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Towards a Parameter Hierarchy for Alignment

Michelle Sheehan
University of Cambridge

1. Parameter hierarchies

Parameter hierarchies provide a potential solution to the tension between descriptive and explanatory adequacy currently pervading parametric approaches to linguistic variation. This tension arises from the fact that a relatively large number of micro-parameters appear to be required in order to adequately describe the differences between natural languages (cf. Kayne 2010). The problem is that n *independent* binary parameters (as in table 1) yield 2^n linguistic systems so that even 30 such parameters gives rise to over a billion linguistic systems, as Roberts & Holmberg (2010: 34) note, making the space of variation fairly unrestricted. As we almost certainly need at least 30 parameters, and probably many more, there is a question how explanatory such a parametric model can be. More specifically, it is unclear whether such a model addresses the poverty of the stimulus problem adequately or captures the existence of 'structured variation' whereby certain hypothetical possibilities remain unattested whereas others are very frequent (see Baker 2008 for a similar point).

Table 1: Independent parameters		
	A	**B**
√	Y	Y
√	Y	N
√	N	Y
√	N	N

Table 2: Co-dependent parameters		
	A	**B**
√	Y	Y
*	Y	N
*	N	Y
√	N	N

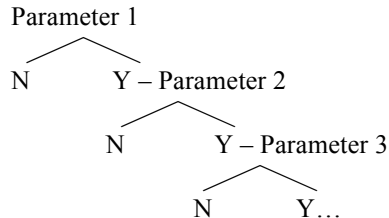| Table 3: Dependent parameters		
	A	**B**
√	Y	Y
√	Y	N
*	N	Y
√	N	N

Of course the number of linguistic systems is drastically reduced in a model where these micro-parameters, rather than being *independent* (Table 1), are *co-dependent* (Table 2) forming macro-parametric clusters, as proposed most prominently by Rizzi (1982) and Baker (1996).[1] In such cases a series of two or more micro-parameters effectively function as a single point of variation, vastly reducing the variation space: 30 micro-parameters grouped into 5 macro-parameters, for example, yield only 2^5 linguistic systems (=32).

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[1] This is a simplification of macro-parametric approaches. For Rizzi (1982), for example, the surface effects of the null subject parameter (which may or may not be considered a macro-parameter) are multifold, but all these surface effects can be traced back to the properties of T. For Baker (1996), the fact that all arguments must be connected to verbal morphology forces all arguments to be adjoined with several different implications. Again, these surface effects are 'parameters' only in a purely descriptive sense.

Despite the obvious attractions of such an approach, it seems fairly clear that not all parameters form macro-parametric clusters of this kind. A third possibility, which has not yet been widely explored in the generative literature is the possibility that parameters are *dependent* (Table 3), meaning that one-way implications hold between parameter settings so that a positive setting for parameter B depends on a positive setting for parameter A, but not vice versa. Dependent parameters of this kind can be modelled via parameter hierarchies like those discussed by Roberts & Holmberg (2010), Roberts (2012) and Ledgeway (in press):

Figure 1: parameter hierarchy

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    Parameter 1
      /\
   N     Y – Parameter 2
            /\
         N     Y – Parameter 3
                 /\
              N     Y…
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If 30 binary dependent parameters stand in a single hierarchy of this kind, then they yield only n+1 linguistic systems (=31).[2] If they are divided into five independent hierarchies each comprising 6 dependent parameters, then this yields $(6+1)^5$ linguistic systems (=16807). In either case, the space of variation is drastically reduced, providing the potential for a more explanatory model, which nonetheless retains descriptive adequacy.

While such a model (Table 3) is much less restrictive than the co-dependent/macro-parametric alternative in Table 2, there are some reasons to believe it underlies much cross-linguistic variation, as we shall see below. In the remainder of this paper, I use clausal case/agreement alignment as a case study in order to argue in favour of the benefits of a parameter hierarchy approach to linguistic variation. Section 2 introduces (split) ergativity and the challenges it poses for parametric theory. Section 3 introduces a series of dependent parameters, which can account for the attested alignments in a number of unrelated languages as well as for many (otherwise mysterious) implicational universals. Section 4 discusses the status of these parameter hierarchies and argues that they are emergent rather than pre-specified in Universal Grammar, with the dependencies in question being shaped by third factors (in the sense of Chomsky 2005). Section 5 concludes and outlines some avenues for future research.

2. (Split) ergativity
2.1. Kinds of splits

It is well know that while most Indo-European languages have accusative alignment whereby the intransitive subject *aligns* with the transitive subject in terms of its case and/or agreement properties (as in (1)), many of the world's languages appear to have essentially the mirror image, labelled 'ergative' alignment, whereby the subject of an intransitive patterns with the object of a transitive clause for case and/or agreement, as illustrated in (1)-(2) (see Dixon 1994 for an overview):

(1) a. *He* is kissing **her**   b. *She* is eating

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

It is also well known, however, that few, if any, languages are fully ergative in this sense (Moravcsik 1978, Dixon 1994). Rather, what is actually attested cross-linguistically are various kinds of 'split'

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[2] This is regardless of whether the hierarchy branches in just one direction or not.

ergativity (Dixon 1994: ch 4). The first kind of 'split' involves a morphologically ergative system which is syntactically accusative, as diagnosed by patterns of raising and control (cf. Anderson 1976). There are also systems which are better described as 'split-S' where intransitive subjects pattern either with transitive objects or transitive subjects, depending on volition/agency (Sapir 1917, Harris 1982, Mithun 1991). A third kind of split concerns a mismatch between case and agreement morphology, where a language can have ergative case and accusative agreement but not vice versa (Anderson 1977, Moravcsik 1978, Corbett 2006, Woolford 2006b). Finally, there are also systems in which alignment is sensitive to person, tense/aspect and/or the matrix/embedded distinction in ways that remain cross-linguistically stable (Dixon 1994). Crucially, a given language can display multiple different splits of this kind. Take for example (Western) Basque, which displays: split-S alignment (Laka 2006b); an aspect-sensitive split (Laka 2006a); plus a mismatch between morphology and syntax, as its syntactic relations seem to be organised along accusative lines (Anderson 1976). These splits raise obvious challenges for a parametric account of alignment. Not only does it appear, on the surface at least, that we are dealing with various micro-parameters rather than a single ergativity parameter, it also appears, more problematically, that micro-parametric settings are variable even within a given language.[3]

The picture is made even more complex by the fact that typological and generative research has nonetheless brought to light many apparent implicational universals in the domain of alignment. Such implications indicate that not all hypothetical combinations of micro-parametric settings are possible, (contra Table 1):

  i. Ergative with unergatives > ergative with transitives (no split-S accusative languages)
 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 > not syntactically ergative (Deal 2013: 12)
  v. Tripartite case system > not syntactically ergative (Deal 2013: 12)
 vi. Ergative agreement > ergative case or no case (Anderson 1977, Moravcsik 1978, Corbett 2006, Woolford 2006b)
vii. Ergative case > overtly marked ergative case (Deal 2013: 12) (not explained by the hierarchy)
viii. Ergative > not SVO (Trask 1979, Mahajan 1994) (not explained by the hierarchy)

These kinds of one-way implications are exactly the kinds of effects expected to arise from dependent parameters (Table 3). The challenge is therefore to create an alignment parameter hierarchy which can explain as many of (i-viii) as possible whilst also allowing for precisely the range of alignments which are attested and no others. [4]

2.2. Cleansing the data: illusory splits

Crucially, it has been argued that language-internal splits do not arise from variable alignment parameter settings but rather because of factors which vary independently of alignment (Laka 2006a, Coon 2010 and Coon and Preminger 2012). The final three kinds of splits are arguably of this kind and hence, I assume, fall outside the remit of the alignment parameter hierarchy. Consider, for example, the sensitivity to aspect. In Basque perfective aspects, the transitive subject surfaces with ergative case, whereas in imperfective contexts it surfaces with (unmarked) absolutive case. According to Laka (2006a), though, this is not due to variable alignment, but rather to the fact that imperfective aspect

[3] As such, even early generative approaches recognized a difference between 'deep' ergative languages like Dyirbal and morphologically ergative languages like Basque (see Levin 1983, Marantz 1984). A late exception is Bobaljik (1993: 1) who claims that "[T]he *Obligatory Case Parameter* [...] is the sole systematic difference between Ergative and Nominative systems. Other differences between languages are the result of independent parameters which cut across the Ergative vs. Nominative dichotomy."
[4] This is assuming that lack of attestation implies impossibility, which is obviously not always the case. The fact that there may be no language in which yes means <<no>> does not make this *a priori* impossible. Nonetheless, given the frequency of the attested alignments in unrelated languages in diverse areas of the world, many of the one-way implications in (i-viii) are striking and the corresponding gaps are unlikely to be due merely to chance.

involves a biclausal structure in Basque so that what looks like a *transitive* subject is actually an *intransitive* subject. The object in both contexts notably bears absolutive case:

(3) a. emakume-a-k   ogi-a   jaten du
     woman-DET-ERG   bread-DET   eating has
     'The woman eats (the) bread'   [Basque, minimally adapted from Laka (2006b: 173)]
     b. emakume-a$_i$ [$_{PP}$ PRO$_i$ ogi-a   ja-te-n]   ari   da
     woman-DET$_i$ [bread-DET   eat-NOM-LOC]   engage   is
     'the woman is (engaged in) eating bread'   [Basque, adapted from Laka (2006b: 183)]

Coon (2010) and Coon and Preminger (2012) argue that related explanations can be given for parallel effects in other languages, including Chol (Mayan). Crucially, accusative languages also often use extra structure to mark imperfective aspect, but in such cases the subject of transitive and intransitive verbs pattern alike and so there are no implications for surface case/agreement patterns:

(4) a. *Ele* comeu=**o**   b. *Ele* está   [$_{PP}$ a   comê=**lo**]   [European Portuguese]
     he.NOM ate=it.ACC   he   is   at   eat.INF=it.ACC
     'He ate it.'   'He is eating it.'

The sensitivity to person and the matrix/embedded distinction also seem to be due to factors independent of alignment (see Coon & Preminger 2012). Non-accusative systems which show a sensitivity to person display what is often called differential subject marking (DSM), whereby the higher on Silverstein's (1976) animacy hierarchy a subject is, the less likely it is to be marked overtly with ergative case. Crucially, DSM, like differential object marking (DOM), appears to be available in both ergative and accusative systems (de Hoop and de Swart 2008), and so appears to be an *independent* rather than a *dependent* parameter. The matrix/embedded sensitivity, likewise, may stem from factors independent of alignment. Many languages use nominalisation as an embedding strategy and eventive nominalisations are often ergative regardless of clausal alignment (Alexiadou 2001). It follows that an accusative language which uses nominalised embedded clauses will give the appearance of split-ergativity, whilst remaining accusative in its clausal alignment (see, for example, Gildea 1998 on Carib). If this is more generally the case, then language-internal splits are essentially illusory: a language has a fixed clausal alignment which can nonetheless be disguised in certain ways. The expectation is that once the data have been 'cleansed' of these interfering factors, language-internal variation will disappear and we will be left with a smaller number of different basic clausal alignments. In the following section I propose a parameter hierarchy consisting of five dependent parameters which derives all and only these alignments as well as many of the universal implications holding between them. I then consider the status of the dependencies in question, arguing that they are not prespecified in UG but rather emergent from third factor pressures.

3. Clausal alignments
3.1. Approaches to ergativity

While early accounts of ergativity posited differing thematic structures (at least for 'deep' or syntactically ergative languages) (Levin 1983, Marantz 1984, Dowty 1991), more recent approaches analyse differences in alignment in terms of variation in case/agreement only, because there is evidence that even the most ergative languages pattern like accusative languages with regard to binding, incorporation and idiom formation, suggesting a universal thematic structure (Baker 1988, 1997, Manning 1996a, b). While there are many different approaches to ergativity in the generative literature, most fall into one of the following five categories:

     (i)   ERG = inherent case (Woolford 1997, 2006a, Aldridge 2004, 2008, Legate 2008, 2012)
     (ii)   ERG = dependent case (Marantz 1991, Baker to appear)

(iii)   parameterised Agree (AgrS/AgrO obligatory) (Bobaljik 1993, Chomsky 1995)
(iv)   'smuggling' approaches (Koopman 2012, Roberts to appear)
(v)   ergativity as 'Merge > Agree' (Müller 2009)

While a full comparison of these approaches is well beyond the scope of this paper, I nonetheless mention a few potential problems with (ii)-(v) as a justification of the adoption of (i) here.
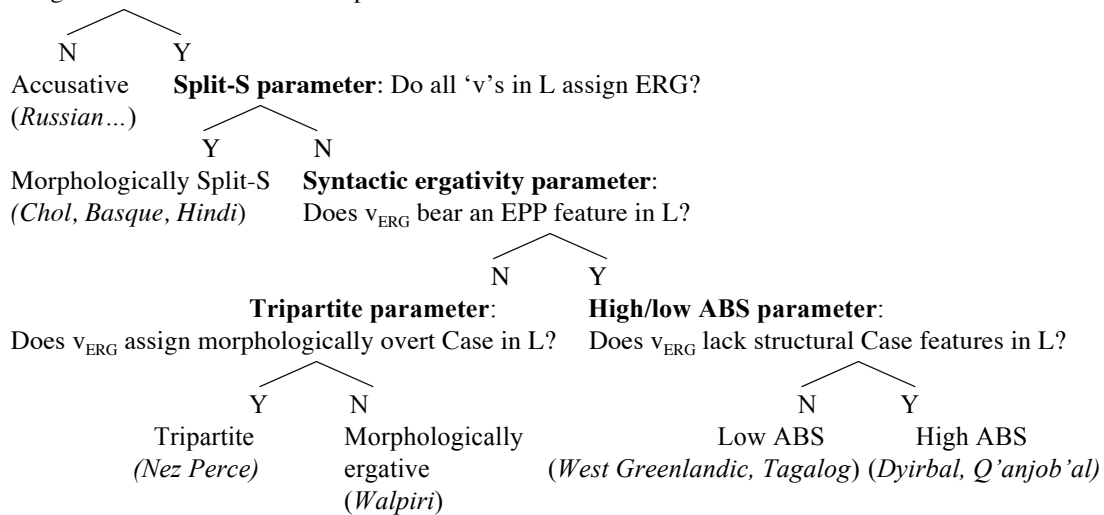
The dependent-case approach to ergativity takes ERG to be the mirror image of ACC with both being dependent cases assigned where two DPs in a local domain need to be morphologically differentiated. While this approach has many attractions, it takes case to be a post-syntactic phenomenon and as we shall see below this is not consistent with the fact that some ergative languages appear to differ syntactically from accusative languages in systematic ways. (iii)-(v) in a sense, face the opposite problem (if taken as the basic alignment parameter), as they imply that non-accusative systems always differ syntactically from accusative systems in their syntax, apparently contrary to fact. Indeed, as mentioned above, it appears that some ergative languages have basically an accusative syntax with 'quirky' ergative or split-S morphology (Anderson 1976). Further support for (i) comes from Marantz's (1991) generalisation that derived subjects do not get marked as ergative (but see Deal 2013: 29-32, Rezac, Albizu, and Etxepare, to appear, for some potential objections to this). Adopting (i) has the advantage of giving non-accusative alignments the unified property of having a transitive 'v' which assigns ERG to its specifier, with their other properties arising from additional dependent parameters As such, I build the alignment hierarchy based on (i).[5]

3.2. *The alignment parameter hierarchy*

Figure 2 proposes a parameter hierarchy for clausal alignment, comprising five parameters, drawn largely from the literature, arranged into transitive dependencies. Note that the relevant dependencies can be negative as well as positive; the activation of a given parameter can depend on either a positive or negative setting of some higher parameter:

Figure 2: a parameter hierarchy for clausal alignment
Basic alignment parameter: Does transitive 'v'
assign theta-related ERG to its specifier in L?

 N   Y
Accusative   **Split-S parameter**: Do all 'v's in L assign ERG?
(*Russian…*)
                         Y   N
Morphologically Split-S   **Syntactic ergativity parameter**:
(*Chol, Basque, Hindi*)   Does v_{ERG} bear an EPP feature in L?

                                        N   Y
                         Tripartite parameter: **High/low ABS parameter**:
Does v_{ERG} assign morphologically overt Case in L?   Does v_{ERG} lack structural Case features in L?

                    Y   N   N   Y
                 Tripartite   Morphologically   Low ABS   High ABS
                 (Nez Perce)   ergative   (*West Greenlandic, Tagalog*) (*Dyirbal, Q'anjob'al*)
                                   (*Walpiri*)

Languages get progressively more 'ergative'/less accusative and more marked as we move down the hierarchy. The first parameter divides accusative languages from all other types of systems, making the (apparently correct) prediction that the former will be the least marked and hence the most frequent

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[5] It should be born in mind, though, that the rationale behind the hierarchy is independent of the specific approach to ergativity taken and it might ultimately turn out that a mixture of the approaches in (i)-(v) is required.

alignment type, all else being equal. This is done formally by allowing transitive little v optionally to assign a morphological case to its specifier along with its thematic role. This is the case descriptively labelled ergative (ERG).[6]

The second parameter asks whether all instances of little v in a given language behave like transitive little v (see Legate 2008). Assuming the unergative/unaccusative distinction to be universal, the prediction is that, in such languages, the subjects of unergatives will be introduced by little v and so will surface with ERG whereas the subjects of unaccusatives, which originate as the complements of V, will surface with absolutive (ABS). This is apparently the pattern attested in many languages, though there is low-level variation with respect to which verbs fall into which class.[7] (Western) Basque, for example, has been argued to pattern along these lines (Laka 2006b):

(5) a. Txalupa   hondora-tu da.   b. Klara-k   ondo   eskia-tzen   du.
        Boat.DEF.ABS sink.PERF is   Klara-ERG   well   ski.IMPF   has
        'The boat sank' [Basque, Laka 2006b: 376)]'Klara skies well.' [Basque, Laka 2006b: 379)]

Other languages that can be classified as split-S in these terms include: Georgian, Kartvelian (Harris 1982), Hindi-Urdu (Butt & King 2002), Chol, Mayan (Coon 2010) and Tsova-Tush, Nakh (Nichols 2008).[8]

The syntactic ergativity parameter, adapted from Aldridge (2004, 2008a, b), concerns the presence/absence of an EPP feature on v_{ERG}. In languages where v_{ERG} bears such a feature, this triggers movement of the internal argument to spec vP. The presence of DP_{ABS} in the outer specifier of vP serves to block A-bar extraction of DP_{ERG}, giving rise to the defining feature of syntactically ergative languages.[9],[10] 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), Chukchi (Comrie 1979) and Katukina, an Amazonian language (Queixalós 2012). Consider the following West Greenlandic example:

(6) *anguti$_i$ [t$_i$ aallaat   tigu-sima-sa-a]
    man.ABS   gun.ABS   take-perf-rel.tr-3s
    'the man who took the gun'   [West Greenlandic, Manning (1996a: 84)]

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[6] Note that this implies that different flavours of little v introduce all external theta-roles, agent, causer or otherwise (Folli & Harley 2007).

[7] Again, though, this kind of variation is not specific to ergative systems, as accusative languages like Italian and French display some differences with respect to the unaccusative/unergative divide (Sorace 2000). Likewise, the existence of fluid-S languages is mirrored by the fact that some verbs show variable unaccusative/unergative behaviour in languages like Italian (Sorace 2000).

[8] There are some split-S systems which do not appear to fit so neatly with this prediction as they appear to be sensitive to the stative/active distinction rather than the agentive/non-agentive distinction (Mithun 1991). Possibly a more fine-grained series of parameters will be required in this portion of the clause in order to capture this, but we leave this matter aside here because of space pressures.

[9] Given that PPs/adverbials lower in vP can nonetheless be extracted at least in some syntactically ergative languages (see Assman et al. 2012), it must be that the movement of DP_{ABS} does not prevent all further movement to additional spec vP positions. Short movement of DP_{ERG} past DP_{ABS} is nonetheless blocked because of Anti-locality.

[10] Hilda Koopman (p.c.) asks whether this is not the same restriction as the that-trace effect observed in accusative languages such as English and French. While the similarity is suggestive and merits further investigation, there seem to be differences between the two phenomena. That-trace effects are known to be sensitive to adverbials/stress patterns in languages like English and as such have been argued to be a PF-effect (Kandybowicz 2006). Seconcly, syntactic ergativity affects only the transitive subject and in this way differs crucially from that-trace effects, which affect transitive/intransitive subjects alike. Finally, in ergative languages, the normal way to overcome the effect is to use an anti-passive or Agent Focus construction, whereas in English/French, the effect can be overcome via a change of complementiser. Erlewine (2013), however, describes the restriction in Kakchitel (Mayan) which does bears some striking similarities to that-trace effects. I leave a full investigation of these parallels to future research.

Languages with this restriction generally use an Antipassive or Agent Focus construction to demote the agent and render it extractable (see Coon et al. 2012).

The final two parameters concern whether v_{ERG} also assigns a structural Case, which surfaces morphologically as ACC or ABS. Legate (2008, 2012) argues at length that in some languages ABS comes from v rather than T. In these low ABS languages (also discussed by Coon et al. 2012 in slightly different terms), ABS comes from v_{ERG} making the internal subject susceptible to passivisation but not raising, and meaning that ABS (on the internal argument) will be retained in non-finite contexts. In languages in which v_{ERG} fails to assign structural Case, however, the internal argument will receive Case from T, making it susceptible to raising but not passivisation and meaning that ABS will be lost in non-finite contexts, yielding an ergative Control pattern (see Dixon 1994). While these predictions require further testing, Dyirbal, Q'anjob'al (Mayan) and Seediq appear to be high ABS languages in roughly these terms, whereas West Greenlandic and Tagalog seem to be low ABS syntactically ergative languages (Coon et al. 2011, Aldridge 2008, Deal 2013 for discussion). The other Case-related parameter concerns whether, in non-syntactically ergative languages (which freely permit A-bar extraction of DP_{ERG}) v_{ERG} assigns a morphologically overt/covert Case, giving rise to a tripartite morphologically ergative system like that observed in Nez Perce (Deal 2010).

The parameter hierarchy in Figure 2 achieves explanatory adequacy in that it derives the attested alignment systems while ruling out unattested systems and deriving almost all of the implicational universals discussed in section 2.1. Universals (i)-(v) fall out immediately from the dependencies in the parameter hierarchy. Consider by way of illustration the complex implication 'Ergativity in control > Ergativity in A'-movement > Ergativity in case/agreement'. This follows simply from the fact that the high/low ABS parameter which gives rise to an ergative Control pattern is dependent on a positive setting for the syntactic ergativity parameter which bans A-bar extraction of DP_{ERG}, which is in turn dependent on a positive setting for the basic alignment parameter and a negative setting for the split-S parameter, yielding ergative/absolutive case and/or agreement. The apparent lack of syntactically ergative split-S/tripartite systems falls out similarly from the fact that the syntactic ergativity parameter is never activated in such systems. Other universals require more explanation. Consider implication (vi), which states that "Ergative agreement > ergative case or no case". In the current approach, this can be attributed to the parameter hierarchy in combination with an independent morphological parameter:

(7) **Morphological agreement parameter**: morphological agreement tracks abstract/morphological case/Case.

As it is possible for a language to be abstractly accusative but morphologically ergative but not vice versa, (7), in combination with Figure 2, serves to explain (vi): a language with accusative case morphology would have to also be abstractly accusative. While some interesting implications remain unexplained, and require further consideration (notably (viii)), the proposed hierarchy nonetheless offers a promising first step towards a descriptively and explanatorily adequate theory of alignment based on dependent parameters. In the following section I attempt to go 'beyond explanatory adequacy' by considering the status of the parameter hierarchy and where the particular dependencies contained in it might stem from.

4. The status of parameter hierarchies

Although the parameter hierarchy in Figure 2 serves to model a number of implicational universals concerning alignment, its true explanatory value is diminished if there is no further explanation as to where the hierarchy itself comes from and why it has the particular properties it has. This is true particularly in the context of the Minimalist Program, which eschews stipulations and aims to streamline the content of UG. In such a model it seems implausible that a rich system of parameter hierarchies would form part of the genetically endowed language faculty. Assuming, fairly conservatively, that phi features, a movement-triggering EPP, thematic roles and Case are, nonetheless, all components of UG, the parameters in Figure 2 are fairly minimally specified and merely concern the

presence/absence of these features in a given domain. What remains mysterious, however, are the dependencies between them. Assume that the canonical instance of any thematic head can either associate a morphological case with its thematic role or not (in work in progress I extend the hierarchy in Figure 2 to DAT, assigned by the Applicative head Appl). The rest of the features which are parasitic on this initial parameter stem from general acquisition strategies and the association with the head in question of additional UG-specified features such as phi-features and an EPP. The fact that transitive little 'v' occupies the top of the hierarchy may stem from the fact that it is the most canonical instance of the thematic head 'v', but what regulates the relative ordering between its dependent parameters?

According to Roberts' (2007) 'input generalisation', the split-S parameter may be simply an attempt on the part of the acquirer to generalise a fact about transitive 'v' to all instances of 'v' in the language. The next choice concerns whether the property under consideration is also associated with an EPP feature. Interestingly, there are system-internal reasons why this parameter must sit between the spit-S and high/low ABS parameters. In a split-S system in which v_{ERG} were consistently associated with an EPP feature, this would make it impossible for clauses containing unergative verbs to converge, as in such cases v_{ERG}'s EPP feature could never be satisfied, there being no further object to raise to spec vP (and the movement of DP_{ERG} being ruled out by Anti-locality). Likewise, if the high/low ABS parameter were not dependent on a positive setting for the syntactic ergativity parameter, then it would make systems possible in which the internal argument could never receive Case. Imagine a system in which v_{ERG} bears neither an EPP feature nor structural Case features. In such a system, the internal argument would not be able to get Case inside vP but nor would it be able to receive Case from T, as DP_{ERG} would act as an intervener for Case assignment. As such, the dependencies between these parameters are not only empirically motivated but can also (at least partly) be derived from the pressure for convergence.[11] The idea, then, is that the dependencies between parameters, rather then being stipulated to hold in UG, emerge from third factor pressures in the form of the need to create only convergent systems.

5. Conclusion

This paper has presented a parameter hierarchy for clausal alignment consisting of five dependent parameters which give rise to six basic alignments. The dependencies between parameters, it has been proposed, need not be stipulated to hold of UG but might rather emerge from third factor pressures on the system, notably the need for convergence. The hierarchy remains tentative and requires further testing but at first sight it seems to explain many of the otherwise mysterious implicational universals governing alignment.

Future work will determine whether all alignment systems can be fitted into such a hierarchy or whether the various kinds of non-accusative systems arise from different kinds of parameters, like those discussed in 3.1. Additionally, it will also be investigated whether the same kind of parameter hierarchy determines alignment in other domains where ergative/accusative-like alternations can be observed, notably ditransitives (Dryer 1986, 2005), causatives (Comrie 1976, Kayne 1975) and nominalisations (Williams 1987, Alexiadou 2001).

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[11] The status (and location) of the tripartite parameter is less clear and we leave this matter to one side here.

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