Rethinking alignment typology (ultimate version)

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Jan-Wouter Zwart and Charlotte Lindenbergh

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Abstract

Considering the standard typological distinction between ergative and accusative alignment, this article argues that the variety of phenomena suggests the need for a more fine-grained classification of alignment types. We start from the observation that grammatical processes may or may not apply to all the grammatical functions, leading to a basic division in complete and incomplete types. It follows that 'ergative' is just one of 18 alignment types, while some incomplete alignment types that look ergative are in fact different, and closer to the family of accusative types.

1. Introduction

Alignment is the grouping of grammatical functions (such as subject, object; henceforth GFs) across transitive and intransitive clauses. As is well known, the subject of an intransitive clause (S^I) may be grouped, in terms of case-marking, control of verbal agreement, syntactic position, etc., with either the subject (S^T) or the object (O) of a transitive clause. With S^I/S^T grouping we get *accusative* alignment, with S^I/O grouping *ergative* alignment (Plank 1979, Dixon 1994, Deal 2015).[1]

The two alignment types are named after the morphological case of the outlier in each type of grouping: O in the S^I/S^T grouping accusative type, S^T in the S^I/O grouping ergative type. Thus in German (1), an accusative language (where case is marked on the determiner), the determiner of the S^I/S^T *der mann* 'the man' is invariably nominative *der*, whereas the determiner of the O *den mann* in (1b) is marked differently with accusative *den*.[2]

(1) a. de-**r** mann schwimm-t (German, cf. Curme 1952)
DET.M-NOM man(M) swim-3SG
'The man is swimming.'

b. de-**r** mann sieh-t de-**n** hund
DET.M-NOM man(M) see-3SG DET.N-ACC dog(N)
'The man sees the dog.'

Contrasting with this, in Coast Tsimshian (2), an ergative language (where case is marked on predicate markers cliticizing to the consituent to their left), the S^I *üüla* 'the seal' in (2a) and the O *hoon* 'the fish' in (2b) are marked by the absolutive predicate marker *-a*, whereas the S^T *duus* 'the cat' in (2b) is marked differently with the ergative predicate marker *-da*.

(2) a. yagwa hadiks-**a** üüla (Coast Tsimshian, Mulder 1994:32)
PRS swim-ABS seal
'The seal is swimming.'

b. yagwa-t huum-**da** duus-**a** hoon
PRES-3SG.SBJ smell-ERG cat-ABS fish
'The cat is sniffing the fish.'

Our discussion in this article starts from the assumption that the characterization of elements as subjects or objects in the relevant languages is uncontroversial. On this

[1] The transitive subject, intransitive subject, and object are conventionally referred to as A, S, and O (or P), respectively, after Dixon (1972:xxii), but we refrain from utilizing these symbols here in order to stay as close as possible to the cumbersome but appropriate locutions 'subject of a transitive/ intransitive clause'. We are also not committed to the view, often underlying the use of A/S/O, that these symbols stand for "universal syntactic-semantic primitives" (Dixon 1994:6).

[2] Glosses are abbreviated according to the Leipzig Glossing Rules (https://www.eva.mpg.de/lingua/pdf/Glossing-Rules.pdf), and have been adjusted from our sources for reasons of consistency. Additional abbreviations: ASP = aspect, DESC = descriptive, DETR = detransitivizer, EVID = evidential, ITER = iterative, NTH = nontheme, PRT = particle, RED = reduplication, TH = theme, VBLZ = verbalizer.

assumption it is clear that the ergative alignment type cuts across grammatical functions, grouping S^I/O together to the exclusion of S^T.

In this introductory section we have followed the usual practice of calling a language with ergative alignment for some grammatical phenomenon 'ergative'. But the usefulness of alignment as a typological characteristic has been questioned, most notably by DeLancey (2004), who observes that ergative patterning shows too much variation to allow us to identify an ergative subset of languages in any theoretically interesting way. Somewhat in line with this, Deal (2015) decomposes ergativity into three ergativity properties, listed in (3).

(3) *ergativity properties* (Deal 2015)
   a. the ergative property
      $S^T \neq S^I$ for some grammatical generalization(s)
   b. the absolutive property
      $S^I = O$ for some grammatical generalization(s)
   c. the argument-structural property
      as the ergative property, but restricted to S^I of unaccusative predicates

'Canonical' ergativity, as illustrated in (2) for Coast Tsimshian case, combines the ergative (3a) and absolutive (3b) properties, but there is room for less canonical shades of ergativity, where one or more of the properties in (3) may be missing. In fact, certain grammatical phenomena are generally (perhaps universally) aligned according to (3b) or (3c), as argued by Queixalós (2013), suggesting that the components of ergativity are not restricted to ergative languages.[3] Conversely, Verbeke and Willems (2012) argue that special behavior of S^T in Indo-Aryan languages (i.e. property (3a)) is not necessarily a marker of ergativity.

We want to add to this discussion by showing that the typological characterization of alignment is generally complicated by an unwarranted idealization which assumes that all grammatical functions (S^I/S^T/O) partake in the relevant grammatical phenomena (case, agreement, wh-movement, etc.). Very often, this is not the case, and it is not immediately clear how alignment generalizations carry over when it is not, or, conversely, how incomplete phenomena are to be characterized in terms of alignment typology. We argue for the recognition of a different typological dimension, *completeness*, ranging over the extent to which grammatical functions participate in grammatical processes, and consider its consequences for alignment typology.

Based on the parameter of completeness, we can identify 18 different alignment types, which may be grouped in four families (ergative, accusative, indifferent, and residual). We show that the ergative property (3a) is found in both the ergative and the accusative family, and that the absolutive property (3b), while restricted to the ergative family, is found in both complete and incomplete types.

Having outlined the basic typology of alignment patterns, we illustrate the phenomena in a number of more or less complicated languages, turn to the puzzling 'tripartite' alignment type, and reconsider the notion of ergative as a 'dependent case' (Marantz 1991), instrumental to a discussion of the relation between case and agreement in accusative and

[3] Queixalós (2013) mentions in this connection deverbal nominalization/adjectivalization, orientation of secondary predicates, control of verbal number and honorific agreement, raising of embedded arguments in causative constructions. See also Moravcsik (1978), Plank (1979).

ergative languages in Bobaljik (2008).

2. Completeness

In German (1) we saw that both subjects and objects are marked for case, along the lines of accusative alignment (S^I/S^T vs O). However, verbal agreement is triggered only by subjects (in fact alike by both S^I and S^T), as can be seen when we manipulate the number of the noun phrases:

(4) a. d-**ie** män-**ner** seh-**en** de-n hund (German)
DET-NOM.PL man-PL see-PL DET.N-ACC dog(N)
'The men see the dog.'

b. de-r mann sieh-**t** d-**ie** hund-**e**
DET.M-NOM man(M) see-3SG DET-ACC dog-PL
'The man sees the dogs.'

In fact, there is never any reflection of the grammatical features of the object on the verb in German. This is different from, say, Swahili, where both the subject (always) and the object (under circumstances) trigger verbal agreement:[4]

(5) Juma a-li-(ki)-soma ki-tabu (Swahili, Barrett-Keach 1980:18)
Juma(1) 1-PST-7-read 7-book
'Juma read the book.'

Both German and Swahili show accusative alignment for agreement, but the languages clearly differ in that in Swahili all grammatical functions participate in agreement, whereas agreement is restricted to subjects in German. To refer to this difference, we will say that Swahili is complete, and German incomplete, for verbal agreement.

Characterizing languages as complete or incomplete is complicated by the circumstance that morphological oppositions typically involve markedness, where an unmarked member of the opposition may be zero. This is not a simple matter, but we proceed on the assumption that the distinction between zero marking and nonparticipation can be made. In Swahili, for instance, it makes sense to describe the optional presence of the object agreement marker *ki* in (5) in terms of a *ki*/∅ opposition, so that the object will participate in agreement even in the case of absence of object agreement morphology. No such

[4] See Creissels (2000:235-236) for a discussion of the conditions favoring object agreement marking in Bantu languages. This touches on the phenomenon of differential object marking, which we cannot discuss in any detail within the confines of this article. Suffice it to say here that differential object marking may affect the completeness/incompleteness typology in various ways, depending on the factor that determines the marking. To take the example of object agreement in Bantu languages, in some cases, where only topics trigger object agreement, one might argue that object agreement is qualitatively different from subject agreement, and agreement would no longer be complete. On the other hand, in cases where object agreement is a function of definiteness of the object, as in Swahili, we may take object marking to involve an overt/covert opposition, still within the complete type.

argument can be made for object agreement in German.[5]

Completeness or incompleteness can also be demonstrated in the domain of case, as in Spanish, where only objects (under certain conditions) can ever be marked by the preposition *a*:[6]

(6) busc-a (a) un médico (Spanish, Leonetti 2004:80)
look-3SG OBJ INDF doctor
'S/he is looking for a (particular) doctor.'

Since subjects are never marked by *a* (or any other particle), we have to say that only objects participate in case-marking, so that Spanish, unlike German and Coast Tsimshian, is incomplete for case.[7]

To see how completeness complicates alignment typology, consider the case of Paumarí (Chapman and Derbyshire 1991), a language characterized as ergative. Paumarí has a case-marker *-a* that appears only with S^T:

(7) Dono-**a** bi-ko'diraha-'a-ha ada isai hoariha
Dono-ERG 3SG.TR-pinch-ASP-TH:M DEM:M child other
'Dono pinched the other boy.' (Paumarí, Chapman and Derbyshire 1991:164)

(8) soko-a-ki hida mamai
wash-DETR-NTH DEM:F mother
'Mother is washing.' (Paumarí, Chapman and Derbyshire 1991:163)

This would appear to be a tell-tale sign of ergativity (property (3a)). However, we should be careful, as the case system is incomplete: only the immediate preverbal noun phrase gets marked (Chapman and Derbyshire 1991:250), and the unmarked word orders are S^T-V-O and V-S^I. Marked orders do occur, such as S^T-O-V (9), and S^I-V (10), and in these cases the system is again incomplete, with O marked by *-ra*, S^I by zero, and S^T not participating.

(9) bano pa'isi o-sa'a-**ra** anani-hi
piranha small 1SG-finger-OBJ bite-TH
'A small piranha bit my finger.' (Paumarí, Chapman and Derbyshire 1991:197)

[5] See Nordlinger (1998:146) for discussion of this question in the context of Wambaya object agreement. In Wambaya, the form of the auxiliary is sensitive to the presence or absence of object agreement, allowing Nordlinger to conclude that third person object marking is absent rather than zero.

[6] The discussion applies to Spanish nonpronominal noun phrases only. Case-marking of personal pronouns in Spanish is complete, with different forms for subject and object pronouns.

[7] In this connection we should refer to Jakobson's (1935) theory of case-marking, in which the nominative is basically the case for the noun (phrase) in isolation, not signaling any opposition to a marked counterpart. If so, the nominative may be characterized as absence of case in the grammar of many languages (Zwart 1988), suggesting that incompleteness for case is more widespread than commonly assumed.

(10) Morosi va-a-kaira-ha-'a-ha
Morosi 3PL-VBLZ-guava-PRT-ASP-TH
'Morosi c.s. went to get guava.' (Paumarí, Chapman and Derbyshire 1991:197)

The only analysis that unifies the marked and unmarked word orders is a tripartite analysis, with different markings for each of $S^T/S^I/O$ in the immediate preverbal position. But in unmarked orders Paumarí is apparently incomplete rather than ergative, as only S^T participates in case-marking.

We have to be similarly careful in the analysis of Paumarí agreement. In the third person singular, there is a special agreement marker *bi-* for S^T, once more suggesting ergativity (see (7) vs. (8)). However, in all other feature specifications, there is a single agreement prefix for S^T and S^I (e.g. 3PL *va-* in intransitive (10) and transitive (11)).

(11) ija'ari va-ipohi-ki-a **va**-ka-abada-bada-risaha-khama-ha
people 3PL-many-DESC-ERG 3PL-TR.DISTR-touch-RED-ITER-DIST-TH
'Each of the many people was in turn touching him.'
(Paumarí, Chapman and Derbyshire 1991:281)

On the other hand, O never triggers person/number agreement on the verb.[8] It seems, therefore, that the pattern is basically accusative (agreement only with S^T/S^I), and that on top of that verbal agreement is sensitive to transitivity (in the 3rd person singular).

The example of Paumarí shows that the question of completeness must precede the question of alignment typology. It also shows another thing, namely that special treatment of S^T (the ergative property (3a)) is not enough to decide that the system is ergative. In the case of Paumarí agreement, we observe that a particular grammatical relation, verb agreement, is incomplete, applying to subjects only (S^T/S^I vs. O). Moreover, the morphological realization of the relation (at least in the third person singular) shows sensitivity to transitivity (i.e. $S^T \neq S^I$). To adequately characterize the nature of Paumarí case and agreement, then, we need a more fine-grained descriptive apparatus, one that takes completeness into account and distinguishes between relations and realizations of these relations.

3. Completeness prolegomena

The first question to ask is whether a particular grammatical phenomenon applies to all of S^T, S^I, and O, or just to a subset.[9] If a grammatical process π in language λ involves the complete set $\{S^T, S^I, O\}$, we will say that λ is **complete** for π. If the process involves just a subset of $\{S^T, S^I, O\}$ the language is **incomplete** for that process. If a process in a language

[8] The object does trigger gender agreement on the verb, determining the choice of the verb-final theme affix, but so can any other postverbal noun phrase (Chapman and Derbyshire 1991:288).

[9] Throughout the discussion, we ignore the grammatical function of indirect object, as is standard in the analysis of alignment typology. However, as a reviewer correctly points out, indirect objects do participate in case-marking and verbal agreement. We leave the implications of this fact for further research. Likewise, we consider only basic transitive and intransitive constructions, and leave the application of the concept of completeness to ditransitives, causatives, applicatives, etc. for future research.

λ applies to none of {S^T, S^I, O}, we will say that λ is **neutral** for that process.

If a grammatical process applies to the full set of {S^T, S^I, O}, the next question to ask is whether the process is realized in identical ways with S^T, S^I, and O. Here the possibilities are (where '=' indicates identical realization and '≠' different realization):

(12) *complete types*

a.	$S^T = S^I = O$	**identical**
b.	$S^T = S^I \neq O$	**accusative**
c.	$S^T \neq S^I = O$	**ergative**
d.	$S^T = O \neq S^I$	**intransitive**
e.	$S^T \neq S^I \neq O$	**tripartite**

The names of the types (12b-c) are derived from the case that would normally mark the single element.

Next we can illustrate the incomplete alignment types, where we have twelve logically possible combinations, of which the types that involve two participating grammatical functions (a-c) all represent three possibilities (the '>' indicates which of the elements is morphologically more marked).

(13) *incomplete types*

a.	only S^T/S^I	i.	$S^T = S^I$	**subjective**
		ii.	$S^T > S^I$	**transitive subjective**
		iii.	$S^T < S^I$	**intransitive subjective**
b.	only S^I/O	i.	$S^I = O$	**absolutive**
		ii.	$S^I > O$	**intransitive absolutive**
		iii.	$S^I < O$	**transitive absolutive**
c.	only S^T/O	i.	$S^T = O$	**transitive**
		ii.	$S^T > O$	**subjective transitive**
		iii.	$S^T < O$	**objective transitive**
d.	only O			**objective**
e.	only S^T			**narrow ergative**
f.	only S^I			**narrow intransitive**

Referring to the ergativity properties of Deal (2015)(cf. (3)), we may say that a language that combines the ergative (3a) and absolutive (3b) properties for some grammatical generalization γ is complete for γ and in fact ergative (12c). But a language that has the ergative property (3a) but not the absolutive property (3b) for γ can be either complete or incomplete for γ, depending on whether O participates in γ. If so, the language is complete for γ and in fact tripartite ((12e), e.g. Paumarí for case), but if not, the language is incomplete for γ, and in fact subjective ((13a), e.g. Paumarí for agreement).

Both tripartite and what we have called subjective are typically considered to be ergative variants ('three-way ergative', cf. Deal 2015), perhaps because they are not obviously affiliated with the accusative type. But from the perspective proposed here, considering completeness first, we may question which variants among the complete and incomplete types might be meaningfully grouped together under the rubrics of 'ergative' or 'accusative'. It seems to us that this grouping should be as in (14), calling the groupings 'families'.

(14)

family	complete types	incomplete types	other types
ACCUSATIVE	accusative (12b)	subjective (13a) objective (13d)	
ERGATIVE	ergative (12c)	absolutive (13b) narrow ergative (13e)	
INDIFFERENT	identical (12a) tripartite (12e)		neutral
RESIDUAL	intransitive (12d)	transitive (13c) narrow intransitive (13f)	

To illustrate the logic behind this grouping, consider the subjective type (13a). This is one of the incomplete types, where only S^T/S^I participate in γ. This creates a subject-object opposition typical of the accusative family of types. Within the subjective type, further divisions are possible, depending on whether γ is realized identically for S^T and S^I or not. What Deal (2015) calls the ergative property (3a) may in fact be identified as (transitive) subjective in those cases where the language is incomplete for the relevant grammatical generalization.

4. Some illustrations

In this section we illustrate the completeness-based typology for the data introduced above and for a number of other cases from the literature.[10]

German (1) is complete for case and in fact **accusative**, and incomplete for agreement, in fact **subjective** (as shown in (4)). Subjective being in the accusative family (cf. (14)), we may identify German as an accusative language.

Coast Tsimshian (2) is complete for case and in fact **ergative**. However, the phenomena are considerably more complicated, as discussed in great detail in Mulder (1994).[11] First, tense and aspect are relevant (p.85), and secondly, things differ when the noun phrase is a name (p.39). In the past, the ergative predicate connective *-da* becomes *-a*, yielding an **identical** pattern (p.85). With names the cake is cut differently: the predicate marker for S^T/S^I is *-as* and for O *-at*, yielding an **accusative** pattern; but in the imperfective/present, S^T has its own predicate marker *-dit*, yielding a **tripartite** pattern (p.40-41). So while Coast Tsimshian is invariably complete for case, it ranges over four different complete types, leaving only the (rare) intransitive type unused. To complicate matters further, while free pronouns behave like (non-name) noun phrases (p.66), clitic pronouns have their own

[10] This research started as an investigation of agreement in split-ergative languages, for which we used a convenience sample based on data extracted from the World Atlas of Language Structures (Dryer and Haspelmath 2013, accessed April 2014). The languages included in the sample were: Chamorro (Austronesian), Georgian (Kartvelian), West Greenlandic (Eskimo-Aleut), Hunzib (North Caucasian), Lak (North Caucasian), Marathi (Indo-European), Ngiyambaa (Australian), Paumarí (Arauan), Pitjantjatjara (Australian), Suena (Trans New Guinea), Coast Tsimshian (Penutian), Wambaya (Australian), Yidiny (Australian), Yup'ik (Eskimo-Aleut). These were supplemented by data from Nez Perce (Penutian) and Shipibo (Panoan), and from familiar Indo-European languages such as German and Spanish. No claim of representative coverage of the languages of the world is made.

[11] Our data reflect the reduced system observed by Mulder in everyday speech (Mulder 1994:39).

system (p.54-55). Clitics are taken from one of three series, called subjective (preverbal), objective (postverbal) and definite objective (postverbal). In the subjunctive, these are organized along **ergative** lines, S^T taken from the subjective series and S^I/O from the objective series. In the indicative, various types occur depending on the relative animacy of S^T/S^I/O, including even the rare **intransitive** type (S^T /O : S^I). So much for Coast Tsimshian case. Agreement is much more restricted, being controlled only by the person feature of S^T, and limited to the past tense (**narrow ergative**)(p.68); outside the past, no verbal agreement occurs (**neutral**)(p.69).[12] All in all Coast Tsimshian is predominantly ergative, though sometimes veering to one of the other complete types.

Swahili (5) is **neutral** for case and complete, in fact **accusative**, for agreement.

Spanish (6) is incomplete for case (modulo note 6), in fact **objective**. It is also incomplete for agreement, in fact **subjective**. All in all a clear accusative language.

Paumarí ((7)-(11), cf. Chapman and Derbyshire 1991) is complicated, as we have seen, at least for case. If we consider unmarked orders only, Paumarí is incomplete for case, in fact **narrow ergative**. If we include marked orders also, Paumarí is a combination of the **tripartite** and the **neutral** types: the immediate preverbal element has different markings for each of S^T/S^I/O, but in all other positions no case-marking occurs. Case-marking for pronouns is even more restricted, affecting only O (which is always in preverbal position), an instantiation of the **objective** type. Verbal agreement is incomplete, being controlled by S^T/S^I only, i.e. **subjective**; only if the subject is 3SG do we get a further specialization (*bi-* for S^T, zero for S^I), making the language **transitive subjective** for 3SG agreement (p.287).

In Wambaya (Nordlinger 1998; cf. note 5), case is marked on S^T and obliques, and zero on S^I/O (p.80); since the language is rich in case (p.81), it is more plausible to think of the absolutive as being zero than absent. This makes Wambaya complete, in fact **ergative**, for case.[13] With pronouns, though, we do not see an S^T/S^I-distinction: in the singular all subject and object pronouns are alike (though different from oblique pronouns), hence **identical**, and in the dual and plural subject pronouns differ from object and oblique pronouns, hence **accusative** (p.126). Verbal agreement is expressed by bound pronouns on the auxiliary, and is controlled by both subjects (identically for S^T/S^I) and objects in 1st/2nd person, hence complete and in fact **accusative** (p.139). In the 3rd person, no object agreement shows up, and Nordlinger (1998) has an ingenious argument showing that object agreement is absent rather than zero (see note 5). For 3rd person agreement, then, Wambaya is incomplete, in fact **subjective**. Moreover, in 3SG there is a special agreement marker for transitive subjects, making the type more particularly **transitive subjective**. All in all Wambaya seems clearly ergative for case of noun phrases, and accusative for case of pronouns and for agreement.

To add another example not mentioned so far, but typologically interesting and well represented in the ergativity literature (e.g. Legate 2008, Bárány 2015), Marathi (Pandharipande 1997) shows a sensitivity to the tense/aspect of the clause: outside the past tense, and ignoring oblique subject constructions, Marathi has no case-marking for S^T/S^I

[12] We take apparent cases of number agreement in Coast Tsimshian to instantiate the phenomenon of pluractionality (one of the 'ubiquitous' ergativity traits of Queixalós 2013, cf. note 3).

[13] The ergative pattern is also visible in the nouns' gender markings, which are taken from one of two series, absolutive (for S^I/O) and non-absolutive (elsewhere).

and case-marking by *-la* for O (under conditions)(p.283f).[14] This puts the language in the accusative ballpark (i.e. **accusative** or **objective**, depending on whether we take subject case to be zero or absent). In the past tense, a 3rd person S^T is marked by *-ne*, making the system **tripartite** (if complete) or **transitive** (if incomplete)(p.284); with 1st/2nd person subjects the language remains accusative/objective also in the past (p.284).[15] Verbal agreement is triggered by both subjects and objects, though typically restricted to a single controller, according to a hierarchy that prefers subject agreement over object agreement (p.446).[16] Furthermore, oblique elements (including ergative elements) never trigger agreement (p.446). This restriction has the effect that a 3rd person S^T does not control verbal agreement in the past tense, so that object agreement resurfaces. Other than that, there is no sensitivity to transitivity, making the system **accusative**. All in all, Marathi seems very much in the accusative corner, and we assume this carries over to related languages with comparable typological features (see also Verbeke and Willems 2012).

Finally, consider the case of Nez Perce, as analysed in Deal (2010). Nez Perce has both caseless clauses (**neutral**) and case-marked clauses, where S^T is marked by *-(n)im*, O by *-ne*, and S^I is unmarked (p.74-75). Deal (2010) shows that the choice between the two systems hinges on the presence of object agreement on the verb, object agreement forcing the case-marked variant. Lindenbergh (2015) suggests that the logic entails that the unmarked case on S^I (in the case-marked variant) is absence of case rather than presence of zero case, since intransitive clauses by definition lack object agreement. This would make Nez Perce in the case-marked variant incomplete, in fact **transitive**, for case. With pronouns, a distinction between S^T and S^I exists only in the 3rd person, 1st and 2nd person showing no subject case even in case-marked clauses (p.78). Depending on whether case on S^T is zero or absent, the system for case of pronouns would remain transitive or be reduced to **objective**.[17] Verbal agreement in Nez Perce is triggered by subjects in all (i.e. caseless and case-marked) clauses, without any sensitivity to transitivity. Object agreement, on the other hand, is restricted to case-marked clauses (p.79-80). Inevitably, agreement in caseless clauses, lacking object agreement, is of the incomplete variety, in fact **subjective**, and agreement in case-marked clauses is complete, in fact **accusative**.[18]

[14] The object is marked by *-la*, regardless of tense/aspect, when it refers to a human or specific indefinite entity (Pandharipande 1997:287-288).

[15] Here we differ from Legate (2008) and Bárány (2015), who assume zero-marked ergative case for 1st/2nd person subjects in the past tense. The Legate/Bárány analysis is supported by the observation that 1st/2nd person subjects do not trigger agreement in the past tense (Pandharipande 1997:130, although they may in some varieties, see the references in note 13), which we may have to analyse as a form of analogical leveling.

[16] The restriction applies to Standard Marathi, but not to certain varieties, such as Pune Marathi and Nagpuri Marathi, where we see a combination of subject and object agreement. See Bloch 1970:262 and Pandharipande 1997:412. See also Magier 1983:250 for Marwari, Verbeke and Willems 2012:216 for Kashmiri, and Grosz and Patel-Grosz 2014 for Kutchi Gujarati.

[17] Deal (2010) describes it as nominative-accusative (our accusative), assuming the system to be complete, with zero marking on unmarked subjects.

[18] 1st/2nd subjects and objects are not overtly marked, but Lindenbergh (2015) argues that agreement with 1st/2nd person objects must be zero rather than absent, to maintain Deal's generalization that ergative case is conditioned by the presence of object agreement, given the fact that ergative subjects do occur with 1st/2nd person objects. A fortiori, then, we may assume 1st/2nd person subject agreement to be zero as well.

5. Some consequences

5.1 The ergative property

It is now clear that special behavior of the transitive clause subject S^T (i.e. the ergative property (3a)) can come about in various ways, depending on completeness and morphological realization.

If a language is complete for a grammatical phenomenon γ, and γ is realized in one way on S^T and in a different way on S^I/O, the language is complete and in fact ergative for γ. We saw this illustrated for case in Coast Tsimshian (2). Wambaya is also ergative in this sense, at least for case on (nonpronominal) noun phrases. Languages that are complete and ergative for agreement are also widely attested, illustrated here for Malimiut Iñupiaq (Lanz 2010):

(15) a. iγlaq-tu-ŋa (Malimiut Iñupiaq, Lanz 2010:188)
laugh-INTR.IND-1SG
'I am laughing.'

b. aŋuti-m tusa:-γ-a:-ŋa
man-ERG hear-TR.IND-3SG-1SG
'The man hears me.'

Another way in which the ergative property may arise is when the language is incomplete for γ, with S^I/O not participating. This is the narrow ergative type (13e). We saw this for case in Paumarí unmarked word orders (where only the preverbal element S^T participates in case-marking) and for agreement in the Coast Tsimshian past tense.[19] This narrow ergative type is still within the ergative family (cf. (14)).

However, the ergative property may also arise in the accusative family, in particular when the language is incomplete with only subjects (S^T/S^I) participating in γ, and γ being realized differently in S^T and S^I (transitive subjective, if S^T is more marked than S^I, cf. (13aii)). We saw this with 3SG agreement in Paumarí and Wambaya. In Paumarí, O never controls agreement, which is clearly a subjective grammatical feature then, and while S^T/S^I mostly control agreement in identical fashion, there is further specialization when S^T is 3SG. Wambaya is in fact complete for agreement except in the 3rd person (see note 5), where agreement is incomplete, in fact subjective, and there too we see special treatment of S^T.

Our limited data do not show any clear cases of transitive subjective case-marking at this point, but cases where only S^T is case-marked are well-attested (e.g. Mizo, Chhangte 1989). These are typically described as ergative, and would be narrow ergative in our typology. In principle we cannot exclude that this type is in fact transitive subjective, with a marked vs. zero opposition between S^T and S^I, and O not participating. But the subjective type, very common for agreement, seems rare for case, where morphological realization, when incomplete, appears to gravitate towards O rather than S^T/S^I.

[19] Bobaljik (2008:305) takes this narrow ergative agreement type to be absent from the languages of the world.

5.2 The absolutive property

The absolutive property (3b), like the ergative property (3a), shows up in both complete and incomplete types, but all these types stay within the ergative family (14).

Identical treatment of S^I and O is one of the characteristics of the complete ergative type (12c), which we have seen for case in Coast Tsimshian (2) and also in Wambaya (except for pronouns). For agreement the complete ergative type is illustrated in Malimiut Iñupiaq (15).

The incomplete absolutive type (13b) shows up when S^T does not participate in γ. This type is not represented by any of the languages discussed so far, neither for case, nor for agreement. We know of no languages that show the absolutive pattern for case-marking.[20] On the other hand, the absolutive pattern for agreement is well attested, e.g. in Tsez (Polinsky 2014:344f):

(16) a. isi y-ay-s (Tsez, Polinsky 2014:345)
snow(II):ABS II-come-PST.EVID
'It snowed.'

b. uži-z-ä t'ek y-is-si
boy(I)-PL.OBL-ERG book(II) II-take-PST.EVID
'The boys bought a book.'

Agreement here is gender/number agreement, controlled by S^I (16a) or O (16b).

Languages of the type of Marathi, discussed above, are also usually included in this category (e.g. Bobaljik 2008:305). In these languages, agreement is normally controlled by S^T/S^I, but in the past tense, where S^T is marked with ergative case, S^T fails to control agreement, which is then controlled by O instead. In our terms, the language alternates between two incomplete types (for agreement), subjective (default) and absolutive (in the past).

However, two factors conspire to yield the absolutive pattern here: (i) morphologically case-marked noun phrases in Marathi never control agreement, and (ii) the verb must show agreement with a single controller (in most varieties, see note 13). That morphologically case-marked noun phrases do not control agreement is a general rule, applying not just to ergative subjects but also to oblique elements and accusative-marked objects (Pandharipande 1997:446). That the verb must show agreement is evidenced by the appearance of default agreement in the absence of an eligible controller. Therefore, one way to explain O-controlled agreement in Marathi would be to say that O takes over when S^T, because of its ergative case, is no longer eligible, as an option preferred over the last resort default agreement. On this explanation, agreement in Marathi-type languages is complete, and the fact that O controls agreement only secondarily when S^T is not available as an agreement controller suggests an organization along the lines of accusativity.[21]

[20] As noted by an anonymous reviewer, a case in point may be initial consonant mutation in Nias, which Brown (2001:342f) shows to be a GF-marking device applying to S^I and O, but not S^T.

[21] This leaves the Tsez type as the only clear example we have seen of agreement along absolutive lines. Agreement in Tsez is gender/number agreement, a phenomenon found across Northwest Caucasian, always
(continued...)

5.3 The tripartite type

In the tripartite system (12e), S^T, S^I and O are each treated differently. We saw some examples of this above: the predicate connectives with names in Coast Tsimshian imperfective and present tense clauses are *-dit* (S^T), *-as* (S^I) and *-at* (O), and Paumarí has different case-markers for S^T (*-a*), S^I (*-ra*) and O (zero) in immediate preverbal position. We have seen no cases of tripartite agreement systems in our limited data.

With all GFs participating in tripartite case-marking, this alignment type is complete, and it seems to combine elements of both ergative (marked S^T) and accusative (marked O) alignment patterns. Above, we have grouped it in the indifferent family though (see (14)), the family of alignment types that treat all GFs on a par (i.e. all the same or all different).

Tripartite alignment is much rarer than accusative or ergative alignment (Dixon 1994:40), and the cases we have seen invariably involve differential marking as a function of a noun phrase animacy hierarchy. Consider the example of Kham as discussed in Watters (2002:66f):

(17) a. la:-∅ si-ke (Kham)
leopard-ABS die-PRF
'The leopard died.'

b. no:-**ye** la:-∅ səih-ke-o
3SG-ERG leopard-ABS kill-PRF-3SG
'He killed a leopard.'

c. ŋa:-∅ no-**lai** ŋa-rɨ̃:h-ke
1SG-NOM 3SG-ACC 1SG-see-PRF
'I saw him.'

As can be seen, S^T receives a special case-marking in (17b), while S^I in (17a) and O in (17b) are zero-marked. However, the ergative marking is absent with S^T in (17c), and O is marked by a special accusative case in (17c), yielding what looks like an accusative pattern. The ergative and accusative patterns can also be mixed:

[21] (...continued)
triggered by the absolutive element alone. Person agreement on the other hand is very limited in Northwest Caucasian, and completely absent in Tsez, but where it exists, as in Hunzib (Van den Berg 1995), it is sensitive to a person hierarchy and may be triggered by various GFs. This suggests that the distinction between person agreement and number/gender agreement may lead to different agreement alignment patterns within a single language.

(18) a. ge:-∅ em-tə mi:-rə-∅ ge-ma-ra-dəi-ye (Kham)
we-NOM road-on person-PL-ABS 1PL-NEG-3PL-find-IPFV
'We met no people on the way.'

b. gẽ:h-**ye** ŋa-**lai** duhp-na-ke-o
ox-ERG I-ACC butt-1SG-PERF-3SG
'The ox butted me.'

As Watters (2002:69) explains, the marking of both S^T and O in Kham is sensitive to animacy, such that low animacy S^T and high animacy O require marking.[22] Interestingly, S^I is never marked, regardless of animacy, suggesting that Kham case-marking is more properly characterized as incomplete, involving only S^T/O, hence of the type we called transitive (13a).[23] Differential subject or object marking then decides whether the construction at hand is subjective (17b) or objective (17c) transitive, or in fact both, as in (18b).

Animacy sensitivity seems to be invariably involved in tripartite case-marking (Zwart 2006a). In principle, tripartite alignment may be incomplete, as in Kham, or may be a hierarchy-driven adjustment of an accusative system (with special marking for S^T by differential subject marking) or of an ergative system (with special marking for O by differential object marking). We leave this as an avenue for further study.

5.4 Case and agreement

A separate question is how case-marking and agreement control are related, if at all. Our limited data suggest that there is no straightforward connection.

One possible connection would be that completeness in case entails completeness in agreement (or vice versa). This, however, does not seem to be the case. As we have seen, Coast Tsimshian is complete for case (in various ways), but at best incomplete (in fact, narrow ergative) for agreement, and even neutral outside the past tense. Likewise, Wambaya is complete for case, but not always for agreement (accepting Nordlinger's argument that 3rd person object agreement is absent rather than zero, see note 5). Conversely, Nez Perce is incomplete for case in case-marked clauses (accepting Lindenbergh's argument that case on S^I is absent rather than zero, see section 4), but complete for agreement.

We can also ask whether a language that is incomplete for case will show the same incompleteness for agreement. Again, this does not seem to be the case. Spanish, for instance, is incomplete for case and agreement, but objective for case and subjective for agreement. Likewise, Paumarí is incomplete for case in an unusual way, restricting case-

[22] Since marked and unmarked S^T and O can be freely mixed, the marking does not reflect a subject-object dependency: O is not marked because it is high animate relative to S^T, or S^T because it is low animate relative to O, but marking reflects high or low animacy relative to the expected animacy of the relevant GF. Note that the cut-off point in the animacy hierarchy is different for S^T and O, as 3rd person definite elements count as low for the subject hierarchy and as high for the object hierarchy (so they will always be marked in S^T/O position).

[23] On the analysis of Lindenbergh (2015), this applies to Nez Perce, another language described as tripartite for case, as well.

marking to the immediate preverbal element, whereas agreement is incomplete in the more standard subjective alignment type.

Our data also allow us to track agreement alignment as a potential function of case alignment by differentiating between case for full noun phrases and pronouns. As we have seen, case alignment often differs between full noun phrases and pronouns, at least in the languages discussed here. It turns out, then, that in these languages agreement alignment does not typically covary with the case alignment of noun phrases and pronouns. For example, in Paumarí the case alignment type becomes objective with pronouns, but the agreement alignment type remains subjective.

One possible connection between case and agreement alignment could be that incomplete case alignment and incomplete agreement alignment are each other's inverse. This would be the case if a language is narrow ergative for case and absolutive for agreement, or objective for case and subjective for agreement. This would require that we analyse Tsez, which has absolutive agreement, as (incomplete) narrow ergative for case, rather than (complete) ergative, an unlikely move given the rich case system of Tsez (Polinsky 2014).[24] Objective case and subjective agreement do go hand in hand in some cases discussed here, such as Spanish and Paumarí (with object pronouns), but subjective agreement being relatively widespread, we cannot ascribe these cases to a systematic mirror image relation between incomplete case and agreement types.

In short, the data we have looked at do not allow us to set up any correspondence between case and agreement alignment.

5.5 Syntactic ergativity

Our discussion so far has been restricted to morphosyntactic alignment in the domains of case and agreement. When ergative alignment is observed for some syntactic process, we speak of syntactic ergativity (see Deal 2016 for a survey of the phenomena and the issues involved).

Syntactic ergativity can take various forms: ergative S^T may not participate in a particular syntactic process (19), or the elements participating in the syntactic process are tracked morphologically (e.g. on the verb) along an ergative alignment pattern (20).

(19) a. miiqqa-t [— sila-mi pinnguar-tu-t]
child-PL.ABS ⟨S^I⟩ outdoors-LOC play-REL.INTR-PL
'the children who are playing outside' (West Greenlandic, Bittner 1994:55)

b. miiqqa-t [Juuna-p — paari-sa-i]
child-PL.ABS Juuna-ERG ⟨O⟩ look.after-REL.TR-3SG.PL
'the children that Juuna is looking after'

c. * angut [— aallaat tigu-sima-sa-a]

[24] Another case could be Marathi (and similar languages), which shows agreement controlled by S^I/O in the past tense, where S^T is ergative. However, the situation of Marathi can be analyzed differently, as discussed in the text. Also, the absolutive-looking agreement pattern shows up in all past tense clauses, even when S^T is not ergative (as with first and second person pronouns, see note 16).

man.ABS ⟨S^{T}⟩ gun.ABS take-PRF-REL.TR-3SG.SG
(intended) 'the man who took the gun'

(20) a. e fefine [na'e — tangi] (Tongan, Otsuka 2006:81)
DEF woman PST ⟨S^{I}⟩ cry
'the woman who cried'

b. e fefine [na'e fili — 'e Sione]
DEF woman PST choose ⟨O⟩ ERG John
'the woman who John chose'

c. * e fefine [na'e fili 'a Sione —]
DEF woman PST choose ABS John ⟨S^{T}⟩
(intended) 'the woman who chose John'

In both West Greenlandic (19) and Tongan (20), straightforward relativization of S^{T} is ungrammatical. In West Greenlandic, the solution is to detransitivize the clause to be relativized, by application of the antipassive:

(21) angut [— aallaam-mik tigu-si-sima-su-q]
man.ABS ⟨S^{I}⟩ gun.INS take-ANTIP-PRF-REL.INTR-SG
'the man who took the gun' (West Greenlandic, Bittner 1994:58)

The antipassive turns a transitive clause into an intransitive clause, so that the relativized subject becomes S^{I} instead of S^{T}. Effectively, then, this type of syntactic ergativity is incomplete, in fact absolutive (13b).

In Tongan, the solution is to morphologically mark relativitization of S^{T} (by *ne*):

(22) e fefine [na'a ne fili 'a Sione —]
DEF woman PST 3SG choose ABS John ⟨S^{T}⟩
'the woman who chose John' (Tongan, Otsuka 2006:81)

In this type, relativization is complete and in fact ergative (12c). Other languages that show morphological tracking of A'-moved elements along ergative lines include Abaza, Selayarese, and Gitksan (Deal 2016:180-181).

From our perspective, these two types of syntactic ergativity represent two different alignment types, both within the ergative family (14), namely absolutive (affecting only S^{I}/O), for West Greenlandic, and ergative (S^{T} vs. S^{I}/O), for Tongan.

5.6 Ergativity generalizations

It has been observed that syntactic ergativity is limited to morphologically ergative languages (Dixon 1994:172). In other words, morphological alignments of the accusative family types (cf. (14)) do not give rise to syntactic differentiation of S^{T} and S^{I}. One way to explain this would be to assume that accusative alignment (of any type) is a function of syntactic derivation, merging subjects of all stripe in identical positions. Conversely,

ergative alignment (of any type), while not reflecting any different syntactic derivation, must be the result of an additional, marked process, which is reflected in morphology, and possibly (though by no means necessarily) also in syntax.

From this perspective, it is interesting to note that morphological differentiation between S^T and S^I is not wholly absent in the accusative alignment types. In particular, the transitive subjective type (13aii), while being in the accusative family, does show transitivity sensitivity leading to marked S^T (we saw this in 3rd person agreement in Paumarí and Wambaya). It would be interesting to see if this morphological differentiation has syntactic side-effects, but these questions have to be put off for now.

More generally, typological universals related to ergativity (as discussed recently in Sheehan 2014 and Deal 2015) may be evaluated anew in the context of the more refined alignment typology contemplated here. For example, Deal (2015:668) observes that ergative case is invariably overtly marked. This follows trivially in two of the three ergative family alignment types (cf. (14)): in the absolutive type (only S^I/O), S^T does not participate, so no ergative case is involved, and the narrow ergative type (only S^T) could not exist without ergative marking of S^T. So the only type to consider is the complete ergative type (S^T vs. S^I/O), but this type would reduce to the absolutive type if S^T were not overtly marked. The generalization therefore turns out to be inevitable.

We expect that a close investigation of the ergativity generalizations listed in Sheehan (2014) and Deal (2015), from the perspective of our more refined typology, may shed further light on their status, reason away apparent exceptions, and perhaps provide a more fundamental explanation. However, any further attempt in this direction would lead us beyond the scope of this article.

6. Ergative a dependent case?

We noted in section 5.4 that no correspondence between case and agreement alignment could be set up. That conclusion is at variance with a proposal in Bobaljik (2008), who argues for a conditional relation between case-marking and eligibility for agreement control. We conclude by evaluating this argument in the context of the system contemplated here.

Bobaljik (2008:296) acknowledges that agreement alignment is often incomplete, and proposes that incomplete agreement is sensitive to a GF-hierarchy (subject > object; cf. Moravcsik 1978), such that the higher element on the hierarchy is the preferred agreement controller.[25] This has the effect that subjective agreement may co-occur with ergative case alignment, a common enough situation, illustrated here by the case of Wambaya.

Beyond the GF-hierarchy governing agreement control eligibility, Bobaljik (2008) also assumes the case hierarchy in (23), where 'dependent case' may be accusative or ergative (following Marantz 1991), and 'unmarked case' nominative or absolutive.

(23) unmarked > dependent > lexical/oblique

[25] Bobaljik's definition: 'The controller of agreement on the finite verbal complex (Infl+V) is the highest accessible NP in the domain of V' (p. 296). 'Domain' refers to considerations of locality which are irrelevant to the discussion in this article. Accessibility is subject to an implicational hierarchy captured in Bobaljik's generalization discussed below (see (24)).

The conditional relation between case-marking and eligibility for agreement control can then be formulated as in (24), which we refer to as Bobaljik's generalization (Bobaljik 2008:303).

(24) If in a language λ dependent case noun phrases control agreement, then unmarked noun phrases in λ must also control agreement.

Bobaljik (2008) does not discuss why dependent case-marked elements may or may not control agreement. The generalization in (24) merely states what we can expect if they do.

From our perspective, Bobaljik's generalization ranges over (complete or incomplete) alignment types, and serves to exclude the incomplete types of objective agreement (when O is accusative and controls agreement) and narrow ergative agreement (when S^T is ergative and controls agreement); in these situations (24) tells us that the unmarked case elements control agreement as well, yielding complete agreement types.[26]

However, objective agreement is also predicted not to occur by the GF-hierarchy (subject > object), which limits incomplete agreement to the subjective type (controlled by S^T/S^I alone). Bobaljik's generalization is redundant here. Narrow ergative agreement (controlled by S^T alone) is also consistent with the GF-hierarchy, if we allow for some transitivity sensitivity in this department. This incomplete agreement type seems uncommon, but, as we saw, it is represented in our limited data set by past tense clauses in Coast Tsimshian (Mulder 1994:68).

It seems, then, that the explanatory value of (24) is somewhat limited. Bobaljik (2008) mentions the incomplete absolutive agreement type (controlled by S^I/O, represented by Tsez and perhaps languages of the Marathi type, like Hindi), as consistent with his generalization (24), because agreement control by absolutive case-marked elements is a situation we might expect to occur when ergative case-marked S^T fails to control agreement. However, absolutive agreement of the type found in languages like Marathi is only inconsistent with a GF-based theory of agreement control, if we choose to ignore the generalization that morphologically case-marked elements (not just ergative elements) never control agreement in these languages (cf. Pandharipande 1997:446, Woolford 2000). If we take this generalization into account, agreement control by ergative case-marked S^T is ruled out by an independent language particular constraint, and the situation in Marathi does not argue against a GF-based theory of agreement control.[27]

If this is correct, we may maintain that agreement control and case are subject to different organizational principles, agreement being sensitive to grammatical function much more so than case (see also Legate 2008). This conclusion would cast doubt on the usefulness of the definition of ergative case as a dependent case (Marantz 1991).[28] On the

[26] Strictly speaking, Bobaljik's generalization (by its conditional nature) does not predict anything about agreement control by unmarked case-marked elements when the condition is not met (i.e. when the accusative and ergative elements do not control agreement). For the implicit assumption that we expect the absolutive agreement type to show up in this situation, see the text.

[27] On absolutive agreement in the Tsez type of languages, see section 5.2 above and note 21.

[28] As an anonymous reviewer rightly points out, the concept of ergative as a dependent case has been put to profitable use in the literature many times since Marantz (1991), among others in Baker's (2015) analysis of differential case-marking. As addressing these implementations is not possible in the context of this article, we

(continued…)

view of Marantz (1991), now widely shared, the difference between ergative and accusative case alignment is due to a morphological mechanism of 'dependent case' assignment, targeting O in accusative languages and S^T in ergative languages. Assuming a hierarchical organization of cases like (23), it then follows that grammatical functions are differently ranked in the two types of languages, as in (25).

(25) a. accusative S > O > other
b. ergative S^I/O > S^T > other

An alternative to the Marantzian approach to ergativity would be to deny any meaningful grouping of ergative S^T and accusative O, and to assign the status of a universal to the GF-based grouping in (25a). On this approach, the ergative would still be a morphologically marked phenomenon, but differently from the accusative. Without the S^T/O grouping inherent in the dependent case premiss, we do not expect Bobaljik's generalization to make any predictions, beyond what is already predicted by a GF-based analysis.

From a derivationalist perspective, the characterization of ergative as a dependent case strikes us as incongruous. We take dependency to be a function of syntactic hierarchy (Zwart 2004 and sqq), itself a function of the structure generating procedure Merge of Chomsky (1993). In the spirit of Epstein (1999), we assume that in any pair (α,δ) resulting from Merge, δ is the dependent of α (the antecedent), and the dependency can be morphologically realized on any term of δ (Zwart 2006b). Accusative case, on this view, is the morphological realization of a subject-object dependency, essentially signaling the presence of a higher (antecedent) grammatical function (Zwart 2006a), a view that goes back to Jakobson (1935).[29] It is unclear how ergative case may be defined as dependent on this approach, but certainly its dependency must be different from that of the accusative case, as the ergative is itself the subject. Flipping the dependency relation such that the object becomes the antecedent for the subject would be incompatible with the definition of dependency as a function of Merge.[30]

7. Conclusion

In this article we have argued for a more fine-grained alignment typology, in which the canonical ergative alignment type is just one of five so-called complete types, and one of 18 types overall. We have shown that some of the incomplete types that look ergative, especially the transitive subjective type, are in fact not in the ergative family of types, involving special treatment of transitive subjects within a basically accusative alignment system.

We submit that the new alignment typology with its 18 possible types is better suited to

[28] (...continued)
restrict ourselves here to a discussion of the conceptual appeal of the dependent case hypothesis.

[29] To be more exact, a marker of the dependency between the subject and its sister, realized on the object as a term of the subject's sister.

[30] A related question is whether ergative case should be characterized as structural or inherent. Since (if we are right) ergative case can come about in a variety of ways (see section 5.1), it is unlikely that this question can be given a uniform answer, and we propose to leave it for further study.

describe the attested variation in alignment patterns than the conventional alignment typology, and provides a basis for understanding existing alignment generalizations as discussed in Sheehan (2014) and Deal (2015).

Following up on DeLancey (2004), our analysis calls into question the existence of a theoretically significant concept 'ergativity', and suggests that attempts at identifying an 'ergativity parameter' as the locus of variation between an 'ergative system' and an 'accusative system' may well remain futile. Therefore, it is important that syntactic approaches to ergativity pick up on the amount of variation attested in alignment patterns, and rethink their analyses accordingly.

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