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Case Typology and Case Theory*

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1. Overview of the Issues

In recent years, as the question of the nature of Case assignment has come into focus, the question of Case typology in general, and ergative Case marking (and agreement) systems in particular, has come to be seen as very important. The interdependence between typology and theory is perhaps nowhere clearer than in the area of Case. On one hand, a typology without a theoretical basis is merely descriptive and cannot lead us to a true understanding of the reasons for whatever typological generalizations are discovered. On the other hand, a (generative) theory of Case, which aims to be a model of the Case component of Universal Grammar and not just a theoretically elegant description of familiar types of Case, has to be able to predict the typological facts; a clear understanding of typology is necessary to be able to do this. One fact that has become clear from typological studies of Case is that a model based only on the familiar nominative-accusative pattern is doomed to be inadequate as an expression of universal Case theory.

The problems raised for a theory of Universal Grammar by ergative systems are compounded by the demonstrable syntactic differences between (some) ergative languages and the more familiar nominative-accusative languages. A theory of ergativity must address the question of ergative syntax and its relation to ergative Case and agreement. Here in particular it is important to resist the temptation to shoehorn ergative languages into a nominative-accusative mold. A careful investigation of the nature of ergative syntax in various languages is necessary.

We will begin by outlining our assumptions concerning theory and typology, discussing both specific assumptions that will be made and the broader issue of the relation between theory and typology. We will then proceed to discuss Case systems, agreement systems, and ergative syntax.

2. Background Assumptions

2.1. Typology

Generative linguistics purports to describe and explain the human language capacity. A generative theory of Universal Grammar must therefore base itself on the totality of human language. In the early days of generative syntax it was possible to uncover important generalizations about language by investigating a small set of languages (or even a single language), but our understanding of syntactic constructions has progressed enough that today we cannot afford this luxury. The observations made about language by field workers and

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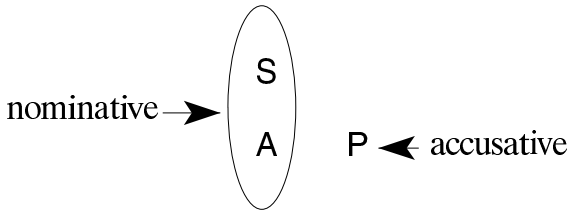
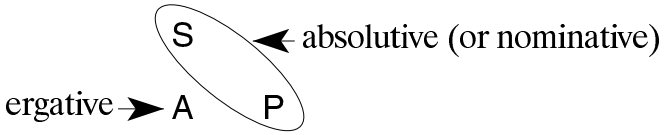
typologists are crucial for progress in understanding the nature of the human capacity for language.

The area of Case is an important case in point. Most current theories of Case are essentially based on observations about nominative-accusative languages.[1] Typologists distinguish at least three different kinds of Case marking systems.[2] These systems can be characterized as follows, where the sole argument of an intransitive verb is called S, the subject of a transitive verb is called A, and the object of a transitive verb is called P.[3]

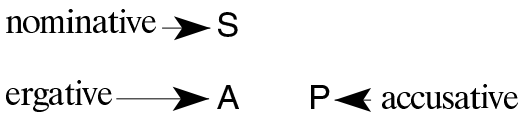
(1) a. Nominative-accusative:



b. Ergative:



c. Three-way:



These three language types can be exemplified as follows.

(2) **Nominative-accusative** (English)
   a. I sneezed.
   b. I saw him.

[1]I believe that this is true of theories of Case in various generative theories, not just theories in the Government/ Binding tradition. It is perhaps even truer of relation-based theories such as Relational Grammar (and, to a lesser extent, Lexical-Functional Grammar), in which there is thought to be a fairly direct relation between grammatical relations like subject and object and Case. Ergative languages make it clear that the situation is more complicated than this, and a structure-based theory like GB is thus potentially in a better position to deal with the problems raised than a relation-based theory.

[2]There is also a fourth type, active languages, in which agentive S patterns with A and non-agentive S patterns with P.

[3]As in Comrie (1978) and Blake (1994). Dixon (1979; 1994) uses O instead. Since A is intended to evoke "agent", P for "patient" is more parallel than O for "object". Note, too, that while S is intended to evoke "subject", it can be argued (see Bittner and Hale 1996a) that in some languages the sole arguments of unaccusative verbs may be surface objects as well as underlying objects. S can be reconceptualized as standing for "sole argument".

(3) **Ergative** (Dyirbal; Dixon 1994)[4]

a. yabu banaga- n^{y}u
mother.ABS return- NFUT
'Mother returned.'

b. ŋuma yabu- ŋgu bura- n
father.ABS mother- ERG see- NFUT
'Mother saw father.'

(4) **Three-way** (Antekerrepenhe; Bittner and Hale 1996a)

a. arengke nterre- ke.
dog run- PST
'The dog ran.'

b. arengke- le aye- nhe ke- ke.
dog- ERG me- ACC bite- PST
'The dog bit me.'

As we can see, in English S and A are both nominative, while P is accusative. In Dyirbal, A is marked with a special Case marking (ergative) while S and P have the unmarked Case (called either absolutive or nominative). Finally, in Antekerrepenhe S is unmarked (nominative) while A and P both have special marking.

We will revise this view of Case typology as we proceed, but the basic point is clear: a theory of Case that purports to be universal must account for all of these patterns of Case marking. Thus, as Bittner and Hale (1996a) point out, theories that identify ergative Case with either nominative (as in Bobaljik 1993) or accusative (such as Murasugi 1992) are unlikely candidates for a theory of universal Case. Ergative Case has to be recognized as a Case distinct from both nominative and accusative because there are languages that contrast them..

There are two ways to incorporate typological studies into theoretical analysis. One, which is very common in the current theoretical literature, is to take a small set of languages which differ along some typological parameter, analyze them to a fairly detailed level, and use these detailed analyses as a basis for explaining typological differences. The other approach is to take a relatively broad-based typology, encompassing as many languages as possible, and account for various clusterings of properties that are found. Each of these approaches has certain advantages and disadvantages. On the one hand, a narrow-based typology will be based on detailed analyses of the languages involved, whereas a broad-based typology is of necessity based on generalities rather than specific details. As a result, a broad-based typological analysis will be vaguer than a narrow typology. This may explain the general preference among generative researchers for narrow typological studies. However, such narrow studies face problems of their own. For example, Bittner and Hale (1996b) examine differences between "syntactically ergative" languages and "morphologically ergative" languages by examining properties of West Greenlandic and Warlpiri. However, nowhere do they justify the choice of these languages as typical exemplars of these two types of ergative languages. If they are not typical in certain respects, contrasting properties of these languages will not reveal anything relevant about the two types of languages. In general, in a narrowly based typological study one cannot be certain if the generalizations uncovered are

[4]Following Dixon (1994), we are omitting the determiners (or noun markers) in the Dyirbal examples. The determiners are also morphologically marked for Case.

typologically significant.

It seems to me, then, that at the earlier stages a broad based typology is preferable. Later narrow analyses can polish the broad strokes of the initial proposals. Thus, our approach to ergativity will not be informed, as recent analyses have been, by detailed analyses of one or two of Warlpiri, West Greenlandic, Basque, Lummi, Hindi, or Georgian. Rather, we will attempt to include properties of all ergative languages, as is done in non-theoretical typological studies such as Dixon (1994). Of necessity, then, the proposals here will be more programmatic and less specific than those of many other generative studies. However, the programmatic proposals will be more likely to be closer to the truth.

2.2. Theory

Just as a theoretical account of Case must be informed by typological work, typological observations can only be understood in the context of a formal theory of syntax. Typological generalizations must have a source in the formal nature of language; if they did not, they would simply be accidental observations.[5]

In this section, we will outline our theoretical assumptions. Before we do, however, a caveat is in order. Any theory of syntax must account for the assignment of Case. Much of what will be said in this paper is not limited to the Government/Binding framework to be assumed here, but can apply to most contemporary generative syntactic theories.

The basic theoretical framework to be assumed here is a "classical" version of Government/Binding theory (Chomsky 1981, 1986). That is to say, we will assume a highly modular theory which is principle-based rather than rule-based, and in which syntactic relations are structural in nature. We will not adopt the Minimalist framework of Chomsky (1993), partially for reasons to be discussed. However, certain concepts raised in the context of the Minimalist program will figure below.

For the structure of the clause, we assume essentially the approach of Chomsky (1986), combined with the VP-internal subject hypothesis. Under this analysis, the verb heads a phrase in which the complements are sisters of the verb and the subject is in the specifier position. This VP is itself the complement of a functional category (variously called AUX, M, INFL, I, TNS, or T) which consists of features relating to tense and aspectual information. We will refer to this category as T. In many languages, including English, the subject moves into the specifier position of TP. TP is the complement of a further functional category, the complementizer. The overall structure of the clause, then, is:

[5]A word of caution. I do not mean to imply that typology must be based on a theory of the type that has represented the mainstream view throughout the history of generative linguistics: a theory of formal "autonomous" syntax. Functionalist theories of syntax, which hold syntactic structures to be a consequence of the communicative function that language serves, can also be formal (although not "formalist") theories of syntax. My own approach is placed broadly within the generative tradition, and I believe that a "formalist" view of language is largely correct, and reveals much about the nature of linguistic structures. However, I do not mean to imply that a certain theoretical orthodoxy must be followed any more than the previous section implies that the observations of a particular school of typology should be sacrosanct.

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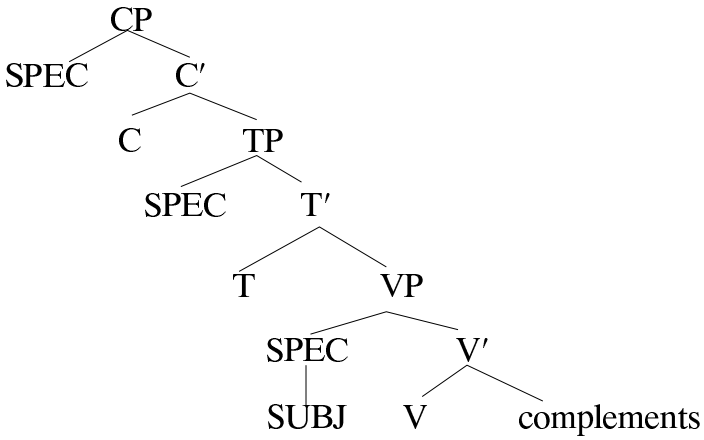
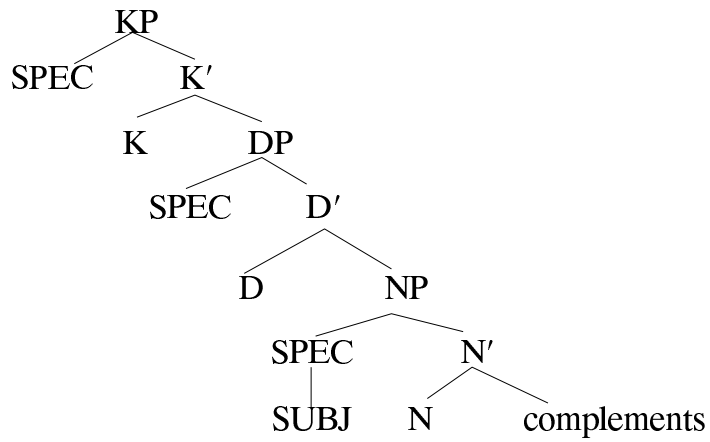


Contrary to much recent work, we assume there are no other functional categories.[6] The major ones that have been discussed are the agreement heads AGR_S and AGR_O. In earlier GB theory, AGR_S was considered to form a two-headed INFL category with T; in recent work the two AGR elements have been considered independent functional heads within the structure of the clause. We will return to the nature of agreement later in this paper; we consider agreement to be a relation, not a category.

We assume, following much recent work in the GB and Minimalist frameworks, that nominal phrases are DPs rather than NPs. That is to say, the NP is a complement of the functional category D, which contains features for definiteness and related properties of the nominal phrase. We also assume that Case marking is a functional head as well, and the DP is a complement of the Case category K. Under such a view, Case-marked nominals are KPs. Within the context of generative syntactic theory, this claim was first made by Fillmore (1968), and has been argued for recently by Bittner and Hale (1996a). Inter alia, Bittner and Hale observe that when Case marking is a particle (rather than a bound morpheme), it occupies the linear position generally associated with heads in the language (i.e. before the DP in head-initial languages and after the DP in head-final languages). The full structure of a Case-marked nominal phrase is thus completely parallel to that of a clause:

(6)



[6]Of the additional functional heads that have been proposed, the most plausible is Negation. Since negation does not figure in the discussion here, we will ignore it.

3. The Description of Case

3.1 Nominative/Absolutive

We begin by considering the nature of nominative and absolutive, the unmarked Case forms. The standard assumption in most modern theories of Case (in various frameworks) is that nominative is a Case parallel to accusative, which is assigned or checked under analogous circumstances. For example, in classical GB nominative Case is assigned under government by INFL with AGR (just as accusative Case is assigned under government by V), in the Minimalist framework nominative is checked in the specifier position of AGR_S (just as accusative is checked in the specifier position of AGR_O), and in theories like Relational Grammar and Lexical-Functional Grammar nominative Case is assigned to subjects (just as accusative is assigned to objects).

There is, however, a problem with this kind of analysis of nominative (and absolutive). Nominative has certain properties that distinguish it from other Cases, properties which are described by referring to nominative/absolutive as the unmarked Case (Dixon 1994). Specifically, nominative is often unmarked morphologically, and always unmarked in the formal sense.[7] The nominative form is the citation form of nouns; i.e. the form that is used when the noun is in no syntactic context and thus could not have had a Case assigned to it. In at least some languages, nominals in left-dislocated position are nominative, regardless of the clause-internal function they are associated with.[8] In ergative languages, the absolutive has similar properties. Such properties are unexplained in a theory that recognizes nominative or absolutive as a Case. Another curious property, mentioned but not explained by Yip, Maling, and Jackendoff (1987), is that in languages like Icelandic which have extensive quirky Case, nominative can never be a quirky Case.

The alternative view is to treat nominative and absolutive nominals as lacking in Case; formally, as bare DPs rather than KPs.[9] This analysis, which has been proposed by Falk (1991) and Bittner and Hale (1996a), allows us to represent this unmarked character of nominative and absolutive by having these forms literally unmarked. It is particularly attractive in light of the use of nominative/absolutive for forms out of syntactic context, such as citation forms. The nonexistence of quirky nominative Case also falls out rather trivially under such an analysis. It is important to note that the claim that nominative is the absence of Case does not predict that in all languages nominative forms will surface with no Case affix. This prediction would be clearly false, as can be seen from conservative Indo-European languages such as Latin and Russian. The morphological representation of syntactically Caseless nominals is subject to morphological well-formedness conditions of the language. In a language where noun stems cannot occur as free forms, an affix will be necessary, with the "nominative" affix as a default.

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[7]Dixon points out that there are some languages where this is not true of nominative, such as some Cushitic languages, some Berber languages, some Nilotic languages, Mojave and other Yuman languages, Wappo, and others. He observes that "nominative" in these languages might really be an extended use of ergative Case. I would suggest that that is the correct analysis.

[8]I thank Asya Pereltsvaig for pointing this out to me for Russian (personal communication).

[9]As pointed out by Jespersen (1924), some traditional analyses also considered nominative to not be on a par with other Cases. In a similar vein, Jakobson (1936) considered nominative to be formally unmarked by having a negative value for all the distinctive features that, in his theory, defined Cases. For discussion of traditional approaches to nominative, see Blake (1994: 31–32).

The hypothesis that nominative nominals are Caseless has important ramifications for Case theory. The parallelism between nominative and accusative Case in classical GB turned out to be illusory when S and $\bar{S}$ were assimilated into $\bar{X}$ theory in Chomsky (1986); it was realized that the position to which nominative Case is assigned is a specifier. It was because of this conceptual difficulty, and the apparent split of Case assignment into government structures and SPEC-head agreement structures, that the now-current theory was developed in which all Case specification[10] is done through a SPEC-head relation. If our view of nominative is correct, however, there is no direct evidence for Case ever being specified through SPEC-head agreement, and the motivation for treating accusative Case as involving movement of the object into a specifier position disappears.

A second consequence is that, while three-way languages show that ergative Case cannot be identified with either nominative or accusative, we do identify absolutive with nominative. The claim that absolutive and nominative are formally the same (i.e. Caseless) embodies the prediction that there can be no four-way nominative-accusative-ergative-absolutive languages, or three-way nominative-ergative-absolutive (or nominative-accusative-absolutive) languages. This seems to be correct.[11]

Our approach thus takes the marked/unmarked distinction as central to Case theory. In this, it resembles the theory of Murasugi (1992) rather than Bobaljik (1993) and Chomsky (1993). Bobaljik (and Chomsky following him) does not treat being unmarked as a property of a specific Case. Instead, Bobaljik proposes that in every language there is one Case that must be assigned in every clause. The ergativity parameter (which Bobaljik calls the Obligatory Case Parameter) allows languages to choose either the AGR_S Case or the AGR_O Case as the obligatory Case. Whichever Case is the obligatory Case in a particular language is the unmarked Case in that language. However, this approach is based on the idea that there is an obligatory Case in every language. It is not clear, however, what it means to say that there is an obligatory Case in a three-way language like Antekerrepenhe. In such languages, where intransitive clauses have nominative arguments and transitive clauses have ergative and accusative arguments, there is no Case that is assigned in every clause. Bobaljik does not mention three-way languages, and it is not clear how his theory could be extended to include them.

3.2. Accusative and Ergative Case

The approach to Case that will be pursued here deals with typology in a way that is different from the standard view illustrated in (1), under which there are three types of Case systems. Instead, the premise is that the syntax must be able to specify the Cases that surface in the language. In any language in which there is an accusative Case, the syntax must be able to specify it. The same is true of ergative Case. This seems to us to be an uncontroversial assumption. (Of course, if nominative and absolutive are not Cases, then they do not need to be accounted for.) Instead of classifying languages as nominative-accusative, ergative, or three-way, we will describe languages as [±erg] and [±acc]. Given this classification, English is [+acc, −erg].

Most, if not all, languages that are traditionally identified as ergative languages are in

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[10]I use the expression Case specification as neutral between Case marking/assignment and Case checking.

[11]Urban (1985) claims that the Gê language Shokleng has a (null) absolutive Case, an ergative Case, and a nominative Case, but a closer reading of his description shows that what he calls nominative Case marking is actually a pronominal form.

fact [+erg, +acc], and thus not distinguishable from so-called three-way languages. Consider Dyirbal. While lexical nominals generally display an ergative/absolutive contrast, there are exceptions. First, 'who/what' has a three-way contrast (ergative/accusative/nominative). Full nominals referring to people optionally are marked with accusative Case in object position. Thus, they can also exhibit a three-way distinction of Case. The only way to interpret this fact is to say that Dyirbal has both ergative and accusative Case marking, in addition to Caseless (nominative/absolutive) nominals. In other words, Dyirbal is a [+acc, +erg] language, a language with the capability of specifying both accusative and ergative Case.

Further evidence for a three-way distinction in Dyirbal comes from the pronoun system. Pronouns exhibit what is traditionally described as a nominative-accusative system.[12]

(7) a. nʸurra banaga- nʸu
you.PL.NOM return- NFUT
'You returned.'

b. nʸurra ŋana- na bura- n
you.PL.NOM we- ACC see- NFUT
'You saw us.'

c. ŋana nʸurra- na bura- n
we.NOM you.PL- ACC see- NFUT
'We saw you.'

A sentence with a full lexical nominal as subject and a pronoun as object has both ergative and accusative Case. The reverse yields a sentence with no overt Case.

(8) a. ŋana jaja ŋamba- n.
we.all.NOM child.ABS hear- NFUT
'We heard the child.'

b. ŋana- na jaja- ŋgu ŋamba- n
we.all- ACC child- ERG hear- NFUT
'The child heard us.'

Phenomena of this kind are not limited to Dyirbal. They are well known in the literature on ergative languages, and the phenomenon has come to be known as split ergativity. Split ergativity is a property of almost every ergative language. However, its importance for understanding the syntax of Case has not been fully appreciated. What it shows, as noted above, is that many languages that have been called ergative must be analyzed as having the mechanism for specifying both ergative Case and accusative Case. In other words, they are [+acc, +erg] languages, and are thus more correctly characterized in taxonomic terms as three-way languages.

We will return in §4 to the question of the mechanisms for assigning accusative and ergative Case.

[12]As will be made clear, we reject this as an accurate description of the situation in Dyirbal. In particular, the nominative part of the description is not entirely accurate. What is crucial here is the presence of accusative Case on pronouns.

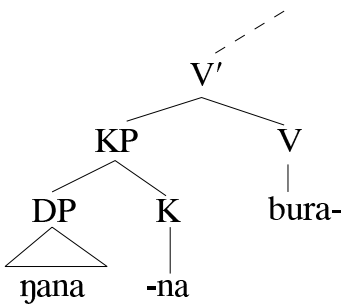
3.3. The Discourse Component

3.3.1. Ergative Languages

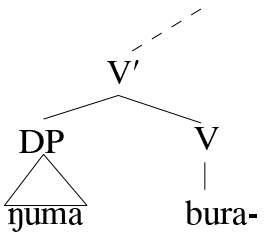
If many ergative languages, like Dyirbal, are really [+acc, +erg] languages, we would expect all objects in these languages to be accusative. It is the fact that this is rarely the case that has led to the traditional view of ergative languages, one in which S and P are assigned a Case called absolutive, and in which accusative Case has no role..

There are two possible analyses of absolutive objects in ergative languages. Under one, "absolutive" objects have accusative Case. Under this view, accusative Case morphology in ergative languages is generally morphologically null (or identical to the nominative morphology) and subjects of intransitive verbs are not assigned Case. This state of affairs creates the illusion that S and P are assigned the same Case, but the resemblance is purely morphological (or perhaps phonological). Under this analysis, absolutive nominals have no syntactic similarity, and thus never form a syntactic natural class. This is the analysis suggested in a preliminary way by Falk (1991), and has also been favored by Woolford (1997). The other analysis of absolutive objects, which is more in harmony with the traditional approach to ergativity (and that of Bittner and Hale), is that absolutive objects are not assigned accusative Case and are thus bare DPs. If this is correct, S and P arguments have a syntactic property in common: they are both DPs instead of KPs. Under this analysis, a Dyirbal sentence with a pronominal object such as (7b) would have the structure (9a) and one with a nominal object such as (3b) would have the structure (9b).

(9) a.



b.



There is reason to think that the former approach is incorrect: syntactic ergativity treats S and P as syntactically similar, and agreement in many ergative languages has a single set of absolutive markers for both S and P. So the question that needs to be answered is why there are Caseless (bare DP) objects in ergative languages.

An answer to this question is forthcoming by examining the cross-linguistic distribution of ergativity splits. Typological studies, such as Dixon (1994) and references cited there, point to several factors involved. Perhaps the most important is animacy: the more animate a nominal the more likely it is to be marked with accusative Case and the less likely

to be marked ergative. To a lesser extent, definiteness/specificity[13] is also involved.

The effect of animacy can be clearly seen in Dyirbal. As noted earlier, pronouns (which can only be used to refer to animate beings) display a nominative-accusative contrast. In other words, pronoun objects are accusative (unlike ordinary nominals, which are "absolutive") and pronoun subjects are not ergative (again, unlike ordinary nominals). This corresponds to the general trend referred to above. In addition, as noted earlier, animate nominals in object position can optionally be marked with an accusative suffix, and 'who' obligatorily displays a three-way contrast. Dixon (following earlier work by Silverstein) proposes the following animacy hierarchy.

(10) 1st person pronoun
2nd person pronoun
3rd person pronouns; demonstratives
proper nouns
human common nouns
animate common nouns
inanimate common nouns

Other ergative languages display a similar pattern. For example, in Nyawaygi (Dixon 1983), accusative Case shows up on animate pronouns, and sporadically on animate nouns.

(11) ŋaɖa ɲaŋga muyma- ɲa yu:ʈimayi
I.ERG 3SG.ABS boy- ACC grow.up.COMIT.PERF
'I brought up the boy.'

In Djapu (Morphy 1983) high animacy nominals in object position are marked accusative, while low animacy nominals are not. Eastern Pomo (McLendon 1978) has an ergative system for nouns and a more-or-less accusative system for pronouns[14]. In other words, the (less animate) nouns have ergative Case but not accusative and the (more animate) pronouns have accusative but not ergative. In Hindi and related languages, objects are marked with the accusative postposition when animate and/or definite;[15] otherwise, they are unmarked.[16]

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[13]We will not distinguish here between definiteness and specificity.

[14]More accurately an accusative active system, in which the sole argument of an unaccusative verb remains in V′ and gets accusative Case. See McLendon (1978) and Bittner and Hale (1996a).

[15]McGregor (1972: 49), in a pedagogical grammar, states that the accusative postposition *ko* is used "with direct objects which are individualized to some extent, and to which a degree of contextual importance is thus attached; hence usually where direct objects refer to human beings, and certain animals, and quite frequently where they refer to inanimate objects." As for unmarked (absolutive/nominative) direct objects, they are "not of any individual importance in a given context… In practice, words [sic] used in the direct [i.e. unmarked] case in this way usually have inanimate reference, but not invariably so." The examples in the text come from Comrie (1984).

[16]Mahajan (1994) states "It is sometimes claimed that *-ko* is an accusative marker in Hindi. Since the presence or absence of *-ko* is related to the specificity of the object rather than any relevant property of the verb, it is not entirely clear how it can be construed as an accusative marker." It should be clear from the typological observations here that such behavior is typical of accusative morphology and thus cannot be used as evidence against such an analysis of Hindi *ko*.

(12) a. laṛkiyõ nee rooṭii khaaii.
girls ERG bread(FSG) ate.FSG
'The girls ate bread.'

b. laṛkiyõ nee rooṭii ko khaayaa.
girls ERG bread(FSG) ACC ate.MSG
'The girls ate (the) bread.'

In the Papuan language Fore, ergative Case appears only if the subject is lower on the animacy hierarchy than the object (Blake 1994: 123).

(13) a. Yagaa wá aegúye.
pig man 3SG.kill.3SG
'The man kills the pig.'

b. Yagaa- wama wá aegúye.
pig- ERG man 3SG.kill.3SG
'The pig kills the man.'

Other languages mentioned by Dixon (1994) include the Pama-Nyungan language Waga-Waga, in which all nominals are marked with ergative Case when transitive subject, but objects are only marked accusative if pronominal, proper, or common with human reference; the Pama-Nyungan language Dhalanji, in which first person pronouns do not have ergative marking (all other nominals are overtly three-way); and the Maku language Nadëb, in which only first person pronouns have accusative Case, while all nominals have ergative Case.

Animacy also sometimes affects the nature of agreement. For example in the Australian language Rembarnga, the object agreement marker is followed by an accusative marker only if the object is higher on the animacy hierarchy than the subject (Mallinson and Blake 1981).

(14) a. ŋa- n- pa- na
me- ACC- they- saw
'They saw me.'

b. pa- ŋa- na
they- me- saw
'I saw them.'

In the Straits Salish language Lummi (Jelinek 1993), sentences with third person subjects and objects exhibit an ergative agreement (or incorporated pronoun) structure, with the object agreement on the aspectual marker outside the VP and the subject agreement on the verb. Sentences with non-third person subjects display a nominative-accusative system, with subject agreement outside the VP and object agreement on the verb.

(15) a. leŋ- t- s lə'- Ø.
see- TRANS- 3ERG PST- 3ABS
'He saw him.'

b. leŋ- t- oŋəɬ lə'- sx^{w}.
see- TRANS- 1plACC PST- 2sgNOM
'You saw us.'

In the non-Pama-Nyungan Australian language Ndjebbana, first person singular agreement is nominative-accusative while second person singular is ergative (Dixon 1994).

An interesting case that has been mentioned in the literature is the Sahaptian language Nez Perce (Rude 1986; Woolford 1997). What makes it interesting is that, unlike in the languages discussed above, in Nez Perce either ergative and accusative Case both surface or neither one surfaces. In a sentence where accusative Case does not surface, the object also does not control agreement. This is illustrated in the following examples from Woolford.

(16) a. háama- nm pée- ’wiye wewúkiye- ne.
man- ERG 3SUBJ.3OBJ- shot elk- ACC
‘The man shot an elk.’

b. háama hi- ’wiye wewúkiye
man 3SUBJ- shot elk
‘The man shot an elk.’

A sentence in which one of the Cases is overt and the other is not is ungrammatical. This state of affairs has been analyzed in different ways in the literature. Rude analyzes the form with no overt Case as an antipassive, but as Woolford points out this is a problematic analysis. The Caseless sentence has no antipassive morpheme and the object is not marked with an oblique marker. A more straightforward analysis is to simply consider the b. example to be a sentence in which neither Case is realized overtly (i.e. both subject and object are nominative). Woolford's own analysis is that this is an example of a four-way Case contrast. She calls the Case on the object in (16a) objective and the (phonologically null) one in (16b) accusative. However, nowhere does she give any evidence that the null marking on the object is distinct from the null marking on the subject.[17] We will not proposse an account of the mutual dependence of ergative and accusative Case. The crucial point from our perspective is a fact that Woolford relegates to a footnote: “Rude … argues that there is a difference in discourse function [between the two constructions].” According to Rude (1986), in the construction with marked arguments and object agreement the object is much more specific and topical than in the construction with unmarked arguments and no object agreement. The construction with marked arguments can also be used if the subject is nonreferential (and thus very low in specificity/definiteness). This correlates with the general typological observation.

Further examples of the effects of animacy (and definiteness) abound in the literature. There are two potential ways to account for these animacy- and definiteness-based ergativity splits: syntactic and extra-syntactic (discourse). It should be noted that in a modular theoretical framework such as the one being assumed here, either kind of approach is possible. While syntacticians tend to prefer syntactic solutions, a nonsyntactic “filter” on

[17]Both Rude and Woolford use the lack of object agreement in the Caseless construction as arguments for their analyses. For Rude, this is evidence that the Caseless construction is intransitive, and in particular that the Patient argument is not an object. For Woolford, it is evidence that the object has not raised to [SPEC, AGR_OP]. However, we see from other languages that object agreement is subject to the same animacy and definiteness/specificity conditions as overt accusative Case marking, so there is no reason to see the agreement facts in Nez Perce as a separate phenomenon to be accounted for.

Woolford also argues for her analysis from the ungrammaticality of combining an ergative subject with an “objective” (overt accusative) object. She claims that this derives from a version of Burzio's Generalization that she develops. However, other languages we have discussed raise serious doubts about a UG account along the lines she proposes. In Dyirbal, for example, all four possible Case marking combinations for subject and object are grammatical.

syntactic structures is consistent with the idea that grammar is modular (Newmeyer 1996). There is no a priori reason to expect a syntactic solution.

In the typological literature there is a consensus around a discourse grammar explanation. For example, Dixon (1979, 1994) attributes the animacy effect to the discourse nature of subjects and objects. Transitive sentences in discourse are typically about people performing actions on things. Thus, the prototypical subject is animate and the prototypical object is inanimate. (See also Givón's 1995 discussion of the prototypical transitive event.) In addition, the subject is usually old information while new discourse entities are often introduced as objects. The prototypical subject is therefore definite/specific while the prototypical object is indefinite/nonspecific. There are other types of considerations that lead to the same basic conclusions about prototypical subjects and objects. For example, in Jackendoff's (1990) theory of Conceptual Semantics transitive verbs have an Actor-Patient semantic structure, and Actors are prototypically volitional. Volitionality implies animacy. From whatever angle one approaches it, the idea is that subjects and objects which are bare DPs (i.e. absolutive or nominative) are relatively canonical subjects and objects. The ones which are full KPs (in languages that have bare DPs in addition) deviate from the prototypical pattern.

Jelinek (1993) objects to the discourse theoretic account of animacy- and definiteness-based splits, and offers a syntactic account instead. Her objections to the discourse (or "pragmatic," as she calls it) account is twofold. In the first place, she claims that such an analysis cannot explain the fact that these splits are found only in languages with rich agreement. Second, if a pragmatic account is based on a notion of a scale or hierarchy there should be gradations of judgments rather than the sharp grammatical judgments that one finds. Alternatively, if the pragmatic account is based on general cognition, all languages should display the same split. Neither of these objections is convincing. The alleged typological generalization concerning agreement is not true; Dyirbal, for example, has no agreement, yet it displays exactly this kind of split. The claim about pragmatics in general is also not true; if discourse grammar is a legitimate part of the grammar, then it will have formal structure just as syntax does and will allow for parametric variation. The fact that discourse grammar has not yet been formalized to the same degree as sentence grammar (syntax) is a fact about linguistics and linguists, not about language. It is of no principled importance in linguistic analysis.[18]

Jelinek's explanation of animacy- and definiteness-based splits is based on the theory of Diesing (1992), according to which at LF definite nominals are outside VP and indefinite nominals are inside. Assuming (plausibly) that nominative and absolutive nominals are outside VP, she argues that since first and second persons are always definite, they must be raised out of the VP by LF. In languages with an ergativity split, this must occur before S-structure (or Spell-out).

The empirical evidence casts doubt on Jelinek's account and is more conducive to a discourse grammar account. First, as the examples above show, the split is not always

[18]The basing of the explanation of some linguistic phenomenon on a scale or hierarchy certainly does not imply scalar judgments. It is generally accepted that syllable structure is based on a scale of sonority, yet in any given language a particular sequence of phonemes either is or is not a well-formed syllable. There are no scalar judgments.

between first and second person on one hand and third person on the other.[19] It can be between first and second person (as in Dhalanji, Nadëb, and Ndjebbana), and it can distinguish between third person nominals on grounds of animacy (Djapu, Eastern Pomo, Fore, Rembarnga, Waga-Waga), definiteness (Nez Perce), or both (Hindi). In addition, since third person nominals can be definite, it is not clear why, in her account, definite third person nominals can stay in VP at S-structure. Also, as we can see in some of the above examples, the application of the animacy hierarchy to ergatives and accusatives is different, and some languages have an overlapping area in the middle of the hierarchy where both ergative and accusative Case are possible. This suggests the correctness of a hierarchy-based approach. We conclude that Jelinek's syntactic explanation of the split is inadequate, and her arguments against a discourse account are not valid.

Another pattern of split ergativity involves tense and aspect. In such languages, subjects are ergative in the past or perfective, and absolutive (or nominative) in the future or imperfective. Hindi, in which the appearance of accusative Case is based on animacy and definiteness, conditions the appearance of ergative Case on aspect. Thus, the perfective forms in (12) contrast with the imperfective (17).

(17) laṛkiyãã rooṭii khaatĩĩ hãi.
girls bread(FSG) eating.FEM be.3PL
'The girls eat bread.'

A similar pattern is found in the Australian language Pitta-Pitta (Mallinson and Blake 1981), where the subject of a transitive verb is ergative in the non-future but nominative in the future. All objects are accusative.

(18) a. kaṇa ṉu- wa- ka pan^{y}t^{y}i- ya
man he- NOM- here ail- PRES
'The man is ill.'

b. kaṇa- lu ṉu- lu- ka piyawaḷi- ṉa piṯi- ka m a ṛ a - lu
man- ERG he- ERG- here dog- ACC hit- PST hand- INSTR
'The man hit the dog with his hand.'

(19) a. kaṇa- ŋu ṉu- ŋu- ka pan^{y}t^{y}i- Ø
man- NOM he- NOM- here ail- FUT
'The man will become ill.'

b. kaṇa- ŋu ṉu- ŋu- ka piyawaḷi- ku piṯi- Ø maṛa- ŋu
man- NOM he- NOM- here dog- ACC hit- FUT hand- INSTR
'The man will hit the dog with his hand.'

Georgian has an ergative-absolutive pattern in perfective tenses and a nominative-accusative (or objective) pattern in imperfective tenses (Nash 1995).

[19]Nash (1995) also bases a syntactic account of animacy splits on referential differences between first and second persons on one hand and third person on the other. While some languages do display this split, not all animacy (or person) splits are at the boundary between second and third persons.

(20) a. Ninom surati da= xaṭ- a.
Nino.ERG picture.ABS PRV= draw- AOR.SG
'Nino drew a picture.'

b. Nino surats xaṭ- av- s.
Nino.NOM picture.OBJ draw- TM- SG
'Nino is drawing a picture.'

Dixon argues that conceptually there is a stronger sense of agentivity in the future/ imperfective than in the past/perfective: past events are what they are and may not have been instigated by some agent, but to talk about the future we must presuppose some sense of causality. If Dixon is right, this is a more complex case of the animacy hierarchy. Alternatively, as suggested by Nash (1995), this may be a syntactically-based split, if agents are in the specifier position of a functional category and the less agentive subject of the perfective is in [SPEC, VP]. (This is on the plausible assumption that ergative nominals and nominative nominals are structurally distinct.) We leave open the question of whether this kind of split is syntactic or discourse.

Yet another circumstance in which ergative Case may be missing morphologically is exemplified by the New Guinea Austronesian language Motu and the Australian language Murinypata, also discussed by Dixon (1994: 58–59). The ergative Case marker is present in these languages only when the sentence would be otherwise ambiguous; i.e. if there is no other way (relative animacy, real-world knowledge, agreement markers) to tell which nominal is the subject and which is the object.

It seems, then, that the actual morphological Case that appears in sentences in ergative languages is only partially determined by syntax. Discourse grammar[20] seems to also play a role. Perhaps the proper division of labor is expressed by the following:

(21) a. A nominal (DP or KP) is licensed in the syntax by having Case specified.[21]
b. A K (and the KP it heads) is licensed in the discourse grammar if it is necessary.[22]

Clearly, the concept of "necessary" needs to be worked out. What we have seen is some of the factors that may go into this: non-canonicity of the subject and/or object, potential ambiguity. The idea, though, is that ergativity splits (with the possible exception of those based on aspect) is not a syntactic phenomenon. The syntax specifies ergative and accusative Case in positions where they do not surface morphologically for discourse reasons.

This approach has as one of its consequences the conclusion that objects are specified for accusative Case even if the accusative does not surface. This makes an interesting predicition about a particular class of languages. Consider a language which allows

[20]Dixon refers to the properties he discusses as semantic, but it is clear that they are more discourse/pragmatic than semantic.

[21]If, as we are assuming, there is no nominative Case, subjects in nominative-accusative languages are not subject to this. Perhaps the licensing is only required for complements; subjects are specifiers.

[22]This is undoubtedly a subcase of a more general pragmatic principle that one does not say more than is necessary . The Avoid Pronoun Principle of Chomsky (1981) is presumably related.

"discontinuous NPs"[23] of the kind made famous by Warlpiri. In discontinuous NP languages, it is Case that allow one to piece together the notional NP. Presumably, under anyone's analysis of such languages Case is specified uniformly for all parts of the NP. However, in a split ergative language the different parts can surface with different Cases, as in the following example from the Jiwarli, belonging to the Mantharta branch of the Pama-Nyungan family (from Austin and Bresnan 1996).

(22) Juru- ngku ngatha- nha kulypa- jipa- rninyja parna.
sun- ERG I- ACC be.sore- TRANS- PST head.ABS
'The sun made my head sore.'

The object here consists of 'I' and 'head', which differ in overt morphological marking; under our proposal, 'I' is a KP and 'head' is an NP (on the assumption that Jiwarli, like Warlpiri, lacks D). If Case is specified uniformly for the various parts of the object, both 'I' and 'head' must be specified for accusative Case.

Similarly, the subjects of transitive clauses in ergative languages are ergative even if the ergative does not appear explicitly. Note the ergative Case marking on the secondary predicate in the following example from Dyirbal (Bittner and Hale 1996b).[24]

(23) Midi- ŋgu ŋaja palan yibi bura- n.
small- ERG I.NOM that woman see- NFUT
'When I was little, I saw that woman.'

An analysis of ergativity that has been explored by several researchers is that ergative Case is a lexical (or inherent) Case, rather than a structural Case. Such analyses have been proposed, for example, by Woolford (1997), Mahajan (ms), and Nash (1995), all in slightly different versions. It seems to us that the correct parallel to ergative Case is not quirky Case subjects (or other lexical Cases), but accusative Case. The most salient property of ergative Case, as discussed in this section, is its sensitivity to discourse factors such as animacy and definiteness.[25] This is clearly not a property of quirky Case on subjects, and is quite parallel to accusative Case.[26]

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[23]The reason for the scare quotes is that I am not taking a position on whether these are really NPs at some level of representation or not. On the analysis of languages like these, see Austin and Bresnan (1996).

[24]Bittner and Hale gloss the pronoun as ergative, although the form is identical to the one used for intransitive subjects. They state that distinction between nominative and ergative is "masked". Within the context of the approach being proposed here, this notion of "masked" gets a precise definition: the argument is marked for ergative Case in the syntax, but it is realized as a bare DP instead of a KP. The fact that the form derives historically from an ancestral ergative is, of course, just as irrelevant to the synchronic analysis of Dyirbal as the fact that most of the English accusative pronouns derive from Old English datives is to the synchronic analysis of English.

[25]Whether our account of discourse effects is correct or not is immaterial. The point is that the actual appearance of ergative Case, like the appearance of accusative Case, is subject to more than just Case-marking properties of the verb, but also factors like animacy/definiteness/… of the nominals involved. Quirky Case never behaves like that.

[26]One argument given by Nash for a lexical Case analysis of ergative is that in some languages ergative Case has other uses in which it behaves like an oblique. The problem with this argument is that the same is true of accusative Case. Dixon (1994) lists some of the uses of ergative Case as instrumental, genitive, and locative, and some of the uses of accusative as goal, dative, instrumental, and extent in time and space. This is thus not a successful argument

3.3.2. Nominative-Accusative Languages

If we are correct in hypothesizing that the widespread absence of accusative Case in [+erg, +acc] languages is due to discourse grammar effects rather than being somehow linked to the presence of ergative Case, we might expect to find similar effects in [–erg, +acc] (nominative-accusative) languages. We need to be careful with this apparent prediction, though. Such effects would be plausibly less widespread than in ergative languages because the nonexistence of ergative Case increases the discourse grammar need for the object to be marked. However, it would be very surprising to find such effects absent from nominative-accusative languages.

In fact, examples of nominative-accusative languages in which accusative Case is overt only when needed by the discourse grammar are not hard to come by. However, they have generally not been considered in the context of similarity to ergative languages. For example, only specific (or definite) objects are marked accusative in Turkish ((23) from Blake 1994), Mongolian ((24) from Mallinson and Blake 1981), and Hebrew (25).

(24) a. Hasan öküz- ü aldı.
Hasan ox- ACC bought
'Hasan bought the ox.'

b. Hasan bir öküz aldı.
Hasan a ox bought
'Hasan bought an ox.' (non-specific)

c. Hasan bir öküz- ü aldı.
Hasan a ox- ACC bought
'Hasan bought an ox. (specific)'

(25) a. bagši dorǰ(i)- iig ɯzəbə
teacher Dorji- ACC saw
'The teacher saw Dorji.'

b. Dorǰi ʒurəg ʒurəbə.
Dorji picture painted
'Dorji painted a picture.'

(26) a. karati et ha- sefer.
I.read ACC the- book
'I read the book.'

b. karati sefer.
I.read book
'I read a book.'

There are also nominative-accusative languages in which only animate objects are marked with accusative Case. One such language is Malayalam (Mohanan 1982).

(27) a. Puucca eliy- e / *eli tiṉṉu.
cat.NOM rat- ACC / *rat.NOM ate
'The cat ate the rat.'

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for the idea that ergative is a lexical Case.

b. Puucca roṭṭi / *roṭṭiy- e tiṉṉu.
cat.NOM bread / *bread- ACC ate
'The cat ate the bread.'

There are other languages that can be analyzed as exemplifying this, but are not generally analyzed as such. For example, the well-known appearance of *a* before animate/specific direct objects in Spanish (and their ability in some dialects to be doubled by a clitic) can be plausibly assimilated to this kind of analysis if we suppose that *a*, instead of being an alternative Case assigner, as often assumed, is instead the morphological realization of accusative Case in Spanish (example from Blake 1994.)

(28) a. Deseo un empleado.
want.1SG an employee
'I want an employee.' [Anyone will do.]
b. Deseo a un empleado.
want.1SG ACC an employee
'I want an employee.' [I can't think of his name for the moment.]

Even English, both Old and Modern, seems to restrict accusative Case to high animacy nominals. In Old English, neuter nouns and pronouns did not have accusative forms.[27] In Modern English, accusative Case only surfaces in pronouns (which are higher on the animacy hierarchy than nouns), and not on the inanimate pronoun *it*.[28]

A more complicated pattern involving both definiteness and animacy is apparent in some of the Bantu languages. Wald (1979) examines the situation in the Mombassa, Kenya, dialect of Swahili, and suggests that discourse "distinctiveness" is involved, a concept involving unexpectedness and topicality.

A related phenomenon can be found in Hungarian. The subject agreement marker in Hungarian is taken from one of two sets, what are traditionally called the indefinite and definite conjugations. The indefinite conjugation marker is used if the verb is intransitive, or if the verb is transitive and has an indefinite object. The definite conjugation is used if the verb has a definite object (Marácz 1989).[29]

(29) a. Lát- ok egy lány- t.
see- 1SG.INDEF a girl- ACC
'I see a girl.'
b. Lát- om a lány- t.
see- 1SG.DEF the girl- ACC
'I see the girl.'

The indefinite and definite agreement suffixes might be more accurately called intransitive and transitive respectively, with the special transitive form being used only when the object

[27]As Mallinson and Blake (1981) point out, this is true in many Indo-European languages.

[28]Accusative Case also does not show up on the second person pronoun *you* either. This may also have a basis in discourse grammar.

[29]Note, however, that the object is overtly accusative even when it is indefinite.

is definite.

There are also nominative-accusative languages in which objects are nominative when there is no nominative subject. Dixon (1994) mentions Finnish (in 1st and 2nd person imperatives, where the subject is unexpressed) and other Balto-Finnic languages, Australian nominative-accusative languages (such as Ngarluma, Lardil, and Kayardild), and Southern Paiute and other Uto-Aztecan languages. In Finnish, for example, there is no overt nominative subject in first and second person imperatives. In sentences of this type, objects are nominative (Comrie 1978).

(30) a. Maija tuli.
Maija.NOM came
'Maija came.'

b. Maija söi kala- n.
Maija.NOM ate fish- ACC
'Maija ate fish.'

c. Syö kala!
eat.IMP fish.NOM
'Eat fish!'

A striking example is Icelandic. In Icelandic, subjects sometimes exhibit inherent ("quirky") Case. In such a case, the object (or ECM subject) is nominative (Zaenen and Maling 1982, Yip, Maling and Jackendoff 1987).

(31) a. Barninu batnaði veikin.
the.child.DAT recovered the.disease.NOM
'The child recovered from the disease.'

b. Barninu finnst mjólk góð.
the.child.DAT finds milk.NOM good.NOM
'The child likes milk.'

c. Henni hefur alltaf þótt Ólafur leiðinglegur.
her.DAT has always thought Ólaf.NOM boring.NOM
'She has always thought Ólaf boring.'

In a ditransitive clause with a dative object (inherent) and an accusative object (structural), if the dative object moves to subject position the retained object surfaces as nominative, not accusative.

(32) a. Jón gaf barninu bókina
John gave the.child.DAT the.book.ACC
'John gave the child the book.'

b. Barninu var gefin bókin (af Jóni)
the.child.DAT was given the.book.NOM (by John.DAT)
'The child was given the book by John.'

Thus, evidence from nominative-accusative languages confirms the basic outline of our approach to ergative languages. Specifically, we see evidence that the realization or nonrealization of accusative Case can be dependent on nonsyntactic (specifically discourse) conditions, as summarized in (21).

4. A Theoretical Proposal

We will now propose a theoretical account of the syntactic component of Case systems, based on our observations above. The parametric features [acc] and [erg] will thus gain substantive content.

We begin by considering how Case fits into the general linguistic system. Most generative theories of syntax assume that the syntactic component maps between the interface levels with semantics and phonology/phonetics. In the transformational literature, the interface with phonetics/phonology has been variously called surface structure and PF and has been conceptualized as interfacing with phonology; however, in the Minimalist framework, unlike in other versions of generative syntactic theory, the level of PF is seen as interfacing directly with phonetics (motor instructions, etc.) rather than with phonology, making phonology internal to the syntax (on the PF branch). It is not clear what the reason is for this departure from the more standard view; as Bromberger and Halle (1989) point out, phonology is structurally and functionally different from syntax. Although phonology has a formal rule structure, much of phonology is based on physical properties of the vocal tract (such as the geometric structure of the feature system). We assume that there is a syntactic interface with phonology, analogous to the more traditional views of surface structure/PF. This level will be referred to here as Surface Form (SF), to avoid preconceptions about "surface structure" or "PF."[30] The interface with semantics is generally called LF.

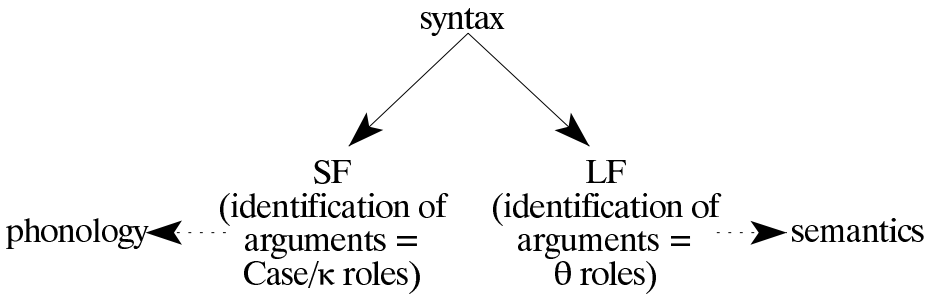
We return now to the place of Case in syntax. Most versions of generative syntactic theory consider Case to be an abstract formal feature that is specified (assigned or checked) under certain conditions (structural or relational, depending on the theoretical framework). This is true of most work in GB as well (and in the Minimalist framework). However, Chomsky (1981: 117) mentions another possible conceptualization, which he attributes to early unpublished work by Aoun.

> Aoun … notes that there is a certain parallelism between θ-role and Case, the former a property of the LF-component and the latter essentially a property of the PF-component.… Intuitively, NPs are identified by Case in PF-representation and by θ-role in LF-representation.… [G]enerally, Aoun suggests that features are naturally subdivided into those relevant to the PF-component (e.g., phonological features) and those relevant to the LF-component (e.g., θ-features), and that these features are "visible" only to rules of the components to which they are relevant…

The idea is that Case is the SF equivalent of LF's θ roles, what might be better called κ roles. Note that the latter part of this quotation prefigures the principle of Full Interpretation (FI) of Chomsky (1991). By FI, Case cannot be present at LF, since Case is not semantically interpreted. If there is a syntactic level (Aoun's PF, our SF) which interfaces with (morpho)phonology, Case is interpretable at that level. There is a certain conceptual parallelism between θ marking on the one hand at Case marking (or κ marking) on the other. Θ marking identifies arguments at the semantic level, and Case identifies arguments at the morphophonological level.

[30]The level that I am calling SF is undoubtedly related to the Morphological Structure (MS) of Halle and Marantz (1993). The fact that Halle and Marantz argue for such a level can be taken as further evidence for its existence.

(33)



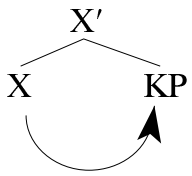
We will adopt this idea as a working hypothesis.[31]

Our conceptualization of Case also provides an account of the Case Filter, the requirement that all phonologically overt nominals be specified for Case. The Case Filter must be parallel to the Θ Criterion. Just as the Θ Criterion requires LF identification for arguments, the Case Filter requires SF identification. Both are ultimately reducible to FI. There is even an interesting parallelism between the Θ Criterion and the Case Filter regarding subject position. The subject can be, but need not be, a θ position. This is why both arguments and expletives can occupy subject position. Under our view of nominative, subjects are not assigned κ roles (Case) in nominative-accusative languages but are in ergative languages. Thus, within the theory, the same ambivalence that we find with θ marking appears with Case as well.

Note that we have not distinguished here between "abstract Case" and "morphological case." The morphological realization of Case is no different from the morphological realization of tense, agreement, or any other syntactic features; just as it is not customary to refer to the syntactic features of tense and agreement as abstract tense or agreement, there is no reason to refer to the syntactic Case features (or κ roles) as abstract Case.

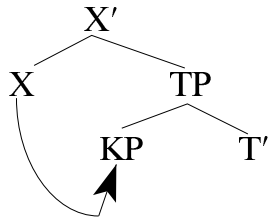
In classical GB theory (Chomsky 1981), Case is specified under government. Later GB (Chomsky 1991) has changed this to a SPEC-head relation, partially due to what we believe is a misunderstanding of the nature of nominative "Case." Chomsky (1993) argues that the newer approach is preferable in a minimalist theory because government is not a minimalist $\bar{X}$ concept while the SPEC-head relation is. However, this is not entirely true. Case-under-government configurations reduce to the two in (33).

(34) a.



[31]As observed earlier, most of the proposals and ideas put forward in this paper have consequences for non-GB frameworks as well. This is certainly true of our conceptualization of Case marking. In LFG, for example, it would mean that Case specification is a c-structure property rather than an f-structure property, contra standard LFG.

b.



The configuration in (33a) is entirely unproblematic from the perspective of $\bar{X}$ theory; it is simply a head-complement relation. The head-complement relation is at least as minimal as the SPEC-head relation; perhaps even more so. In non-binary-branching versions of syntactic theory, it is exactly the configuration of θ marking. It is the configuration in (33b) that is potentially troublesome. This is the Case configuration for Exceptional Case Marking verbs like *believe* and the complementizer *for*. What to do with these is, then, the problem. One possibility would be to adopt some version of the traditional Raising-to-Object analysis. Under this analysis, the complement subject of *believe* moves to a position where it is the sister of *believe*. By extension, an infinitival complement subject would become a sister of *for*. While such an analysis has been argued against, the arguments have tended to be theory-internal, and have been largely concerned with the semantics of the constructions. There have (to the best of my knowledge) been no arguments against SF Raising-to-Object. The details of SF Raising-to-Object would depend on what kind of movement theory one is working with. If such an analysis can be made to work, it would obviate the need for the non-minimalist government relation, replacing it with the minimalist head-complement relation which formed the conceptual core of the government relation in the first place.[32]

Let us explore the consequences of our conceptualization of Case as κ roles, the SF equivalent of LF's θ roles. Θ theory distinguishes between internal arguments and external arguments. Under a classical $\bar{X}$ view of structure combined with the VP-internal subject hypothesis, internal θ roles are assigned to sisters of the head (under X′) and external θ roles are assigned to the specifier position. If Case is parallel to θ roles, we would expect Case theory to also recognize a distinction between internal and external roles. Internal Case would be specified on a sister of the Case-assigning head and external Case on the specifier. This is exactly what happens in a [+acc, +erg] language: accusative Case is specified on the sister of the Case-assigning head (internally) and ergative Case is specified in its specifier (externally). Thus, accusative Case is internal Case and ergative Case is external Case.

If this is correct, we now have an account of the nature of ergative Case and the ergativity parameter. It appears that unlike θ roles, languages may differ in their ability to specify an external Case (and perhaps internal Case). This parametric difference is what is represented above by the features [±erg] and [±acc]. A [+erg] language is one in which verbs have the ability to assign Case externally, and a [+acc] language is one in which they can assign Case internally.

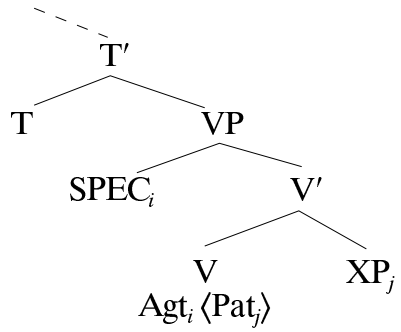
An issue that we have been avoiding is the question of whether there are any [−acc] languages. As we have seen, many languages traditionally classified as ergative are in fact [+erg, +acc]. There are very few languages in which there is no overt evidence for accusative Case (the Eskimo languages may be such). [−acc], then, if it exists, is presumably a very marked option. On the other hand, it is well known that [+erg] is marked relative to [−erg].

[32]Despite the problems with the Minimalist Program, the basic idea that only minimally needed concepts should be part of syntactic theory is well-founded. Given this, it is odd that Bittner and Hale (1996a; 1996b) propose a theory of Case which requires a large number of new concepts and relations needed only for Case theory.

We now have a way to explain this contrast in markedness between these two parametric features. It is plausibly more natural for a predicate to specify Case for an element that it c-commands than for one that it does not. External Case specification is thus more marked. It is also plausible, under this view, to suppose that there are no [–acc] languages. That would mean that in all languages verbs specify the roles of arguments they c-command. Those languages in which accusative Case never surfaces would then have appropriate discourse grammar conditions which would always block accusative nominals from being KPs. It is not clear at this stage whether there is any empirical evidence bearing on the [–acc] question, but this kind of approach has much to recommend it.

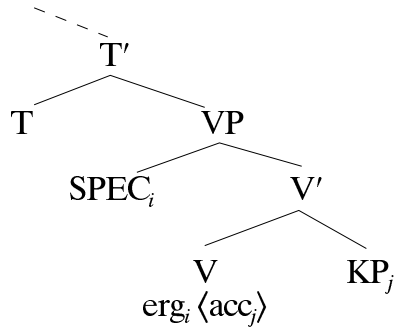
The nature of both Case specification and θ marking have been the subject of much disagreement. One interesting approach to θ marking is that the list of θ roles, called an argument structure or a θ grid, is represented as part of the syntactic structure. Such an approach is taken, for example, by Williams (1994), as well as in some nontransformational theories such as that of Kaplan and Bresnan (1982). The "assignment" of θ roles in such an approach is the coindexation of θ grid positions with structural positions.

(35) LF:



Following this kind of analysis and extending it to Case, we can see the lexical Case-specification properties of heads as represented in a Case grid parallel to the θ grid. This Case grid can be part of the SF representation. The specification itself is the coindexation of Case grid positions with arguments; these arguments will be either KPs, in which case the Case surfaces, or bare DPs, in which case the argument is nominative/absolutive.

(36) SF:

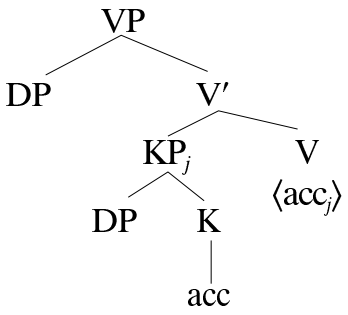


Whether the argument is a KP or a DP will be determined by discourse grammar, as discussed in the previous section. However, the Case is specified by coindexation in the

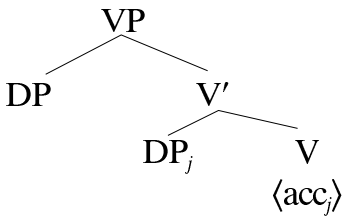
syntax in any case. A nominal can thus be Caseless and still syntactically specified for Case.

The resulting (D-)structures for various combinations of Cases are as follows (abstracting away from order).

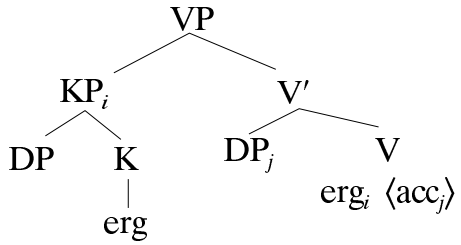
(37) a. **Nominative-Accusative (in a nominative-accusative language)**



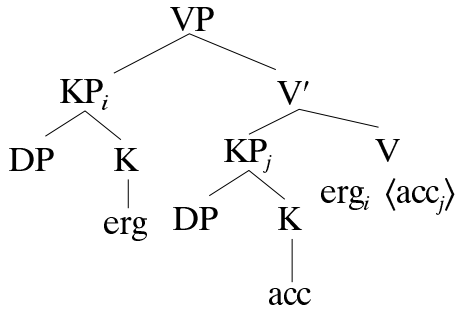
b. **Nominative-Nominative (in a nominative-accusative language)**



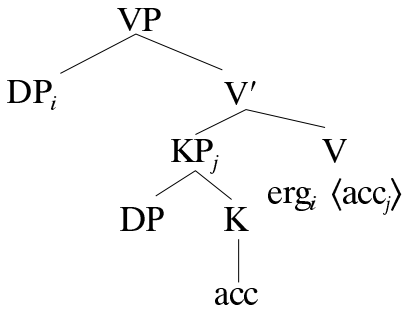
c. **Ergative-Absolutive**



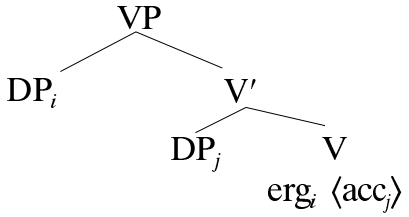
d. **Ergative-Accusative**



e. **Nominative-Accusative (in an ergative language)**



f. **Nominative-Absolutive**



5. Agreement

As has become apparent, there is a close relationship between Case and verbal agreement. This relationship is drawn most directly in the Minimalist Program approach, in which agreement and Case specification are both the results of a SPEC-head relationship. However, agreement and its relation to Case are more complicated than suggested by this kind of analysis. In this section[33] we will take a closer look at agreement and its relation to Case typology.

5.1. About Agreement

Agreement in the broad sense expresses a relation between two syntactic elements. The essentially relational nature of agreement makes it dubious that agreement should be treated as a functional category. We will therefore take a different approach here. We will treat agreement as a reflex of coindexation. As has often been noticed, NPs that are coreferential also agree. Consider the sentences in (37), where the NP *the dog* (assuming a male dog) can be either masculine or neuter.

(38) a. The dog$_i$ thinks that he$_i$ should scratch himself$_i$.
b. The dog$_i$ thinks that it$_i$ should scratch itself$_i$.
c. *The dog$_i$ thinks that he$_i$ should scratch itself$_i$.
d. *The dog$_i$ thinks that it$_i$ should scratch himself$_i$.

As the example shows, there has to be gender agreement between the two pro-forms referring to the dog. Similarly, consider the following examples in German.[34]

[33]Much of the material in this section comes from Falk (1994).

[34]I would like to thank Anita Mittwoch for providing me with these examples.

(39) a. Das Mädchen hat seine/*ihre Tasche verloren.
the girl(NEUT) has its/*her bag lost
'The girl lost her bag.'

b. Der Gast hat seine/*ihre Tasche verloren.
the guest(MASC) has his/*her bag lost
'The guest (man or woman) has lost his/her bag.'

Further examples abound in the literature.

Agreement is morphophonological in nature, not semantic. By FI, this means that it can be represented only at SF, not at LF. We propose that, just as coreference, reciprocal reference, and intersecting reference are the semantic interpretation of (LF) coindexation, agreement is the morphophonological interpretation of (SF) coindexation.

5.2. Types of Agreement

It is claimed in Falk (1994) that, verb agreement (henceforth agreement) is not a unified phenomenon. Instead, there are two different phenomena commonly called "agreement": single argument agreement and multiple argument agreement. Both involve SF coindexation, but they differ in what is coindexed.

5.2.1. Single Argument Agreement

The most familiar type of agreement is the agreement of the verb/auxiliary with a single argument of the verb, usually the subject. The classical GB analysis is that the coindexation is between the subject NP and T (Chomsky 1981). This is a plausible analysis of this type of agreement, given that the agreement surfaces in conjunction with tense marking.

However, the agreement trigger is not always a subject; the correct generalization in most languages is that the trigger of single argument agreement is a nominative NP. The relevant data come from languages that allow the subject to be marked with some Case other than nominative and some other argument to receive nominative Case instead. Such languages are of two types: languages that have quirky Case subjects and [+erg] languages. An example of a language with quirky subjects is Icelandic. In Icelandic, if a sentence has a quirky subject and another argument which is nominative, the verb agrees with the nominative argument and not the subject. If a sentence has no nominative argument, the verb is invariably in the third person singular form.

(40) (from Zaenen and Maling 1982 and Levin and Simpson 1981)

a. Honum voru oft gefnar bækur.
him.DAT were.3PL often given.FPL books.NOM(f)
'He was often given books.'

b. Mig þyrstir.
me.DAT thirst.3SG
'I am thirsty.'

Ergative languages provide a more interesting case. One ergative language in which the object is sometimes nominative is Hindi. In Hindi, the verb assigns external (ergative) Case in the perfective aspect, but not in the imperfective; the subject is therefore nominative in the imperfective. Objects are either accusative (marked by an accusative/dative postposition) or nominative (no postposition), depending on factors of definiteness and

animacy. In sentences with nominative subject (even if the object is also nominative (40a)), the verb agrees with the subject; in sentences with ergative subject and nominative object (40b), the verb agrees with the object; and in sentences with no nominative (40c) the verb is in the neutral form (third person masculine singular).

(41) (examples from Pandharipande and Kachru 1977)

a. ləṛka rat bher ciṭṭhiyã likhta hai.
boy(M.SG) night(F.SG) all letters(F.PL) writes(M.SG) AUX
'The boy writes letters all night.'

b. ləṛkõ ne rat bhər kam kiya.
boys(M.PL) ERG night(F.SG) all work(M.SG) did.M.SG
'The boys worked all night.'

c. ləṛkõ ne ciṭṭhiyõ ko phaṛ diya.
boys(M.PL) ERG letters(F.PL) ACC tore.up.M.SG
'The boys tore up the letters.'

Furthermore, with transitive verbs which exceptionally do not assign ergative Case in the perfective, agreement is with the irregularly nominative subject (41a), and intransitive verbs with optional quirky ergative Case on their subjects exhibit neutral agreement (41b).

(42) (from Saksena 1981)

a. Raam sabzii laayaa.
Ram(M.SG) vegetable(F.SG) bought.M.SG
'Ram bought the vegetable(s).'

b. siitaa ne nahaayaa
Sita(F.SG) ERG bathed.M.SG
siitaa nahaayii.
Sita(F.SG) bathed.F.SG
'Sita took a bath.'

It is clear from examples such as these that the verb agrees with a nominative. When there are two nominatives, the verb agrees with the subject, which is structurally the more prominent of the two.

Another ergative language in which agreement is with the nominative is the Daghestan language Archi. According to Kibrik (1979), the facts are as follows: In all synthetic verb forms and some analytic ones, the subject of a transitive clause receives ergative Case, the subject of an intransitive is nominative, and the object of a transitive is nominative. In such forms, agreement is with the nominative argument; with synthetic forms, the auxiliary and verb both display agreement.

(43) a. dija w-ir$\bar{x}_o$in.
father(Class I) works.Isg
'Father works.'
buwa d-ir$\bar{x}_o$in.
mother(Class II) works.IIsg
'Mother works.'

b. dija w-arxar-ši w-i.
father(Class I) lie.GER.Isg AUX.Isg
'Father is lying.'
buwa d-arxar-ši d-i.
mother(Class II) lie.GER.IIsg AUX.IIsg
'Mother is lying.'

c. dija- mu $\bar{x}_o$alli b-ar-ši b-i.
father(Class I)- ERG bread(Class III) bake.GER.IIIsg AUX.IIIsg
'Father is baking bread.'
buwa- mu $\bar{x}_o$alli b-ar-ši b-i.
mother(Class II)- ERG bread(Class III) bake.GER.IIIsg AUX.IIIsg
'Mother is baking bread.'

Other synthetic forms do not assign ergative Case: the subject and object are both nominative. In these forms, the auxiliary agrees with the subject and the main verb with the object.

(44) a. dija w-ir$\bar{x}_o$im-mat w-i.
father(Class I) work.CONT.GER.Isg AUX.Isg
'Father goes on working.'
buwa d-ir$\bar{x}_o$im-mat d-i.
mother(Class II) work.CONT.GER.IIsg AUX.IIsg
'Mother goes on working.'

b. dija $\bar{x}_o$alli b-ar-mat w-i.
father(Class I) bread bake.CONT.GER.IIIsg AUX.Isg
'Father goes on baking bread.'
buwa $\bar{x}_o$alli b-ar-mat d-i.
mother(Class II) bread bake.CONT.GER.IIIsg AUX.IIsg
'Mother goes on baking bread.'

Here again, the operative concept is clearly nominative and not subject.

On the other hand, agreement is not always limited to the nominative. An interesting case is Gujarati. According to Comrie (1984), agreement in Gujarati is similar to the related Hindi with one interesting exception. In sentences with an ergative subject and accusative object, which in Hindi would display neutral (masculine singular) agreement (40c), the Gujarati verb agrees with the (accusative) object (44).

(45) raju e svati ne joyi.
Raju(M.SG) ERG Svati(F.SG) ACC saw.F.SG
'Raju saw Svati.'

A theory of single-argument agreement must also account for cases such as these, although this is apparently a marked option.

The general picture of the coindexing of T, then, is that some argument is picked out based on language-particular conditions. The most common (and presumably the least marked) option is the nominative argument, a bare DP.

5.2.2. Multiple Argument Agreement

On the other hand, languages in which multiple arguments trigger agreement cannot

involve the coindexation of T with a single argument. Multiple argument agreement is more closely linked to Case.

In some languages, multiple argument agreement substitutes for morphological Case on nominals. This, for example, is true of the Mayan languages. We will consider K'ekchi here (Berinstein 1990).

In K'ekchi, verb inflection includes ergative and absolutive agreement markers (known as Set A and Set B respectively in Mayan linguistics). The subject and object that these index exhibit no overt morphological Case (45). Other Cases (such as dative) are marked overtly, with a Case morpheme marked for agreement with the nominal and optionally followed by a lexical nominal.[35]

(46) a. X- at- ka- ch'aj.
TNS- ABS2- ERG1pl- wash
'We washed you.'

b. X- at- yajer.
TNS- ABS2- sick
'You got sick.'

c. X- o- a- ch'aj.
TNS- ABS1pl- ERG2- wash
'You washed us.'

(47) a. T- Ø- in- q'ue acu- e li hu a'in.
TNS- ABS3- ERG1- give 2- DAT the book this
'I will give this book to you.'

b. Jo'can nak pues qu- Ø- e'x- serak'i cu- e lain.
like that well TNS- ABS3- ERG3pl- tell 1- DAT I
'Well, that's how they told it to me.'

c. Lain x- Ø- in- yeh r- e laj Lu'.
I TNS- ABS3- ERG1- tell 3- DAT Pedro
'I told it to Pedro.'

The "agreement" markers in K'ekchi serve the function here of morphological Case marking. Ergative Case is represented not as an affix on the ergative NP but as an ergative agreement affix on the verb. The absolutive marker can similarly be understood as the realization of absolutive/accusative Case (but see §5.3). In other languages, both Case and multiple argument agreement are present. This closer linking of Case and multiple argument agreement can be expressed formally by treating multiple argument agreement as the morphophonological interpretation of the indexed Case grid itself.

It is also possible for a language to combine both types of agreement. Consider the Mayan language Tzotzil, which in addition to the Mayan pattern mentioned above also has plural agreement with one of the arguments (Aissen 1990).

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[35]Berinstein observes that morphological Case marking takes the form of a possessive structure with a different head noun for each Case. She calls these camouflage structures, and treats them as synchronically possessive structures on the surface. It is not clear from Berinstein's discussion whether there is any reason to analyze these as possessive structures; it is plausible that the possessive nature of the case marking is of historical interest only. For example, in Hebrew many prepositions have as their historical sources possessed forms of nouns, but in a synchronic analysis of the language they are clearly prepositions.

(48) a. Ch- Ø- bat- ik.
ASP- ABS3- go- PL
'They are going.'

b. L- i- s- maj- ik.
ASP- ABS1- ERG3- hit- PL
'They hit me.'

c. 7i- Ø- j- maj- ik.
ASP- ABS3- ERG1- hit- PL
'I hit them.'

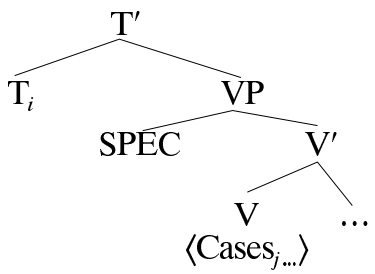
What we see in these examples is absolutive and ergative agreement prefixes, and the suffix *-ik* agreeing with the plurality of one of the arguments. An agreement pattern like this only makes sense if there are two agreement systems involved simultaneously. Additional possible cases of languages with double agreement systems are mentioned by Dixon (1994).

5.3. Agreement and Case

The differences between single argument agreement and multiple argument agreement and their relations to Case are clear under this analysis. Multiple argument agreement is closely tied to lexical Case-specification properties, with specific agreement markers associated to specific Case/argument positions. This is quite different from the nature of single argument agreement. To the extent that it is associated directly with Case, single argument agreement is associated with the non-Case nominative. Although nominative Case is usually specified for the subject, in cases where the subject is quirky-case marked or ergative, another argument may be nominative.

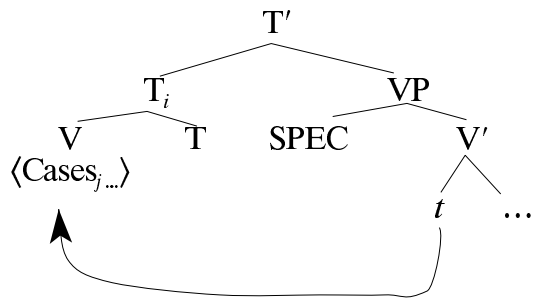
In addition, the two types of agreement are associated with different structural elements in the sentence: single argument agreement with T and multiple argument agreement with the Case grid of the verb. Assuming that there is no overt movement of V to T, the relevant structure is (48).

(49)



If, as happens in many languages, there is overt V-to-T movement, the structure is (49).

(50)



Note that in (49) there is a hierarchical structure to the agreement; the multiple argument agreement associated with the Case grid is more deeply embedded (and thus closer to the stem) than the single argument agreement. We thus predict that if both types of agreement are present, the single argument agreement will (usually) be more peripheral than the Case-grid based agreement.

For a [+acc, −erg] language with both subject agreement and object agreement, this means that object agreement will be closer to the verb stem than subject agreement. Since the Case grid of a verb in such a language lacks a position for the subject, subject agreement must be single argument agreement; object agreement must therefore be Case grid agreement. Conversely, for a [−acc, +erg] language (if such languages exist) the opposite should hold, for exactly the same reasons: since there is no object position in the Case grid, object agreement would have to be single argument agreement. This conforms to the generalization discussed in Bittner and Hale (1996a) for ergative languages.

The situation in [+acc, +erg] languages is more complicated. In an overtly three-way language (i.e. one in which ergative and accusative Cases are always overt) we make no clear prediction about the order of the agreement affixes; one might expect, however, that the external position in the Case grid might be realized more externally than the internal position. Again, this expectation is fulfilled, according to Bittner and Hale. However, such languages are rare. The more common situation in a [+acc, +erg] language is for only one of the Cases to surface (usually the ergative), and for the other Case-specified nominal to be a bare DP. In such cases, there are three logical options for subject and object agreement. In one case, coindexation of the nominal with the Case grid is responsible for both agreement markers. Such an option would result in a language with ergative Case marking and nominative-accusative agreement, since all subjects would be indexed with the external (ergative) Case feature and all objects would be indexed with the internal (accusative) Case feature. Such languages are attested; one example is Warlpiri. Here again, there is no clear prediction as to order of agreement affixes. (In Warlpiri, the situation is complicated by the fact that the Case grid apparently raises to T while the lexical verb stays in V position in the overt syntax. The morpheme order has the subject (external) agreement marker closer to T than the object (internal) agreement marker.) A second possibility would be for agreement to reflect whether the nominal is a KP or a DP. Ergative agreement would then result, since “absolutive” nominals are DPs. Again, there is no clear prediction concerning order. Finally, the verb could exhibit single argument agreement with the bare DP and Case grid agreement with the KP. Such a case would result in the same prediction concerning order as [−acc, +erg] languages, with object (single argument) agreement more peripheral than subject (Case grid) agreement.

Such an analysis is plausible for most of the Mayan languages,[36] for example.

This analysis of ergativity is thus consistent with the facts, and predicts almost all of the relations that Bittner and Hale predict. On the other hand, our analysis allows for two types of agreement with one argument, both single argument agreement and Case grid agreement; this prediction is also borne out, as we saw in the Tzotzil example..

It should also be noted that our analysis predicts a long-noted asymmetry. While it is possible for a language to have ergative Case and subject-object oriented agreement (often called nominative-accusative agreement), as Warlpiri does, the reverse is not possible. There is no way for a [−erg] language to exhibit ergative agreement: agreement with the subject has to be single argument agreement since there is no subject position in the Case grid. This is generally acknowledged to be a true generalization (see Mallinson and Blake 1981 and Dixon 1994). It has been claimed by Magier (1983) that the Indic language Marwari is an exception to this generalization, but it is clear from the description there that, in the terminology being used here, Marwari is a [+erg] language.

6. Syntactic Ergativity

We have now examined the morphological aspects of Case typology and seen how they can be accounted for theoretically. In this section, we turn to possible syntactic differences between nominative-accusative and ergative languages.

6.1. Overview

The existence and scope of syntactic ergativity are very controversial. Some researchers into ergativity deny the existence of systematic syntactic differences between nominative-accusative and ergative languages, while others see them as defining major classes of languages with fundamentally different structures. The truth seems to be somewhere between these poles, but more data from more languages are required.

On one hand, constructions in certain languages have been pointed at by Dixon (1994), Marantz (1984), Bittner and Hale (1996a), and others as providing evidence that there are two distinct types of ergative languages: those that only display ergativity in the morphology (Case and agreement) and those that display ergativity in the syntax as well. On the other hand, Bobaljik (1993), Nash (1995), and others point to parallels to allegedly ergative syntactic properties in nominative-accusative languages. The suspicion is expressed by Nash (1995: 289) that “Dyirbal … is unanimously considered to be the best, and perhaps the only, representative of this class of syntactically ergative languages.”[37] We will take a middle of the road view here. We acknowledge that there are syntactic properties that some ergative languages possess which distinguish them from nominative-accusative languages. We deny, however, a clear-cut distinction between two classes of ergative languages, because which languages are syntactically ergative depends on which properties one uses as a test. For some constructions, it seems that we simply do not yet have enough information to determine whether a particular syntactic property is unique to ergative languages.

6.2. Passives and Antipassives

One syntactic distinction between nominative-accusative and ergative languages

[36]But not for Tzotzil, which has independent single-argument number agreement.

[37]Translation mine.

concerns the distribution of passives and antipassives.[38] The typological generalization is clear: passives occur in both types of languages but antipassives can occur only in ergative languages. This contrast between passives and antipassives is important, because some theories (such as Marantz 1984 and Dixon 1994) suggest symmetry between the distribution of passives and antipassives under which passives are only possible (or more expected) in nominative-accusative languages and antipassives only in ergative languages.

The nature of passives (and antipassives[39]) is itself a subject of controversy. There are basically two approaches that have been suggested in the GB literature, and we will consider them here. The first approach sees passivization and antipassivization as basically being morphologically-driven lexical phenomena. This view, which is propounded by Chomsky (1981), Marantz (1984), Grimshaw (1990), and others, analyzes passivization and antipassivization as the suppression of a lexical argument. Suppression of an argument leaves it semantically active but syntactically absent. Its continued semantic presence accounts for the ability of passive clauses to have agent-oriented adjuncts like *on purpose* and to have a *by* phrase adjunct. In many languages (though not all; see Falk 1992 for discussion), the syntactic absence of the external θ role causes the suppression of the ability to assign accusative (i.e. internal) Case, leading to the movement of the D-structure object to [SPEC, TP] position where it can be licensed as a nominative (Caseless) DP. Antipassivization is the suppression of the internal argument under this view. The other approach, discussed by Baker (1988) and adopted in one form or another by many recent researchers (including Bittner and Hale 1996a), sees passive and antipassive as purely syntactic processes, with the passive and antipassive morphemes as independent syntactic heads which are assigned the external θ role for passive or the internal θ role for antipassive. For reasons discussed in Falk (1992) we adopt the lexical approach to passive here.

The explanation of the asymmetry between passives and antipassives is due in part to an observation by Marantz (1984). Marantz notes that the antipassive construction violates Burzio's Generalization, which links the assignment of an external θ role and an internal κ role (accusative Case in more conventional terms). Burzio's Generalization has itself been a matter of controversy for two reasons. In the first place, there are languages that seem to violate it, putting its status as a linguistic universal into question. In the second place there is an ongoing attempt, which goes back to Chomsky (1981), to derive the effects of Burzio's Generalization from other principles. The approach taken by Falk (1992) is to treat Burzio's Generalization as an authentic principle of UG which constrains lexical operations and is parameterized. The idea is that Burzio's Generalization constrains the relation between internal marking and external marking, but whether θ roles or Case are involved on either side is language-dependent. There are thus four logical possibilities:

(51) a. external θ ↔ internal Case
b. external θ ↔ internal θ
c. external Case ↔ internal Case
d. external Case ↔ internal θ

[38]The material in this section is a brief summary of Falk (1992).

[39]Since theoretical syntax tends to deal with nominative-accusative languages, there is less work on the nature of antipassive than there is on the nature of passive. In the following discussion, I will extrapolate from theories of the passive to the antipassive where appropriate.

As discussed in Falk (1992), options a, c, and d all allow passivization but only option c allows antipassivization. However, option c cannot be realized in a [−erg] language because it refers to external Case. Antipassivization is therefore impossible in a nominative-accusative language.

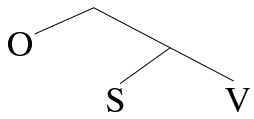
6.3. Constituent Order

There are two aspects to constituent order and Case typology: the hierarchical structure that can be inferred from constituent order, and nonexistent orders. We will discuss both.

Three caveats are in order regarding constituent order. The first is that most discussions of constituent order in the literature are relatively superficial. Generally, the possible surface order(s) of subjects, verbs, and objects are mentioned without any indication of possible arguments for constituency. Nevertheless, even such a superficial account can be useful. The second is that it is not always clear what the basic (or underlying) order is. For example, the Eskimo languages usually have surface SOV order, but Bittner and Hale (1996b) argue that this is a superficial fact due to discourse considerations. They claim that the basic word order (at least in West Greenlandic) is OSV. Finally, the theoretical status of constituent order is itself controversial. For example, Kayne (1994) argues that all languages have SPEC-HEAD-COMP order (SVO), and that apparent deviations from this are due to movement to specifier positions. We will assume a fairly traditional GB conception of order, under which languages can differ (underlyingly) in the relative orders of specifiers, heads, and complements.

As mentioned above, it can be argued that basic order in West Greenlandic is OSV (or PAV).[40] This order, which is rare in nominative-accusative languages, is also attested in other ergative languages. For example, in Dyirbal sentences with ergative-absolutive marking, OSV is the unmarked surface order. This constituent order suggests that, at least on the surface, some ergative languages have a structure in which the subject and verb form a constituent that excludes the object, as indicated schematically in (51).

(52)



A common structural position for the S and P arguments seems to be suggested by some ergative languages mentioned by Dixon (1994).[41] One set of such cases consists of the Carib languages Kuikúro and Macushi and the Macro Ge language Maxakalí in which intransitive clauses have SV order and transitive clauses exhibit both SOV and OVS. He also mentions the Mayan language Huastec and the Arawá language Paumarí in which intransitive clauses are often VS and transitive SVO (although other orders are possible in both languages). In the Chibchan language Sanuma (again from Dixon) intransitive clauses are XSV (where X represents peripheral elements) and transitive clauses are SXOV. In the latter,

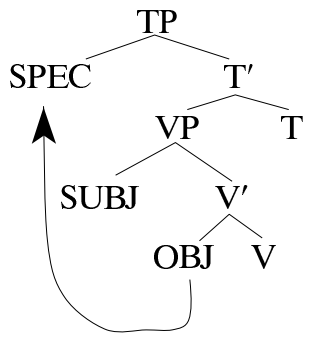
[40]There is a terminological problem here in the use of "S" in word-order typology to refer to the subject of any clause, since "S" is used in Case typology to refer to subjects of intransitive clauses. In this section, we will refer to "the S argument" when using "S" in the Case-typological sense, and simply "S" when using "S" in the word-order-typological sense.

[41]Due to the superficial and sketchy nature of Dixon's discussion, no firm conclusions about constituency can be drawn from these examples.

the structure in (51) is clearly not the right one, since the transitive subject is more peripheral than the object. One language mentioned by Dixon where the structure in (51) does seem correct and in which intransitive subjects seem to occupy the same structural position as objects is the Maku language Nadëb, in which intransitive clauses are SV or VS and transitive ones are OSV or SVO.

The structure in (51) is accounted for by the hypothesis put forth in Murasugi (1992) and Bittner and Hale (1996a,b) that while in (some) nominative-accusative languages the subject raises to [SPEC, TP], in (some) ergative languages it is the object that raises, resulting in a structure where the object is higher than the subject.

(53)



The question is why it is the object that raises in ergative languages, rather than the subject.[42] A tentative answer would be that there is something about ergative KPs that prevents them from occupying [SPEC, TP]. Descriptively, we can state this as a filter.

(54) **The Ergative Filter**
*[$_{\text{SPEC,TP}}$ erg]

Such a filter is clearly not an explanation. However, an explanation can be developed from our theory of ergativity. Recall that ergative Case is a marked kind of Case as it is not c-commanded by its Case specifier. Accusative Case, on the other hand, is a more normal kind of Case, assigned internally. A less marked form plausibly has more freedom than a more marked form, particularly under our conceptualization of Case as κ roles. Since κ roles (Cases) identify arguments at the interface with phonology, the structural relations marked by Case should be identifiable at that level. The Ergative Filter, then, is an informal statement of a condition essentially freezing ergative nominals into the position in which their Case is specified. We will continue to refer to the Ergative Filter, keeping in mind that it is simply a descriptive generalization which is explained by the present analysis.

The second observation about constituent order in ergative languages is the apparent lack of verb-medial orders as the only (or basic) order (Mahajan ms). In nominative-accusative languages SVO order is widespread, and it is odd that orders of this kind seem to

[42]Of course, there is also the broader question of why it is that in some languages an argument raises to [SPEC, TP] while in other languages there is no such raising. Bittner and Hale tie this to the licensing of Caseless nominals. We cannot take this approach because objects in [+erg, +acc] languages are syntactically Case-specified. Bittner and Hale's approach to the licensing of Caseless nominals is empirically problematic anyway, as it does not seem to leave open the possibility of two Caseless nominals in the same clause; Dyirbal, as we have seen, has such clauses. It seems, in any case, that it is premature to determine what causes this raising, as issues beyond Case (such as verb-second phenomena) may be implicated here.

be absent from ergative languages. Our account of ergativity, combined with one additional assumption, can explain this. The additional assumption is the proposal by Travis (1984) that Case specification is directional. In an ergative language (at least a [+erg, +acc] language, which all ergative languages may be) where Case specification is to the right, the subject and object will both have to follow the verb to have their ergative and accusative Cases specified. Similarly, if Case assignment is to the left, both subject and object will precede the verb. Nominative is different because it is not a Case, and is thus not subject to the directionality of Case specification.[43] There is thus no bar to verb-medial order in [–erg] languages.

6.4. Absolutive Phenomena

Perhaps the best known argument for ergative syntax comes from constructions in which the S and P arguments behave as a class, often exhibiting "subject properties." Ironically, such phenomena are often called ergative but are better described as absolutive. Such absolutive phenomena are said to include topic chaining, relativization (and other *wh* movement constructions), and raising and control. These phenomena are not a homogeneous group, and we will therefore deal with them separately. We will conclude that at least some of them are spurious, but those which are legitimate can be accounted for in a theory such as Murasugi's or Bittner and Hale's in which [SPEC, TP] position is occupied on the surface by the S and P arguments. Such a structure, as we have seen, may follow from the marked nature of external Case specification (the Ergative Filter).

6.4.1. Topic Chaining

The Topic Chaining construction relates to the nature of coordination. In a nominative-accusative language such as English, coordinated clauses can share a subject (S and A) which then need not be repeated.

(55) a. Father returned and saw mother. (=Father saw mother.)
b. Mother saw father and returned. (=Mother returned.)

Such a construction is probably best analyzed as the coordination of T′s (or VPs). In Dyirbal, on the other hand, it is the S and P which can be shared (examples from Dixon 1994).

(56) a. ŋuma banaga- nʸu yabu- ŋgu bura- n
father.ABS return- NFUT mother- ERG see- NFUT
'Father returned and mother saw him.'
b. ŋuma yabu- ŋgu bura- n banaga- nʸu
father.ABS mother- ERG see- NFUT return- NFUT
'Mother saw father and he returned.'

On the assumption that in Dyirbal S and P raise to [SPEC, TP], these sentences can also be analyzed as coordination of T′s. This is essentially the analysis of Bittner and Hale (1996b). Nash (1995), who rejects such structures, proposes that linear order is what determines what can be omitted in subsequent clauses; since Dyirbal is an OSV language, one would expect

[43] Travis notes that nominative is different. Although she does not take the step of hypothesizing that it is not really a Case, she does suggest that it is a consequence of the coindexation of the subject with INFL, and thus different from other instances of Case assignment.

the object to pattern with the intransitive subject. Dixon (1994), on the other hand, considers the choice of "pivot" for coordination to be a matter of discourse organization. Although he does not state it in this way (since he sees syntax, semantics, and discourse as part of a continuum rather than as discrete modules of grammar), Dixon's analysis of Topic Chaining removes it from the realm of ergative syntax completely.

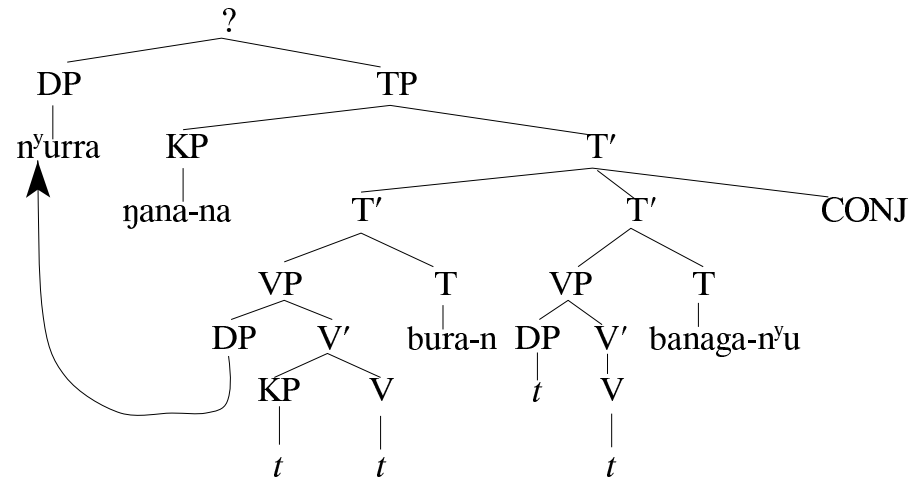
There is evidence that a syntactic account of Topic Chaining is descriptively inadequate. The evidence comes both from Dyirbal and from other ergative languages. In Dyirbal, the relevant facts come from sentences with pronouns. Pronouns in Dyirbal have overt accusative Case and lack overt ergative Case (although under our analysis they are syntactically specified for ergative Case). The constituent order in Dyirbal can be more precisely described as: (nominative) pronoun subject - object - (ergative) noun subject. That is to say, if the subject is a pronoun, it precedes the object and is thus presumably in a structurally higher position. Nevertheless, Topic Chaining still singles out the S and P arguments.

(57) a. ŋana banaga- nʸu nʸurra bura- n
we.NOM return- NFUT you.PL.NOM see- NFUT
'We returned and you saw us.'

b. nʸurra ŋana- na bura- n banaga- nʸu
you.PL.NOM we- ACC see- NFUT return- NFUT
'You saw us and we returned.'

Note in particular sentence (56b). The fact that it is 'we' that is chained cannot be attributed to the linear order of the constituents, since 'you.PL' precedes it. A sentence like this can also not be analyzed as T′ (or VP) coordination; if it were the fronting of the nominative subject of the first conjunct would violate the Coordinate Structure Constraint.[44]

(58)



The only possible analysis for Dyirbal Topic Chaining constructions is coordination of full clauses with an empty category in the chained position. This empty category could be *pro*, since Dyirbal is a language with very free pro-drop. This would seem to obviate a syntactic

[44]There are two noncrucual assumptions in the tree: that V adjoins to T, and that coordination has a flat tripartite structure.

analysis along the lines outlined above.

Further evidence comes from other ergative languages. In Yidin^{y}, which is closely related to Dyirbal, Topic Chaining is more closely tied to morphological Case, with full NPs following the Dyirbal pattern but pronouns being chained on the basis of subjecthood (Dixon 1994). In Tongan, the choice of "pivot" depends on which conjunction is used for the coordination (Dixon 1994).

(59) a. na'e tā'i 'a Mele 'e Hina mo kata.
PST hit ABS Mary ERG Hina and.simultaneous laugh
'Hina hit Mary and Hina (simultaneously) laughed.'

b. na'e tā'i 'a Mele 'e Hina 'o kata.
PST hit ABS Mary ERG Hina as.a.result laugh
'Hina hit Mary and as a result Mary laughed.'

In Chukchee, either subject or object can be chained freely (Polinskaya and Nedjalkov 1987).

(60) a. Ətləg- ən pəkir- g^{ʔ}i ənk^{ʔ}am *e* w^{ʔ}i- g^{ʔ}i.
father- ABS arrive- 3sgAOR and die- 3sgAOR
'Father came and died.'

b. Ətləg- ə ekək winren- nin ənk^{ʔ}am *e* yet- g^{ʔ}i.
father- ERG son.ABS help- 3sg3sg.AOR and go- 3sgAOR
'The father helped the son and he (the father or the son) left.'

c. Ətləg- ən ik- w^{ʔ}i akka- gtə ənk^{ʔ}am *e* winret- g^{ʔ}i
father- ABS say- 3sgAOR son- DAT and help- 3sgAOR
'The father spoke to the son and he (the father or the son) gave help.'

It seems from the literature that the only language that behaves like Dyirbal is Dyirbal. If this is the case, it is not plausible to treat Dyirbal-style Topic Chaining as a typical case of ergative syntax. The role that Topic Chaining has played in considerations of ergativity reflects a Dyirbal-centric view that is a result more of the history of ergativity studies than anything substantive about ergativity.

6.4.2. Wh Movement

A more convincing instance of syntactic ergativity is relative clauses. For example, in Dyirbal (Dixon 1994) only S and P can be relativized. If the A is to be relativized, the verb is antipassivized to change the A into a P.

(61) a. ŋuma [banaga- ŋu] yabu- ŋgu bura- n.
father.ABS return- REL.ABS mother- ERG see- NFUT
'Mother saw Father who was returning.'

b. ŋuma yabu- ŋgu [banaga- ŋu- rru] bura- n.
father.ABS mother- ERG return- REL- ERG see- NFUT
'Mother, who was returning, saw Father.'

c. yabu [bural- ŋa- ŋu ŋuma- gu] banaga- n^{y}u.
mother.ABS see- APASS- REL.ABS father- DAT return- NFUT
'Mother, who saw Father, was returning.'

Similarly, in West Greenlandic only S and P can be relativized (Bittner and Hale 1996b).

(62) a. [arna- p [ani- sima- su- p]] angut
[woman- ERG [go.out- PERF- REL.INTR- ERG]] man
taku- vaa.
see- 3SG3SG
'The woman who had gone out saw the man.'

b. [arna- t [miiqqa- p isiginnaa- ga- i]]
[woman- PL [child- ERG watch- REL.TRANS- 3sg.PL]]
mirsur- put.
sew- 3PL
'The women the child was watching were sewing.'

Considering the Accessibility Hierarchy of Keenan and Comrie (1977),[45] facts like these are strange, since subjects are supposed to be more accessible to relativization than objects. While different theories might account for the Accessibility Hierarchy in different ways, what this suggests is that S and P are subject-like in some sense. A natural account within the theory here would be to link accessibility to relativization to the [SPEC, TP] position. This is essentially the approach taken by Bittner and Hale (1996b), for example. Bittner and Hale note that in Dyirbal and West Greenlandic relative clauses are internally headed, and propose that the nominal which serves as the head raises to [SPEC, DP] just as S and P normally raise to [SPEC, TP].

There are also more complex cases. Consider Chukchee (Polinskaya and Nedjalkov 1987). Negative relative clauses exhibit the same pattern as Dyirbal and West Greenlandic: S and P can be relativized directly, and A needs to be converted to S by antipassivization.

(63) a. e- tipʔeyŋe- kə- lʔ- in ŋewəčqet ragtə- gʔe
NEG- sing- NEG- PRTC- ABS.SG woman.ABS gohome- 3sg
'The woman who was not singing went home.'

b. igər a- yoʔ- kə- lʔ- etə enm- etə mən- elqən- mək
now NEG- reach- NEG- PRTC- to hill- to 1pl- go- 1pl(IMP.I)
'Now let us go to the hill which (someone) didn't reach.'

c. en- agtat- kə- lʔ- a qaa- k ʔaaček- a
APASS- chase- NEG- PRTC- INSTR reindeer- LOC youth- INSTR
winret- ərkən- inet ŋewəčqet- ti.
help- PRES.I- 3sgA3plP woman- ABSpl
'The youth who does not chase the reindeer is helping the women.'

However, positive relative clauses can only directly relativize the S argument. To relativize

[45]Keenan and Comrie take a different approach. Starting from the assumption that only Dyirbal exhibits the restriction of relativization to absolutives, they suggest that in Dyirbal the absolutive is the subject. However, more recent work on ergative languages seems to suggest that Dyirbal, although perhaps the most striking example, is not unique; as we see here Greenlandic and (below) Chukchee and the Mayan languages display similar restrictions. The idea that the Patient of a transitive clause is a subject in Dyirbal is problematic anyway , as shown by phenomena such as control and imperatives. In the analysis here, there is one way in which absolutives in "syntactically ergative" languages like Dyirbal is similar to subjects in nominative-accusative languages: they are structurally located in [SPEC, TP].

A antipassive is used (as before), and to relativize the P argument a special passive form is used.

(64) a. Ekək yet- gʔi.
son.ABS go- 3sg.AOR
'The son came.'

b. yetə- lʔ- ən ekək
go- PART- ABS son.ABS
'the son who came / is coming'

(65) a. Yokwa- yŋ- e ŋinqey rəyegtelew- nin.
loon- INTENS- ERG boy.ABS save- 3sg3sg.AOR
'The great loon saved the boy.'

b. yokwa- yŋ- ən ine- nyegtelew- ə- lʔ- ən
loon- INTENS- ABS APASS- save- PART- ABS
'Loon the savior' (a fairy tale title)

c. rəyagtalaw- yo ŋinqey
save- PASS.PART boy.ABS
'the saved boy'

This restriction of relativization to the S argument is puzzling. Perhaps it reflects some structural difference between positive and negative clauses in Chukchee.

The relativization problem seems to extend beyond relativization. For example, in the Mayan languages this restriction to the S and P arguments also applies to other *wh* movement constructions (see, for example, Larsen 1987 on Quiché). Such constructions cannot be analyzed as a consequence of the properties of internally headed relative clauses, unless one adopts the suggestion of Murasugi (1992) that the constructions in question all involve relative clauses. However, they do point to a syntactic constraint on *wh* movement in which the S and P arguments are treated as a class, and structurally more prominent (in some sense) than the A argument.

The central question that is still largely unanswered is what structural considerations produce the Keenan-Comrie hierarchy effects. It is undoubtedly the case, however, that structural differences between (some) nominative-accusative and (some) ergative languages must be responsible for the hierarchical differences between relative clauses in the two types of languages. The specific proposal of Bittner and Hale's may not be the complete answer, but it is undoubtedly on the right track concerning the relevance of the [SPEC, TP] position.

6.4.3. Control and Raising

The conclusions reached in the literature about control and raising constructions are quite contradictory. The reason for this is that the facts themselves are murky. We will try to sort through the descriptions that have appeared, and conclude that control does behave differently in ergative languages but raising does not. The behavior of control in ergative languages will be shown to follow in part from our account of ergativity.

We begin by considering control. The usual view is that the PRO argument of a controlled clause must be the subject. In classical GB this is a result of the PRO Theorem, which is derived from Binding Theory and requires PRO (a pronominal anaphor) to be in an ungoverned position. If this ungoverned position is [SPEC, TP], we would expect ergative languages in which there is raising to [SPEC, TP] to allow the S and P arguments to be PRO. On the other hand, if the VP-internal subject position is somehow implicated, we would

expect control to work the same in ergative languages as in nominative-accusative languages. In Dyirbal (Dixon 1994), we find both patterns. In complement constructions, PRO is the complement subject.

(66) a. yara- ŋgu mija wamba- n jayŋu- n
man- ERG house build- NFUT finish- NFUT
'The man finished building the house.'

b. yara- ŋgu mija wamba- n ŋuyma- n.
man- ERG house build- NFUT do.properly- NFUT
'The man built the house properly.'

On the other hand, in purposives PRO is the absolutive.

(67) a. ŋuma banaga- nʸu yabu- ŋgu bura- li.
father.ABS return- NFUT mother- ERG see- PURP
'Father returned in order for Mother to see him.'
'Father returned and as a result Mother saw him.'

b. ŋuma banaga- nʸu bural- ŋa- ygu yabu- ŋgu.
father.ABS return- NFUT see- APASS- PURP mother- DAT
'Father returned in order to see Mother.'
'Father returned and as a result saw Mother.'

In a survey of control and raising constructions in the Daghestan languages, Kibrik (1987) notes that in many of them control of either subject or object of a transitive clause is possible, as in the following examples from Chamalal.

(68) a. wac- ɬa [*e* jac č'i:na] idalaq ik'$_0$.
brother- DAT sister.ABS beat.INF not.want
'Brother does not want to beat sister.'

b. jac- ɬa [wac- ud *e* č'i:na] idalaq ik'$_0$.
sister- DAT brother- ERG beat.INF not.want
'Sister does not want to be beaten by brother.'

In West Greenlandic, according to Bobaljik (1993), there is a contrast between transitive and intransitive infinitives. In transitive infinitives there is no agreement with the missing (ergative) subject while in intransitive infinitives there is agreement with the missing (absolutive) subject.

(69) a. Miiqqat [*e* Junna ikiu- ssa- llu- gu] niriursui- pput.
children Junna.ABS help- FUT- INF- 3sgABS promise- IND.3plABS
'The children promised to help Junna.'

b. Miiqqat [*e* qiti- ssa- llu- tik] niriusui- pput
children dance- FUT- INF- 3plABS.REFL promise- IND.2sgABS
'The children promised to dance.'

This last example, from West Greenlandic, is indicative of the problems involved in determining the status of control in ergative languages. Bobaljik claims that the presence of absolutive agreement in the intransitive infinitive shows that the empty element is *pro* rather

than PRO, and control is thus really only possible with transitive infinitives. He takes this to be evidence that the A argument raises to the same structural position in ergative languages as in nominative-accusative languages while the S argument does not. Bittner and Hale (1996a), on the other hand, argue that there is no agreement with T in infinitives, which is where they place agreement with the ergative (agreement with the absolutive is in C in their approach). As the following examples show, there is no agreement with the A argument in an infinitive even when it is overt, while there is agreement with the S argument.

(70) a. [Juuna nuannaar- lu- ni] *pro* miiqqat
[Juuna happy- INF- 3SG.PROX] children
kunip- p- a- i.
kiss- IND- TRANS- 3SG3PL
'Being happy, Juuna kissed the children.'

b. [Juuna- p miiqqat taku- llu- git] *pro*
[Juuna- ERG children see- INF- 3PL]
nuannnaar- p- u- q.
happy- IND- INTR- 3SG
'Seeing the children, Juuna was happy.'

This casts doubt on the PRO/*pro* distinction that Bobaljik tries to draw, and suggests that agreement patterns are not directly related to control. Murasugi (1992) suggests that since the empty element in these infinitives is in a Case position (and thus presumably governed), it must be *pro*.[46]

Similar problems of analysis face other examples of control in ergative languages. According to Bobaljik, for example, the Daghestan examples are irrelevant because the infinitival form is really a noun and not a verb. These are therefore not true instances of controlled clauses. In Dyirbal, the complement clause is a finite form, with the same tense marking as the main clause. What emerges from these considerations is that there are no legitimate cases of control in ergative languages, only *pro* arguments. The choice of what argument can be *pro* is probably determined (at least in part) by discourse considerations, as argued by Dixon (1994). However, control is nonexistent.

The lack of control in ergative languages would follow from our analysis of ergativity on the assumption that PRO is only allowed in Caseless positions[47] and the assumption that all languages are [+acc]. In an ergative language, both subject and object positions are Case positions, while in a nominative-accusative language subject position is not a Case position. PRO, then, should be possible in subject position in nominative-accusative languages but not possible anywhere in ergative languages.

The facts of raising are superficially similar to control, but turn out to be somewhat different. There have been examples of raising from object position in ergative languages cited in the literature. The Polynesian language Niuean has been mentioned (Seiter 1983 Murasugi 1993), for example, although in the closely related Tongan only subjects can raise (Murasugi). Kibrik (1987) has examples of Daghestan languages that allow raising from

[46]Murasugi's proposal concerning the agreement facts is that infinitival agreement is simply defective, lacking ergative agreement.

[47]This is a version of the classical GB restriction to ungoverned position, since government is the structural relation involved in Case specification.

object position. However, Ura (1994) argues convincingly that there are nominative-accusative languages that allow raising from object position as well. This is therefore not a property that distinguishes nominative-accusative and ergative languages.

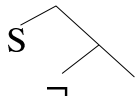
6.5. Scope

A more recent addition to the gallery of ergative syntactic properties, and one of the most convincing, is Bittner's (1994) observation concerning scope relations. Consider the relative scopes of the VP-level negation operator and the existential quantifier in the following examples from a typical nominative-accusative language.

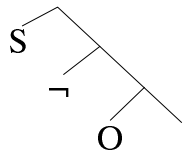
(71) a. One book hasn't come (yet). ∃>¬
b. One student doesn't know John (yet). ∃>¬
c. John hasn't received one book (yet). ¬>∃, ∃>¬

The subject takes wide scope over the negation, but with the object either operator can take wide scope. This is generally attributed to the relation between scope and c-command, combined with the ability to raise (QR) quantified nominals to a higher position at LF. The overt syntactic structure (S-structure in GB terms) of transitive and intransitive sentences with negation are schematically as shown below.

(72) a. Intransitive



b. Transitive



Since the subject c-commands the negative operator, it takes wide scope over the negation. The negative operator c-commands the object, but since the object can QR to a higher position at LF, either scope is possible.

Now note the following data from West Greenlandic.

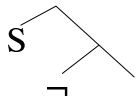
(73) a. atuartu- p ataasi- p Juuna
student- ERG one- ERG Juuna
uqaluqatigi- sima- nngi- la- a.
talk.to- PRF- NEG- IND- 3SG3SG
(i) 'No student has talked to Juuna (yet).' ¬>∃
(ii) 'One student hasn't talked to Juuna (yet).' ∃>¬

b. atuagaq ataasiq tikis- sima- nngi- la- q.
book one come- PRF- NEG- IND- 3SG
'One book hasn't come (yet).' ∃>¬

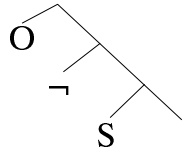
c. Juuna- p atuagaq ataasiq tigu- sima- nngi- la- a.
Juuna- ERG book one get- PRF- NEG- IND- 3SG3SG
'There is a book which Juuna hasn't got (yet).' ∃>¬

Here, the S and P arguments behave like the English subject, taking obligatory wide scope over negation, while the A argument behaves like the English object, with both scope possibilities available. Under our hypothesized structure for West Greenlandic (following Murasugi and Bittner and Hale), the S and P arguments move to [SPEC, TP] while the A argument remains in [SPEC, VP]. The structural hierarchical relations in West Greenlandic are thus as follows:

(74) a. Intransitive



b. Transitive



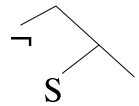
The structural configurations we have posited predict the scope relations in the West Greenlandic sentences without any additional stipulation. Finally, in Hindi (a morphologically ergative language), the following scope relations obtain.

(75) a. koii pustak nahĩĩ gir- ii hai.
some book(F) NEG fall- PRF.F.SG be.PRES.3SG
(i) 'No book fell.' ¬>∃
(ii) 'Some book didn't fall.' ∃>¬

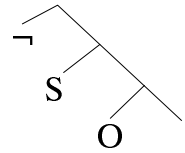
b. kisii- ne koii pustak nahĩĩ dekh- ii hai
somebody- ERG some book(F) NEG see- PRF.F.SG be.PRES.3SG
(i) 'Nobody saw any book.' ¬>$\exists_{subj}$>$\exists_{obj}$
(ii) 'Somebody didn't see any book.' $\exists_{subj}$>¬>$\exists_{obj}$

In the absence of raising to [SPEC, TP], the structural relations in Hindi are as follows.

(76) a. Intransitive



b. Transitive



These structures lead us to expect both subjects and objects to be able to take either wide scope or narrow scope relative to negation. The glosses show the subject taking both scope

possibilities, but the object only taking narrow scope. Bittner (1994: 1) states that wide scope readings "are impossible, or much less salient, for nominative objects". There is, of course, a difference between "impossible" and "much less salient". It is possible that wide scope is permitted syntactically but ruled out on other grounds. If so, the predictions based on the hypothesized structures are completely met.[48]

The scope facts are important for learnability reasons. It seems unlikely that any language could have parochial rules constraining quantifier scope, because quantifier scope is much less salient to the language learner than word order, control, or other overt syntactic phenomena. It is thus plausible to suppose that scope relations are derived fairly directly from syntactic structures. The scope contrasts observed by Bittner thus provide a very convincing argument for structural differences between English, West Greenlandic, and Hindi.

6.6. Binding

The surface structural configuration that we have adopted for some ergative languages has the object of a transitive clause in a position from which it c-commands the subject. As we have seen, such a proposed configuration explains the facts of scope in such languages and may provide part of an explanation for accessibility in relative clauses (and other *wh* movement constructions). However, there is one area in which such a structure seems to make the wrong prediction: binding. For example, in an ergative language with anaphors, if the subject and object are coreferential the subject is a full nominal and the object is the anaphor. Facts like this have been cited by Bobaljik (1993) and others as evidence against a structural configuration for ergative languages in which the object c-commands the subject.

As Bittner and Hale (1996a) point out, there is a solution to this problem. Binding theory as generally understood is a theory of A-binding, binding involving A (argument) positions. In classical GB, [SPEC, IP] was considered an A position because it was thought to be the position in which subjects were base-generated (and θ marked, making it a θ position). However, given the VP-internal subject hypothesis there is no reason to consider [SPEC, IP] ([SPEC, TP] in the terminology used here) to be an A position. If it is an A position, it is irrelevant to Binding Theory.

We note in passing that while it is generally accepted among researchers that Binding Theory is unaffected by ergativity, this may turn out to be false. Consider the English facts in (76).

(77) a. Who$_{i,j}$ hit his$_j$ relative?
b. Who$_i$ did his$_j$ relative hit?

The lack of coreference in (76b) is the Weak Crossover effect, and reflects a subject-object asymmetry. Now note the following sentences from the Mayan language Quiché (Larsen 1987).

(78)	a.	jachin$_i$	x-	Ø-	ch'ay-	ow	ri	r$_j$-	achalaal?
		who	PERF-	3sgABS	hit-	FOC	the	3sgERG-	relative
		'Who$_i$ hit his/her$_j$ relative?'							

[48]If wide scope is really impossible for objects, QR will have to be constrained somehow.

b.	jachin$_i$	x-	Ø-	uu-	ch'ay	ri	r$_j$-	achalaal?
	who-	PERF-	3sgABS-	3sgERG-	hit	the	3sgERG-	relative

'Who$_i$ did his/her$_j$ relative hit?'

It is an open question whether other ergative languages act like Quiché, but it might represent a binding theoretic difference between nominative-accusative and ergative languages.

6.7. Syntactic Ergativity and Absolutive-as-Subject

One approach that has been proposed to account for syntactic ergativity is to treat the absolutive as being a subject, with the ergative an oblique or adjunct (or object in the theory of Marantz 1984). The idea that the absolutive is the subject lies behind the traditional view (discussed in Dixon 1994) that ergative languages are languages with obligatory passivization. If ergativity is passivization, then ergative Case is the equivalent of a *by* phrase, an adjunct-like element. This approach has also been taken by some modern researchers, such as Bresnan and Kanerva (1989) in an LFG framework (for "syntactically" ergative languages). Bresnan and Kanerva consider the ergative to be an oblique argument of the verb. Such an idea is attractive because it makes absolutive identical to nominative without complicating the statement of nominative Case specification. It also accounts for the subject-like syntactic behavior of absolutives which has been cited as typical of ergative syntax. In a sense, we have adopted part of this analysis by claiming that (in some ergative languages at least) the absolutive nominal occupies [SPEC, TP] position, a structural position generally reserved for subjects in nominative-accusative languages. However, the binding facts show that the ergative nominal does have a superior status (in some sense) to the absolutive nominal.

There are other problems with this kind of approach, in the claims it makes about the ergative nominal. If ergatives were parallel to *by* phrases, they would behave like *by* phrases. The fact is that they do not. In some ergative languages (those with multiple argument agreement), the ergative argument triggers agreement on the verb. This is not similar to the behavior of *by* phrases. Ergative arguments can raise in some languages. Ergative arguments are the ones omitted in imperatives, just as subjects are in nominative-accusative languages. Ergative arguments behave as if they c-command the absolutive in binding constructions. Some ergative languages have a passive construction in which the ergative argument is suppressed just as one would expect if it was the subject.

Some of these problems are mitigated if the ergative is the object (as in Marantz 1984), but many of them are not, such as raising and binding. Marantz accounts for passives in syntactically ergative languages by analyzing it as antipassive, which for him is a highly marked construction. By allowing the (marked) antipassive along with the normal passive, Marantz's theory is incapable of accounting for the absence of antipassive constructions in true nominative-accusative languages. Marantz's theory also makes some incorrect predictions about expected differences between nominative-accusative and ergative languages. As Nash (1995) points out, for example, the expected agent-V idioms do not appear in ergative languages. One of Marantz's most striking claims concerns the nature of detransitivized "reflexive" verb forms. According to Marantz, UG restricts such forms to eliminating the external argument. As a result, in nominative-accusative languages such forms would be expected to behave like passives while in ergative languages they would be expected to

behave like (descriptive) antipassives.[49] However, such a clear-cut distinction is false. Consider the following examples from Russian (Babby 1975), with REFL glossing the reflexive/intransitive suffix.

(79) a. Naša sobaka ne kusaet- sja.
our dog not bite- REFL
'Our dog doesn't bite.'

b. Naša sobaka ne kusaet detej.
our dog not bite children
'Our dog doesn't bite children.'

(80) a. Krapiva žžet- sja.
nettles sting- REFL
'Nettles sting.'

b. Èto gorčica žžet jazyk.
this mustard stings tongue
'This mustard burns my tongue.'

(81) a. Kurica snesla želenoe jajco.
hen laid green egg
'The hen laid a green egg.'

b. Èta kurica sovsem perestala nesti- s'.
this hen no longer lays- REFL
'This hen no longer lays (eggs).'

In these examples, the intransitivized form has an "antipassive" meaning, contrary to Marantz's prediction.[50]

We conclude, then, that theories which treat the absolutive as subject are inadequate. They attempt to simplify Case typology, but they fail to make the correct predictions about the relative behavior of nominative-accusative languages and ergative languages.

7. Consequences

Our theory of Case and Case typology consists of the following elements. In the first place Case is conceptualized as parallel to θ roles, but relevant at the interface with phonology (which we have called SF) rather than the interface with semantics (LF). Just as the Θ Criterion is a consequence of the Principle of Full Interpretation, the Case Filter can be reduced to this principle, and thus has no independent status in the theory. Second, the actual appearance of the category K in the syntactic structure (and thus the surface morphological Case) is dependent not only on the syntactic specification of a Case (or κ role) but also on a principle of discourse grammar which disallows redundant elements in syntactic structure. It is this discourse principle that governs the nonappearance of ergative Case on highly agentive subjects and accusative Case on objects of low agentivity, both in ergative

[49]I say "(descriptive) antipassives" because for Marantz what is called an antipassive in a language like Dyirbal is really a passive. That is to say, within his theory, intransitivized verbs are always like passives. However, passives in syntactically ergative languages are what are described as antipassives.

[50]Marantz's approach is also conceptually problematic, as it treats the mapping of Agents to a structurally higher position than Patients to be an accident, rather than due to semantic properties of agenthood and patienthood.

languages and (with accusative Case) nominative-accusative languages. Ergative Case is an external Case, parallel to the notion of external θ role. As a marked element, its presence in a language is the marked value of a parameter that we have informally called [±erg]. It is possible that all languages are [+acc], although we leave the question open. Finally, perhaps because of the marked nature of external (ergative) Case, ergative nominals are resistant to movement to [SPEC, TP]. The result of this resistance (stated informally as the Ergative Filter) is that in those ergative languages in which some element must move to [SPEC, TP] the element that moves is the object. The resulting structure is one in which the object c-commands the subject, a configuration that, as other researchers have observed, is responsible for certain syntactic differences between nominative-accusative and ergative languages. Agreement is analyzed as the interpretation of SF coindexation. Such coindexation can be between an element in the clause and T, or between an element in the clause and its corresponding position in the verb's Case grid.

This theory of Case has several important theoretical consequences. As mentioned earlier, although the GB framework has been assumed throughout, much of what has been said would apply to any theoretical framework.

One theoretical consequence is the recognition of a level of syntactic representation that interfaces with phonology. Although such a level has been recognized in most varieties of generative theory, it is absent from the Minimalist Program; even in theories that recognize it, it tends to be syntactically inert. By placing Case specification and agreement at such a level, the only sensible place given FI, we have an argument that the interface with phonology is a syntactically important level.

Another theoretical consequence is the recognition of indexation as part of syntactic representation. Chomsky (1993) argues that indexation is unnecessary because it is a way of encoding coreference relations. His argument is that any principles (such as the principles of Binding Theory) that constrain coindexation can be rewritten to constrain coreference. If this were correct, it is not clear how the relation between coreference and agreement could be incorporated into the grammar. It is interesting in this regard to consider sign languages.[51] In sign languages, when a new nominal is introduced, it is assigned a location in the signing space. This location then becomes a way of referring anaphorically to the nominal, and is used in agreement-like phenomena. In terms of syntactic structure, this location in space is most naturally analyzed as an overt phonological realization of the index assigned to the nominal. Sign languages thus provide overt evidence for the reality of indices.

Yet another theoretical consequence is the importance of recognizing the interaction between syntax and discourse grammar. As mentioned earlier, in a modular theory such interaction is to be expected, but most theoretical syntacticians tend to dismiss the relevance of discourse grammar for phenomena thought to be syntactic in nature, such as Case specification.

The approach to Case outlined here provides a theoretical basis for accounting for typological differences between languages. As stated at the outset, we have taken both the typology and the theory seriously here. The result is not completely in accord either with previous theoretical accounts of Case or with previous typological accounts. Instead, it represents a synthesis of ideas from both sides.

[51]I would like to thank Irit Meir for a discussion of indexation and sign language.

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