which takes a PP object and so functions as an intransitive predicate. Laka points out that in both cases the object of eat *ogi-a* receives absolutive case, which would be unexpected if this were really an alternation between ergative and accusative alignment, but which follows if only a contrast in transitivity is at stake. Coon (2012) and Coon & Preminger (2012) argue that similar transitivity-based accounts can be offered for other unrelated languages. The general tendency for ergativity to be coupled with non-progressive/perfective rather than progressive/imperfective aspect in this way, Coon (2012) claims, stems from the fact that progressive aspect is often encoded via locative constructions:

10) a. Nós estamos [a chegar] [European Portuguese]
we.1PL.NOM are.1PL P arrive.INF
'We are arriving.'

b. Nós estamos [a comer o bolo]
we.1PL.NOM are.1PL P eat.INF the cake
'We're eating the cake.'

In an ergative system, an alternation in transitivity will be reflected by a difference in case/agreement morphology. In an accusative language, however, transitive and intransitive subjects pattern alike in terms of case/agreement and so no such alternation is observed (as in the Portuguese example in (10)). Other instances of T/Asp-sensitive variability have been argued to stem from the special behavior of the internal argument, due either to (i) demotion of the object to PP status (Coon 2012) or (ii) raising of the object to a higher position from which it can trigger agreement (see Patel-Grosz & Grosz 2014).

2.2. Sensitivity to the matrix/embedded distinction

Next, consider those languages (apparently) displaying variability determined by clause type, whereby ergativity appears to be limited to embedded clauses, as reported for Päri (Nilotic), the Jê languages of Brazil and Tsimshian (Salish) (see Dixon 1994, Coon 2012, Coon and Preminger 2012). In Mẽbengokre, Jê, for example, described by Salanova 2007, 2009, matrix clauses display both ergative and accusative alignments, whereas embedded clauses are always ergative:

11) ba hadʒu katɛ [Mẽbengokre, Jê]

1.NOM radio break.V
'I broke the radio.' (Salanova 2009: 8)

12) ba [kutɛ tɛp krẽn] pumũ [Mẽbengokre, Jê]
1.NOM 3.ERG fish eat.N see.V
'I saw him eating fish.' (Salanova 2009: 6)[8]

Salanova (2009) argues that the embedded clause in (12) is a nominalisation, and that ergative case surfaces as a result. Indeed, Gildea (2008) proposes embedded ergative nominalisations have been reanalysed as root clauses in a number of unrelated languages of South America, leading to matrix ergative alignment (see also section 4.2 below). Again, then, this apparent variability may not actually involve variable parameter settings within a single language, but rather differences in the alignment of nominalisations vs. clauses. In an accusative language, an embedded ergative nominalisation will give rise to apparently variable alignment, whereas in an ergative language it will not. The result is a pattern whereby an otherwise accusative language displays ergative properties only in an embedded context. Again, the question arises why the opposite trend is not observed. Why do we not seem to find languages which display ergativity only in matrix clauses? This seems to be due to the fact that, for poorly understood reasons, nominalisations tend to be ergative more often than clauses do. Thus even in familiar accusative languages like Greek, French, German and English, complex event nominalisations display an ergative pattern (see Williams 1987, Alexiadou 2001).

2.3. Sensitivity to the features of DP arguments

Finally, consider the sensitivity to person, attested in Dyirbal (Pama-Nyungan), Halkomelem (Salish), Mocho' (Mayan), Kham (Tibeto-Burman), Balochi (NW Iranian), Punjabi (Indo-Aryan) and Cashinawa (Panoan) (see Silverstein 1976, Dixon 1979, 1994, Garrett 1990, Coon and Preminger 2012):

13) ŋada bayi yaRa balgan. [Dyirbal]
I.NOM there.ABS man hit.NFUT
'I am hitting the man.'

14) ŋayguna baŋgul yaRa-ŋgu balgan.
I.ACC there.ERG man-ERG hit.NFUT
'The man is hitting me.' (Dixon 1972:60)

In such languages, ergative is limited to arguments lower down the Silverstein (1976) scale, a simplified version of which is as follows:

15) First/second person pronouns > third person pronouns > human common nouns > non-human animate common nouns > inanimate nouns

Once again, there are potential diachronic explanations for this phenomenon. Garrett (1990) offers one such account. He proposes that in null subject languages, where the agent can be omitted, instrumental case can be reanalyzed as ergative, due to the "functional overlap" between instruments and agents (p265). This leads to ergative

[8] With the glosses and translation rendered from Portuguese.

alignment because instrumentals can function as subjects quite freely in transitive clauses but not in intransitives:

16) John opened the door with the key/The key opened the door.
17) John walks with a cane/*A cane walks (Garrett 1990: 265)

As instruments are more likely to be towards the right end of the scale in (15), this path of reanalysis will lead to variable alignment whereby only such subjects surface with ergative case. Garrett gives evidence from Hittite and other languages in favour of such a path of grammaticalisation. Note that if this kind of explanations holds of (13-14), then Dyirbal would be a language with variable alignment, however that is analysed synchronically.

Once again, though, it is not clear whether examples such as (13-14) are best analysed as genuine instances of variable alignment. In many languages, it seems, case morphology and/or agreement is used to track semantic or information-structure-related information, rather than grammatical function. This has been widely studied in relation to objects as differential object marking (DOM) (see Aissen 2002, de Hoop & Malchukov 2007, Dalrymple & Nikolaeva 2011), and somewhat less so in relation to subjects as differential subject marking (DSM) (see de Hoop and de Swart 2008, McGregor & Verstraete 2010). As differential marking occurs in both accusative and non-accusative languages, it is not a specifically 'ergative' property.

Essentially Dyirbal appears to be a language with both DSM and DOM. Ergative case occurs on 3rd person transitive subjects and accusative is limited to 1st/2nd person objects, as also illustrated by (13-14). Legate (2008) shows, moreover, that DSM in Dyirbal is fairly superficial in nature, not affecting the syntactic properties of transitive subjects, all of which, for example, resist A-bar extraction (a property of syntactically ergative languages, see 3.4). As such, at least for some languages, DSM appears to be purely morphological in nature, not affecting the ergative syntax of the language in question. It is not clear whether this is more generally the case for differential marking, however (see Danon 2006 for claim that DOM results from the fact that indefinite NPs do not receive abstract Case).

DOM has been explained in functional terms as the requirement for less prototypical transitive subjects to be overtly marked as such (see Haspelmath 2008). This is formalised in Optimality Theoretic terms by Aissen (2003), and refined by Keine & Mueller (2008) to cover alternations where neither exponent is null.[9] Aissen (2003) claims explicitly that her account extends to DSM, though Coon & Preminger (2012) take issue with this claim on an empirical basis. Whereas DOM can be sensitive to any of the features on the Silverstein hierarchy (specificity, definiteness, animacy, person), the same is not true, they claim, for DSM, where the dividing line is very generally between 1st and 2nd person pronouns and all other subjects. For this reason, they propose an alternative structural account whereby 1st/2nd person subjects occupy a distinct position in the clause and thus behave like intransitive subjects, assimilating this kind of variability to aspect-sensitive variability. Baker (in progess) provides a different kind of account of differential marking in the context of a dependent case approach to alignment, which we return to in section 4.5.

[9] Further complications arise when one also considers *eccentric agreement* or *agreement displacement* whereby agreement patterns are determined by the features of *both* of the arguments in a transitive clause as mentioned in footnote 4.

3. Ergative splits: non-accusative alignment types

Section 2 considered variable alignment in some detail and proposed that it might be illusory. In this section, we turn to split ergativity, whereby a language displays only partially ergative behaviour. As will become clear, the various kinds of ergative splits represent genuine instances of parametric variation and very clearly indicate that there is more than one ergativity parameter, something which we will return to in section 4, when we consider generative analyses of the phenomenon.

3.1. Morphological ergativity

One type of 'split' involves a morphologically ergative system which is syntactically accusative, as diagnosed by patterns of raising, control, co-ordination and (in some cases) anaphor binding (cf. Anderson 1976). Thus in Tongan, for example, both transitive and intransitive 'subjects' can undergo raising, regardless of whether they are marked with absolutive or ergative case:

18) a. 'oku lava 'a mele 'o [hū ki hono fale]
PRES possible ABS Mary TNS enter to his house
'Mary can enter his house.'

b. 'oku lava 'e siale 'o [taa'i 'a e fefine]
PRES possible ERG Charlie TNS hit ABS DEF woman
'Charlie can hit the woman.' [Tongan, Anderson (1976: 13)]

As Anderson notes, if the syntactic notion of subject, diagnosed in this way, picks out the same arguments as in accusative systems, then ergative alignment must be a fairly superficial property of the language. In terms of Agree, we might infer that both transitive and intransitive subjects agree with T/INFL in such a language even though surface morphology does not reflect that fact. In fact, it is a matter of some debate whether all ergative systems fit into this category or, in other words, whether syntactic ergativity exists at all, a point to which we return in sections 3.4-3.5.[10]

3.2. Split intransitivity

A second widely discussed class of non-accusative languages can be described as 'split-S' or 'active-stative' because intransitive subjects pattern either with transitive objects or transitive subjects, depending on volition/agency/control (Sapir 1917, Harris 1982, Mithun 1991) or other semantic/pragmatic factors (Deal & O'Connor 2010). Consider, for example, the following Chol examples from Coon (2010), which show that the intransitive subject of the unergative verb 'sang' is marked via an ergative verbal marker (set A), whereas the intransitive subject of the unaccusative verb 'arrive' is marked as absolutive (set B):

19) a. Tyi jul-i-yety. [Chol, Mayan]
PRFV arrive.here-ITV-B2
'You arrived here.'

b. Tyi a-cha`l-e k'ay.
PRFV A2-do-DTV song

[10] Note, however, that Tongan does display one feature of syntactic ergativity, the ban on the A-bar extraction of ergative subjects (see Otsuka 2006). We return to this point in 3.4.

'You sang.' (Coon (2010: 18)]

This kind of split is often called split-S because it concerns only the variable behaviour of the intransitive subject (S in Dixon's 1994 terminology). Other names are active, active-neutral, active-inactive, active-static, or stative-active; agentive or agent-patient; or split intransitive.

In some languages, this split appears to track the unergative/unaccusative divide familiar from accusative languages. (Western) Basque, for example, has been argued to pattern along these lines (Laka 2006b):

20) 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)

Other languages that can arguably be classified as split-S in these terms include: Georgian, Kartvelian (Harris 1982); Hindi-Urdu, Indo-Aryan (Butt & King 2002); Chol, Mayan (Coon 2010); Lakhota, Siouan; and Caddo, Caddoan (Mithun 1991).

Mithun (1991) notes that there is crosslinguistic variation regarding the behaviour of predicates like 'cough', 'hiccup', 'vomit' and 'yawn', which are performed by an agent but are not controlled. In some languages their subjects pattern with agents (Lakhota) and in others they do not (Central Pomo). It is not clear whether this difference indicates that the languages in question have different kinds of split-S systems or whether they simply make the unaccusative/unergative divide in a different way.

Dixon (1994) uses the label fluid-S to refer to languages which display the same kind of alternation with some degree of freedom regarding which predicates pattern in which way. Consider, for example, verbs like 'fall' in Batsbi (Tsova-Tush), Nakh, which can surface with either ergative or absolutive subjects, with a concomitant change in meaning:

21) a. S.a: as vuizhn-as [Batsbi]
1SG.ERG M.fall-AOR-1SG.ERG
'I fell (on purpose)'

b. S.o: so vozhen-sŏ
1SG.ABS M.fall-AOR-1SG.ABS
'I fell (accidentally)' (Nichols 2006: 7)

A similar effect is observed with the verb *pʰitik* 'belch' in Northern Pomo which can be used with either a nominative-marked or accusative-marked subject, with the expected difference in meaning:[11]

[11] In Northern Pomo a fluid-S system of this kind exists alongside a different, more pragmatically determined split (limited to a small class of verbs) (Deal & O'Connor 2010).

22) a. ʔa: pʰitik-čade [Northern Pomo]
1S.NOM belch-PROSP
'I'm going to belch'
[I'm going to belch, so there!]

b. t̰o: pʰitik-čade
1S.ACC belch-PROSP
'I'm going to belch'
[Uh oh, I feel a belch coming on.] (Deal and O'Connor, 2010: 176)

The existence of so-called 'fluid-S' systems is potentially equivalent to the fact that some verbs show variable unaccusative/unergative behaviour in languages like Italian (Sorace 2000). Given that many split-S systems seem to permit some degree of fluidity it is not clear to what extent fluid-S should be considered a separate alignment class.

Other kinds of Split-S system are also attested. The Split-S system in Guaraní is famously sensitive to lexical aspect (Aktionsart) rather than agentivity or control (Mithun 1991). The subjects of intransitive eventive verbs (e.g. go, get up) have the same morphological realization as transitive subjects (pronominal prefixes), whereas the subjects of stative predicates (e.g. be sick, be sleepy) share a morphological form with transitive objects (Mithun 1991):

23) a. **a**-xá [Guaraní]
'I go'

b. **še**-ropehíí.
'I am sleepy

c. **še**-rerahá
'It will carry me off.'

d. ha upépe **a**-gařá šupé
'…and there I caught him.' (Mithun 1991: 511)

This kind of split seems more difficult to assimilate to the unaccusative/unergative distinction, and probably requires a further parametric option to be available.

One question which arises in relation to these data is why split-S systems are grouped with ergative rather than accusative systems. They can be defined as systems in which one subset of S patterns with A and the other with O. The answer is that they usually involve overt marking of transitive subjects (and some intransitive subjects), something which is not typical of accusative systems.[12] As we shall see in section 4.7, split-S systems have been seen as potential support for the contention that ergative is an inherent (thematic) case.

3.3. Case/agreement splits

[12] Northern Pomo is somewhat exceptional in this regard as it is a split-S accusative system (see example (22)).

A third kind of split describes a mismatch between case and agreement morphology, whereby a language can have ergative case and accusative agreement but not vice versa (Anderson 1977, Moravcsik 1978, Legate 2002, 2008, Corbett 2006, Woolford 2006b; Bobaljik 2008). An example of the licit case/agreement mismatch comes from Nepali, as described by Bickel & Yādava (2000):

24) a. ma yas pasal-mā patrikā kin-ch-u. [Nepali]
1SG.NOM DEM.OBL store-LOC newspaper.NOM buy-NPST-1SG
'I buy the newspaper in this store.'

b. maile yas pasal-mā patrikā kin-ē/*kin-yo
1SG.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1SG/buy.PST.3MSG
'I bought the newspaper in this store.' (Bickel & Yādava 2000: 348)

Walpiri displays essentially the same mismatch (Hale 1970), as does Georgian in the aorist (Marantz 1991).

Such patterns are potentially problematic for Chomsky's (1995: ch4) claim that case and agreement are surface realisations of the same abstract Agree relation because, in these languages, agreement does not track case. Interestingly, though, the inverse pattern, whereby a nominative case system co-occurs with ergative agreement alignment appears to be unattested (though see Patel 2006 for one potential example).

It remains unclear how best to account for this kind of split ergativity. Marantz (1991, 2000) takes data such as (24) as evidence that case is a purely morphological phenomenon (see 4.5), whereas Woolford (2006b) offers an account consistent with the Chomsky (1995: ch4) approach to Agree. She claims that there is no such thing as ergative agreement, with all apparent instances of such being pronominal clitics. Agreement on T/INFL must track nominative case, to license structural Case and only if there is no structural nominative to license can T/INFL agree with a DP marked with inherent (thematic) case. See Bobaljik (2008) for a different (morphological) account.

3.4. Syntactic ergativity

In the recent generative literature, there has been much discussion of the possibility that all linguistic variation might reduce to differences in externalisation (see Berwick and Chomsky 2008). For this reason, the question of syntactic ergativity is of central importance to the focus of this chapter. Dixon's (1979, 1994) description of Dyirbal gave rise to the term syntactic ergativity as a cover term for the following phenomena:

a) Ergative-absolutive topic chaining
b) Ergative-absolutive Control pattern
c) Ban on A-bar extraction of transitive subjects

While the data in evidence of (a-b) have become controversial (see Legate 2012 and section 3.5), (c) has proven more robust cross-linguistically. Consider the following example from West Greenlandic, which illustrates that it is impossible to form a relative clause via A-bar extraction of an ergative-marked transitive subject:

25) *anguti$_i$ [t_i aallaat tigu-sima-sa-a] [West Greenlandic]

man.ABS gun.ABS take-PERF-REL.TR-3S
'the man who took the gun' (Manning 1996a: 84)

This property has been reported in many Inuit, Austronesian (Manning 1996b) and Mayan languages (Coon et al. 2012), as well as in Dyirbal (Dixon 1994), Halkomelem Salish (Gerdts 1988), Chamorro (Campana 1992), Chukchi (Comrie 1979), Tongan (Otsuka 2006) and Katukina, an Amazonian language (Queixalós 2012). Languages with this restriction use either (a) an Antipassive or Agent Focus construction to demote the agent and render it extractable (see Coon et al. 2012), or (b) as is the case in Tongan, a resumptive subject pronoun to avoid the need for extraction (Otsuka 2006):

26) a. e fefine [na'e tangi] [Tongan]
DEF woman PST cry
'the woman (who) cried'

b. e fefine [na'e fili 'e Sione]
DEF woman PST choose ERG Sione
'The woman (who) Sione chose'

c. *e fefine [na'e fili 'a Sione]
DEF woman PST choose ABS Sione
Intended 'The woman (who) chose Sione'

d. e fefine [na'e *ne* fili 'a Sione]
DEF woman PST 3SG choose ABS Sione
'The woman (who) chose Sione' (Otsuka 2006: 81)

While this restriction has obvious parallels with the that-trace effect observed in some accusative languages (French, English, Nupe), a crucial difference is that it affects only the *transitive* subject. That-trace effects arise with both intransitive and transitive subjects alike:[13]

27) Qui est-ce que tu crois qui/*que partira [French]
who is-this that you believe who/that leave.FUT.3S
'Who do you think will leave?'

If, (i) following Hinzen & Sheehan (2013: ch 5) we take the definition of narrow syntactic variation to be variation which has a systematic effect on narrow syntactic operations and (ii) we accept that A-bar extraction is narrow syntactic, then it follows that the parameter giving rise to syntactic ergativity must itself be syntactic in nature so that not all variation can be reduced to differences in externalisation. It remains unclear how best to account for this property of some ergative languages, but we review some options in section 4.

[13] Note that there are other apparent parallels between the two phenomena, with extraction in some syntactically ergative and accusative languages being aided by the presence of a high adverb (see Erlewine 2013).

3.5. High/mixed absolutives

A less-discussed split concerns the source of absolutive Case in ergative systems. Whereas in languages such as Dyirbal, and some Mayan languages, it seems that T/INFL always assigns absolutive, in other languages the absolutive associated with O seems to come from v (Aldridge 2004, 2007, Legate 2008, 2012, Coon et al. 2014). The evidence for this difference comes from contexts where the structural Case of T is plausibly suppressed (e.g. non-finite clauses). In some ergative languages both objects and intransitive subjects fail to get absolutive case in non-finite contexts. This is potentially the account of the ergative-absolutive (S/O) control pattern observed in Dyirbal (see also Levin 1983):[14]

28) [yabu ŋuma-ŋgu giga-n [PRO banaga-ygu]] [Dyirbal]
mother.ABS father-ERG tell-NONFUT return-PURP
'Father told mother to return.'
Lit. 'Father told mother$_i$ PRO$_i$ to return.'

29) [yabu ŋuma-ŋgu giga-n [PRO gubi-ŋgu mawa-li]]
mother.ABS father-ERG tell-NONFUT doctor-ERG examine-PURP
'Father told mother to be examined by the doctor.'
Lit. 'Father told mother$_i$ for the doctor to examine PRO$_i$.'

30) [ŋuma banaga-Nu [PRO yabu-ŋgu bura-li]
father.ABS return-NONFUT mother-ERG see-PURP
'Father returned in order for mother to see him or father returned and as a result mother saw him.'
Lit. 'Father$_i$ returned for mother to see PRO$_i$.' (Dixon 1994: 168-169)

In such embedded contexts, ergative case is licensed but absolutive is not. If control is derived via movement in Dyirbal in the manner proposed by Hornstein (1999) then it follows that transitive objects like intransitive subjects will be required to raise to a higher clause to get Case where T fails to assign absolutive. Aldridge (2008b) reports that in some other ergative languages (e.g. Seediq, citing Aldridge 2004 and Jacaltec Mayan, citing Craig 1977), it is impossible to control into transitive clauses. This follows if these are languages in which control is not derived via movement where PRO, which is necessarily the highest argument in the clause has Case (see Sheehan 2014a for evidence that we need both kinds of control). PRO can receive absolutive in intransitive clauses in such languages and ergative in transitive clauses, but there will be no Case available for the object DP in the latter.

Coon et al. (2012: 9), building on work by Campana (1992), show that 'high absolutive' Mayan languages lose the ability to assign absolutive in aspectless embedded clauses, which may be a variant of the same effect (though these languages seem to require nominalisation of embedded clauses).

In mixed absolutive languages, however, absolutive on S is lost in a non-finite clause, whereas absolutive on O is retained. This gives rise to an accusative control pattern, as illustrated by the following data from West Greenlandic:

31) Miiqqat [PRO Juuna ikiu-ssa-llu-gu] niriursui-pp-u-t.[W. Greenlandic]

[14] Though see Legate (2012) for a different analysis of Dyirbal.

children.ABS [(ERG) Juuna.ABS help-FUT-INF-3S] promise-IND-INTR-3P
'The children promised to help Juuna.' (Manning 1996: 124)

While it seems to be the case that all high absolutive languages are also syntactically ergative in that they ban A-bar extraction of the ergative DP, the reverse is not true.[15] West Greenlandic is a case in point as it is a low absolutive syntactically ergative language (see (25) and (31)). In section 4.8 we see that there are apparently more one-way implications of this kind in the domain of alignment. How best to model them in parametric terms remains an open question but see 4.8 for one suggestion.

3.6. Summary

As we have seen in the preceding sections, there is a great deal of variation in the domain of clausal alignment, even without taking into consideration the lexical cases associated with internal arguments and the behaviour of ditransitives and analytic causatives. Note that a given language can display multiple different alignment splits as well as variability. Take for example (Western) Basque, which displays: variability sensitive to aspect (Laka 2006a); split-S alignment (Laka 2006b); plus a mismatch between morphology and syntax, as its syntactic relations seem to be organised along accusative lines, despite the presence of ergative case (Anderson 1976). These splits raise obvious challenges for a parametric account of alignment. Most of all they make it very clear that we are dealing with various micro-parameters rather than a single ergativity parameter, even if these micro-parametric settings are not variable within a given language as discussed in section 2.

4. Generative analyses of ergativity

Many different accounts have been given of (the various aspects of) ergativity in the generative literature, some of which can be considered parametric in nature (see Johns, Massam & Ndayiragije 2006, Aldridge 2008b). While early accounts posited a thematic parameter, more recent approaches focus on a parametrisation of agreement and/or movement operations. In this section we consider the following different kinds of approaches and outline some of the challenges they face:[16]

[15] An anonymous reviewer notes that Indo-Aryan languages may be high absolutive without displaying syntactic ergativity. At least in Hindi, however, there is no reason to suppose ABS always comes from T as in non-finite contexts ABS on the object is retained whereas ABS on the subject is lost (see Butt 1995, Davison 2014):

(i)	mã=ne	baccõ=se	[PRO	kıtab-ẽ	paṛʰ-ne=ko]	kah-a
	mother=ERG	child.M.PL=ABL		book-F.PL.ABS	read-INF=DAT	say-PF.M.S

In Persian/Farsi, embedded clauses are generally finite and so it is more difficult to test what happens when T loses the ability to assign a structural Case.

[16] This list is, of course, non-exhaustive. One obvious omission is the proposal developed by Bittner and Hale (1996). Despite the many merits of this approach, notably its ability to derive two kinds of ergative languages, it relies so heavily on the machinery of GB theory that it is difficult to reformulate in Minimalist parametric terms, though it may be considered a version of the proposal in section 4.5. Murasugi (1992) develops a proposal whereby the object raises to spec IP in ergative languages, an account which has much in common with the analyses in section 4.3. Campana (1992) develops a variant of the kinds of approaches discussed in 4.4 whereby transitive subjects raise to spec AgrOP at LF, whereas objects and intransitive subjects raise to SpecAgrS. Unfortunately, space restrictions prevent a full discussion of these proposals.

(i) Thematic ergativity (Levin 1983, Marantz 1984, Dowty 1991)
(ii) Ergative clauses as nominals (Johns 1992)
(iii) Parameterised Agree (Bobaljik 1993, Müller 2009, Assmann et al. 2012)
(iv) 'Smuggling' approaches (Koopman 2012, Roberts 2010)
(v) Ergative as a dependent case (Marantz 1991, Baker in progress, to appear, Stiebels 2000)
(vi) Ergative as an inherent case (Woolford 1997, 2006a, Aldridge 2004, 2008a, Legate 2008, 2012, Sheehan 2013)
(vii) Phase-based accounts of syntactic ergativity (Aldridge 2004, 2007, 2008a)
(viii) A parameter hierarchy approach (Sheehan 2013)

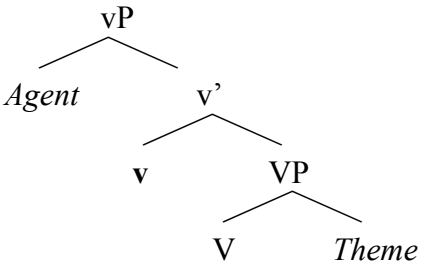
In discussing these approaches we shall consider their generality as well as their ability to deal with variation of the kind described in section 3. It may ultimately turn out to be the case, though, that (surface) ergativity is determined by wholly distinct parameters in different languages and that this is the explanation for the various kinds of ergative systems described in section 3.

4.1. Thematic ergativity

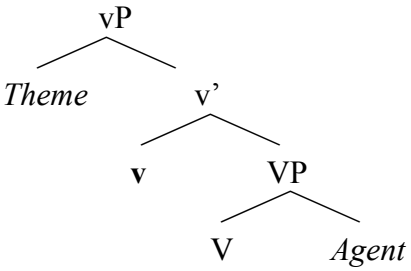
Early accounts attributed ergativity to a thematic parameter (at least for 'deep' or syntactically ergative languages) (Levin 1983, Marantz 1984, Dowty 1991). Rather than a principle, the Universal Theta-Assignment Hypothesis in (32) was treated as a parameter, so that the deep structures of accusative/ergative languages differ as in (33a-b).

32) Universal Theta-Assignment Hypothesis (UTAH) (Baker 1988: 46)
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

33) (a) Syntactic accusativity
Agent roles – assigned by predicates
Theme/patient roles – assigned by verbs



(b) Syntactic ergativity
Agent roles – assigned by verbs
Theme/patient roles – assigned by predicates



This thematic approach to ergativity has now largely been abandoned because there is evidence that even the 'deep' ergative languages pattern like accusative languages with regard to binding, incorporation and idiom formation, suggesting a universal thematic structure common to all languages (Baker 1988, 1997, Manning 1996a, b).

Thus Dixon (1994: 138) claims that "[i]n every ergative language, as in every accusative language, the 'antecedent', i.e. the controller of reflexivity is A (or S,

where it is extended to intransitives)". This is true of morphologically ergative languages like Basque:

34) Gudari-ek elkar hiltzen zuten [Basque]
soldiers-ERG RECIP.ABS kill AUX
'The soldiers killed each other.'

35) *Gudari-ak elkarr-ek hiltzen zituen/zituzten
soldiers-ABS RECIP-ERG kill AUX

36) Lagun-ak elkarr-ekin joan dira
friend-ABS RECIP-with go AUX
'The friends have gone with each other.' (Manning 1995: 2)

It is also true of syntactically ergative languages like Toba Batak (Austronesian), which display the ban on A-bar extraction of ergative DPs. Like many Austronesian languages, Toba Batak has a complex voice system. Following Aldridge's (2006) account of Tagalog, I take the active voice to be the basic (ergative) alignment. In active voice, O must occur adjacent to the verb, receiving absolutive case. In objective voice, however, which I take to be an antipassive, A must occur adjacent to the verb and receive absolutive case:

37) [Mang-ida si Ria] si Torus
AV-see PM Ria PM Torus
Torus sees/saw Ria.'

38) [Di-ida si Torus] si Ria
OV-see PM Torus PM Ria
Torus sees/saw Ria.'

In both cases, A can bind an anaphor in O, and not vice versa, regardless of voice:

39) [Mang-ida diri-na] si John [Toba Batak]
AV-saw self-his PM John
'John saw himself.'

40) *[Mang-ida si John] diri-na
AV-saw PM John self-his
'Himself saw John.'

41) *[Di-ida diri-na] si John
OV-saw self-his PM John
'Himself saw John.'

42) [Di-ida si John] diri-na
OV-saw PM John self-his
'John saw himself.' (Manning 1996b: 5)

For this reason, then, it is now generally accepted that, even in syntactically ergative languages, thematic structure is not parameterised (see Baker 1997 for further discussion).

4.2. Ergative clauses as nominals

Another influential approach to ergativity claims that clauses are actually formally nominalisations in (some) ergative languages (see Johns 1992). Johns' core proposal is that verbs cannot project to VP in Inuktitut so that "there can be no objects at D-structure" (p60). For this reason, all Inuktitut transitive verbs surface with passive morphology which is nominal and so clauses are actually complex nominalisations with two 'subjects'. The main evidence for this proposal comes from the morphological make-up of the Inuktitut clause:

43)	arna-up	angut	kuni-ga-a [Inuktitut]
	woman-REL	man(ABS)	kiss-PASS.PART-3S/3S
	'The woman kissed the man.'		(Johns 1992: 59)

Note that in addition to the passive morphology on V, the 'ergative' subject actually bears relative (genitive) case, the same case which appears on possessors in NPs:

44)	Jaani-up	nasa-a
	John-REL	hat-3S
	'John's hat'	

Note also that the agreement morphology in (44) is identical to that in (43) and this is more generally the case. This means that (43) literally has the structure: 'The man is the woman's kissed one'.

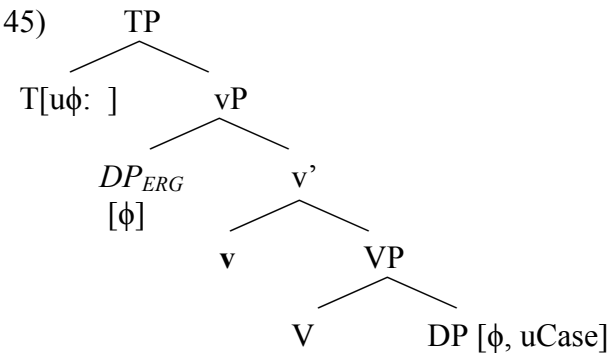
Interestingly, Johns (1992) notes explicitly that this is not really a parametric account but rather an approach whereby ergativity arises from "the interaction between language-particular lexical features and universal principles" (p58). Like the analysis in 4.1 it implies, nonetheless, that the thematic structure of ergative languages differs dramatically from that of their accusative counterparts, and as such it faces many of the same challenges. It is not clear to what extent this analysis is intended to generalise to other languages, but see Salanova 2009 and Carrió & Salanova 2009 for a similar account of Mẽbengokre (Jê, Brazil) and Mocoví (Guaykurú, Argentina) as well as the discussion in section 2.2.

4.3. Smuggling approaches

Another traditional account of ergativity assimilates it more directly to the passive (see Hale 1970, Estival & Myhill 1988 for discussion), and unlike the approaches in 4.1 and 4.2 takes ergativity to be a more superficial 'derived' property pertaining to case/agreement only, rather than base-generated structure. Smuggling approaches to ergativity can be considered a modern continuation of this trend. Here we outline the approach in Roberts (2010) but see also Koopman (2013) who develops an account of Samoan involving two instances of smuggling or 'double passivization'.

Roberts (2010) attempts to address the problem posed by defective intervention of the transitive subject A where T/INFL agrees with the transitive object O.[17]

45)



The problem with (45) is that in many contexts, a DP with inherent case, which presumably lacks an uninterpretable [uCase] feature can nevertheless block an agreement relation between a probe and an active goal. This is true, for example, with dative experiencer DPs of raising verbs in many languages:

46) Gianni sembra (??a Piero) fare il suo dovere [Italian]
Gianni seems.3SG to Piero do.INF the his duty
Lit. 'Gianni doesn't seem to himself to do his duty.'
(adapted from McGinnis 1998: 92)

47) Jean semble (??à Marie) avoir du talent [French]
Jean seems.3SG to Marie have.INF some talent
'Jean seems to Mary to have talent.' (adapted from McGinnis 1998: 90)

Such examples suggest the existence of something like (48) in natural language:

48) The Defective Intervention Constraint (based on Chomsky 2000:123)
$\alpha > \beta > \gamma$ (*AGREE (α,γ), where α is a probe and β is a matching goal, and β is inactive)

Following Collins' (2005) proposal for the passive, Roberts claims that O is smuggled past A in ergative languages via VP movement to spec VoiceP. This serves to render O available for probing by T, avoiding defective intervention by A:

49) T [$_{\text{VoiceP}}$ **[$_{\text{VP}}$ O V] Voice** [$_{\text{vP}}$ A v (VP)]]

The parameter separating ergative from accusative languages, in these terms, is whether derivations are 'direct', involving straightforward argument movement or 'indirect', involving smuggling of an argument. The approach has the advantage of deriving the lack of SVO ergative languages (Mahajan's 1994 generalisation) from the impossibility of raising a head-initial constituent in this way (ruled out by the independently justified Final-over-Final Constraint).

There are some potential technical and empirical issues facing such an approach, however. Firstly, after smuggling, O and A are actually equidistant from T, so some

[17] Note that, as such, it is an account only of high absolutive systems, where T agrees with S/O.

other mechanism is needed in order to make sure T agrees with O and A gets ergative case. Indeed, it might be expected that T could agree with both A and O in such a configuration (see Baker's 1988 proposed analysis of symmetrical double object constructions). On the empirical side, the analysis seems to account only for high absolutive languages. As discussed in section 3.5 it seems that in many ergative languages, in transitive clauses absolutive is actually assigned by v.

4.4. Parameterised Agree

Other parametric approaches to alignment eschew the parallel with the passive and posit a more direct parameterisation of Agree relations, without the need for demotion of the subject or smuggling of the object.[18] Bobaljik (1993) proposes the Obligatory Case Parameter (OCP) which constitutes the choice between subject- and object-type agreement in intransitive clauses. In a model where Agree relations are encoded as functional heads, following Chomsky (1995: ch3) in accusative languages AgrS is obligatory, whereas in ergative systems AgrO is obligatory:

50)	accusative transitive:	[$_{AgrSP}$ Agent	AgrS [$_{AgrOP}$ Theme AgrO [$_{vP}$ …]]]
	accusative intransitive:	[$_{AgrSP}$ Theme/Agent	**AgrS** [$_{vP}$ …]]
51)	ergative transitive:	[$_{AgrSP}$ Agent	AgrS [$_{AgrOP}$ Theme AgrO [$_{vP}$ …]]]
	ergative intransitive:	[$_{AgrOP}$ Theme/Agent	**AgrO** [$_{vP}$ …]]

The result is that in accusative languages the subject of an intransitive behaves like the subject of a transitive predicate, receiving Case from AgrS.[19] In ergative languages, on the other hand, the subjects of intransitive predicates behave like the *objects* of transitives as both receive Case from AgrO. The implication is that ergative is assigned by AgrS, and so is equivalent to nominative, whereas absolutive is assigned by AgrO and is equivalent to accusative. The apparent prediction is that only ergatives will be subject to raising and that absolutive will always be retained in non-finite contexts, where AgrS loses its ability to assign a structural Case. Manning (1996a) raises substantial empirical challenges for these predictions (see also section 3.5).

The account proposed by Müller (2009) and developed by Assmann et al. 2012 involves a parameterisation of the order of Merge and Agree. The crucial idea in this approach is that in an ergative system, Merge applies prior to Agree. This leads to the ergative/accusative parameter once certain other assumptions are made. Firstly, ergative and accusative must both be Cases assigned by little v via Agree. Secondly, Agree must take place under under m-command. Finally, and (most controversially), specifiers must be closer to heads than material in the complement domain. If all these things hold then where Merge precedes Agree, v will Agree with the external argument, resulting in ergative Case being assigned. Where Agree precedes Merge, however, v will Agree with the internal argument, resulting in accusative Case. What is parameterised in these terms, then, is the relative ranking of operations:

[18] For Bobaljik (1993) defective intervention is not an issue as absolutive case is assigned locally by AgrO. It is a potential issue for Assmann et al. (2012) but they define locality in such a way that the problem does not arise. In fact, it is crucial for them that two DPs in a given complement domain are equidistant from a c-commanding probe, as we shall see shortly.

[19] As Bobaljik notes, the proposal is not tied to the existence of AgrS/AgrO. See Rezac (2008) for a reformulation without dedicated agreement heads.

52) ergative alignment: Merge > Agree
53) accusative alignment: Agree > Merge

An added attraction of Assmann et al.'s approach is that it also provides an account of syntactic ergativity (see section 3.4), based on the following three (again fairly controversial) assumptions: (i) there is no intervention so that all DPs in a given complement domain are potential targets for a c-commanding probe, (ii) TP is a phase, and (iii) an ergative-marked DP can nonetheless agree with T. If these assumptions hold then the ergative DP will need to raise through spec TP in order to be A-bar extracted from the TP phase. Upon moving to T, however, it will necessarily 'maraud' (i.e. steal) T's case feature in an ergative system as Merge precedes Agree and specifiers are closer than complements. This leaves the internal argument without Case, leading to a crash in the derivation. The same parameterisation which leads to ergative alignment thus also explains syntactic ergativity for free.

Despite the attraction of this approach, it faces a number of potential challenges. As Assmann et al. note, without further stipulations, it predicts all ergative languages to be syntactically ergative (banning A-bar extraction of the transitive subject), contrary to fact (see section 3). Altering the model to allow for languages such as Basque and Chol requires considerable complication of the elegant model (see their section 5.2). The approach also raises questions concerning the nature of parameters. While the proposal is pleasingly minimal in a certain respect, it involves the parameterisation of the ranking of narrow syntactic operations, something which represents a drastic move away from the Borer-Chomsky conjecture that parameters stem from variation in the features of functional heads. To what extent variation can or should be modelled in this way is a matter of ongoing research.

4.5. Ergative as a dependent case

A very different approach to ergativity was first put forth by Marantz (1991, 2000) and taken up by Stiebels (2000) and Baker (in progress, to appear) (see also the proposals in Anderson 1976 and Bittner & Hale 1996)). Marantz starts by noting that Burzio's generalisation concerning the distribution of accusative case finds its mirror image in ergative systems:

54) Burzio's generalisation: no accusative case on an object in a sentence with a non-thematic subject position
Ergative generalisation: no ergative case on a non-thematic subject (i.e., on an argument moved into a non-thematic subject position) (Marantz 2000:14)

The explanation for this, he claims, is that both accusative and ergative are dependent cases which are assigned in the morphological component in the presence of another DP without lexical case. The parameter determining ergativity is the following:

55) Dependent case is assigned by V+I to a position governed by V+I when a distinct position governed by V+I is:
a. not "marked" (not part of a chain governed by a lexical case determiner)
b. distinct from the chain being assigned dependent case
Dependent case assigned up to subject: ergative

Dependent case assigned down to subject: accusative[20] (Marantz 1991: 25)

Abstracting away from the role of government, the effect of (50) is that where two arguments without inherent cases occur in a c-command relation within the same clause one of them will be assigned dependent case. By placing case assignment (and agreement) in the post-syntactic morphological component in this way, Marantz denies any syntactic difference between ergative and accusative systems. All that is at stake is a rather superficial fact of morphology.

The attraction of such an approach lies in its simplicity and the parallels between accusative and ergative which Marantz describes. As he further notes, a system which places case/agreement in the morphological component is better placed to handle case/agreement mismatches of the kind described in section 3.3. Baker (in progress, to appear) shows that a variant of this approach can account for a range of facts, including the interaction with differential marking of the kind described in section 2.3. A potential challenge for the approach comes from the existence of syntactically ergative and high absolutive languages, which suggests that the syntax of (some) ergative systems differs from that of their accusative counterparts.

4.6. Ergative as an inherent Case

An approach which has also gained popularity in the recent generative literature is the idea that ergative is an inherent case (see Mahajan 1989, Massam 1994, Woolford 1997, 2006a, Aldridge 2004, 2008a, Legate 2008, 2012). As Woolford (2006a) notes, ergative is often classified as a structural case based on mistaken diagnostics, notably because it is a pervasive feature of transitive clauses. As she notes, independently of ergativity, UG must allow for theta-related cases which are assigned to specific structural positions, because of the existence of dative case which is assigned to goals/beneficiaries/experiencers in many languages. Ergative, she claims, is just the theta-related inherent case associated with agents. Evidence for this position comes from the fact that (i) there is no raising to ergative (Marantz 1991), but (ii) ergative subjects can undergo raising in some languages (Woolford 1997).

If ergative is a thematic case associated with little v then the naïve prediction is that all specifiers of little v will be ergative. While this apparently works well for split-S languages such as Basque (see Laka 2006b and section 3.2), it is not so obviously true in ergative languages like Dyirbal, as Bok-Bennema (1991) notes. In order to account for such languages a distinction must be made between transitive and intransitive little v, where only transitive v assigns ergative case.

While the inherent case approach has been claimed to work for several different ergative languages, Rezac, Albizu & Etxepare (to appear) raise some problems in relation to Basque (see also Preminger 2012). Further challenges arise from the fact that non-Agents receive ergative in a number of different ergative languages languages. Thus causers in Lezgian (Haspelmath 1993) are ergative as are some experiencers in Hindi (Davison 2014). Such cases are problematic if causers and experiencers are *never* introduced by little v, something which can be established only via independent (and probably language-specific) diagnostics. Only the careful study of the distribution of ergative case in conjunction with a coherent and motivated theory of thematic structure can really test the validity of the inherent case approach (see Legate 2012 for one such study of Walpiri).

[20] As Marantz notes, (a) is essentially a stipulation to make sure that accusative is not assigned where a subject has quirky case.

4.7. Phase-based account of syntactic ergativity

As it stands, the inherent case approach to ergativity provides no explanation for syntactic ergativity (see section 3.4) or the difference between high and low absolutives (see section 3.5). More generally, under any approach to ergativity, it is clear that more than one single parameter is at stake given the kinds of splits described in section 3. Aldridge (2004, 2007, 2008a) proposes that a distinct parameter determines syntactic ergativity. An additional EPP feature is present on transitive v in syntactically ergative languages forcing O to (covertly) scramble past A. This movement, she claims, has the effect of (i) triggering a presuppositional reading of O, as it escapes existential closure (see Diesing 1992) and (ii) trapping the transitive subject inside the vP phase, based on a strong sense of phase impenetrability.

Coon, Mateo Pedro and Preminger (2014) propose a similar account of syntactic ergativity based on the consideration of a number of Mayan languages. A crucial difference between their approach and that of Aldridge is that they claim syntactic ergativity is a property only of high absolutive languages. In their terms, A gets trapped inside the vP phase precisely because the object must raise to the phase edge to receive absolutive case. Coon et al. state clearly that their analysis is intended to apply only to Mayan. A potential problem with making this proposal more general is that, outside of the Mayan family, there appear to be low absolutive languages which nonetheless display syntactic ergativity (see Aldridge 2007, 2008a).

4.8. A parameter hierarchy for alignment

Thus far we have considered a number of different approaches to ergativity which attribute it to parameters determining variously; (a) thematic/base-generated structure, (b) the application of passive transformations (c) Agree relations, (d) morphological case assignment or (e) the distribution of inherent case. While all of these approaches have their various merits, a major challenge they face comes from the various kinds of split ergativity described in 3. At the very least, further micro-parameters (of the kind in 4.7) are needed in order to model the possibility of (i) split intransitivity, (ii) morphological vs. syntactic ergativity (iii) high/low absolutives and (iv) case/agreement mismatches. In fact, matters are made more complex by the fact that a number of one-way implications have emerged from generative and typological work in this domain (see also Deal 2013 for an extensive summary):

i. Ergative with unergatives > ergative with transitives
ii. Syntactically ergative > morphologically ergative (Dixon 1994: 172)
iii. Ergativity in Control > Ergativity in A'-movement > Ergativity in case/agreement (Deal 2013: 12)
iv. Split-S alignment > no restriction on extraction of DP_{ERG} (Deal 2013: 12)
v. Ergative agreement > ergative case or no case (Anderson 1977, Moravcsik 1978, Corbett 2006, Woolford 2006b)
vi. Ergative case > overtly marked ergative case (Deal 2013: 12)
vii. Ergative > not SVO (Trask 1979, Mahajan 1994)

The status of such implications in generative grammar remains unclear (see Haspelmath 2008). One possibility, though, is that they could be modelled via

dependent parameters of the kind discussed by Roberts and Holmberg (2010). Sheehan (2013) proposes a parameter hierarchy to account for some of (i-vii), based on the approach to ergativity described in sections 4.6-4.7. The proposed parameter hierarchy looks as follows:

Figure 1: a parameter hierarchy for clausal alignment

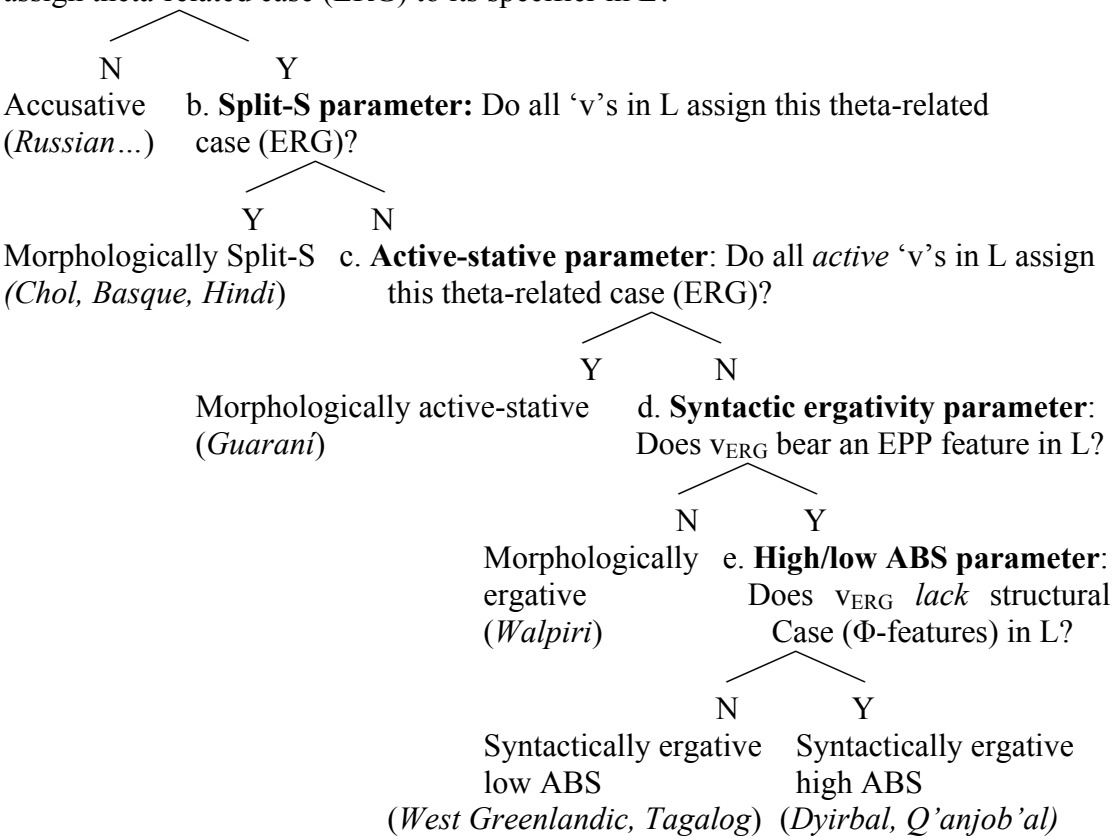


Figure 1 takes the micro-parameters defining (split) ergativity and places them in transitive dependencies deriving the implications in (i-iv). The hierarchy itself, rather than being prespecified by Universal Grammar, is claimed to be emergent (see Roberts 2012).

This approach to parametric variation carves a path between micro- and macro-parametric models and potentially renders the micro-parametric approach more explanatory. The macro-parameter determining alignment (parameter a) sits at the top of the hierarchy and separates accusative from non-accusative systems. Further dependent parameters give rise to progressively more ergative systems which are more complex and are thus predicted to be rarer, all else being equal. Parameters (b-c) determine the distribution of ergative in a given language across some coherent set of little vs. Strictly speaking these parameters stand in *negative* dependencies and so are not actually hierarchically ordered: reordering (b-c) would not alter the outputs of the system in any way (see Sheehan in progress). The same is not true where positive dependencies are involved, as in (a), (d) and (e). These parameters are hierarchically ordered: altering their relative ranking in Fig 1 would give rise to different outputs which would in turn fail to capture the implicational universals in (i-iv). The parameters in Fig 1 are fairly minimal, involving only the feature make-up of a single

class of functional heads (little v). The crucial question is where the dependencies themselves come from. Sheehan (2014b, in progress) proposes that they stem from (i) acquisition strategies (drawing on Roberts 2012) and (ii) the need for convergence.

A remaining challenge for this approach is how, if at all, it can account for the remaining implications (v-vii) as well as challenges to the idea that ergative is an inherent case.

5. Conclusions and future directions

This chapter has considered the nature of various kinds of ergativity in the context of parametric theory. While it is not clear at present whether we need to posit variable parameter settings in a given language, it is clear that far from there being a simple parameter which separates ergative from accusative languages, what we actually have is a series of micro-parameters determining a number of non-accusative alignments. In section 4 we have outlined a number of generative approaches to ergativity, most of which can be formulated as parameters, and discussed some of their merits and shortcomings. In order to account for apparent universal implications in this domain, we have also considered the possibility that these alignment parameters stand in dependency relations. What remains unclear at present, given the extent of attested variation, is whether it can be maintained that ergative case has the same (inherent/dependent/preposional/genitive) status in *all* languages or whether this too varies, complicating the picture even further.

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