(6)   Nested Paths

```
        TP
       /   \
     NP     T'
      |    /  \
      |   T    TrP
      |      /   \
      |     NP    Tr'
      |      |   /  \
      |      |  Tr    VP
      |      |      /   \
      |      |    NP1    V'
      |      |____|    /  \
      |              V    NP2
      |_____|
```
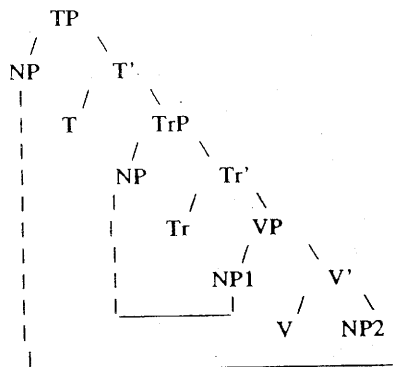
In the next section, I propose an Ergative Parameter based on morphological features which ensures that only the correct derivation is permitted in each language type.

1.4   The Ergative Parameter and Economy Principles

Various parameters have been proposed to explain the differences between accusative and ergative languages, e.g., de Rijk (1966), Marantz (1984), Levin and Massam (1985), Bobaljik (1992).[7] In the present analysis, the differences originate in the movement of NPs. The Ergative Parameter

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[7] I discuss these analyses (and others) in section 5.1.

23

proposed below is stated in terms of features, which are responsible for all operations, including NP movement.

(7)   *Ergative Parameter*

In an accusative language, the Case features of T are strong.
In an ergative language, the Case features of Tr are strong.

The strength of features determines whether the features are checked at s-structure or LF. As discussed above, strong features are not legitimate objects at PF, and therefore must be checked at s-structure. In an accusative language, the strong Case features of T require overt movement to SPEC TP at s-structure. In an ergative language, the strong features of Tr require SPEC TrP to be filled at s-structure.

The two types of movements (i.e., Crossing and Nested Paths) found in accusative and ergative languages is the result of the interaction of the Ergative Parameter stated in (7) and the following Principles of Economy:[8]

(8)   *Principles of Economy for NP Movement*

1.   *Closest Available Source*: At each level of a derivation, a target must take the closest available source NP.

2.   *Closest Featured Target*: At each level of a derivation, a source NP must move to the closest featured target.

3.   *Procrastinate*: An operation must be done as late as possible.

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[8] Economy Principles were introduced in Chomsky's 1987 class lectures, and have been further developed in Chomsky (1991, 1992).

24

According to the first principle, at each level of a derivation, the closest available NP moves to the target position. The *target* is the SPEC position of a functional head which requires its Case features to be checked. At s-structure or LF, a target takes an NP to satisfy its Case feature requirements. This NP must satisfy two criteria: (i) it must be the closest NP to the target *before any* movement at that level, and (ii) it must be available for movement by not already having its Case features checked.

The first criterion determines that it is always the subject which raises at s-structure to the SPEC of the functional head with the strong features, as it is closer to the target than the object. My definition of *closest* is based on the number of A-positions between the source and target, where an *A-position* is a position in which an argument may appear. These include the SPECs of TP and TrP, and any argument position in the VP.' Consider the Crossing Paths structure in (5) above. The closest NP to the target SPEC TP is the subject, which crosses only one A-position, SPEC TrP. The object would cross two A-positions, SPEC VP and SPEC TrP. Similarly, in (6), the closest NP to the target SPEC TrP is the subject.

The notion of "closest" at any given level applies to an NP before any movement has taken place *at that level*. Suppose that both T and Tr have strong Case features in (9), requiring movement to their SPECs at s-structure:

(9) T_* Tr_* $[_{vp}$ NP_1 V $NP_2]$

The closest NP to both T and Tr is NP_1, the subject. However, this NP_1 cannot satisfy the feature requirements of both functional heads simultaneously. Therefore, unless something else is inserted in SPEC TP to satisfy T, the derivation will crash.[10]

The second criterion, i.e., availability, permits movement only of NPs which have not had their features checked.[11] The Principle of Closest Available NP applies cyclically, first at s-structure, and then at LF. In determining the source NP at s-structure, all NPs are in principle available, as no feature checking has yet occurred. At LF, however, NPs which have had their features checked at s-structure are no longer available. For example, in the structure of ergative languages in (6) above, although the subject in SPEC TP is closer to the target in terms of distance, since it is not available for further movement (at LF), it does not count as the "closest available NP". Thus, it is the object which raises to SPEC TP to satisfy the Case feature requirements of T.

At any one level, then, there will be neither Crossing nor Nested Paths

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'It does not, however, include SPEC CP (see 2.4 below).

[10]In section 2.3, I discuss *it*-insertion in raising constructions, which I claim is a last-resort strategy like *do*-insertion.

[11]The same notion is captured in Chomsky's (1992) Principle of Last Resort.

(i.e., the result of both the subject and object raising), but only independent movements of subjects to functional SPECs.

The Principle of Closest Featured Target ensures that an NP raises to the closest featured target, where *featured target* is defined as a SPEC position that is required to be filled for Case reasons, i.e., its head must check its Case features with an NP in its SPEC. This principle prohibits an NP from skipping over a featured SPEC position to a further one. Consider the following examples from an accusative language:

(10) a. T_+ Tr_+ $[_{vp}$ NP_1 V $NP_2]$
      b. T_+ ... T_+ $[_{vp}$ NP_1 V $NP_2]$

In (10a), SPEC TrP is not a featured target at s-structure, as its Case features need not be checked until LF. In (10b), however, the SPECs of both Ts are featured targets at s-structure, as their Case features must be checked.

The third principle, Procrastinate (Chomsky 1992), captures the idea that LF-operations are less costly than overt movement. Chomsky explains that "LF-operations are a kind of 'wired-in' reflex, operating mechanically beyond any directly observable effects" (p. 43). According to this principle, objects should not raise until LF. As long as the object moves to a position which satisfies its own Case requirements and those of a functional head, the

derivation will be legitimate. However, once the subject has raised, the only possible place for the object to move to (which satisfies all requirements), is the other specifier position.

1.5   Verb Raising

In Chomsky (1992), it is claimed that the strength of the V-features of AGR determines whether a language has overt verb raising, as in French, or raising at LF, as in English. In the analysis proposed here, T and Tr do not have "V-features". Rather, the features related to V are [±tense] and [±trans], which are inherent features of the functional heads. I propose that these features, which are morphologically realized as affixes, are parameterized with respect to the level (i.e., s-structure or LF) at which they need to be checked. This accounts for the linguistic variation in the level at which verbs raise. If the tense or transitivity feature does not require checking at s-structure, by the principle of Procrastinate, verb raising does not occur until LF.

The affixal requirements of T and Tr are entirely separate from the strength of Case features, which controls NP movement. The dissociation between the factors governing verb and NP movement entails that verbs and NPs move at the level required for convergence, independently of one another. In French, for example, the subject raises to SPEC TP at s-structure,

as does the verb to T. The object does not raise to SPEC TrP until LF. The verb, on its way to T at s-structure, must first adjoin to Tr. However, at this point in the derivation, the object is still in the VP, and not in SPEC TrP. In order for the Case and agreement features of the object to be checked, the verb and Tr must leave their features with the trace. I assume that in the unmarked case, features may be checked through traces.[12]

In English, where the verb does not raise until LF, the ϕ-features of the subject in SPEC TP cannot be checked until the verb has raised to T. Only the Case features of the subject are checked at s-structure. Thus, features are not necessarily checked at the level at which movement takes place. In French, the verb raises at s-structure, but it does not check the ϕ-features of the object until LF. In English, the subject raises to SPEC TP at s-structure, but its ϕ-features are not checked until LF.

1.6   Object Raising

The present analysis determines that in all languages, the subject raises at s-structure to satisfy the feature requirements of T or Tr, while the object, by the Principle of Procrastinate, does not raise until LF. In this section, I discuss object raising at s-structure in the Germanic languages. In these languages, there is a phenomenon known as *object shift*, where an object raises to an intermediate position between SPEC VP and SPEC TP (see, for example, Holmberg 1986, Déprez 1989, and Vikner 1991). In the mainland Scandinavian languages (e.g, Swedish, Danish, Norwegian), object shift applies only to weakly stressed and unexpanded pronouns (11), while in Icelandic, it applies (optionally) to full NPs as well (12):

(11) Swedish

a.   varför läste$_i$ studenterna   den$_j$ inte alla t$_i$ t$_j$
      why   read   the students it   not   all
      'why didn't all the students read it?'
                                            (Holmberg 1986:165)

b.   *varför läste$_i$ studenterna   artikeln$_j$ inte alla t$_i$ t$_j$
      why   read   the students the article not   all
      'why didn't all the students read the article?'
                                            (Holmberg 1986:166)

(12) Icelandic

    hvers vegna lasu$_i$ stúdentarnir greinina$_j$ ekki allir t$_i$ t$_j$
    why   read the students the article not all
    'why didn't all the students read the article?'
                                            (Holmberg 1986:166)

Déprez (1989), adopting the clausal structure proposed in Chomsky (1992),[13] proposes that object shift involves A-movement to the specifier of

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[12]See the following section, where it is proposed that in object shift languages, the trace of a verb cannot check Case features.

[13]Déprez uses the version of Chomsky (1992) originally published in Laka and Mahajan (1989).

$\text{Agr}_o\text{P}.$[14] She provides as evidence Holmberg's (1986) observations that the trace of the shifted object exhibits properties of an NP-trace (A-movement) rather than a variable (A'-movement). Following Déprez, I propose that objects raise to SPEC TrP.

Object shift occurs only if the main verb has raised out of the VP (to C), suggesting that overt verb raising creates an environment in which feature checking must take place at s-structure. I propose that object shift results from the condition that certain NPs (i.e., pronouns in mainland Scandinavian, all NPs in Icelandic) cannot check their Case features with the features of a verbal trace. When the verb raises at s-structure to Tr, and subsequently to T and C, it leaves a copy of its Case features with the trace in Tr (and T). An object raising to SPEC TrP at LF checks its Case features with those of the trace, if it can. If it cannot, as in the case of mainland Scandinavian pronouns and Icelandic NPs, it must raise to SPEC TrP at s-structure, at the same time as the verb raises to Tr.[15]

Such a move does not violate Procrastinate, as waiting until LF will result in a nonconvergent derivation. However, if the verb remained in the VP at s-structure, raising the object would result in a violation of Procrastinate:

(13) Swedish

```
*varför har  studenterna  den_i  inte  läst  t_i
 why      have the students  it    not   read
 'why haven't the students read it?'
```
                                        (Holmberg 1986:176)

Movement to the SPEC of T, which has strong features, has precedence over movement to SPEC TrP, as only the former is required to satisfy Case requirements. By the definition given in 1.4 above, only SPEC TP is a "featured target".

1.7   The Tr Projection

In this section, I discuss the role of the Tr projection, which is associated with the transitivity of a clause. I first present evidence of the structural requirements of Tr, proposing an account of transitivity in terms of number of arguments. I then propose an alternative view of transitivity, which captures the same facts in a less restrictive way, and is thus more in accordance with the principles-and-parameters approach assumed in this dissertation.

The head of TrP, Tr, has the Case feature accusative/ergative, and a [±trans] feature which is checked with the corresponding feature of the verb.

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[14] Déprez claims that only full NPs raise to SPEC Agr_oP, and that pronominal object shift involves head movement to Agr_o.

[15] In Icelandic, object shift of full NPs is actually optional, suggesting that in some cases they *can* check their features with those of a trace. Pronouns, on the other hand, obligatorily raise.

TrP appears to be a purely structural necessity, i.e., it is required only as a position to which an NP can raise to check its Case and φ-features. It is evident that the [±trans] of Tr is concerned only with the syntactic, and not semantic, notion of "transitivity." I refer to "syntactic transitivity" as the presence of two direct, NP arguments in the VP. "Semantic transitivity" involves the presence of an agent and a patient, as determined by the argument structure of the verb. A verb such as *hit* has both an agent and patient argument, both generated in the VP. The syntactic transitivity of such verbs, indicated by the [+trans] feature of Tr, is matched by their semantic transitivity. Passive and antipassive constructions, on the other hand, involve both an agent and patient, but consist of a single argument in the VP. It is the presence of only one direct argument which determines the [-trans] value of Tr. Unergative and unaccusative verbs match in syntactic and semantic transitivity, as they involve only one argument in the VP, either an agent or a patient.

"Syntactic transitivity" may be captured by a mechanism which counts the number of arguments. In the various types of clauses discussed above (i.e., transitive, unergative, etc.), the value of Tr depends on the number of arguments in the VP. However, in bi-clausal structures involving ECM verbs, the inventory of NPs which are considered as arguments must be extended to include the subject of the embedded verb.

Consider the following ECM construction:

(14) a. John believes [Mary to have won the race]
     b. *Mary believes [PRO to have won the race]

Standard analyses have assumed that ECM verbs take IP complements, and assign accusative Case to the embedded subject. Case assignment takes place under government, as shown by the ungrammatical (14b), with PRO in a governed position.

Within the system of Case adopted here, where Case assignment is a feature checking process between a functional head and its specifier, ECM is interpreted as the raising of the embedded subject to the SPEC of the projection dominating VP (Chomsky 1992). In my system, the position to which the subject raises is SPEC TrP of the matrix clause. In order for the derivation to converge, Tr must be [+trans], allowing the embedded subject to check its Case features with those of Tr. The definition of syntactic transitivity must therefore be modified to refer to the number of arguments (or traces) the Tr governs.[16] If it governs only one argument, then it has the value [-trans]; if it governs two, then it is [+trans].[17]

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[16]I use the notion of government presented in Chomsky (1986a:9): α *governs* β *iff* α *m-commands* β *and there is no* γ, γ *a barrier for* β, *such that* γ *excludes* α, where CP, but not IP, is a barrier.

[17]In double object constructions, Tr is [+trans], as it governs the subject and both objects. Since my analysis permits only one Tr projection for each VP, the other object would have to get Case lexically, perhaps by a null P. Even with a double object construction consisting of two VPs, as in Larson (1988), there is only one TrP projection. See Li (1990) for evidence that functional heads cannot intervene between two lexical

Shown in (15) below is a more detailed structure of (14a) above:

(15) John$_i$ T. Tr. [$_{vP}$t$_i$ believes [$_{TP}$Mary$_j$ T. Tr. [$_{vP}$t won
the race]]]

The matrix Tr governs two NPs: (i) the trace of *John*, and (ii) the embedded
subject *Mary*, which has raised from the lower VP to the embedded SPEC TP
at s-structure.[18] Following a suggestion by Alec Marantz (p.c.), I assume that
the value of Tr is determined at the level at which it becomes "active", i.e.,
checks its Case features. In an accusative language, this level is LF, while in
an ergative language, it is s-structure. In (14a), since Tr is not active until
LF, *Mary*, which has raised to NP2 at s-structure, counts as a governed NP.

Control verbs like *try* in (16) below take CP complements:

(16) a.   *John tried [Mary to win the race]
b.   Mary tried [PRO to win the race]

The CP acts as a barrier to government, blocking government of the
embedded subect in SPEC TP by Tr. Tr therefore governs only one NP (the
matrix subject *John*), and has the value [-trans]. Only (16b), with a PRO
subject, is grammatical, as PRO does not require Case.

A counting mechanism such as this seems deviant in a principle-based

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heads which are to be incorporated.

[18]In section 2.2 below, I discuss the EPP, which motivates the raising of *Mary* to
SPEC TP.

linguistic system. I propose an alternative approach to determining the value
of Tr, involving free generation of [±trans]. Other principles of the grammar
will determine whether or not a derivation with a certain value for Tr
converges. For example, with a verb such as *hit*, a derivation with [+trans]
Tr would converge as long as the NPs in the VP raised to their proper SPEC
positions (determined by the Ergative Parameter and Economy Principles). If
Tr were [-trans], the derivation would fail, as one of the NPs would not be
able to check its features. Similarly, a derivation with [-trans] Tr and one
argument would converge, while [+trans] Tr with one argument would fail, as
either T or Tr would not be able to check its features.

A potential problem with this approach, however, is that the insertion
of *it* or *there* might save the derivation, predicting the following to be
grammatical:

(17)   *it/there T. Tr. [$_{vP}$the man laughed]

It/there is inserted in SPEC TP at s-structure, and *the man* raises to SPEC
TrP at LF. In section 2.1, I discuss expletive *it* and *there*, and show that
examples such as (17) will not be derived.

The contrast between ECM verbs as in (14) above, and control verbs as
in (16), is still explained by the TP/CP distinction. The embedded subject in
an ECM construction raises to the matrix SPEC TrP from the embedded

SPEC TP position. The embedded subject of a control verb, however, is prevented from doing the same. One way to explain this is in terms of barrierhood: the trace in SPEC TP will not be properly governed, as CP is a barrier to government (cf. Chomsky 1986a).[19]

1.8   NP Movement in Accusative and Ergative Languages

In this last section, I demonstrate how the Ergative Parameter and Economy Principles apply to the derivation of various clause types: transitive clauses, intransitive clauses, and bi-clausal structures.

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[19]Tr, unlike T, appears not to have a semantic interpretation, but is required purely for structural reasons. It has been claimed, however, that transitivity involves more than the presence of two arguments. Hopper and Thompson (1980), for example, assert that transitivity is associated with several components, all concerned with the effectiveness with which an action takes place, e.g., the telicity and punctuality of the verb, the volitionality and agency of the subject, realis or irrealis mode, and the degree of affectedness and individuation of the object. It is not clear, though, how such properties are captured syntactically.

Tenny (1987, 1989) discusses the relation between a verb's direct internal arguments and the aspectual property of delimitedness, proposing that the internal argument 'measures out' over time the event described by the verb. She suggests that aspect constitutes an independent syntactic category between IP and VP, the same position as my TrP. However, since her notion of "aspect" is determined by the semantic relation between a verb and its arguments, associating TrP with Tenny's AspP is problematic. One problem concerns unaccusative verbs, which involve one internal argument with the aspectual properties of a direct object (i.e., it measures out the event), but the syntax of a subject, raising to SPEC TP. Another problematic issue involves transitive verbs which do not have the semantics of being delimited events. These verbs include stative verbs such as *know* and *believe*. The object of *know*, and the complement clause of *believe*, are not event delimiters. It is thus not possible to translate Tenny's system into mine, as she is concerned with the d-structure representation of objects, and not the s-structure notion of transitivity.

37

1.8.1 Transitive Clauses

In this section, I demonstrate the interaction of the Ergative Parameter and Economy Principles in transitive clauses. Let us consider first accusative languages. According to the Ergative Parameter, the Case features of T are strong, requiring overt NP raising to SPEC TP. Given the principle of Closest Available Source, only the subject may move. The object raises to SPEC Tr at LF, resulting in Crossing Paths.

Shown in (18) below are example of derivations in English. I will be concerned only with s-structure movement, i.e., movement of the subject NP.[20]

(18) a. T_+ [John saw Mary]
     b. $John_i$ T_+ [t_i saw Mary]
     c.   *$Mary_i$ T_+ [John saw t_i]

In (18b), the subject, which is the closest NP to the target, raises to SPEC TP. (18c) is ungrammatical, as the object, *Mary*, is not the closest NP.

In an ergative-language, the Case features of Tr are strong, requiring that they be checked at s-structure. It is the subject which moves to SPEC TrP, as it is the closest NP to the target. The object moves at LF to SPEC

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[20]As discussed in 1.3 above, I assume that NPs and verbs are generated with their morphological structure intact. Thus, in (18) and all subsequent examples, NPs are marked for Case even if they have not actually moved to Case positions at s-structure, and verbs are marked for tense, transitivity and agreement, regardless of whether or not they have overtly raised.

38

TP, resulting in Nested Paths. Examples (19)-(21) below are from the Inuit, Mayan and Polynesian languages, respectively. Inuktitut (Inuit) is an SOV language, and Mam (Mayan) and Niuean (Polynesian) are VSO.

In (19), the subject, *Jaani*, raises to SPEC TrP, while the object, *tuktu* 'caribou', and the verb, *malik-* 'follow', remain in the VP:

(19) Inuktitut

```
Jaani₁-up  [t₁ tuktu          malik-p-a-a] Tr.
John-Erg        caribou(Nom)  follow-Ind-Tr-3sE.3sN
'John followed the caribou'
```

In the following example from Mam, the subject, *Cheep* 'José', raises to SPEC TrP, and the verb, *ttx'ee7ma* 'cut', raises to T:

(20) Mam

```
ma   ø-jaw   t-tx'ee7ma-nᵥ  Cheep_NP  Tr.  [t_NP tᵥ tzee7]
rec 3sN-dir 3sE-cut-ds    José              tree
'José cut the tree'
                                  (England 1983:201)
```

The same movements occur in Niuean: the subject, *tama* 'child', raises to SPEC TrP, and the verb, *kitia* 'see', raises to T.

(21) Niuean

```
ne   kitiaᵥ he  tama_NP  Tr.  [t_NP tᵥ e  moa]
Past see    Erg child            Nom chicken
'the child saw the chicken'
                       (Seiter 1979:33)
```

1.8.2 Intransitive Clauses

In a clause with an intransitive verb, the [-trans] Tr does not have Case features. Therefore, only one position, SPEC TP, is available for Case-checking. In an accusative language, raising to this position occurs at s-structure, as required by the Ergative Parameter. In an ergative language, the intransitive argument does not raise until LF.[21] Except for the level at which Case features are checked, Case checking is identical in the two types of languages. In the following subsections, I discuss the Case system in various intransitive clauses, i.e., unergative, unaccusative, passive and antipassive.

1.8.2.1 Unergatives

An unergative verb has one argument in SPEC VP. This NP, being the closest (and only) argument, raises to SPEC TP:

(22) a.   T. [John sang]
     b.   John₁ T. [t₁ sang]

In an ergative language, the NP in an intransitive clause does not raise

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[21]It may be the case that in ergative languages, the intransitive actually raises at s-structure. This would require the Ergative Parameter to be modified so that in an ergative language, the Case of Tr is checked at s-structure when Tr is [+trans], but the Case of T is checked when T is [-trans]. Until I have evidence that the intransitive subject *must* raise at s-structure, I will assume the simpler version of the Ergative Parameter, as stated above.

until LF, as the s-structure requirement for raising applies only to Tr. Shown in (23)-(25) are examples of unergative verbs in Inuktitut, Mam and Niuean. In (24) and (25), the verb raises to T at s-structure.

(23) Inuktitut

```
[Jaani      pisuk-p-u-q] T₊
John(Nom)  walk-Ind-Intr-3sN
'John walked'
```

(24) Mam

```
ma  ø-beet_v-T₊ [xu7j t_v]
rec 3sN-walk    woman
'the woman walked'
```
(England 1983:145)

(25) Niuean

```
kua  mohe_v-T₊  [a  ia  t_v] he fale
Perf sleep       Nom he      in house
'he has slept in the house'
```
(Seiter 1979:63)

1.8.2.2   Unaccusatives

A VP with an unaccusative verb consists of an object, and no subject. The object, being the only (and thus closest) NP, raises to SPEC TP at s-structure in an accusative language:

(26) a.   T [arrived the man]
     b.   the man₁ T [arrived t₁]

The object of an unaccusative verb raises to SPEC TP at LF in ergative languages. In the following examples from Mayan and Inuit, I give an alternate transitive form for each unaccusative verb. The fact that these verbs occur in both transitive and intransitive paradigms suggests that in their intransitive form, they are unaccusative, and not unergative.

(27) Jacaltec (Mayan)

```
a.    x-ø-'ich-i            munil
      asp-3sN-begin-Intr work
      'the work began'

b.    ch-ø-aw-ich-e         munil
      asp-3sN-2sE-begin-Tr work
      'you begin the work'
```
(Craig 1977:288-9)

(28) West Greenlandic

```
a.    napi-v-u-q
      break-Ind-Intr-3sN
      'it is broken'

b.    napi-v-a-a
      break-Ind-Tr-3sE.3sN
      'he broke it'
```
(Fortescue 1984:85)

In the Polynesian languages, the class of stative verbs occur with "stative agents", which are interpreted as directly or indirectly causing the state described by the verb (Chung 1978, Seiter 1979). Many of these verbs belong to the class of unaccusatives in other languages. I analyze them here as unaccusative verbs which do not have transitive equivalents. The agent of

these verbs must be oblique, as in the passive.

(29) Samoan

    na   lavea le tama:loa i   le masini
    past hurt Nom man   Agt the machine
    'the man was hurt by the machine'
                                    (Chung 1978:29)

(30) Niuean

    malona tuai e   kapiniu e: i a. Maka
    break perf Nom dish   this Agt pers Maka
    'this dish got broken thanks to Maka'
                                    (Seiter 1979:31)

1.8.2.3   Passives

I assume that in passive clauses, the agent is base-generated as an oblique VP-adjunct, and the specifier of the VP is not projected. In the derivation of a passive clause in an accusative language, the sole object argument raises to SPEC TP.

(31) a.   T. was [seen John]
     b.   John₁ T. was [seen t₁]

In an ergative language, the patient NP remains in the VP at LF:

(32) Inuktitut

    tuktu   malik-tau-v-u-q   (Jaani-mit)
    caribou(Nom) follow-Pass-Ind-Intr-3sN (John-Abl)
    'the caribou was followed (by John)'

(33) Tzotzil

    7i-maj-at   li Xun-e
    Cmp-hit-Pass the Xun-cl
    'Xun was hit'
                                    (Aissen 1987:62)

The Polynesian languages (e.g., Tongan, Samoan) do not have a passive construction (see section 5.1.3.1).

1.8.2.4   Antipassives

I adopt Baker's (1988) analysis of the antipassive construction as an instance of noun incorporation. Baker proposes that the antipassive morpheme is generated in the direct object position, and incorporates with the verb. The oblique patient argument is an adjunct associated with the thematic role of Patient, similar to the Agent adjunct of passive clauses. If we assume that incorporation occurs prior to s-structure (i.e., in the lexicon), then we can account for the intransitivity of the antipassive construction. Shown in (34)-(35) are examples of antipassives in Inuit and Dyirbal (North Queensland, Australia):

(34) Inuit

    tuttu-mik   taku-nnip-p-u-q
    caribou-Instr see-AP-Ind-Intr-3sN
    'he saw a caribou'
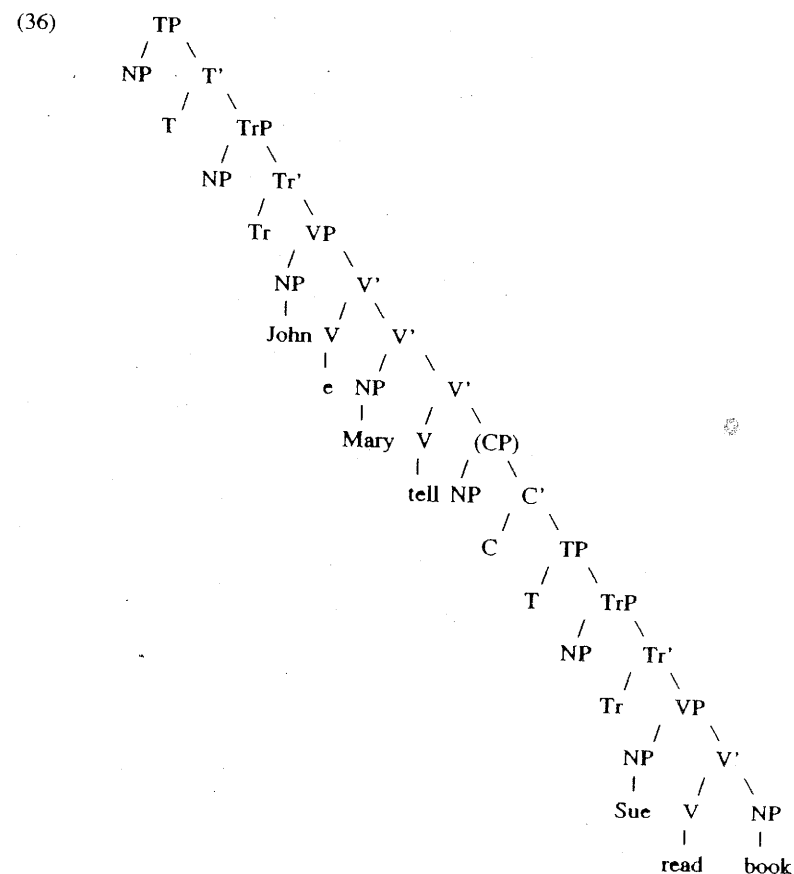   (Fortescue 1984:86)

(35) Dyirbal[22]

    Numa   buṟal-Na-nʸu yabu-gu
    father(Nom) see-AP-Nonfut mother-Dat
    'father saw mother'

                                  (Dixon 1979:63)

1.8.3 Bi-clausal Structures

In this section, I discuss bi-clausal structures where the matrix clause is [+trans]. I propose that such constructions have the "double object" structure shown in (36):

(36)

```
                    TP
                   /  \
                 NP    T'
                      /  \
                     T    TrP
                         /  \
                       NP    Tr'
                            /  \
                          Tr    VP
                               /  \
                             NP    V'
                             |    /  \
                           John  V    V'
                                 |   /  \
                                 e  NP   V'
                                    |   /  \
                                  Mary  V   (CP)
                                        |  /  \
                                      tell NP  C'
                                           |  /  \
                                           C    TP
                                               /  \
                                              T    TrP
                                                  /  \
                                                NP    Tr'
                                                     /  \
                                                   Tr    VP
                                                        /  \
                                                      NP    V'
                                                      |    /  \
                                                     Sue  V    NP
                                                          |    |
                                                        read  book
```

When the complement clause is [+tense], the subject and object NPs in both the matrix and embedded clauses check their Case features within their respective clauses. In the following example from English, both matrix and embedded subjects raise to the SPEC TP of their clauses at s-structure, as

---

[22]I use the symbol /N/ to symbolize a velar nasal.

they are the closest source NP to their respective Ts:

(37) a. T. Tr. [John told Mary that [T. Tr. [Sue read the book]]
     b. John₁ T. Tr. [t₁ told Mary that [Sueⱼ T. Tr. [tⱼ read the book]]

At LF, the objects raise to their respective SPEC TrPs.

In an ergative language, the matrix subject raises to the higher SPEC TrP, and the embedded subject, to the lower SPEC TrP. At LF, the two objects raise to the closest SPEC TP (the higher and lower ones, respectively).

Examples from West Greenlandic Inuit are shown in (38):

(38) West Greenlandic

a. Juuna-p   miiraq   nassuiaaffi-g-a-a
    Juuna-Erg   child(Nom)   explain.to-Ind-Tr-3sE.3sN

    [Pavia   immi-nit angi-niru-sinnaa-nngi-ts-u-q
    [Pavia(Nom)   self-Abl big-Cmpr-can-Neg-Part-Intr-3sN]

    'Juuna₁ explained to the child [that Pavia₁ couldn't be
    taller than self₁/ⱼ]'
                                    (Bittner, in prep.:125)

b. uqarvigi-ssa-v-a-kka   friir-
    say.to-Fut-Ind-Tr-1sE.3pN   be.free.from.school-

    t-u-tit
    Part-Intr-2sN

    'I shall tell them that you are free from school
    today'
                                    (Fortescue 1984:41)

In the Mayan and Polynesian languages, I know of no cases of double object clausal constructions, where the matrix clause has both a Patient argument and a clause as complements. However, a bi-clausal construction commonly found in ergative languages involves an expletive *pro* object in the matrix clause, which is coindexed with the complement clause. That the matrix clause is transitive is indicated by ergative and Nominative agreement on the verb, with the Nominative agreement always third person singular.

The following examples are from West Greenlandic, Jacaltec (Mayan) and Niuean. In each of these cases, the NPs in the matrix and embedded clauses check their Case features in their respective clauses, as in the examples above.

(39) West Greenlandic

a. ilisima-v-a-a   urni-ssa-giga
    know-Ind-Tr-3sE.3sN come.to-Fut-Part.1sE.3sN
    'he knew (it) I would come to him/her'

b. nalunngil-at   arvini(q)-pingasu-nut atua-
    know-Ind.2sE.3sN   eight-All   study-

    lir-pugut
    begin-Ind.1pN

    'you know (it) we started to study at eight o'clock'
                                    (Fortescue 1984:36)

(40) Jacaltec

a. x-ø-(y)-al   naj   chubil xc-ach y-il   naj
    asp-3sN-3sE-say cl/he that   asp-2sN 3sE-see cl/he
    'he said (it) that he saw you'

b. x-ø-aw-abe   tato ch-in   to-j   hecal
    asp-3sN-2sE-hear that asp-1sA go-fut tomorrow
    'you heard (it) that I will go tomorrow'
                                    (Craig 1977:232)

(41) Niuean

a. iloa e   Stan kua fakatau tuai e   koe e   falaoa
    know Erg Stan Perf buy   Perf Erg you Nom bread
    'Stan knows (it) you bought the bread'

b. ne kitia he kau   kaiha: kua mate tuai e   moli:
    Pst see   Erg group thief Perf die Perf Nom lamp

    he fale
    in house

    'the thieves saw (it) that the lamp in the house had
    gone out'
                                    (Seiter 1979:126)

In this chapter, I proposed an analysis of NP movement to account for the difference between accusative and ergative languages. I presented my Ergative Parameter and Economy Principles, and demonstrated how they interact in deriving various types of clauses. In the next chapter, I discuss some consequences of the system for accusative languages.

CHAPTER 2: NP MOVEMENT AND VERB RAISING IN ACCUSATIVE LANGUAGES

This chapter contains two topics of investigation in accusative languages: NP movement, and verb raising. In the first three sections, I discuss issues relating to the Ergative Parameter and NP movement. In section 2.1, I examine non-argument elements (i.e., expletives) in SPEC TP. Section 2.2 consists of a discussion of infinitival clauses, where movement is required to SPEC TP for non-Case reasons. In section 2.3, I demonstrate how the Ergative Parameter and Economy Principles interact in raising constructions in English.

In the last two sections, I investigate the consequences of the feature system proposed in chapter 1 to verb movement. Section 2.4 discusses verb fronting in V2 and VSO languages, and in section 2.5, I discuss the "inflected infinitive" in Portuguese and Italian. I claim that both these phenomena involve a [±finite] feature in C.

2.1 The Content of SPEC TP

According to the Ergative Parameter, in an accusative language, the Case features of T must be checked at s-structure, requiring overt NP movement to SPEC TP. In section 1.8 above, I discussed straightforward

In this chapter, I have defended my claim that ergativity is a syntactic phenomenon extending beyond simply morphological Case and agreement. I discussed properties which group together the S and A arguments as a natural class, and demonstrated that they involve either the SPEC VP position, or the notion of "highest NP" in a clause at s-structure.

CHAPTER 5.   ISSUES IN ERGATIVITY

In this chapter, I investigate various issues pertaining to ergativity, and how they are predicted by or accounted for within the theory presented in this thesis.   In section 5.1, I begin with a discussion of other analyses of ergativity which explore the parametric variation between ergative and accusative languages.   Section 5.2 investigates the "Nominative" Case associated with TP, i.e., nominative Case in accusative languages, and absolutive Case in ergative languages.   In section 5.3, I discuss morphological ergativity, and in section 5.4, I investigate languages which appear to involve three functional projections for Case and agreement.

5.1   Other Analyses of Ergativity

5.1.1 Deep Structure Hypotheses

In this section, I discuss the analyses of de Rijk (1966) and Marantz (1984), which propose that the projection of arguments are reversed in accusative and ergative languages.

5.1.1.1   de Rijk (1966)

The earliest analysis within the framework of generative grammar is that of de Rijk (1966), who applies the Phrase-marker rules of Chomsky (1965) to Basque. De Rijk discusses the following two rules:

```
(1)    a.    S --> NP + VP
       b.    VP --> V (NP)
```

In English, a subject is defined as the constituent dominated by S, and an object, as the NP dominated by the VP. In an ergative language such as Basque, sentences are generated in the same way by the rules in (1). However, the NP in (1a) consists of the intransitive subject and the object, while the transitive subject is generated by the rule in (1b).

De Rijk attributes the difference in the [VP,NP] in the two types of languages to the selectional restrictions of transitive verbs, which are reversed in accusative and ergative languages.   An English verb would take, for example, a [+animate] subject and [-animate] object, while in an ergative language, the verb would take a [-animate] subject, and [+animate] object. Presumably, the selectional restrictions of intransitive verbs are the same in the two language types.

In de Rijk's analysis, the differences between accusative and ergative languages are ascribed to the transitive verb.   He makes the following

statement about rule (1b), which defines transitive verbs:

(2)   For English this rule can be paraphrased as: Transitive verbs are those which must take an object ... For Basque we might paraphrase the same rule as: Transitive verbs are those which must take an ergative ... (p. 9)

This same concept is captured in my analysis by the Case features of the functional node Tr.   Tr is associated with the accusative object in an accusative language, and with the ergative subject in an ergative language. In intransitive clauses, the two types of languages are identical.

My analysis differs from that of de Rijk in not equating morphological (i.e., Case-checking) properties with grammatical relations at deep structure. In de Rijk's time, movement of NPs occurred only with optional transformations such as Passive, Question Formation, etc.   Therefore, in simple sentences in which such transformations did not apply, the position of NPs was identical in deep and surface structure. In order to account for the grouping together of transitive subject and object with respect to Case and agreement, these two NPs had to be base-generated in the same position, i.e., as sister of V.   This idea of the reversal of subject and object at deep structure is presented in a different framework in Marantz (1984), discussed in the next section.

5.1.1.2 Marantz (1984)

The Ergative Parameter of Marantz (1984) involves the linking of arguments in semantic structure to syntactic (predicate-argument) structure. The correspondence between semantic roles and grammatical relations are reversed in ergative and accusative languages. In an accusative language, the Agent is assigned the subject function, and the Patient, the object function. In an ergative language, it is the Patient which is assigned the subject function, and the Agent, the object function.

Case-assignment is identical in the two language types. However, the opposite d-structure representation of subject and object results in the reversal of NPs (i.e., Agent and Patient) receiving specific Cases. In an accusative language, the Agent subject is assigned nominative Case, and the Patient object, accusative Case. In an ergative language, the Patient subject has nominative Case, and the Agent object, accusative (or ergative) Case. An intransitive clause has the same d-structure representation in both language types.

In Marantz' analysis, the difference between accusative and ergative languages occurs at d-structure (i.e., the level of thematic representation), and not at s-structure, where Case is assigned. In my analysis, I make the opposite assumption, where semantic representation is identical in the two
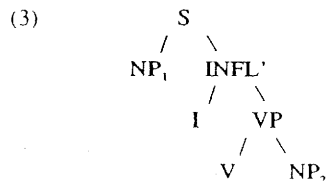
languages, and the difference lies in the application of operation Move α, which raises NPs to their Case-checking positions.

5.1.2 Obligatory Case Parameter

The two analyses discussed in this section, Levin and Massam (1985) and Bobaljik (1992), assume that Case-marking (or checking) in *transitive* clauses is identical in accusative and ergative languages. Nominative/ergative Case is assigned to the subject, and accusative/absolutive, to the object. It is in *intransitive* clauses that Case-assignment differs. In an accusative language, intransitive subjects are assigned the same Case as the transitive subject (i.e., nominative), while in an ergative language, the intransitive subject receives the Case of the object (i.e., absolutive). My theory makes the opposite assumption, namely that Case-checking is identical in intransitive clauses, and differs in transitive clauses.

5.1.2.1 Levin and Massam (1985)

Levin and Massam (1985) propose the following structure for accusative and ergative languages:

(3)
```
                    S
                  /   \
              NP₁    INFL'
                     /   \
                    I     VP
                         /  \
                        V    NP₂
```

The subject is generated in NP_1, and the object, in NP_2. There are two Case-assigners, I and V, which are associated with an Abstract Case. In an accusative language, I assigns nominative Case, and V assigns accusative Case. In an ergative language, I is associated with ergative Case, and V, with absolutive Case. Levin and Massam propose the following conditions on Case assignment:

(4)   Conditions on Case Assignment

    A. C_x must be assigned.[1]
    B. C_y (y≠x) can be assigned only under theta-government.
    C.   Case is assigned only under government.

The parameter they propose to account for Case-marking in accusative and ergative languages is based on the value of x in (3A):

(5)   Case Parameter

    a.   x = I (Nominative/Accusative)[2]
    b.   x = V (Ergative/Absolutive)

---

[1] "C_x" refers to the abstract Case assigned by x.

[2] In their terminology, "Nominative/Accusative" refers to accusative languages, and "Ergative/Absolutive", to ergative languages.

In an accusative language, the Case of I is obligatory, while in an ergative language, the Case of V is the one which must be assigned.
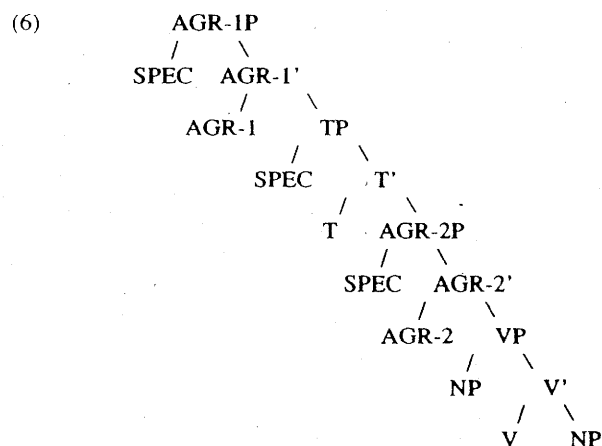
In Levin and Massam's analysis, the s-structures of clauses in accusative and ergative languages are identical (see (1) above). Consider first transitive sentences. In both types of languages, I assigns Case to the subject (nominative/ergative), and V, to the object (accusative/absolutive). Differences appear in the intransitive paradigm, when there is only one Case to assign. Accusative and ergative languages choose different Cases as the obligatory one, stated as the Case Parameter in (5): nominative (C_I) for the former, and absolutive (C_V) for the latter. Intransitive Case assignment is straightforward in accusative languages: I assigns its obligatory Case (nominative) to the subject. In an ergative language, the obligatory absolutive Case is assigned to the subject by percolating from V to I.

Levin and Massam claim that their parameter is "in accord with the relations established by Marantz (1984) where Nominative Case is equivalent to Absolutive Case" (p. 288). However, the equivalence of Case relations in the two systems differs in a fundamental way. In Marantz (1984), since the projection of arguments is reversed at d-structure in the two language types, the assignment of Case remains the same. Thus, for him, Nominative and Absolutive are equivalent structurally, in being the unmarked Case that is assigned to the grammatical subject (i.e., Agent in accusative languages,

Patient in ergative). For Levin and Massam, on the other hand, Nominative and Absolutive Case are equivalent not structurally, but conceptually, in terms of being the obligatory Case.

5.1.2.2 Bobaljik (1992)[3]

The notion of obligatory Case assignment is adopted in Bobaljik (1992), within a more complex system of functional projections. The structure he assumes, shown in (6), is based on Chomsky (1991,1992):

```
(6)            AGR-1P
             /        \
        SPEC       AGR-1'
                  /      \
             AGR-1        TP
                        /     \
                   SPEC        T'
                            /      \
                        T        AGR-2P
                                /       \
                           SPEC        AGR-2'
                                      /      \
                                 AGR-2        VP
                                            /    \
                                       NP         V'
                                                /   \
                                             V      NP
```

The structure consists of two Agr projections (for subject and object agreement), a Tense projection, and arguments generated in the VP. Case is assigned by functional heads in a SPEC-head configuration, requiring both subject and object to raise out of the VP into SPEC positions. Bobaljik assumes that universally, the only possible movement for subject and object NPs in a transitive clause is "Crossing Paths", where the subject raises to SPEC AGR-1P, and the object, to SPEC AGR-2P (see also Chomsky 1992). Thus, in transitive clauses, Case assignment is identical in accusative and ergative languages.

As in Levin and Massam (1985), Bobaljik assumes that in an intransitive clause, only one of the AGRs is "active", depending on whether or not the Case associated with it, Case X, is obligatory. It is to the SPEC position of the active Agr that the intransitive subject raises. The choice of which AGR is the active one is determined by the Obligatory Case Parameter, shown in (7):

(7)   Obligatory Case Parameter[4]

     a.   CASE X = NOMINATIVE = ERGATIVE [:N/A language]
     b.   CASE X = ABSOLUTIVE = ACCUSATIVE [:E/A language]

---

[3] The same analysis is assumed in Chomsky (1992), but as it is only mentioned briefly there, I will focus on the proposals and arguments presented in Bobaljik (1992).

[4] "N/A" and "E/A" refer to "Nominative/Accusative" and "Ergative/Absolutive" (see footnote 4).

Bobaljik claims that in an accusative language, AGR1-P, associated with nominative Case, is obligatory, while in an ergative language, it is AGR2-P (associated with absolutive) which is obligatory. The intransitive subject raises to SPEC AGR1-P and SPEC AGR2-P in accusative and ergative languages, respectively.

In Bobaljik (1992) and Levin and Massam (1985), the difference in Case-marking systems in the two types of languages results from the Case (and Agr projection) that is obligatory. Bobaljik claims that there is no *a priori* reason to assume that one or the other is obligatory, justifying the parametrization of this option.

It is evident that any theory of ergativity must contain the notion of obligatoriness. In this thesis, I have proposed a theory in which these notions follow naturally from the concept of transitivity. A transitive clause has two Case-assigning positions, and an intransitive clause, only one. In both language types, the projection which is not required in an intransitive clause is TrP, the projection associated with transitivity. This is because when Tr is [-trans], it does not have Case features. As a result, the other projection, TP, is the one where Case is checked. In my system, then, the obligatoriness of TP is not the result of an arbitrary value for a "obligatory Case parameter", but follows from the value of [±trans].

Bobaljik (1992) presents arguments from binding in various ergative languages as evidence that the subject is in SPEC AGR1-P, and the object in SPEC AGR2-P. In all his examples, the subject binds the object. However, binding facts reveal only the hierarchical structure of a subject that c-commands an object. As discussed in section 4.3 above, if we assume that binding takes place at s-structure, then the binding facts are compatible with the system proposed in this thesis, where the subject raises to SPEC TrP at s-structure, and the object, to SPEC TP at LF.[5]

---

[5]Bobaljik (1992) also discusses agreement in non-finite clauses in Inuit as further evidence for his analysis. He claims that in [-tense] *-llu* constructions (i.e., infinitives and gerunds: see section 2.8.2.2 above), AGR-1 is defective, and thus unable to licence Case or agreement. Since AGR2-P is not subject to such restrictions, NPs raising to its SPEC (i.e., S and O) show Case, and trigger verbal agreement. In the following example, agreement is triggered by S in (ia), and by O in (1b):

```
(i)  a.   [niviarsiaq sikkir-lu-ni]      kiina-nngu-a
          girl(Abs)  giggle-llu-4sAbs] face-little-3sPoss

          nui-ratannguar-puq
          appear-at.last-3sAbs

          'the little girl giggling, her little face appeared at last'
                                        (Bergsland 1955)

     b.   anguti-rujug-ɣuaqᵢ [PROᵢ aavir-ɣuaq      uniar-lu-gu]
              man-very-big(Abs)       whale-big(Abs) trail-llu-3sAbs
          tiki-lir-suq
          come-begin-Part

          '...the big man who began to come [trailing the big whale]...'
                                        (simplified, from Bergsland 1955)
```

Bobaljik presents this is as evidence that S and O have raised to SPEC AGR2-P, since he claims that AGR1-P is unable to license Case and agreement. However, contrary to his claim, lexical NP subjects *are* permitted in transitive *-llu* clauses, and they appear with ergative Case:

```
(ii)  [Juunaᵢ-p   miiqqat       taku-llu-git]   proᵢ qungujup-p-u-q
      Juuna-Erg children(Abs) see-llu-3pAbs smile-Ind-Intr-3sAbs
      'Juuna seeing the children, (he) smiled'
```

5.1.3 Nominative Object

In this section, I discuss analyses which propose that the object is assigned nominative Case, either in a passive or unaccusative construction, or by raising to SPEC IP.

5.1.3.1 Syntactic Change

Various claims have been made that the ergative construction involves a syntactic change from an accusative to ergative system (see Anderson (1976a) for a discussion of these proposals).[6] In this section, I will discuss the proposals of Hale (1970) for Australian languages, and Chung (1978) for Polynesian.[7]

<center>(Bittner, p.c.)</center>

This illustrates that AGR1-P cannot be inactive, at least with respect to Case-marking. In other words, given that AGR-1 and AGR-2 do not differ in their Case-marking capacities, the examples in (i) above do not demonstrate that S and O raise to SPEC AGR2-P. See section 3.4.3 for an alternative analysis of the data.

---

[6] Anderson (1976a) notes that there are only two examples of changes in the opposite direction, from ergative to accusative: Georgian and Mingrelian, both Kartvelian (South Caucasian) languages.

[7] Anderson (1976a) and Comrie (1978) discuss similar analyses for Indo-Iranian.

<center>189</center>

Hale (1970), in his investigation of Australian languages, observes the similar surface structure of the passive in an accusative language (8), and the active in an ergative language (9):

(8) Accusative (Passive)

```
yipi          wati-ngku paka-Li-ngu
woman(Nom) man-Agt    hit-Pass-past
'the woman was hit by the man'
```

(9) Ergative

```
wati-ngku yipi          pakaL-ngu
man-Erg    woman(Nom) hit-past
'the man hit the woman'
```

<div align="right">(Hale 1970:760-1)</div>

The patient argument, *yipi* 'woman', in both the passive accusative (8) and active ergative (9) have nominative Case, and both agents, *wati* 'man', are marked with the suffix *-ngku*.[8] The transitive verb in (9) is conjugated with the morpheme *L*, which is associated with the passive inflection *Li* in (8). To account for the lack of passives in the ergative Australian languages, Hale hypothesizes that these languages were originally accusative, but underwent obligatory passivization. The passive is now used in an active semantic sense, and the syntactic active representation never appears on the surface.

---

[8] In his discussion, Hale uses artificial examples to avoid morphophonemic variation. Therefore, although the same morpheme *-ngku* is used in ($8) and ($9), actual languages will exhibit some variation in form.

<center>190</center>

Chung (1978) argues that the ergative systems of Tongic and Samoic-Outlier languages arose through a reanalysis of passive clauses as active transitive clauses. Her proposal differs from that of Hale (1970) in claiming that ergative Case marking arose directly through reanalysis, and not through an intermediate stage involving an obligatory Passive.

Chung argues that Proto-Polynesian had an accusative case system, where subjects were unmarked, and direct objects were marked with *i. Proto-Polynesian also had a Passive rule which promoted the direct object to subject, marked the underlying subject with the oblique preposition *e, and attached the passive suffix *-Cia to the verb. Chung claims that after the split of Proto-Polynesian into daughter languages, in Tongic and Samoic-Outlier languages, passive clauses were reanalyzed as active transitive clauses: i.e, their underlying subject was reinterpreted as a surface subject, and their underlying direct object, as a surface direct object. This reanalysis eliminated the passive, and created a new type of case marking for transitive clauses. In most languages, this new, ergative pattern replaced the older accusative pattern for canonical transitive clauses. Furthermore, Chung presents syntactic and semantic arguments that the verbal suffix -Cia found in the modern ergative Polynesian languages is a relic of an earlier passive suffix.

5.1.3.2   The Unaccusative Hypothesis: Bok-Bennema (1991)

For Bok-Bennema (1991), ergativity is characterized by the inability of transitive verbs to assign structural Case (Unaccusativity Hypothesis). She claims that ergative patterns arise as a solution to the Case problem posed by unaccusativity.[9] In an ergative language, one way to solve the Case problem is to have an exceptional Case for the subject, so that the nominative Case normally assigned to the subject becomes free to be assigned to the direct object. In her system, I(nfl) assigns exceptional genitive (i.e., ergative) Case to transitive subjects, which move to SPEC IP. Objects raise and adjoin to I', from where they receive nominative (or absolutive) Case from I. An alternative solution is to express the agent or theme role as an oblique NP, either by passivizing or antipassivizing the clause.

Bok-Bennema assumes that accusative Case is in principle available in ergative languages. Whether or not this Case can be assigned follows from specific properties of transitive verbs, rather than from a parametric choice. To support this claim, we need evidence that accusative Case-marking in ergative languages depends on specific verbs. There are no examples, however, of ergative languages exhibiting split ergativity based on individual
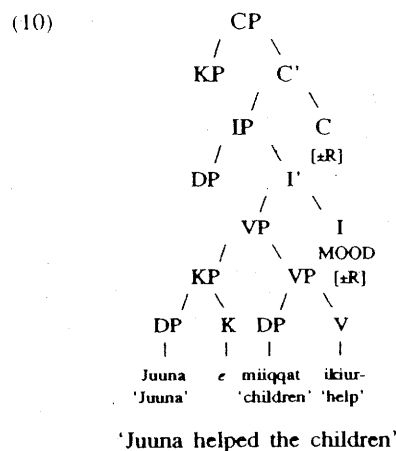
---

[9]Bok-Bennema claims that examples of ergativity can be found in accusative languages, when structural verbal Case-assignment is not possible (e.g., in passives, causatives and nominals).

verbs. Rather, ergativity splits occur with different types of nouns (e.g., pronouns vs. full NPs; first/second person vs. third), or depend on the tense/aspect of the verb (see section 5.3 below).

5.1.3.3   Object Raising: Bittner (in prep.)

In the system proposed by Bittner (in prep.), Case and agreement reflect relations between functional heads and the nominal phrases they govern. Her Case Filter is stated as a requirement that D be governed by K or C at s-structure. Agreement is a phonological reflex of coindexation relations between I or C and a SPEC position.

Bittner proposes the following structure for transitive clauses in West Greenlandic Inuit:

(10)
```
                CP
              /     \
            KP       C'
                   /    \
                 IP       C
               /    \    [±R]
             DP       I'
                    /    \
                  VP       I
                /    \    MOOD
              KP      VP  [±R]
            /  \    /   \
          DP   K  DP     V
           |   |   |      |
        Juuna  e miiqqat ikiur-
        'Juuna'  'children' 'help'
```

'Juuna helped the children'

193

The subject is generated as a KP, and the object, as a DP. The subject, *Juuna*, satisifes the Case Filter, since its head is governed by the empty K. The realization of an empty K depends on its governor: when governed by I, as in (10), it is realized as ergative Case, whereas with a lexical governor (e.g., verb), it may be instrumental or dative. The DP object, *miiqqat* 'children', cannot satisfy the Case Filter without raising to SPEC IP (an A'-position), where it will be governed by C.

The two functional heads, I and C, contain the feature [±R]. In a transitive clause such as (10), I has a [±R] feature for the subject (which it governs), and C, for the object. When a head has the feature value [+R], the argument that it governs is coindexed with a higher subject. The [+R] feature is realized morphologically as third person reflexive agreement. When the feature is [-R], there is no coreference involved, and the feature is realized as regular third person agreement.

The basic SOV order of West Greenlandic is generated by the optional raising of the KP *Juuna* to SPEC CP.

Bittner's account of accusative languages involves an antipassive-accusative reanalysis, corresponding to the type of passive-ergative reanalysis discussed above (section 5.1.3). Consider the following structure of an accusative clause:

194

(11)
```
                IP
              /    \
                I'
              /    \
            VP      I
           /   \
         DP    VP
              /    \
            KP      V
                   /   \
                  V    [AP]
```
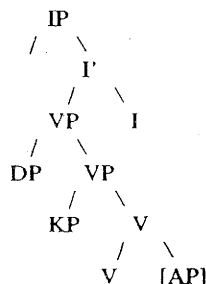
The subject DP must raise to SPEC IP to satisfy the Case filter. Bittner proposes that in forming an accusative construction, a nominal antipassive suffix is incorporated into the verb. The KP is marked with accusative Case, since K is realized as accusative Case when it is governed by a nominal functional head (in this case, the incorporated antipassive suffix).

5.2   Nominative and Absolutive Case

It has frequently been observed that there are many similarities between nominative Case in accusative languages, and absolutive Case in ergative languages (see, for example, Silverstein 1976, Comrie 1978, Dixon 1979, and Bittner 1991b, in prep.).   In the history of research concerning ergative languages (with the exception of Inuit), these two Cases were not distinguished. Dixon (1979, 1987a) states that 'nominative' was until recently used as the complement of ergative Case (i.e., the Case of the intransitive

subject and object), as well as the complement of accusative (i.e., the Case of transitive and intransitive subjects).   Because of the confusion in distinguishing language types, the term 'absolutive' was adopted from Inuit terminology. Very recently, however, there has been a trend to revert to the singular term *nominative* for both nominative in accusative languages, and absolutive in ergative languages (e.g., Bok-Bennema (1991), Bittner (1991b, in prep.)).[10]   In this section, I discuss various properties which the two Cases (i.e., nom/abs) have in common.

If one of the Cases is morphologically unmarked, it will be the nom/abs.   Shown in (12), and (13)-(14), are examples from accusative and ergative languages, respectively.

(12) Hungarian

a.   én-ø   lát-om   a   ház-at
      I-Nom see-1sN the house-Acc
      'I see the house'

                                    (Kiss 1987:47)

b.   Mari-ø   alud-t-ø
      Mary-Nom   sleep-Past-3sN
      'Mary slept'

                                    (Szabolcsi 1983-4:90)

---

[10]In this thesis, I use the term *Nominative* (with capital N) to refer to the nominative in accusative languages, and absolutive in ergative languages, which I assume are the same Case (see chapter 1). However, in this section, I will refer to this Case as "nom/abs".

(13) Inuktitut

a. Jaani-up tuktu-ø   taku-v-a-a
   John-Erg caribou-Nom see-Ind-Tr-3sE.3sN
   'John saw the caribou'

b. Jaani-ø tukisi-v-u-q
   John-Nom understand-Ind-Intr-3sN
   'John understands'

(14) Mam

a. ma ø-jaw   t-tx'ee7ma-n Cheep tzee7
   rec 3sN-dir 3sE-cut-ds   José tree
   'José cut the tree'

(England 1983:201)

b. ma ø-tz'oo-x   weech
   rec 3sN-go.in-dir fox
   'the fox went in'

(England 1983:141)

Dixon (1979) notes, however, that the parallel between nominative and absolutive Cases is not complete here, as there are a few languages (e.g., some Cushitic languages), where the nominative, and not accusative, involves an overt affix. In an ergative language, the morphologically null Case will always be the absolutive.

The nom/abs form is used for citation, unless there is a separate citation form, as in Hua (Papuan), which has a special citation suffix -a (Haiman 1980:228). Bittner (1991a) observes that the nom/abs form is used even if it is not the least marked. She gives an example from Polish, where the genitive form of certain plural nouns is morphologically unmarked (e.g., *kobiet-ø* 'women-Gen'), while the nominative is marked by a suffix (*kobiet-y* 'women-Nom'). The citation form is the nominative, even though it is more marked than the genitive.

In Chapter 3, I provided syntactic evidence from relative constructions that nom/abs Case is associated with TP. Bittner (1991b) discusses various syntactic properties that intransitive subjects, which have nom/abs Case and occur in SPEC TP, share in the two language types. Intransitive subjects of passive constructions, for example, can serve as an antecedent for reflexive elements (15a)-(16a), but cannot themselves be reflexive (15b)-(16b):

(15) Polish

a. Jakub$_i$ zosta-1   zaprosz-on-y   przez
   Jacob(Nom) Aux-Past-3s.m invite-Pass-s.m.Nom by
   swojego$_i$ przyjaciela
   self's friend

   'Jacob$_i$ was invited by his$_i$ friend'

b. *swoj$_i$ przyjaciel zosta-1   zaprosz-on-y
   self's friend(Nom) Aux-Past-3s.m invite-Pass-s.m.Nom

   przez   Ann$_i$-e
   by Ann-Acc

   'self$_i$'s friend was invited by Ann$_i$'

(16) West Greenlandic

a. Jaaku$_i$ ikinngum-mi$_i$-nit   qaaqqu-niqar-p-u-q
   Jacob(Nom) friend-self's-Abl invite-Pass-Ind-Intr-3sN
   'Jacob$_i$ was invited by his$_i$ friend'

b. *ikinnguti-ni$_i$ Anna$_i$-mit qaaqqu-niqar-p-u-q
   friend-self's(Nom) Anna-Abl invite-Pass-Ind-Intr-3sNom
   'self$_i$'s friend was invited by Anna$_i$'

(Bittner 1991b:30-1)

Moreover, the oblique agent behaves the same way in the two types of languages: it can contain a reflexive bound by the subject ((15a) and (16a)), but cannot bind any reflexive contained in the subject ((15b) and (16b)).

Based on these and other examples, such as the scope facts I discussed in section 3.2 above, Bittner concludes that considerations of simplicity and generality will favour a theory which equates nominative with absolutive Case, and that can explain the observed parallels in a non-stipulative manner.

5.3   Morphological Ergativity

The main proposal of this thesis for ergativity is that, based on the syntactic nature of the Ergative Parameter, ergative languages differ from accusative languages at the syntactic, and not simply morphological, level of representation. Chapter 3 consisted of evidence supporting my hypothesis that ergativity is a syntactic phenomenon. In this section, I investigate languages which exhibit ergativity in their Case and agreement morphology, but are syntactically accusative. I adopt Marantz' (1991) distinction between abstract "Case" and morphological "case".

5.3.1 Split Ergativity

Split ergative languages are characterized by a division in their Case-marking: some part of their morphology is based on an accusative pattern, and another part, on an ergative pattern. In this section, I discuss two factors which determine splits in language: the tense or aspect of the verb, and the semantic properties of the NPs.[11]

In all languages which exhibit a tense/aspect split, ergative Case-marking is found with past tense or perfect aspect. Georgian has an ergative system in the aorist simple past tense (17a), and an accusative system in other tenses (17b). Hindi exhibits ergativity in the perfective aspect (18a), and accusativity in the imperfective (18b).

(17) Georgian

a.   vano-m daaxrco   rezo
      Vano-Erg 3s.3s.drowned Rezo(Nom)
      'Vano drowned Rezo'

b.   vano   axrcobs   rezo-s
      Vano(Nom) 3s.3s.be.drowning Rezo-Acc
      'Vano is drowning Rezo
                                  (Bittner 1991b:21)

---

[11] The descriptive information on split ergativity is taken from Comrie (1978) and Dixon (1979).

(18) Hindi

a. raam-ne   roTii   khayii   thii
    Ram.m-Erg bread.f(Nom) eat.Perf.f be.Past.f
    'Ram had eaten bread'

b. raam   roTii   khataa   thaa
    Ram.m(Nom) bread.f(Acc) eat.Impf.m be.Past.m
    'Ram (habitually) ate bread'
                                    (Mahajan 1990:72-3)

Marantz (1991) claims that these languages are ergative only at the morphological level. He argues that the subject position is always licensed by tense/aspect inflection, regardless of the actual tense of the verb, and that the two patterns of Case-marking are strictly concerned with morphological "case", the realization of abstract "Case".

To account for the different cases observed in the two tense/aspect paradigms, Marantz proposes the following disjunctive hierarchy of case realization: (i) lexically governed case (e.g., quirky case), (ii) "dependent" case (accusative and ergative), (iii) unmarked case, and (iv) default case. The case that is of interest here is dependent case (iii). This case is assigned by V+I to an argument position in opposition to another position, i.e., in a transitive clause with two arguments in distinct chains. Dependent case is assigned up to the subject in an ergative language, and down to the object in an accusative language.

Another type of split ergativity is dependent on the semantic nature of the A and O arguments. Silverstein (1976) illustrates the variety of split systems based on a hierarchy of features. The hierarchy represents the potentiality of agency for a given NP. At one end of the hierarchy are [+ego] and [+tu] pronouns, i.e., first and second person pronouns, which are the most likely to be the agent of an action. At the other end of the hierarchy are [-animate] nouns, which are the least likely to be agents. Shown in (19) is a simplified version of the hierarchy presented in Dixon (1979):

(19) Hierarchy of NPs

```
1st pers     2nd pers     3rd pers     Proper        Common nouns
pronoun      pronoun      pronoun      nouns       Human      Animate
Inanimate

most likely to be agent <---------------------------> least likely to be
agent
```

A language exhibiting a split Case system has accusative Case-marking on NPs to the left of a certain point in the hierarchy, and ergative marking on NPs on the right. Languages vary in the exact position in the hierarchy where the split occurs. As Dixon notes, it is most natural and economical to mark a participant when it is in an unaccustomed role. In an accusative system, the marked Case on O marks NPs which are most likely to be agents. In an ergative system, the Case of A is marked, and thus is found on NPs

which are least likely to be agents.

Shown in (20) is an example from Wik-Mungkan, an Australian language of North Queensland. Wik-Mungkan shows accusative Case-marking on first and second person pronouns, and ergative Case-marking on third person pronouns and full NPs.

(20) Wik-Mungkan

a. ku'-ng nga-ny path-ny
    dog-Erg me-Acc bite-Past
    'the dog bit me'

b. ngay   ku'   thath-ng
    I(Nom) dog(Nom) see-Past
    'I saw the dog'

c. ku'   uthm
    dog(Nom) die
    'the dog died'

                    (Bittner and Hale 1992:4)

Observe that in the transitive clauses shown in (20a) and (20b), there is a mixture of accusative and ergative Case-marking systems. In (20a), both ergative and accusative Case are found in the same sentence, and in (20b), A and O both have nominative Case. In these examples, the Cases of A, O and S cannot all be structural Cases, which are associated with specific SPEC positions. Since nominative Case is associated with SPEC TP, and accusative and ergative, with SPEC TrP, in (20a) both arguments would have to raise to SPEC TrP, and in (20b), both to SPEC TP. Such movements are not

permitted, as the Case features of a functional head can only be checked once.

Following the discussion of Marantz (1991) above, I propose that languages which exhibit this type of split are also ergative only at the morphological level. However, it is not correct to simply assume that Wik-Mungkan is underlyingly accusative. We must look at other facts of the language to determine whether it is syntactically accusative or ergative.

Dyirbal, for example, exhibits the same system of split Case-marking, where first and second person pronouns follow an accusative pattern of Case-marking, while third person pronouns are Case-marked ergatively. It is clear, however, that this language is syntactically ergative, and exhibits accusativity only morphologically. First and second person pronouns behave ergatively, even though they appear with accusative case (not Case). Recall that clausal linking in this language picks out the nominative argument as the prominent one (see section 3.4.4). Shown in (21) is an example of topic chaining with first and second person pronouns:

(21) Dyirbal

a. ngana   banaga-n'u   n'ura bura-n
    we(Nom) return-Nonfut you(Nom) see-Nonfut
    'we returned and you saw (us)'

b. n'ura   ngana-na bura-n   banaga-n'u
    you(Nom) us-Acc   see-Nonfut return-Nonfut
    'you saw us and returned'
                              (Dixon 1979:64)

In (21a), the topic of the two clauses is *ngana* 'we', which is marked with nominative Case in the first clause, but with accusative Case in the second. Similarly, in (21b), the same topic *ngana* 'we' is accusative in the first clause, and nominative in the second. However, the accusativity of the pronoun is only morphologically relevant. At the syntactic level, where topic chaining applies, it is "Nominative", in the sense of being associated with SPEC TP. Thus, in this language, we find evidence of morphological accusativity, and not morphological ergativity.

5.3.2   Uniform Ergativity

We have seen that there are factors, such as tense/aspect, and semantics of NPs, which condition split ergativity (or accusativity) in Case and/or agreement. Given that in certain paradigms, an accusative language may exhibit ergative Case-marking, and vice versa, we would expect there to be a language in which the opposite Case system was present in all paradigms. In this language, the parameter that conditions the split in a split ergative language would apply at all times. Instead of "split" ergativity, this language would exhibit "uniform" ergativity at the morphological level.

I propose that Warlpiri may be such a language. The agreement morphemes on the auxiliary in Warlpiri follow an accusative pattern, while

NP arguments are Case-marked in an ergative pattern (Hale 1973, 1983; Dixon 1979; Jelinek 1984):

(22) Warlpiri

a.   ngajulu-rlu ka-rna-ngku nyuntu-ø nya-nyi
     I-Erg   Pres-1sN-2sA you-N   see-Nonpast
     'I see you'

b.   nyuntulu-rlu ka-npa-ju ngaju-ø nya-nyi
     you-Erg   Pres-2sN   me-Nom see-Nonpast
     'you see me'

                                        (Hale 1973:328)

5.4   Three Functional Projections

In the system proposed in this thesis, there are two functional projections, corresponding to subject and object Case and agreement. There are languages, however, which exhibit a three-way verbal agreement system associated with subject, direct object, and indirect object. One such language is the Caucasian language Abkhaz:

(23) Abkhaz

     sarà a-x°ᵉč'-k°à a-š°q°'-k°à ø-rà-s-to-yt'
     I   the-child-pl the-book-pl 3pN-3pIO-1sE-give-Fin
     'I gave the books to the children'

                                        (Hewitt 1979:105)

Basque also has three agreement morphemes for subject, object and indirect object:

(24) Basque

    zuk   niri   etxea   eman d-i-da-zu
    you-Erg me-Dat house-the-Nom given it-have-me-you
    'you have given me the house'
                                    (Laka 1991:7)

Laka's (1991) study of the inflectional structure in Basque argues

convincingly for the existence of three projections: TP, Mod(al)P and IP.

Cheng and Demirdash (1990) propose a similar structure with three functional

categories (TP, MP, AuxP), but extend the structure to include three

agreement projections as well.

It appears that variation among languages is permitted in the number of

structural Case positions that are available in the basic clausal structure.

However, the existence of more than two functional categories is problematic

in the theory proposed in this thesis, as two of the three arguments

necessarily must raise at the same level.   Although in Basque, all three

agreement morphemes never appear simultaneously, this is not the case in

Abkhaz.   I leave for future research the consequences of these multiple-

category languages for my theory.

In this chapter, I investigated several issues relating to ergativity,

including previous analyses, nominative/absolutive Case, and morphological

ergativity.   I discussed how these issues could be accounted for within the

framework of the theory presented in this thesis.

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