

On the Nature of Ergativity

by

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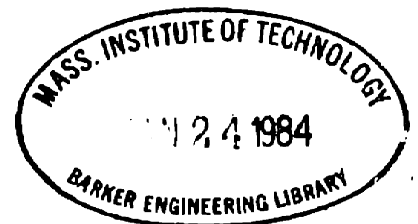
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### ABSTRACT

Languages showing some form of ergativity have posed a problem for theories of grammatical relations. This thesis examines a particular hypothesis concerning the nature of at least some ergative phenomena: Marantz's Ergativity Hypothesis [1981]. The importance of this hypothesis stems from the specific claim it makes about the nature of ergativity: the ergativity of a language depends on the particular association between semantic roles and grammatical relations that the language utilizes. In particular, the following assignments of semantic roles to grammatical relations characterize ergative and accusative languages, respectively.

(A): Accusative  
agent - subject  
patient - object

(E): Ergative  
agent - object  
patient - subject

A number of properties predicted by this hypothesis for ergative languages are investigated in order to provide a picture of ergative languages. These predictions involve case assignment, semantic composition, reflexive constructions, passive and anti-passive constructions, and control constructions. Evidence in support of these properties is presented. In addition, an explanation of many of the properties traditionally associated with so-called ergative languages will be given.

The status of three representative "ergative" languages, Basque, Dyirbal, and Warlpiri, is examined in detail in light of the Ergativity Hypothesis. Evidence will be presented that Warlpiri, described as a "morphologically" ergative language with an ergative system of case marking and an ergative system of person marking, is an accusative language in the sense of the Ergativity Hypothesis with an ergative system of case marking. Dyirbal, cited as the canonical example of a "syntactically" ergative language, will be shown to be an ergative language in the sense of the Ergativity Hypothesis. Basque, a second "morphologically" ergative language with ergative systems of case and person marking, will also be an accusative language. But, the Basque system of case marking turns out to be neither ergative or accusative. An alternative account of Basque case marking will be proposed.

Thesis Supervisor: Kenneth Locke Hale  
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## ABBREVIATIONS

- 1 first person
- 2 second person
- 3 third person
- 3R third person reflexive possessive (Yup'ik)
- [ + /-A] verb does/does not assign case to its s-object
- ABL/MOD ablative/modalis case (Yup'ik)
- ABS absolutive case
- ACC accusative case
- ADMON admonitive
- AFF affirmative particle (Basque)
- ALL allative
- APASS anti-passive
- ARI progressive (Basque)
- c noun class (Dyirbal)
- CAUS causative
- COM comitative case
- d dual number
- DAT dative case
- DIR directional particle
- [ + /-d-obj] verb does/does not take a d-object
- DUAL dual (affix)
- EL elative case
- ERG ergative case
- f feminine
- FUT future
- GEN genitive case
- IMPER imperative
- IMPF imperfective
- JCH inchoative
- INDIC indicative
- INF infinitive
- INST instrumental
- INTR VBLSR intransitive verbaliser
- IRR irrealis
- IZAN 'to be' -- auxiliary (Basque)
- JINTA dative registration marker (Warlpiri)
- KARRA complementizer (Warlpiri)
- KURRA complementizer (Warlpiri)
- LOC locative
- M1 person marker in auxiliary (Warlpiri)
- M2 person marker in auxiliary (Warlpiri)
- MPARRIY reciprocal affix (Dyirbal)
- NDEF non-definite (Basque)
- NEG negative
- NFUT non-future
- NGAY "anti"-passive affix (Dyirbal)
- NGU relative clause affix (Dyirbal)
- NOM nominative case
- NOR unmarked case (Basque)
- NORI dative case (Basque)
- NORK marked case (Basque)

NPST non-past  
OBL oblique case  
p plural number  
PASS passive affix  
PERL perlicative case  
PL plural (affix)  
plinc plural inclusive number  
POSS possessive  
PRES present  
PST past  
PURP purposive complementizer (Dyirbal)  
PV preverb  
REFL reflexive affix  
REFL/RECIP reflexive/reciprocal marker (Warlpiri)  
RLA dative registration marker (Warlpiri)  
RLARN! complementizer (Warlpiri)  
RRIY reflexive affix (Dyirbal)  
RT root form of verb (Basque)  
s singular number  
SBJCTV subjunctive  
[+/-T] verb does/does not assign a semantic role to its d-subject  
TERM terminalis case  
TR VBLSR transitive verbaliser (Dyirbal)  
TZEAL complementizer (Basque)  
TZEKO complementizer (Basque)  
UKAN 'to have' -- auxiliary (Basque)  
ZERIK partitive case (Basque)

## ORTHOGRAPHY

The correspondences between the orthography used by Dixon for Dyirbal and Yidiny and that used here are given below:

Dixon's Orthography:	a	b	d	ɟ	g	i	l	m	n	ɲ	ŋ	r	ɽ	u	w	y
My Orthography:	a	p	t	j	k	i	l	m	n	ny	ng	rr	r	u	w	y

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## 1. Introduction

### 1.1 The Ergativity Hypothesis

In formulating a theory of grammatical relations, one of the problems that must be addressed is posed by the existence of languages showing some form of ergativity. The term "ergative" was introduced to name a system of case marking that makes different distinctions than the accusative system found in Indo-European languages. The use of this term has been extended to other syntactic and morphological processes that function on the basis of the same distinctions. Among the languages showing some form of ergativity are Basque, Caucasian languages, Eskimo languages, Mayan languages, and many Polynesian and Australian languages.

The increasing amount of work on such languages has raised questions concerning the adequacy of the traditional notions of the grammatical relations subject and object. Ergativity has been presented in the context of grammatical relations, yet grammatical relations do not always seem to be the appropriate means for describing phenomena in languages showing ergativity, particularly given the diverse forms that ergativity manifests across languages.

This dissertation examines a particular hypothesis concerning the nature of at least some ergative phenomena: Marantz's Ergativity Hypothesis [1981a].<sup>1</sup> The evidence Marantz provides for this hypothesis in his dissertation shows that it deserves to be explored further. The properties this hypothesis predicts for ergative languages are investigated more fully in this dissertation. The resulting characterization of ergative languages will allow the status of languages that have been considered ergative to be reassessed with respect to ergativity in the sense defined by the Ergativity Hypothesis. The ergativity of a number of representative "ergative" languages is re-examined. Three languages are investigated in detail; these are Basque, and the Australian languages Dyirbal and Warlpiri. Another Australian language, Yidiny, and several Eskimo languages are used for illustrative purposes throughout the first part of the dissertation. These languages have been chosen because they contrast both in their traditional characterization and in their characterization with respect to the Ergativity

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1. All references to Marantz will be to his dissertation [1981a] unless otherwise specified. Marantz also discusses the Ergativity Hypothesis in Marantz [1981b].

Hypothesis.

The importance of exploring the consequences of Marantz's Ergativity Hypothesis stems from the particular claim the hypothesis makes about the nature of ergativity: it relates the ergativity of a language to the particular association between semantic roles and grammatical relations that the language utilizes. The existence of such associations has implications for a theory of lexical entries which are desirable from the standpoint of learnability. The lexical entry of a verb must contain a specification of the verb's argument structure, that is the set of arguments that bear a semantic role to that verb. The entry must also include any idiosyncratic requirements that the verb makes on the case marking or grammatical relations of a noun phrase bearing a particular semantic role. If the syntactic expression of any of the arguments follows in a principled manner from their semantic role, these requirements will not have to be stated explicitly in the lexical entry of a verb, allowing the entry to be simplified. The task of learning the entry will also be facilitated.

As background for the Ergativity Hypothesis, the problem ergativity poses for a traditional approach to grammatical relations will be sketched. The grammatical relations subject and object have been introduced to name the two syntactic relations of nouns to verbs necessary for a two-way classification of verbs according to the number of noun phrases bearing an argument relation to the verb. This classification distinguishes transitive verbs which require two noun phrases, the subject and the object, from intransitive verbs which require a single noun phrase, a subject. In this introduction, these terms are used pretheoretically, in their traditional sense.

The use of a single term "subject" to refer to both the single noun phrase required by an intransitive verb and one of the noun phrases required by a transitive verb reflects the fact that these noun phrases share certain properties making the subject-object opposition useful for stating certain generalizations. Many languages with case marking use a (nominative)-accusative case system with a single case, the nominative case, for the subject of either transitive or intransitive verbs and a second case, the accusative case, for the object of a transitive verb.

Intransitive Verb:	subj - nom	
Transitive Verb:	subj - nom	obj - acc

Verb agreement, as well as case marking may refer to the notions of subject and object. For example, in English, all verbs, whether transitive or intransitive, agree with their subject but

transitive verbs do not agree with their object. Certain syntactic properties also distinguish between subjects and objects.

Correlations exist between semantic roles and grammatical relations, as well as between a verb's argument structure and transitivity. Each argument in the verb's argument structure will be expressed by a noun phrase with a particular grammatical relation to the verb. A verb that has two arguments with the semantic roles of agent and patient (an agent-patient verb) is generally a transitive verb with the noun phrase bearing the agent role as subject and the noun phrase bearing the patient role as object. An intransitive verb corresponds to a verb with a single argument bearing the semantic role of either agent or patient. This single argument will be the subject of the intransitive verb. Since the subject of an intransitive verb may be either an agent or patient, it is not possible to state a one-to-one correspondence between semantic roles and grammatical relations. This is one of the shortcomings of the transitive/intransitive classification.

It is the existence of other forms of case marking systems besides the accusative systems that leads to questioning the adequacy of the notions of subject and object. Languages with so-called "ergative" case marking systems have received particular attention. These languages still maintain an opposition between transitive (two-argument) and intransitive (one-argument) verbs. Furthermore, the agent-patient verbs are again among the members of the two-argument class. But, ergative languages do not show the correspondence between cases and grammatical relations found in accusative languages. Instead, the subject of an intransitive verb and the object (patient) of a transitive verb are assigned the same case, known as the absolutive case, while the subject (agent) of a transitive verb is assigned a distinct case, the ergative case.

Intransitive verb:		subj - abs
Transitive verb:	subj - erg	obj - abs

To illustrate an ergative system of case marking consider the following sentences from Greenlandic Eskimo.

(1.1) Arnaq            tikippoq  
      woman-ABS come-INDIC-3s  
      The woman came. [Sadock 1980, 1]

(1.2) Arnap            takuvara  
      woman-ABS see-INDIC-1s/3s  
      I saw the woman. [Sadock 1980, 2]

- (1.3) Arnap        meeraq   takuvaa  
      woman-ERG child-ABS see-INDIC-3s/3s  
      The woman saw the child. [Sadock 1980, 4]

The noun phrase *arriaq* 'woman' is in unmarked case form, the absolutive form, in (1.1) where it is the subject of an intransitive verb and (1.2) where it is the object of a transitive verb. But, in (1.3), as the subject of a transitive verb, it is in the ergative case form, marked by the suffix *-p*.

Morphological processes such as case marking and verb agreement are among the most frequently cited ergative phenomena. But, syntactic phenomena functioning on an ergative basis have also been described in some languages with ergative morphology; they include relativization, control, and coordination. Another characteristic property of some ergative languages is the absence of a construction analogous to the passive construction of an accusative language, although some show a construction, called the anti-passive, that resembles a passive construction at a more abstract level.

Languages differ in the range of ergative phenomena that they show; this is apparent in the survey articles by Dixon [1979a] and Comrie [1978] and in the papers on particular languages in Plank [1979], Dixon [1976], and England [1978].<sup>2</sup> In many languages, ergativity seems to be restricted to only a few phenomena, usually case marking or verb agreement. Yet, the Australian language Dyirbal seems to show ergative behavior both in its morphology and syntax [Dixon 1972]. This variation has resulted in terms such as "degrees of ergativity" or "split-ergativity", as well as oppositions such as "morphological ergativity" vs. "syntactic ergativity". Such characterizations are descriptive, but do not address the question of the nature of ergativity.

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2. More detailed discussion of issues concerning ergativity can be found in Dixon [1979], Comrie [1978], Anderson [1976], Blake [1976a, 1976b], and Silverstein [1976]. An extensive bibliography on ergativity is included in Plank [1979]. For some discussion of particular languages showing ergativity see Dixon [1980], Blake [1976a, 1976b] and the papers in Dixon [1976] on Australian languages, Chung [1978] on Polynesian languages, Johnson [1980] and Woodbury [1977] on Eskimo languages, Catford [1976] and Colarusso [1977] on Caucasian languages, the papers in England [1978] on Mayan languages, in addition to the references in Plank.

Ergative languages pose problems precisely because the notions of subject and object recognized in accusative languages do not appear to coincide with the oppositions relevant to ergative phenomena, whether in the morphology or the syntax. The existence of languages showing ergative case marking immediately prompts a number of questions. For example, do the notions subject and object still carry over to languages with ergative systems of case marking or verb agreement? Is ergativity a superficial phenomenon restricted to case marking or verb agreement? Or does it reflect a deeper property? The evidence available does not immediately suggest a clear answer.

One hypothesis concerning the nature of grammatical relations motivated by the existence of ergative languages is the Ergativity Hypothesis put forward by Marantz. Marantz's Ergativity Hypothesis addresses the question of ergativity by linking it to the question of the nature of the association of semantic roles with grammatical relations. Marantz suggests that universal grammar does not force a particular association of semantic roles and grammatical relations. Languages may vary in the association of the semantic roles agent and patient with the grammatical relations subject and object. In particular, a language may choose either of the two possible associations, which are set out below:

The Ergativity Hypothesis

(A): Accusative  
agent - subject  
patient - object

(E): Ergative  
agent - object  
patient - subject

Marantz calls languages in which (A) holds accusative and those in which (E) holds ergative. The associations in (A) have been observed in accusative languages as mentioned above. Marantz presents evidence that on the assumption that the associations in (E) hold in a language at least some of the phenomena that are typical of "ergative" languages will be predicted for that language. Ergative phenomena are merely a consequence of a particular choice among the two options available to a language.

The Ergativity Hypothesis bears on the question of "deep" or "syntactic" ergativity. This type of ergativity has been attributed to the Australian language Dyirbal, for example. This hypothesis does not touch directly on the question of languages showing "superficial" or "morphological" ergativity. Marantz assumes that such languages exist independently. In addition, he shows that the two types of languages show a superficial resemblance, explaining some of the confusion concerning the nature of ergativity in the literature. In what follows, the term "ergative language" will be qualified to indicate whether

the basis for considering the language ergative is the Ergativity Hypothesis or traditional descriptive criteria. Languages that have been said to be ergative but whose status is in question will be referred to as "so-called ergative languages".

## 1.2 Theoretical Framework

It is impossible to present a theory of ergativity outside of a theoretical framework. The model of grammar I will adopt is that of the Government-Binding (GB) framework [Chomsky]. It is similar to that adopted by Marantz, and used by him as a context for introducing the Ergativity Hypothesis; I will point out relevant differences between the approaches as they come up. In this section, the relevant aspects of the GB framework are set out.

One of the problems for a linguistic theory is to provide an account of the regularities in the syntactic expression of the arguments to verbs. The Ergativity Hypothesis, the theory of ergativity that is investigated in this dissertation, is a hypothesis about the nature of these regularities. Only two of the levels of representation assumed in the GB framework are relevant to these questions. The description of these levels of representation is primarily in terms of the grammatical relations of the arguments to the verb.<sup>3</sup> Again, this choice is motivated by the Ergativity Hypothesis since it is the grammatical relation of an argument to the verb that is relevant for determining its surface expression making further detail unnecessary.

The two relevant levels of representation are the levels of d-structure and s-structure. D-structure<sup>4</sup> provides a representation of the structure of the sentence that makes explicit the assignment of semantic roles to the arguments of the verb and the semantic dependencies between the verb and its arguments. It can be considered a representation of the compositional semantics of the sentence. The second level of representation, s-structure, is a representation of the grammatical relations that are relevant to the surface expression of the arguments assigned semantic roles. This level is described as a grammaticalization of the d-structure by Marantz.

---

3. I will refer to the grammatical relations of a noun phrase according to the level at which the noun phrase bears this relation. For example, "d-object" will refer to d-structure object while "s-object" will refer to s-structure object, etc.

4. The analogous level in Marantz's framework is logico-semantic (l-s) structure.

Both of these levels are subject to well-formedness conditions. At the level of d-structure, there is a constraint on the well-formedness of semantic role assignment, the Theta Criterion. At the level of s-structure, there is a constraint ensuring that each argument has a legal expression, the Case Filter. The relations between the two representations are severely restricted; the level of s-structure is derived from the level of d-structure by a rule known as Move Alpha and by a constraint known as the Projection Principle.

The next sections will discuss in turn the level of d-structure, the mapping between the levels of d-structure and s-structure, and the level of s-structure. Two subsystems of grammar that apply to these levels of representation will be set out; these are the theory of semantic role assignment, which is relevant to the characterization of d-structure, and the theory of Case, which is relevant to s-structure.

### 1.2.1 D-Structure and Semantic Role Assignment

As a prerequisite to presenting the Ergativity Hypothesis, a theory of semantic role assignment must be laid out.<sup>5</sup> The theory presented here is essentially the theory of theta-role assignment found within the GB framework [Chomsky 1981]. The level of representation which will be discussed in this section, referred to as "d-structure", provides an explicit representation of the relations that are relevant to the assignment of semantic roles to noun phrases that are arguments to the verb in the sentence.

A verb denotes an action, state, or process which may involve participants playing particular roles determined by the meaning of the verb. In this sense, a verb names a function which requires some arguments, each bearing a particular semantic role. This set of arguments, referred to as the verb's argument structure, will have to be specified in the verb's lexical entry. For example, the verb *chop* takes two arguments: one argument bears the agent role, its referent is the performer of the action, and the other bears the patient role, its referent is the entity affected by the action. In sentence (1.4), the noun phrases *the cook* and *the mushrooms* are both arguments to the verb. They bear the agent and the patient roles, respectively.

---

5. For a more detailed discussion of semantic role assignment see Marantz.

(1.4) The cook chopped the mushrooms.

The argument structure of a verb can be considered a set of slots, each identified by a semantic role, that will be filled by the argument in the sentence bearing the appropriate role. For a sentence to be well-formed, each of the arguments bearing a semantic role to the verb in the sentence must be paired with the appropriate slot in the argument structure.

How are the arguments represented in a sentence? They can be noun phrases or sentences, although only nominal arguments will be of interest here. There is a restriction on noun phrases as arguments: they must be referring expressions (R-expressions). Noun phrases with no referent such as *there*, pleonastic *it*, or the empty noun phrase [e] do not qualify as arguments. They cannot be assigned a semantic role, and, therefore, cannot bear a relation in a sentence where they will be assigned a semantic role. For example, since the subject of the verb *see* is assigned a semantic role, the subject position cannot be "filled" with the noun phrases *there* or *it*, as illustrated below.

- (1.5) a. The crowd saw the parade.  
b. \*It saw a parade.  
c. \* There saw a parade.

The verb will select the type of argument that will fill each slot in the argument structure.<sup>6</sup> This information must be included with the argument structure in a verb's lexical entry.

In order to interpret a sentence, correspondences must be set up between the slots in the argument structure of a verb and the arguments to the verb in a sentence. The argument structure of a verb implicitly defines a set of requirements that any sentence with that verb must meet. Intuitively, these requirements are met if there is a one-to-one correspondence between the arguments in the sentence and the arguments slots in the argument structure of the verb. A one-to-one correspondence is necessary to avoid arguments which are not associated with an argument slots or argument slots which are not associated with

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6. I will talk about selection for syntactic category. Grimshaw [1979] and Pesetsky [1981, 1982] have pointed out that there are two types of selection: selection for syntactic category and for semantic type. Generally, the two types of selection have been confused, but Pesetsky argues that verbs select their arguments only by semantic type. This issue is peripheral to the concerns here, especially since I will be concerned with verbs with nominal arguments. The selection problem arises, for example, when verbs require propositional arguments since this semantic type is usually expressed as a sentence, but occasionally as a noun phrase.



arguments. The process of semantic role assignment establishes these correspondences. Each argument must be assigned a semantic role and will be matched with the argument slot associated with that role.

To ensure that the requirements defined by the argument structure are met at d-structure, a well-formedness condition on the sentence is necessary. In the GB framework, this condition, known as the Theta Criterion, is formulated as a constraint on the assignment of semantic roles. Every argument, by virtue of being assigned a semantic role, can be paired with the argument slot in the argument structure associated with that semantic role. Since semantic role assignment mediates the setting up of correspondences between arguments and slots, the condition can be stated as a constraint on semantic role assignment:

The Theta Criterion

"Every argument bears one and only one theta-role [= semantic role --BL], and each theta-role is assigned to one and only one argument."

[Chomsky 1981, p.36]

The theory of semantic role assignment is built on a particular assumption concerning the syntactic organization of the d-structure of a sentence: that a sentence is composed of a subject and a verb phrase. This assumption about the syntactic organization of a sentence is regarded as an assumption about the compositional semantics of a sentence. The subject-*vp* (verb phrase) distinction of d-structure should be interpreted as corresponding to a subject-predicate distinction from the point of view of compositional semantics.<sup>7</sup> This assumption specifies how a sentence is formed from a verb and its arguments, the noun phrases that fill slots in the verb's argument structure. An argument of the verb may be identified as the subject of a sentence. The subject will combine with the *vp* (predicate) to form the sentence; in this sense, the notion of subject corresponds to the notion of "external" argument proposed by Williams [1980], an argument that is outside of the verb phrase (predicate). The *vp* (predicate) will be composed of the verb together with any other arguments. The assumption that a subject-predicate distinction is relevant sets up an asymmetry between the argument identified as a subject and the other arguments. Some consequence of this assumption for the Ergativity Hypothesis will be discussed in Section 3.2.

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7. See Marantz and Chomsky [1981] for arguments for this assumption. Hale [1983] argues that this distinction is relevant even in non-configurational languages.

Semantic roles may be assigned to an argument in a sentence in one of several ways: by a verb, by a preposition or postposition, by a syntactic case, by a structural position. That is arguments are assigned their semantic role by bearing a relation to the semantic role assigner.<sup>8</sup> A constraint on semantic role assignment is assumed: that only one semantic role may be assigned by any semantic role assigner. The noun phrase assigned its semantic role by a preposition or a postposition is known as the object of the preposition or postposition. The noun phrase which is assigned its semantic role by the verb is referred to as the d-object of the verb.

### 1.2.2 Semantic Role Assignment Properties of Verbs

This section focuses on the semantic role assignment abilities of verbs. The possible ways a verb can enter into such assignment are introduced, together with a set of features that account for them within the Government-Binding framework. The analysis is based on that of Burzio [1981], which was motivated in part by work of Perlmutter [1978]. A similar analysis is adopted by Marantz. The resulting system of verb classification, which differs from the traditional transitive-intransitive classification, will be presented.

Verbs may enter into the assignment of semantic roles to noun phrases in two ways. A verb may assign a semantic role to a noun phrase, referred to as the d-object, or a verb may require that the verb phrase it heads assign a semantic role to a noun phrase, referred to as the d-subject.<sup>9</sup> Each of these will be discussed in turn.

The ability of a verb to assign a semantic role to a noun phrase was proposed to account for the fact that verbs differ in whether they can occur with noun phrase complements. For example, the verb *dine* does not allow a noun phrase complement, while the verb *eat* does:

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8. Within the GB framework, semantic roles are assigned under the structural notion of government. This assumption accounts for the syntactic relation observed between a semantic role assigner and the argument assigned a semantic role. The notion of government is important to other subsystems of grammar, including the two other subsystems that will be discussed, Binding Theory and Case Theory. Several definitions of government have been proposed, but formulating a precise notion of government is still an open question.

9. Since semantic roles are assigned under government, the d-subject and d-object noun phrase will bear a particular syntactic relation to the verb. The object of the verb must be governed by the verb, while the subject of the verb must be governed by the verb phrase.

- (1.6) a. She dined.  
b. \*She dined apples.  
(1.7) She ate apples.

This property is the basis for the traditional classification of verbs as transitive (verbs taking a nominal complement) and intransitive (verbs that do not).

If a verb may assign a semantic role to a noun phrase, then the verb occur at d-structure with a noun phrase complement in order that the semantic role may be assigned. If the verb has no complement, then the role cannot be assigned resulting in a violation of the Theta Criterion. Therefore, a verb that assigns a semantic role will be a verb that requires a noun phrase complement at d-structure, the d-object of the verb. The ability to assign a semantic role imposes constraints on the d-structure of the sentence.<sup>10</sup>

The second semantic role assignment property of verbs is the ability of a verb to require that the verb phrase it heads assign a semantic role to its subject. Burzio identifies this property on the basis of evidence involving verbs that take sentential complements. As the examples below from Burzio [1981, p.41] show, although *seem* and *expect* may both take finite sentential complements, they differ in the requirements they place on their subjects.

- (1.8) a. John expects that Bill will win. (36a)  
b. \* John seems that Bill will win. (36b)  
(1.9) a. \* It expects that Bill will win. (37a)  
b. It seems that Bill will win. (37b)

The verb *seem* requires a non-referential subject, *it*, while the verb *expect* needs a referential subject. Burzio proposes that this difference reflects the semantic role assignment capabilities of the verbs. He assumes that only referential noun phrases can be assigned semantic roles, and they must be assigned semantic roles. In particular, the requirement that the subject of *expect* must be referential means it must be assigned a semantic role; its subject is assigned the role of the person who has an expectation. The verb *seem*, unlike *expect*, will not assign a semantic role to its subject, thereby accounting for its non-referential subject.

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10. The property of requiring a nominal complement has been regarded as a structural property. Such constraints on the syntactic configuration a verb may occur in are known as a subcategorization requirement in the *Aspects* [Chomsky 1965] framework. The subcategorization requirements, in fact, follow from semantic role assignment properties. See Chomsky [1981] and Stowell [1981] for further discussion.

Verbs differ, then, in whether the verb phrase they head can assign a semantic role, and, therefore, in whether the subject of the verb phrase they head is an argument. The verb *seem* requires that its subject not be an argument, while the verb *expect* takes an argument as its subject. As the examples above illustrate, it is a property of the verb in the sentence that determines whether the subject is assigned a semantic role. This property cannot be replaced with one that requires a verb phrase to have a subject. Having a subject is a property of certain constructions. In particular, a well-formed sentence must have a subject and a verb phrase. In contrast, a noun phrase need not have a subject. Thus, a sentence will be ill-formed with no subject although a corresponding noun phrase is not.

The two ways that verbs can enter into the assignment of semantic roles are repeated below:

- (1) the verb may assign a semantic role to a noun phrase
- (2) the verb may require the verb phrase it heads to assign a semantic role to its subject

Two features will be introduced to represent whether or not a verb shows each property. The first property will be represented by the feature [ + /- d-obj] indicating whether or not the verb assigns a semantic role to a noun phrase, and, therefore, has a d-obj. Neither Burzio nor Marantz propose explicit features for this property. Burzio uses the property of subcategorization for noun phrase instead. Marantz recognizes this property, but does not name it explicitly. He encodes it indirectly by underlining the role assigned by a verb in that verb's argument structure. The feature [ + /-T] (for "thematic role"), introduced by Burzio, will be used to encode the second property, whether or not a verb allows a semantic role to be assigned to its subject. Marantz also adopts this feature, calling it [ + /-PredSR] (since in Marantz's terms it indicates whether the predicate headed by a verb assigns a semantic role).

The value of the two features [T] and [d-obj] associated with each verb will encode its semantic role assigning properties.<sup>11</sup> Together they define a four-way verb classification.

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11. A complete classification of the semantic role assigning properties of verbs must take into account that some verbs can also select other types of arguments, for example sentential arguments. These will be ignored in the discussion here since they are not relevant to the Ergativity Hypothesis. See Stowell [1981] for a discussion of semantic role assignment and sentential complements.

The four classes are listed below by their feature definition followed by a schematic representation of the d-structure configuration the verb will be found in. These configurations follow from the feature definitions. The "\_\_\_" below represents the fact that the d-subject, although present (due to the assumption about the organization of d-structure), is not assigned a semantic role, and, therefore, does not contain an R-expression. The last column specifies the arguments (identified by d-structure relation) that will be assigned a semantic role.

	<u>Verb Class</u>	<u>Configuration</u>	<u>Semantic Role Assigned to:</u>
(A)	[+T] [+d-obj]:	NP V NP	both d-obj and d-subj
(B)	[+T] [-d-obj]:	NP V	only d-subj
(C)	[-T] [+d-obj]:	___ V NP	only d-obj
(D)	[-T] [-d-obj]:	___ V	none assigned

Only three of the four verb classes in the table have been commonly recognized. Class (A) corresponds to the traditional transitive class. Class (C) appears to correspond to the traditional intransitive class. Class (D) verbs are verbs with no arguments such as the weather verbs *rain* or *snow*.

Evidence for the existence of Class (B) will be presented. The existence of this class is not acknowledged in traditional descriptions of verbs as transitive or intransitive. In the transitive-intransitive classification, the difference between the two classes concerns whether their members require a noun phrase complement. The feature [-T] which is necessary for characterizing Class (B) is not recognized. This may reflect an implicit assumption that the presence of a noun phrase complement depends on the presence of a noun phrase subject that is assigned a semantic role. That is, in the two-way classification, the features [T] and [d-obj] cannot be dissociated.

The four-way classification suggests that the ability of a verb to assign a semantic role to the subject is in general independent of the verb's ability to take complements. As the examples (1.8) and (1.9) demonstrate, verbs that take sentential complements may assign a semantic role to their subject, as with the verb *expect*, or they may not, as with the verb *seem*. The d-structure configuration of these verbs is represented schematically below, where the "\_\_\_" represents a subject position which is not assigned a semantic role.

- (1.10) a. \_\_\_ V S
- b. NP V S

As (1.10) makes explicit that a verb's ability to assign a semantic role to its subject is

independent of its ability to take a sentential complement (leaving aside the question of how semantic roles are assigned to semantic complements). Burzio suggests that this independence should hold for complements of any type; that is, there is no reason to suppose that sentential complements are privileged in this respect.

In particular, Burzio argues that this independence should extend to verbs with nominal complements. That is, there should be [+d-obj] verbs which assign a semantic role to their subject (i.e. are [+T]) as in (1.11a) and [+d-obj] verbs which do not (i.e. are [-T]) as represented in (1.11b).

- (1.11) a.  $\_ V NP$   
b.  $NP V NP$

In terms of the feature [T], the verb types in (1.11a) and (1.11b) correspond respectively to the verb types with sentential complements (1.10a) and (1.10b). The verb type in (1.11b) is what has been typically called a transitive verb. But, the existence of verbs of type (1.11a), also predicted to exist, is not immediately obvious. Yet, the non-existence of such verbs would leave an unexplained gap in the verb typology predicted by the features [T] and [d-obj] and supported by the existence of comparable verbs with sentential complements.

Burzio suggests that a class of [+d-obj][-T] verbs exists and argues that this class is in fact a class of verbs first recognized by Perlmutter [1978]. Perlmutter observes that the so-called class of intransitive verbs is not a homogeneous class, but includes two classes of verbs. He proposes that these two classes differ in that the apparent subject of verbs in one class, the unergative class, is an underlying subject and that the apparent subject of verbs in the other class, the unaccusative class, is an underlying object.<sup>12</sup> This proposal is the essence of what is known as the Unaccusative Hypothesis in the Relational Grammar framework.

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12. The unaccusative and unergative class are referred to, respectively, as the ergative and intransitive class by Burzio. To avoid confusion because of the existence of other uses of the terms "ergative" and "intransitive", I have adopted Perlmutter's names rather than Burzio's. Burzio chooses the term "ergative" to refer to such verbs because their "subject" shows the properties of the object of a transitive verb. For some discussion of the appropriateness of this use of the term "ergative" in light of the Ergativity Hypothesis see Chapter 7.

Burzio goes beyond Perlmutter in suggesting that the feature [T], which is independently necessary to explain the behavior of verbs with sentential complements, plays a part in the characterization of the unaccusative verbs. Not only do these verbs take a noun phrase complement (that is, assign a semantic role), but they also do not allow the verb phrase to assign a semantic role to their subject. In other words, these verbs are the class of [+d-obj][-T] verbs predicted to exist above.

Both Burzio and Perlmutter present evidence for distinguishing the unaccusative and unergative classes. Without repeating the specific arguments, I will briefly sketch the form such arguments take. The starting point is the observation that the "surface" subjects of certain intransitive verbs consistently behave like the d-subjects of transitive verbs with respect to certain syntactic properties, while the "surface" subjects of other intransitive verbs share syntactic properties with the d-objects of transitive verbs. This suggests that the "surface" subject of some intransitive verbs are d-objects while the subject of other intransitive verbs are d-subject. The existence of verb classes such as the unergative and unaccusative verb classes would account for the observed properties.<sup>13</sup>

To summarize, there are two features which are relevant to the semantic role assignment properties of verbs. These are the features [T] (whether the verb phrase headed by the verb assigns a semantic role to its d-subj) and [d-obj] (whether the verb assigns a semantic role, and, therefore, has a d-obj). These features together can be used to define four verb classes. The classes, their characterization in terms of the features, and the arguments assigned semantic roles in each class (identified by their d-structure relation) are laid out below.<sup>14</sup>

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13. Evidence for recognizing these two classes has been presented from a number of typologically different languages, including Albanian [Hubbard 1979], Dutch [Perlmutter 1978], English [Burzio 1981, Keyser and Roeper 1983], Georgian [Harris 1981, 1982], Italian [Burzio 1981, Rosen 1981, 1982], Russian [Neidle 1982, Pesetsky 1982], and Turkish [Ozgaragoz 1980, Perlmutter 1978]; especially striking is the evidence presented by Burzio for Italian.

14. I will be ignoring the existence of the fourth class, since it has no noun phrases to which semantic roles can be assigned.

<u>Verb Class</u>	<u>Features</u>	<u>D-structure Relations</u>
Transitive:	[ + T ] [ + d-obj ]	both d-obj and d-subj
Unergative:	[ + T ] [ -d-obj ]	only d-subj
Unaccusative:	[ -T ] [ + d-obj ]	only d-obj
No-argument:	[ -T ] [ -d-obj ]	no d-obj or d-subj

Due to the nature of the verb classification, the unaccusative and unergative verbs are both like and unlike transitive verbs. The unergative and unaccusative verbs each share one feature with transitive verbs: the unergative verbs share the feature [ + T ] and the unaccusative verbs the feature [ + d-obj ]. They each differ from transitive verbs in one feature: the unergative verbs in the feature [ -d-obj ] and the unaccusative verbs in the feature [ - T ]. Any properties either class has in common with the transitive class may be attributed to the shared feature. The unaccusative and unergative verbs, though, have no features in common. Therefore, they do not form a natural class at d-structure.

Both unaccusative and unergative verbs are single argument verbs, verbs that participate in the assignment of a semantic role to only one argument. With unaccusative verbs, the argument will be assigned its semantic role directly by the verb; it will bear the d-object relation to the verb. In contrast, unergative verbs do not assign a semantic role directly. Rather, the semantic role is assigned to the argument compositionally by the predicate formed from the verb; the argument will bear the d-subject relation to the verb.

Following the arguments presented by Burzio and Perlmutter, the four-way d-structure classification replace the transitive-intransitive classification. This system of classification still includes one class corresponding to the traditional transitive class. But, in this classification the class of transitive verbs is not opposed to a single class of "intransitive" verbs. The traditional intransitive class has been replaced by two distinct classes of verbs. The appearance of a single class of "intransitive" verbs results because unaccusative verbs, as well as unergative verbs, may have a subject at s-structure as a consequence of independent principles as will be discussed in Section 1.2.4.

### 1.2.3 The Mapping Between D-structure and S-structure

The GB framework incorporates a theory of the mapping between the d-structure and s-structure representation of a sentence. A somewhat different account of the mapping is presented by Marantz. As the Ergativity Hypothesis concerns only the assignment of semantic roles to d-structure grammatical relations, the same correspondences between d-structure and s-structure will be expected in both ergative and accusative languages. What



will be relevant to the discussion of the Ergativity Hypothesis is simply what correspondences are permitted between the two levels of representation. The arguments for the correspondences do not matter to the Ergativity Hypothesis. The arguments presented for accusative languages should carry over to ergative languages. Therefore, the possible mappings of d-structure to s-structure will be presented, with only a few comments on their derivation. Identifying these correspondences will be important for predicting the s-structure relations associated with arguments bearing semantic roles to verbs in ergative and accusative languages.

In providing a description of the mapping of d-structure to s-structure, each of the d-structure verb classes must be considered individually. The GB framework predicts that an argument bearing a d-structure grammatical relation to a verb of a particular type will bear a specific grammatical relation to the verb at s-structure. The relations are determined by the rule Move NP, an instantiation of the general rule Move Alpha, together with a principle known as the Projection Principle. The Projection Principle imposes certain constraints on the mapping ensuring that it is recoverable. Essentially, it requires a one-to-one correspondence between the levels, which it maintains if necessary through the use of empty elements known as traces. It is trace theory that allows the rule of Move NP to apply, resulting in some arguments bearing different relations at d-structure and s-structure. The details of this relation are not relevant to the discussion here.

The possibilities for the d-structure/s-structure mapping are given below.<sup>15</sup>

Transitive verb:	d-subject	-->	s-subject
	d-object	-->	s-object
Unergative verb:	d-subject	-->	s-subject
Unaccusative verb:	d-object	-->	s-object
Unaccusative verb:	d-object	-->	s-subject

Note that there is one allowable mapping for transitive and unergative verbs but two

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15. Although there are two possible s-structure relations that the d-object of an unaccusative verbs can bear, the d-subject of an unergative verb must be an s-subject. It cannot be an s-object since this would necessitate the application of the rule Move NP and the result would violate a condition on well-formedness (the trace of the s-object would not be properly bound).

permissible mappings for unaccusative verbs. One of these two mappings for unaccusative verbs, "d-object --> s-object", is typically not observed as a consequence of the Theory of Case, as will be discussed in the next section.

Assuming that only one of the unaccusative verb mappings is actually found, then the three d-structure verb classes map onto only two s-structure verb classes. The d-structure transitive verbs will also have a s-object and an s-subject. The unergative and unaccusative verbs will both be verbs that have only a s-subject at s-structure. This class corresponds to the traditional intransitive class, and I will refer to it by this name. The s-structure classification of verbs is a two-way classification that corresponds to the traditional transitive/intransitive classification. The d-structure verb classes and corresponding s-structure verb classes are given below:

<u>D-structure</u>	<u>S-structure</u>
Transitive	Transitive
Unergative	Intransitive
Unaccusative	Intransitive

Note that the unergative and unaccusative distinction is lost at s-structure.

#### 1.2.4 S-structure and the Theory of Case

Another subsystem of grammar that needs to be introduced is the Theory of Case, the subsystem of grammar that "deals with the assignment of abstract Case and its morphological realization" [Chomsky 1981, p.6]. The central idea in the theory of Case is that at s-structure all lexical noun phrases (noun phrases with phonological content) must be assigned case to be well-formed, as stated by a principle known as the Case Filter:

The Case Filter: "\*NP if NP has phonetic content and has no case."  
[Chomsky 1981, p.49]

The nature of the Case Filter has been the source of much discussion. It is generally considered to follow from the Theta Criterion, on the assumption that case is a necessary prerequisite for semantic role assignment.<sup>16</sup>

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16. See Stowell [1981], Chomsky [1981] for some discussion.

The type of case assignment that the Theory of Case is concerned with is referred to as "abstract" case assignment. The assignment of "abstract" case to a noun phrase can be considered an indication that the syntactic expression of a noun phrase will receive case. The actual realization of the case, morphological case, depends on language-specific properties. The relation between "abstract" case and morphological case needs to be investigated further. As will be discussed in Section 3.1.1, one issue that needs to be explored further is the nature of ergative case marking systems.

Within the Theory of Case, certain categories are considered to be case assigners while others are unable to assign case.<sup>17</sup> In particular, verbs and prepositions can assign case while nouns and adjectives cannot assign case. This means that, since verbs and prepositions are also semantic role assigners, they are potentially able to assign case to a noun phrase that they assign a semantic role to. But these two properties do not need to be linked, as will be discussed. Nouns and adjectives that assign semantic roles to an argument can never assign case to this argument. In order for an argument to be assigned its semantic role by a noun or adjective to meet the Case Filter, a syntactic case assigner is necessary. A syntactic case assigner would be an element, usually a preposition or case marker, that assigns case but does not assign a semantic role. For example, the preposition *of* that is inserted before the objects of adjectives and nouns in English is a syntactic case assigner.

Among the assumptions of the Theory of Case are two assumptions concerning the assignment of case to noun phrases bearing a s-structure grammatical relation to the verb. A verb may assign a case to its s-object, while the s-subject of a finite sentence is assigned case by INFL (inflection). The Case Filter itself was first motivated by the observation that lexical noun phrases could not appear as the s-subject of infinitives unless there was an independent case assigner (such as the preposition *for* or a matrix verb) [Chomsky 1980]. This fact suggested that a lexical noun phrase is not possible as the s-subject of a non-finite clause because it is unable to receive case. The failure of case assignment to the s-subject was attributed to the non-finite character of the clause.

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17. For a detailed discussion see Stowell [1981].

The forms of case assignment discussed so far are known as structural case assignment: the case is assigned to an argument bearing a particular s-structure relation to the verb and is independent of the semantic role of the argument. A second type of case is referred to as semantic case. This involves a preposition or case marker that assign both a semantic role to the noun phrase as well as case. Instances of prepositions that are both semantic role assigners and syntactic case assigners will be opposed to prepositions assigning case but no role, the syntactic case assigners.

The traditional transitive-intransitive classification is motivated because superficially all single argument verbs appear to have only an argument bearing the s-subject relation. That is, the unaccusative and unergative verbs seem to map onto a single class of verbs at s-structure, the intransitive class. How can this observation be reconciled with the fact that there is evidence for a class of unaccusative verbs, verbs taking a d-object? As stated, in the previous section, the argument bearing the d-object relation to an unaccusative verb may bear either the s-subject or s-object relation, but in most languages these verbs appear only to allow the argument to bear the s-subject relation. How is the other possibility ruled out?

Burzio notes that the argument of an unaccusative verb does not show the case assigned to the s-object of a transitive verb but rather the case assigned to the s-subject of a transitive verb. He proposes that there is a principle that prevents a [-T] verb from assigning case to its s-object. Given this principle, if the d-object were a s-object the Case Filter would be violated since no case would be assigned to the s-object. Therefore, the possibility would be ruled out by the Case Filter. But, if the d-object were an s-subject, the Case Filter would not be violated since the s-subject receives its case from INFL. Burzio introduces the feature [A] to represent a verb's ability or inability to assign case to an object.<sup>18</sup> The principle he proposes can be stated simply as in (1.12).

(1.12) [-T] --> [-A]

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18. The feature [A] stands for accusative case, the case that a verb assigns to its s-object in languages with accusative case marking. As Burzio points out the name unaccusative is particularly appropriate given that these verbs do not assign accusative case to their object.

It is this principle that forces unaccusative verbs to have a s-subject.<sup>19</sup> The existence of such a principle might be attributed to a requirement that all verbs have subjects at s-structure.<sup>20</sup>

Another assumption about case assignment concerns the passive construction. The passive construction is a construction where an affix with the feature [-T] is attached to a transitive verb (and in some languages to an unergative verb). The passive affix essentially creates a verb that is an unaccusative from a transitive verb. Therefore, the d-object of a passive verb will be an s-subject. Passivization is a purely syntactic process and has no effect on the verb's ability to assign a semantic role to the d-object. Both an active and a passive form of a verb will assign the same semantic role to the d-object. Since the d-object of a passive verb is a s-subject and the d-object of an active verb is a s-object, the s-subject of a passive construction and the s-object of the corresponding active construction will be assigned the same semantic role. This is precisely the property observed to characterize a passive construction.

Burzio goes further and proposes that the principle in (1.13) holds as well as the principle in (1.12).

(1.13) [-A] --> [-T]

The argument for this proposal is as follows: if the d-object of a [-A] verb is a s-object, then the verb will be unable to assign case to it so that a Case Filter violation will result. To avoid the Case Filter violation, the d-object could become a s-subject so that it will be assigned case by INFL. But, this possibility is open only to [-T] verbs. Therefore, the principle [-A] --> [-T] follows. Given the two principles Burzio proposes the generalization in (1.14), referred to as

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19. Actually, this principle does not prevent an unaccusative verb from having an s-object if there is a way that it can be assigned case. In most languages, such as English, this option is not available, so unaccusative verbs cannot have s-objects. But, Burzio argues that this is possible in Italian. Unaccusative verbs in Italian may have s-objects because they may be assigned case indirectly by being bound to an empty noun phrase in subject position which is assigned case. Even in this exceptional situation, an unaccusative verb still cannot assign case to its s-object; instead, case is assigned to the empty s-subject. Burzio, therefore, can maintain his generalization in the broadest form.

20. This principle appears to hold in many languages, although in Chapter 6 Basque will be proposed as an example of a language where this principle is violated. Pesetsky [1981] also notes some counter-examples in Russian.

Burzio's Generalization.<sup>21</sup>

(1.14) [-T] <-> [-A]

This generalization appears to hold in a number of languages, as Burzio discusses.

A real problem for Burzio's Generalization, in particular for the implication [-A] --> [-T], is posed by the anti-passive construction, as will be discussed in Section 3.3.2. In arguing for this implication, Burzio assumes that the only way the d-object can get case with a [-A] verb is if the d-object becomes a s-subject. In fact, there is an alternative way to avoid the Case Filter violation that prompted this assumption: it might be possible to introduce a syntactic case assigner. Then the argument bearing the d-object relation can be assigned case by being the object of this case assigner at s-structure. If such a case assigner were available then a [-A] verb could be [+T]. This option is realized in languages with anti-passive constructions. But, few languages have this construction suggesting that in the absence of positive evidence for the existence of such a syntactic case assigner, the implication [-A] --> [-T] is assumed to hold.

The characterization of the passive affix in English has been as an affix associated with the feature [-A], with the feature [-T], also associated with the English passive construction, following as a result of the implication [-A] --> [-T]. Such a characterization of the passive affix is possible in languages where the implication holds. I will assume that at least the feature [-T] must characterize the passive construction in any language, even if in some languages this feature is derived from the feature [-A] through the implication [-A] --> [-T]. In

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21. Marantz also introduces a third feature which could be considered his counterpart to Burzio's feature [A] and a principle that might be considered a counterpart to Burzio's Generalization. The feature is the feature [trans] which indicates whether or not a verb has an object at s-structure. Marantz uses this feature to distinguish transitive verbs from unergative and unaccusative verbs. Transitive verbs will be [+trans], while unergative and unaccusative verbs will be [-trans]. Marantz suggests that in general this feature is predictable: a verb is [-trans] if it is [-T] or [-d-obj] (is [-predSR] or takes no logical object, in his terms). It is this principle which will prevent unaccusative verbs from having an s-object in Marantz's framework. Although both Burzio's feature [A] and Marantz's feature [trans] are used to account for this property, they are not the same feature because the principle Marantz uses to predict this feature is different from the one Burzio proposes. In particular, unergative verbs will be [+A] but [-trans]. Marantz and Burzio have made different choices about the properties of unergative verbs. Marantz's feature [trans] deserves further study since his system of lexical features differs from Burzio's with respect to this feature. In Burzio's system, not only is there no equivalent feature, but there is no provision for grouping unergative and unaccusative verbs together as a natural class through the use of a lexical feature.

general, the fact that the feature [-A] is associated with passive verb will be a consequence of the generalization [-T] --> [-A], the implication that is needed independently for unaccusative verbs. Also, the implication [-T] --. [-A] may hold even in a language with an anti-passive affix, although such languages would violate the implication [-A] --> [-T].

### 1.3 Semantic Roles and Verb Classes

Implicit in the Ergativity Hypothesis is the assumption that semantic roles, specifically the agent and patient roles, play a part in the description of a sentence. The basis for this assumption is the observation that in any language, arguments to different verbs bearing the same semantic role usually show the same possibilities for syntactic expression. Yet, a precise characterization of the semantic roles agent and patient has proved elusive, although there have been numerous attempts at giving definitions of these and other semantic roles.<sup>22</sup> In fact, to account for this difficulty, Marantz suggests that terms such as agent and patient actually refer to classes of semantic roles.

A better understanding of the scope of the notions agent and patient will only follow from an examination of the verbs considered to take arguments with these roles rather than through any attempt at giving general definitions of the roles agent and patient. Since semantic roles name relations of arguments to verbs, they cannot be characterized without reference to verbs themselves. The identification of members of the verb classes whose arguments are assigned particular roles is also important as a prerequisite for verifying the predictions that follow from the Ergativity Hypothesis. These predictions concern properties of verbs requiring particular argument structures; examples of verbs of each type must be identified.

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22. Extensive discussion of the question of an appropriate set of semantic roles and the related question of the characterization of the argument structure of particular verbs is found in the literature on Case Grammar, which was first proposed by Fillmore [1968] and developed in a series of papers including [Fillmore 1971, 1977] and Stockwell et al. [1973]. A somewhat different approach to a system of semantic roles motivated by verbs of motion is Gruber's system of thematic relations [1967], extended by Jackendoff [1972, 1976]; see also Celce-Murcia [1972]. Some other approaches include Anderson [1971, 1977], Carter [1976], Ostler [1980], and Starosta [1980]. A survey of some of these approaches is found in Bruce [1975]. Despite differences in the set of semantic roles recognized, the roles agent and patient, or analogous roles, are commonly proposed. There is less agreement concerning what other roles there are. Some commonly proposed roles are the instrumental role, the goal role, the source role, the location role.

Consider first the agent-patient verbs, verbs whose argument structure includes both the agent and patient roles. Such verbs typically denote an action with two participants in which the participant with the agent role acts on the second participant, the participant with the patient role producing some sort of effect on the patient. Many types of effects are possible; for example, the effect may involve damage or injury or change of state (physical or emotional) or location. The property essential to the characterization of these verbs is the existence of a causal relation holding between the two arguments. Some of the semantically coherent subclasses of the agent-patient verbs are listed below:

Verbs of Affect: *hit, stab, crush, ...*

Verbs of Contact: *slap, poke, kick, ...*

Verbs of Causing Change of Position: *put, place, lift, push, carry, ...*

Verbs of Transfer: *give, take, bring, send, sell, ...*

Verbs of Causing Change of State: *break, open, close, dry, whiten, freeze, ...*

Verbs of Ingesting: *eat, gobble, drink, sip, ...*

Verbs of ingesting are verbs that describe the consumption of food and drink, but this class could be extended to include verbs of "mental" ingesting: *learn, study*. Another set of verbs that might be included with the agent-patient verbs are verbs of creation: *bake, make, draw*. These verbs are usually expressed as the prototypical agent-patient verbs are expressed, although there is no patient in the sense of an affected entity, only an object created by the action. But, these verbs do share a notion of causal relation with the other agent-patient verbs.

Besides the agent-patient verbs, two other types of verbs have argument structures that include the agent or patient roles. These are (1) verbs whose argument structure includes the agent role but not the patient role and (2) verbs whose argument structure includes the patient role but not the agent role. These two verb classes will be referred to as agent (single argument) verbs and patient (single argument) verbs, respectively.<sup>23</sup> Three types of verbs, then will have argument structures involving the agent and patient roles.<sup>24</sup>

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23. These verbs will be referred to as agent (or patient) single argument verbs in the sense that they are verbs whose argument structure includes only the agent (or patient) role but not both the agent and the patient roles.

24. Verbs in any of these classes may have additional arguments bearing semantic roles other than agent or patient. I will ignore the possible presence in argument structures of semantic roles other than the agent and patient roles since only these roles are relevant to the Ergativity Hypothesis.



<u>Verb Type</u>	<u>Arguments</u>
agent-patient	agent, patient
agent	agent
patient	patient

Below I will identify some of the core semantic classes of verbs found among the agent verbs and the patient verbs.

The agent verbs are primarily activity verbs; the arguments to these verbs bear the agent role. Among the subclasses of the agent verbs are:

Verbs of Communication: *talk, reply, mutter, whisper, ...*  
Verbs of Sounds Made by Animals: *bark, chirp, neigh, ...*  
Verbs of Bodily Processes: *cough, snore, sniff, cry, ...*  
Verbs of Gestures and Signs: *wave, shrug, stamp, smile, ...*  
Verbs of Performance: *sing, dance, play, ...*

The patient verbs are primarily verbs describing states and locations and changes of state and location. These verbs usually take a non-agentive argument, an argument bearing the patient (or theme)<sup>25</sup> role. Some subclasses of the patient verbs include:

Verbs of Change of State: *break, die, flower, redden, ...*  
Verbs of Existence and Occurrence: *happen, exist, occur, ...*  
Verbs of Change of Position: *come, go, ascend, fall, ...*  
Verbs of Appearance and Disappearance: *appear, vanish, emerge, arise, ...*

Verbs of motion are difficult to characterize. The single argument of these verbs seems to be both a patient (theme) and an agent. Languages appear to vary as to whether they choose to group these verbs with the agent verbs or the patient verbs. Some languages allow both possibilities. Usually, the tendency is to group verbs describing change of position (for example, *come, go, rise, enter*) with the patient verbs and to group verbs describing manner of motion (such as *dance, run, skip*) with agent verbs.<sup>26</sup>

I have identified those verbs for which a characterization of the argument structure in terms of the agent and patient roles is meaningful. There is a core set of verbs for which the notions agent and patient clearly describe the semantic roles of the arguments. It is the existence of such a core class showing cross-linguistic regularities in the expression of its

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25. The term "theme" introduced by Gruber [1967] has been used to refer to the role of an entity that undergoes motion, contrasting with the term "patient" which has been used to refer to the role of the entity that changes states or is affected by the action. My use of the term "patient" will encompass both.

26. See L. Levin [in prep.] for some more discussion of this issue.

arguments that motivates the use of these semantic notions. The Ergativity Hypothesis is a hypothesis about the nature of the regularities in the expression of arguments with the semantic roles agent and patient.

Although many verbs have one of the argument structures that will fall under the Ergativity Hypothesis, not all verbs have arguments whose roles can be clearly characterized as either the agent or patient role. Such verbs tend to show cross-linguistic variation in the expression of their arguments. Even these verbs seem to show a limited set of possibilities suggesting that other principles may be involved; the nature of such principles will not be discussed. Some of these verbs do appear to express their arguments in the same way as arguments with the agent or patient role are expressed, but I will not attempt to broaden the definition of these roles. Some verb classes that are problematic include verbs denoting psychological and physiological experience, involuntary perception, desire, achievement, and expectation. This list should provide a further indirect way of characterizing the core set of verbs whose behavior clearly comes under the Ergativity Hypothesis.

#### 1.4 Overview

This dissertation is divided into two parts. The first part, consisting of Chapters 2 and 3, provides an introduction to the Ergativity Hypothesis and a characterization of ergative languages. In the second part, the status of three languages that have been said to be ergative will be examined in light of this hypothesis.

The Ergativity Hypothesis will be presented in Chapter 2. First, Marantz's motivation for proposing this hypothesis will be reviewed. Next, the scope of the hypothesis will be investigated, and some implications for the d-structure verb classes in ergative and accusative languages will be discussed. To conclude the chapter, the some problems for the hypothesis will be considered.

Chapter 3 surveys properties of ergative languages that follow from the interaction of the Ergativity Hypothesis with the principles of the GB Theory. An account of properties traditionally associated with ergative languages will be given. The phenomena that will be explored include semantic composition and lexical properties, case assignment, the passive and anti-passive constructions, reflexive verb forms, reflexive anaphors, and control constructions. Evidence bearing on the properties expected in ergative languages will be presented where available. The use of the properties as diagnostics for the status of a

language will be mentioned when appropriate.

A case study of the Australian language Warlpiri is presented in Chapter 4. Warlpiri is described as a "morphologically" ergative language with an ergative system of nominal case marking and an accusative system of person marking in the auxiliary. Warlpiri will be shown to be an accusative language in the sense of the Ergativity Hypothesis with an ergative case marking system. The crucial evidence comes from the distribution of reflexive anaphors and controlled arguments. Then, the case arrays of Warlpiri verbs will be reexamined to determine the grammatical relations of the arguments.

Chapter 5 investigates the status of a second Australian language, Dyirbal, which Marantz argues is an ergative language in the sense of the Ergativity Hypothesis. This language has been considered the canonical example of a "syntactically" ergative language, as well as an example of a language with a "split-ergative" system of case marking. The reasons for this characterization of Dyirbal will be sketched. Evidence that Dyirbal is ergative in the sense of the Ergativity Hypothesis will be given, leading to a reassessment of the syntax of Dyirbal. Besides demonstrating support for the Ergativity Hypothesis, the analysis of Dyirbal is intended to provide a picture of an ergative language.

The third language, Basque, discussed in Chapter 6, is described as a language with both an ergative system of case marking and verb/auxiliary agreement. Evidence will be presented that Basque is accusative in the sense of the Ergativity Hypothesis. But, Basque's system of case marking will turn out to fit neither the ergative nor the accusative pattern. An alternative analysis of the system of case marking will be proposed which has implications for the GB framework.

## 2. The Ergativity Hypothesis

Marantz introduces his hypothesis concerning the nature of ergativity, the Ergativity Hypothesis, in the context of the theory of semantic role assignment. Marantz's motivation for formulating the Ergativity Hypothesis, a desire to account for regularities in the expression of the arguments of agent-patient verbs, is discussed in Section 2.1. Then, the Ergativity Hypothesis will be extended to include the agent and patient verbs in Section 2.2. Finally, Section 2.3 will consider exceptions to the Ergativity Hypothesis.

### 2.1 Agent-Patient Verbs: the Motivation for the Ergativity Hypothesis

Marantz introduces the Ergativity Hypothesis as an answer to the question, if the verb or verb phrase is capable of assigning a semantic role, then what are is the role assigned? For example, if a verb is [+d-obj], then that verb will assign a semantic role to a noun phrase. The verb must assign one of the roles in its argument structure, but which one? Similarly, if a verb is [+T], then the verb phrase headed by this verb will assign a role. Again, the question is which role in the argument structure will it assign?

Consider, for example, the verb *chop*. This verb has two arguments, which bear the semantic roles of agent and patient. The agent argument refers to the performer of the action, and the patient argument refers to the entity affected by the action. The sentence below shows that both the noun phrases bearing the subject and object relations to the verb are assigned semantic roles.

(2.1) The cook chopped the mushrooms.

Therefore, the verb's lexical entry must contain the features [+T] and [+d-obj]. Knowing that the verb and the verb phrase assign roles is not enough. It is also necessary to know what role each assigns in order to interpret a sentence. But for verbs whose argument structures include more than one role, as with the verb *chop*, then which of the roles does the verb assign and which does the verb phrase assign? In the example above it is the verb which assigns the patient role and the verb phrase which assigns the agent role, rather than the other way around. Is this assignment of roles a property of *chop* or is it a property of a larger class of verbs?

The question may be restated: are the semantic roles assigned by the verb or the verb phrase an idiosyncratic property of each verb or are more general principles involved? The answer to this question will have important implications. If the assignment depends on the verb, it will have to be specified in the lexical entry of each verb. But, if general principles are involved, then it will not be necessary to include the assignment in the verb's lexical entry. If these principles are part of the grammar of a language or of Universal Grammar, the assignment can simply be predicted from these principles. This would allow the simplification of lexical entries, and therefore, a reduction in the properties of a new lexical item that have to be learned. If such principles exist, then further questions arise: are these principles language-specific or universal? Do they apply to all argument structures or only to some?

It has frequently been noted that in so-called accusative languages like English, Italian, or Russian, d-subject noun phrases are assigned the agent role and d-object noun phrases are assigned the patient role in sentences with agent-patient verbs. Sentences from English with representative agent-patient verbs are given below to illustrate this observation.

- (2.2) a. The child broke the toy.  
b. The mouse ate the cheese.  
c. The girl brought the book.

In each sentence, the subject noun phrase is understood to refer to the performer of the action, while the object noun phrase is understood to refer to the entity affected by the action. That is the subject is assigned the agent role and the object the patient role. The same sentences are repeated in (2.3) in Italian and in (2.4) in Russian.

- (2.3) a. Il bambino ha rotto il giocattolo.  
b. Il topo ha mangiato il formaggio.  
c. La ragazza ha portato il libro.

- (2.4) a. Rebenok slomal igrushku.  
b. Mysh el syr.  
c. Devushka necla knigu.

Once again, the subject noun phrase is associated with the agent role and the object noun phrase with the patient role.

This regularity suggests the existence of a generalization concerning the actual roles assigned by the verb and the verb phrase with agent-patient verbs. The agent-patient verbs are transitive verbs, verbs that allow their subject and object to be assigned semantic roles. The d-subject is assigned its role by the verb phrase headed by the verb. Since this role was observed above to be the agent role, the verb phrase must assign the agent role. The

d-object is assigned the patient role, and, since the d-object is assigned its role by the verb, the verb must assign the patient role. The generalization concerning the assigners of the agent and patient roles is stated below:

- (A') The verb assigns the patient role  
The verb phrase assigns the agent role

From this generalization follows the assignment of semantic roles to noun phrases bearing grammatical relations to a verb that were observed above:

- (A) The d-object is assigned the patient role  
The d-subject is assigned the agent role

The existence of a generalization for agent-patient verbs in so-called accusative languages poses a question: is a generalization involving this class of verbs also found in other languages? The existence of such a generalization in so-called ergative languages may not be obvious. Even though it might not be clear how to define grammatical relations in these languages, it appears that such generalizations do exist in so-called ergative languages. This is evident from an examination of the surface expression of the noun phrases bearing the agent and patient roles in sentences with agent-patient verbs. In a given language, the noun phrase assigned the agent role in such sentences consistently shows the same surface expression independent of the choice of verb. The form that the surface expression takes is language-dependent, but whatever it is, the agent noun phrase always has the same surface case, occurs in the same surface structure position, or triggers the same form of verb agreement. Similarly, the noun phrase bearing the patient role consistently shows the same surface expression. Examples are given below to illustrate this from Basque in (2.5) and Dyirbal in (2.6).

- (2.5) a. Mirenek atea ireki du.  
Miren-NORK door-NOR open 3sNOR-UKAN-3sNORK  
Miren opened the door.

- b. Jonek leihoa garbitu du.  
Jon-NORK window-NOR clean 3sNOR-UKAN-3sNORK  
Jon washed the window.

- c. Jonek sagarra jaten du.  
Jon-NORK apple-NOR eat 3sNOR-UKAN-3sNORK  
Jon ate an apple.

- (2.6) a. palan jukumpil pangkul yarangku palkan  
THERE-ABS woman-ABS THERE-ERG man-ERG hit-NFUT  
man is hitting woman [Dixon 1972, 26]

b. payi            parrkan    pangkul    yarangku jurrkanyu  
THERE-ABS wallaby-ABS THERE-ERG man-ERG spear-NFUT  
man is spearing wallaby [Dixon 1972, 64]

c. palam            wuju        pangkul    yarangku jangkanyu  
THERE-ABS fruit-ABS THERE-ERG man-ERG eat-NFUT  
man eats fruit [Dixon 1972, 219]

In Basque, the agent argument is marked consistently with the NORK case and the patient argument is marked consistently with the NOR case. In Dyirbai, the agent and patient arguments are always marked for the ERG and ABS cases, respectively.

No matter what grammatical relations are borne by the noun phrases assigned the agent and patient roles, the consistent identification of noun phrases assigned each of these roles with particular forms of surface expression suggests that the roles are not randomly assigned. Generalizations concerning the assignment of the agent and patient roles clearly do exist even in so-called ergative languages. The formulation of these generalizations, though, depends on the ability to identify the grammatical relation borne by these noun phrases.

An open question is whether all languages show the generalization proposed above for accusative languages. In particular, is the same generalization found in accusative and so-called ergative languages? The Ergativity Hypothesis is proposed by Marantz as an answer to this question. Marantz bases the Ergativity Hypothesis on the assumption that the grammar of every language will need to incorporate generalizations about semantic role assignment. This assumption receives support from the discussion of agent-patient verbs in various languages.

Marantz points out that there is no constraint in the theory of semantic role assignment that forces all languages to show a common generalization. In particular, there is no reason for all languages to use generalization (A). That is, the verb phrase should not have to assign the agent role in every language, nor should the verb have to assign the patient role. No constraint prevents a language from assigning roles in the opposite way: in some languages, the verb phrase should be able to assign the patient role and the verb the agent role. That is Marantz proposes a second generalization, stated below:

(E')    The verb assigns the agent role  
          The verb phrase assigns the patient role

This will result in the following assignment of semantic roles to the noun phrases bearing

grammatical relations to the verb:

- (E) The d-object is assigned the agent role  
The d-subject is assigned the patient role

Any generalizations concerning semantic role assignment should lead to assignments that will meet the Theta Criterion. This criterion was formulated as a well-formedness condition on the assignment of semantic roles in a sentence. It ensures that the assignment of semantic roles is such that every noun phrase is assigned one and only one semantic role and that every role in the argument structure is assigned to one and only one noun phrase. Either generalization will be sufficient to ensure this condition is met, since both associate distinct semantic roles with distinct d-structure relations.

To summarize, Marantz assumes that the grammar of all languages must include a generalization concerning the assignment of semantic roles. Furthermore, he proposes that all languages do not share a single generalization. Instead, two generalizations are available to languages. They are repeated here:

- (A) The d-object is assigned the agent role  
The d-subject is assigned the patient role
- (E) The d-object is assigned the patient role  
The d-subject is assigned the agent role

Every language will incorporate one of the two generalizations, although languages will differ in the generalizations they choose.

The availability of two generalizations gives rise to two types of languages: languages incorporating generalization (A) and languages incorporating generalization (E). Languages using the first generalization include the accusative languages mentioned above, English, Italian, and Russian. In fact, only generalization (A) has been commonly recognized, although a weaker form of generalization (E) has been proposed for Basque by deRijk [1966] and for Dyirbal by Mel'chuk [1979] and Dixon [1972].<sup>27</sup> Marantz presents evidence that there are

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27. DeRijk makes a proposal similar to Marantz's in spirit to account for ergative case marking and agreement in Basque. Dixon and Mel'chuk also make a similar proposal to account for certain syntactic phenomena in Dyirbal. See Section 5.3 for a discussion of Mel'chuk's and Dixon's proposals. These proposals have been made in frameworks that use a transitive/intransitive verb classification. Therefore, the generalization is applied only to transitive verbs while here it will be extended to all verbs.



languages incorporating generalization (E). Among these languages, he identifies the Australian language Dyirbal and some of the Western dialects of Eskimo (Yup'ik and Central Arctic). Marantz's evidence together with additional evidence will be presented throughout the dissertation.

The existence of the two generalizations, therefore, introduces an option available to all languages. Marantz proposes that the grammar of a language will register the choice of generalization in that language, (A) or (E) through the value of one of the parameters that characterize a language.<sup>28</sup> Marantz then suggests that ergative and accusative languages differ precisely in the value of this parameter. Marantz names this parameter the "ergative parameter", represented by the feature [+/- erg]. A language which is [+erg], an ergative language, is identified as a language that incorporates generalization (E). A [-erg] language, an accusative language, is defined as a language that incorporates generalization (A). The hypothesis that these generalizations characterize accusative and ergative languages is the Ergativity Hypothesis.

Marantz's Ergativity Hypothesis, then, makes several claims. First, it assumes that languages contain generalizations concerning the assignment of the agent and patient roles. Second, it proposes that not all languages incorporate the same generalization. Instead, a parameter, the ergative parameter, is introduced, which specifies a choice between two possible generalizations concerning the assignment of two roles by two role assigners. Finally, this hypothesis makes a claim about the nature of ergativity by proposing that ergative and accusative languages differ in the value of this parameter. Ergative and accusative languages are characterized by the generalizations they adopt:

The Ergativity Hypothesis

<u>(A): Accusative</u>	<u>(E): Ergative</u>
agent - subject	agent - object
patient - object	patient - subject

The Ergativity Hypothesis, therefore, ties the phenomenon of ergativity to the generalizations

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28. Within the GB framework, the same set of principles of grammar are assumed to hold in all languages, with differences between languages reducible to parametric variation. The particular value of each parameter will be a language-specific property. Differences in the value of a single parameter will have complex repercussions because of the interactions of the different principles. See Chomsky [1981] for discussion.

concerning semantic role assignment.

The languages identified as ergative by the Ergativity Hypothesis turn out to include only some of the languages that have been typically labelled ergative. Although languages have commonly been called ergative on the basis of ergative case marking or verb agreement, neither of these phenomena provides sufficient evidence for ergativity in the sense of the Ergativity Hypothesis, as will be demonstrated in Section 3.1.1. Therefore, many languages that have been called ergative are not ergative in the sense of the Ergativity Hypothesis.

The formulation of a specific hypothesis about the nature of ergativity allows properties of ergative languages to be predicted. Furthermore, the Ergativity Hypothesis receives support if there is evidence that these predictions are met. Marantz shows that in fact some phenomena held to be characteristic of ergative languages follow from the Ergativity Hypothesis. He also demonstrates that several other properties of agent-patient verbs predicted by the Ergativity Hypothesis are indeed observed. Properties of ergative languages, including those presented by Marantz, will be discussed in Chapter 3. Case studies of three languages that are said to be ergative, Dyirbal, Basque, and Warlpiri, will be presented in Chapters 4-6.

Marantz points out that most work on ergativity has shown that differences between "ergative" and accusative languages exist, but these differences were never shown to follow from a single property distinguishing the two language types. In contrast, Marantz's approach is to make a specific claim about the nature of this difference. If the Ergativity Hypothesis is an appropriate definition of ergativity, then so-called ergative phenomena should follow from the difference it identifies.

Implicit in the Ergativity Hypothesis is the claim that ergativity does not concern syntax; it involves the assignment of semantic roles to arguments of the verb. The difference that the Ergativity Hypothesis identifies between ergative and accusative languages concerns the setting of one of the parameters available to all languages, a parameter that reflects the choice of semantic role assignment. Phenomena that characterize ergative languages are a consequence of this difference. Both ergative and accusative languages should have the same syntax since this parameter does not affect syntax. This claim will be used in formulating properties of ergative languages. Support that the predicted properties hold will be support for the Ergativity Hypothesis.

## 2.2 Defining the Scope of the Ergativity Hypothesis

The Ergativity Hypothesis was proposed by Marantz on the basis of the behavior of the agent-patient verbs, verbs that have arguments bearing both the agent and patient roles. Although the Ergativity Hypothesis was motivated by these verbs, it would be desirable if the Ergativity Hypothesis, as a hypothesis concerning the assignment of agent and patient semantic roles, would be expected to apply to any verb whose argument structure contained the agent and patient semantic roles. Then, the same assignments of agent and patient to d-structure relations should hold for any verb whose argument structure contains the agent or patient roles.

This section will argue that the scope of the Ergativity Hypothesis, which was left vague in the previous section, should be able in principle to extend to any instance of the agent and patient role.<sup>29</sup> There are several advantages to this interpretation of the Ergativity Hypothesis. It obviates the need to place additional restrictions on the Ergativity Hypothesis concerning semantic class, as well as the need to formulate an additional rule for agent verbs and patient verbs.

Before continuing, there is one more issue that must be addressed: the conditions that allow the Ergativity Hypothesis to apply in the first place. This question is not discussed by Marantz, but it must be considered. The Ergativity Hypothesis specifies associations between semantic roles and d-structure grammatical relations. The associations specify what semantic role will be assigned by the verb and the verb phrase. But, in order for the

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29. It is not clear what semantic verb classes Marantz intends the Ergativity Hypothesis to be applicable to. He formulates the hypothesis on the basis of agent-patient verbs. When he first formulates the Ergativity Hypothesis, he points out that the generalization for accusative languages suggests the existence of two types of single argument verbs and notes that Perlmutter and Burzio have provided evidence for these classes [p. 57]. Yet, in the section where he presents evidence for the Ergativity Hypothesis, Marantz states:

"a language may choose between the generalizations in (152) [for accusative languages - BL] and those in (153) [for ergative languages - BL] for verbs which are associated both with an agent and with a theme or patient."

[Marantz p.234]

This suggests that he considers the Ergativity Hypothesis only in relation to agent-patient verbs. Certainly, Marantz does not consider the application of the Ergativity Hypothesis to other verb classes systematically.

assignment to take place, the verb must have the appropriate role assigning properties. That is, the Ergativity Hypothesis specifies the particular assignments that characterize accusative and ergative languages but does not guarantee that the conditions for the assignment are met. One approach to ensuring that the appropriate preconditions hold will be presented below. This approach will argue for the broad interpretation of the Ergativity Hypothesis.

Consider the problem with respect to agent-patient verbs. The Ergativity Hypothesis specifies how the semantic roles agent and patient are assigned in sentences with agent-patient verbs. In particular, it specifies which role is assigned by the verb and which by the verb phrase. This assignment presupposes that agent-patient verbs are transitive, i.e. [+T][+d-obj]. Only such verbs may assign semantic roles to a d-subject and a d-object, the properties necessary for allowing the Ergativity Hypothesis to apply.

How much evidence is there that agent-patient verbs are always transitive? It has frequently been observed that agent-patient verbs seem to invariably be transitive verbs, that is belong to the two-argument class, across languages. In fact, agent-patient verbs appear to be the core member of the two argument class in any language. Furthermore, the regularities in the expression of the agent and patient arguments prompted the Ergativity Hypothesis. It appears that the following generalization holds: an agent-patient verb will belong to the transitive class, i.e. it will have the features [+T][+d-obj]. If transitive verbs satisfy this generalization, then the Ergativity Hypothesis will always apply to these verbs.

Given that there is empirical evidence for this generalization, what is its nature? Is it simply an independent principle stated in the grammar of all languages? Or does this generalization follow from some other principles? The approach that will be taken here is to consider that this generalization is derivative, and to assume that there is a requirement that a verb take on the d-structure properties that are compatible with the semantic role assignment requirements of the Ergativity Hypothesis. That is, verbs should have in their lexical entry the features that ensure the semantic role assignment specified by the Ergativity Hypothesis. Thus, if a verb takes an agent and patient argument, it must be [+T][+d-obj] so that these roles will be assigned. This requirement might follow from the Theta Criterion on the assumption that in the absence of a specified semantic role assigner, the only way these roles could be assigned was as specified by the Ergativity Hypothesis. Then, if the verb did not have the appropriate features, the roles in the argument structure could not be properly assigned. The semantic role assignment would violate the Theta Criterion.

If verbs should have d-structure features compatible with their argument structure, then the Ergativity Hypothesis would be expected to apply to all verbs with an agent or patient argument. That is, the broad interpretation of the Ergativity Hypothesis would be expected. This will lead to predictions concerning the d-structure verb class that would be associated with agent and patient verbs in ergative and accusative languages. As will be discussed, evidence in favor of this wide interpretation of the Ergativity Hypothesis has already been presented from accusative languages. This evidence suggests that the same interpretation of the Ergativity Hypothesis should be possible in ergative languages.

The generalization for accusative languages, (A), states that the verb assigns the patient role and the verb phrase the agent role. This generalization, therefore, determines the d-structure configurations of agent verbs and patient verbs, on the assumption that the Ergativity Hypothesis must be able to apply to any instances of the agent and patient roles in a verb's argument structure. Therefore, the verb's lexical entry must contain the features appropriate to the d-structure.

Consider the effect of the generalization: if the argument structure includes the patient role, then this role must be assigned by the verb. The verb will require a d-object which can be assigned this role. Otherwise, the Theta Criterion will be violated. So a verb whose argument structure includes the patient role must be [+d-obj]. Similarly, a verb whose argument structure includes the agent role must be [+T] since the agent role is assigned by the verb phrase. The feature [+T] indicates that the verb phrase the verb heads assigns a semantic role to its d-subj.

There are three types of verbs with agent and patient arguments. The agent-patient verbs have already been discussed. They have both an agent and patient role to assign, so these verbs must be [+T], [+d-obj] verbs. They will have semantic roles assigned to both their d-subject and d-obj. Now, consider the agent verbs. These verbs must at least have the feature [+T] in order that the agent role will be assigned. What about the feature [+/-d-obj]? Assuming that there are no other arguments, the verb must also be [-d-obj]. An agent verb will be [+T], [-d-obj]. Patient verbs must be [+d-obj] verbs. But, they will be [-T] assuming there is no other argument. The agent and patient verbs map respectively to [+T], [-d-obj] and [-T], [-d-obj]. These are the features defining the unergative and unaccusative classes.

Given this interpretation of the Ergativity Hypothesis, verbs with a particular argument structure would be predicted to belong to particular d-structure verb classes. The following correlations are expected in accusative languages, the languages characterized by generalization (A), on this approach:

Accusative Languages

<u>Semantic Class</u>	<u>Associations</u>	<u>D-structure Class</u>
Agent-Patient	agt - subj, pat - obj	subj - obj = Transitive
Agent only	agt - subj	subj only = Unergative
Patient only	pat - obj	obj only = Unaccusative

The expectations are that the unaccusative verb class should include patient verbs and the unergative class agent verbs. It is possible that there will be some exceptions but in general these expectations would be expected to be met.

The predicted correlations of semantic and d-structure class have in fact been observed by Perlmutter [1978] in some accusative languages. Perlmutter notices that the unergative verb class consists primarily of activity verbs while the unaccusative verb class includes verbs that have a patient (or theme) as their only argument. The existence of these particular generalizations argues for the wide interpretation of the Ergativity Hypothesis, i.e. that the hypothesis applies to all verbs with agent and patient arguments.

The existence of such correlations is also further evidence for the existence of specific assignments of semantic roles with d-structure relations of the type incorporated in the Ergativity Hypothesis. Perlmutter points out that these observed correlations indicate a similarity between the semantic role associated with the single argument of an unergative verb and the role associated with the d-subject of a transitive verb as well as a similarity between the role of the single argument of an unaccusative verb and the d-object of a transitive verb. The similarity in roles noted may be attributed to common d-structure relations given the syntactic definition of the two classes. If arguments bearing a particular

role are assigned to a particular d-structure relation to the verb.<sup>30</sup> In particular, the agent role is always associated with the d-subject relation and the patient role with the d-object relation in the accusative languages discussed by Burzio and Perlmutter.

The Ergativity Hypothesis requires three distinct d-structure verb classes for the three semantic verb classes rather than the two configurations of the transitive-intransitive classification. They are: d-subject only, d-object only, and both d-subject and d-object. The transitive configuration, which has both a d-subject and a d-object, is still found and still paired with agent-patient verbs. But, for the Ergativity Hypothesis to apply, agent and patient single argument verbs will be associated with distinct classes rather than with a single intransitive class. The difference in semantic class is reflected in the difference in d-structure class.

The Ergativity Hypothesis should apply to the same verb classes in ergative and accusative languages. In accusative languages, it appears that for any verbs that include the agent and patient roles in their argument structure, i.e. agent and patient verbs as well as agent-patient verbs, the assignment of the semantic roles agent and patient conforms with Generalization (A) for accusative languages. That is, Generalization (E), the assignments that characterize an ergative language, should enter into the assignment of any instances of the semantic roles agent and patient found in argument structures in ergative languages.

The consequences of applying the Ergativity Hypothesis to agent and patient verbs in ergative languages needs to be explored. This issue is not explored in Marantz's discussion of ergativity. Only its application to agent-patient verbs is discussed. Assume that ergative languages allow semantic role assignment to be consistent with the Ergativity Hypothesis

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30. The ability to account for semantic generalizations given the unaccusative/unergative distinction is taken as additional motivation for the distinction, supplementing the syntactic evidence. A single intransitive class could not account for this generalization concerning argument structures. In fact, one interpretation of the Unaccusative Hypothesis that Perlmutter suggests is that syntactic configuration might be chosen purely on the basis of semantics. Rosen [1982] questions Perlmutter's Unaccusative Hypothesis in this "strong" form. She notes that there seem to be exceptions and cross-linguistic variation, as will be discussed in Section 2.3. Still, even Rosen does not deny the existence of tendencies. In contrast, Burzio sees the existence of the unaccusative class as a way of avoiding explicit generalizations concerning the semantic roles associated with d-structure grammatical relations. This view is impossible if ergative and accusative languages differ in the way characterized by the Ergativity Hypothesis.

wherever applicable. Given the association of semantic roles and grammatical relations that the Ergativity Hypothesis proposes for ergative languages, what predictions follow from this association concerning the pairing of d-structure verb classes with the semantic verb classes?

Consider first, agent verbs. The Ergativity Hypothesis will require that the verb assign the agent role. Therefore, agent verbs must be [+ d-obj]. Assuming that this is the only role then the verb will also be [-T] since it does not assign a semantic role to its d-subj. Agent verbs will be [+ d-obj], [-T] verbs in ergative languages, that is unaccusative verbs.

Consider next patient verbs. In an ergative language, the patient role is assigned by the verb phrase. Therefore, the verb must be [+ T]. Assuming that this is the only role, then the verb will also be [- d-obj]. The verb will not assign a semantic role since there is no other role to assign. Patient verbs will be [- d-obj], [+ T] verbs, or unergative verbs, in ergative languages.

Applying the association that characterizes ergative languages to the semantic verb classes involving the agent and patient roles predicts that the associations of d-structure class to semantic class shown below should be found.

Ergative Languages

<u>Semantic Class</u>	<u>Associations</u>	<u>D-structure Class</u>
Agent-patient	agt - obj, pat - subj	subj, obj -> transitive
Agent only	agt - obj	obj only -> unaccusative
Patient only	pat - subj	subj only -> unergative

The most striking observation from the table above is that the set of d-structure verb classes already identified in accusative languages should be found in ergative languages. Therefore, all languages would be expected to have the same d-structure verb classes. The existence of the same verb classes in ergative languages is plausible since the features giving rise to them have no relation to the ergativity of a language. The Ergativity Hypothesis implicitly claims that the same sets of grammatical relations and semantic roles are available to ergative and accusative languages by using them in both generalizations, (A) and (E). This would be expected to give rise to the same sets of semantic and d-structure verb classes since these classes are defined in terms of the relations available.



Consider now the d-structure verb classes that verbs with particular argument structures are expected to map into in ergative and accusative languages. Agent-patient verbs are paired with transitive verbs as they were in accusative languages. In contrast, the predicted association of agent and patient single argument verbs with unaccusative and unergative verbs is the reverse of that in an accusative language. To allow comparison, the predictions for accusative and ergative languages are shown together below:

<u>Semantic Class</u>	<u>Ergative language</u>	<u>Accusative language</u>
Agent-patient	Transitive	Transitive
Agent only	Unaccusative	Unergative
Patient only	Unergative	Unaccusative

The agent verbs will be unaccusative verbs in ergative languages rather than unergative verbs as in accusative languages. The patient verbs will be unergative verbs in ergative languages and unaccusative verbs in accusative languages. The argument structure of the associated core class of unergative and unaccusative verbs varies with the ergativity of a language.

Evidence has been presented from accusative languages both for the existence of the unergative and unaccusative class and for the predicted correlations between argument structures and d-structure verb classes. The question is whether there is evidence from ergative languages for the existence of unergative and unaccusative verb classes, and for the predicted associations of argument structures with the two verb classes. The existence of such evidence would provide further support for the Ergativity Hypothesis.

Evidence for the existence of the distinct d-structure verb classes that are paired with the two classes of agent and patient single argument verbs in accusative languages has come from the differences in behavior which the two classes show with respect to several phenomena. The Ergativity Hypothesis will lead to predictions concerning the same phenomena if they are found in ergative languages. A number of specific predictions about the properties of the agent and patient single argument classes in an ergative language will follow because of the correlations of semantic role and d-structure relation; these will be discussed throughout Chapter 3. Unfortunately, it is difficult to find evidence that bears on these predictions due to the rarity of ergative languages, and the scarcity of the data available. The only indication that ergative languages might make the unergative/unaccusative distinction is some evidence in the Australian language Yidiny. Therefore, it is difficult to assess whether the prediction concerning the associations of semantic verb classes with unaccusative and unergative verbs in ergative languages hold.

Lack of evidence concerning the unergative/unaccusative verb predictions in a language where there is independent evidence for ergativity will not necessarily refute the Ergativity Hypothesis. It is not clear that unaccusative verbs are found in all languages. Instead, some languages may only have unergative verbs. Marantz proposes that in Sanskrit all single argument verbs are unergative verbs since in Sanskrit all single argument verbs have impersonal passives, a property of unergative verbs and not of unaccusative verbs.

In such languages, there appears to be another principle that applies to single argument verbs which supersedes the Ergativity Hypothesis. This principle requires that all single argument verbs (the agent and the patient verbs) have a d-subject independent of the semantic role assigned to it. In such languages, the d-structure relation of the single argument will not reflect its semantic role. This principle might follow from a requirement that verbs have a d-subject, a subject at d-structure. In such languages, the predictions concerning unergative and unaccusative verbs will not be applicable.

### 2.3 Exceptions to the Ergativity Hypothesis

The Ergativity Hypothesis states correspondences between semantic roles and d-structure relations. An important question is whether these correspondences actually do hold invariably, since if they do not the hypothesis as it stands may be weakened. Correspondences do exist; they prompted the formulation of the hypothesis, but in accusative languages at least they do not seem to be exceptionless. There are deviations from the Ergativity Hypothesis in individual accusative languages, but the deviations are not random. Therefore, they do not seem to warrant rejecting the hypothesis. In fact, they favor the existence of some sort of generalization of the type incorporated in the Ergativity Hypothesis. Although they might suggest an alternative generalization, I will sketch why these deviations could be accounted for without weakening the original hypothesis. I will not develop this account since the purpose of this section will be to examine the nature of the exceptions to show that they do not argue against the Ergativity Hypothesis, and to consider what type of exceptions might be expected in ergative languages.

The question of exceptions is best approached by comparing the observed d-structure verb class paired with a semantic verb class with the expected d-structure verb class rather than by considering the observed and expected semantic role/d-structure relation pair directly. Particular semantic class/d-structure configuration correspondences are predicted

by the Ergativity Hypothesis, so any instances where the predictions fail will reflect deviations from the Ergativity Hypothesis. In the discussion that follows I will be looking only at accusative languages where these issues have been more thoroughly studied.

There will be three semantic verb classes to consider, agent verbs, patient verbs, and agent-patient verbs, and three d-structure verb configurations they may be paired with: transitive, unergative, and unaccusative. The expected pairings are given below:

<u>Semantic Verb Class</u>	<u>Accusative Language</u>	<u>Ergative Language</u>
Agt-pat	Transitive	Transitive
Agt	Unergative	Unaccusative
Pat	Unaccusative	Unergative

The existence of these verb classes has been established, but the expected pairs need to be compared with the actually occurring pairs to determine the nature of any exceptions.

Of the three semantic classes, agent-patient verbs provide the strongest support for the Ergativity Hypothesis. It has frequently been observed that agent-patient verbs are always among the transitive verbs of a language and that most transitive verbs are agent-patient verbs across languages. The Ergativity Hypothesis predicts that agent-patient verbs should be transitive verbs in both accusative and ergative languages, consistent with observed facts. The Ergativity Hypothesis goes beyond the observation that agent-patient verbs are transitive in hypothesizing a particular set of relations between semantic and syntactic roles. There is no evidence from accusative languages that the associations of the Ergativity Hypothesis do not hold for agent-patient verbs.

Questions about whether the Ergativity Hypothesis is really exceptionless arise when agent and patient single argument verbs are considered. Marantz proposes the Ergativity Hypothesis primarily to deal with agent-patient verbs, whose behavior in accusative languages, at least, is clear. There is no reason why the Ergativity Hypothesis should not apply to agent and patient single argument verbs as well, since this would allow the same principles to apply whenever an argument structure contained an argument with the role of agent or patient. But although the existence of the unergative and unaccusative class has been established by Burzio [1981], the extent to which a d-structure class can be identified

with a particular semantic class remains to be established.<sup>31</sup>

In the Relational Grammar literature, this question has been raised in discussions of Perlmutter's Unaccusative Hypothesis [1978], Relational Grammar's analogue to the part of Marantz's Ergativity Hypothesis which concerns accusative languages. Perlmutter proposes that it would be desirable to maintain that the Unaccusative Hypothesis is universal and exceptionless (the strong form), but suggests weaker versions as well. Other work in Relational Grammar has questioned whether the strong form of the Unaccusative Hypothesis can be maintained citing evidence concerning agent and patient single argument verbs.<sup>32</sup>

One problem for both the Ergativity Hypothesis and the Unaccusative Hypothesis is the existence of particular verbs that are unergative in one language but unaccusative in a second language. Rosen [1982] gives a number of examples of such verbs drawn primarily from accusative languages:<sup>33</sup>

<u>Verb</u>	<u>Unaccusative</u>	<u>Unergative</u>
<i>bleed</i>	Turkish	Italian
<i>talk in a delirium</i>	Turkish	Italian
<i>arrive</i>	Italian	Albanian
<i>stay</i>	Italian	Albanian
<i>sweat</i>	Choctaw	Italian
<i>die</i>	Italian	Choctaw

A survey of Rosen's examples shows that these verbs belong to the patient single argument class.<sup>34</sup> This suggests that exceptional behavior of this type is limited to patient single argument verbs, but does not extend to agent single argument verbs. Patient single argument verbs may be unaccusative as predicted but need not be. Agent verbs do not have the option of being unaccusative; they must be unergative as predicted.

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31. Having argued for the existence of unaccusative and unergative verb classes, Burzio suggests that they will obviate the need to refer to the semantic roles agent and patient. This is not possible, given the Ergativity Hypothesis.

32. See, for example, Rosen [1982].

33. There are also some examples from American Indian languages with active-inactive case marking which I assume to be accusative languages.

34. Among Rosen's examples there is one exception to this generalization, the verb *sneeze* which uses the object set of verb agreement markers in Eastern Pomo. This could be a genuine exception, or it may be that it refers to sneezing as an involuntary action. Generally, verbs of bodily function like *sneeze*, *cough*, *snore* are members of the agent class, probably because the sneeze, cough, snore, etc. are considered a possible patient argument.

A second problem for the two hypotheses is posed by verbs that occur as either unaccusative or unergative verbs in a given language. This behavior seems to be restricted to verbs of motion. Rosen [1982] gives several examples, *slip/slide*, *get bumped*, *fall*, and Pesetsky gives the verb *float/swim* in Russian as an example of such a verb. The argument to these verbs bears the patient role; it is the entity that undergoes the motion. This argument is the theme, in the sense of Gruber's definition [1967]. Often these verbs are paired with an agent-patient verb, in which an agent induces movement in a patient; both members of the pair describe the same type of motion. The existence of such pairs supports the assignment of the role patient/theme to the argument of the single argument verb.

Sometimes the argument to a verb of motion appears to be an agent, especially when the entity undergoing the motion is animate,<sup>35</sup> since animate entities are capable of self-induced or intentional action. The unergative use of a verb of motion in some languages differs from the unaccusative use in attributing intent to the argument of the verb. Even if under certain circumstances the argument may be considered to bear the agent role, the argument of a verb of motion is also always a theme/patient since this is the semantic role of an entity in motion. Assuming that verbs of motion are fundamentally patient single argument verbs, but may be considered to be agent single argument verbs in some circumstances, then their behavior would be consistent with the generalization above that the exceptional behavior is restricted to patient single argument verbs.

The problems for the Ergativity Hypothesis seem to fall into two classes: (1) verbs which are unaccusative in some languages and unergative in other languages, and (2) verbs which may be either unergative or unaccusative in the same language. The problematic examples are restricted to single argument verbs. In fact, the examples of the second type are limited to a specific subclass, verbs of motion. None of the examples involve verbs that must be agent single argument verbs. They only involve patient single argument verbs.<sup>36</sup> The exceptions reveal an asymmetry: there are unergative verbs which are patient verbs, no unaccusative

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35. This possibility led Gruber to assign both the agent and theme role to animate entities undergoing movement.

36. It seems to be language-specific what exceptions are actually found, although there seem to be some cross-linguistic tendencies concerning the ease with which particular subclasses show exceptional behavior. For example, verbs of appearance seem to always show unaccusative behavior while verbs of motion seem to show both unaccusative and unergative verb behavior.

verbs that are agent verbs. The fact that the exceptions involve only some instances of the patient/d-obj relation, limited to verbs of a particular semantic class, suggests that in fact the Ergativity Hypothesis cannot simply be rejected although it might be revised.

One way to account for this asymmetry is to revise the Ergativity Hypothesis by adopting Pesetsky's suggestion that the two rules relating agent to d-subject and patient to d-object should be replaced by a single rule [1981]:<sup>37</sup>

If an argument of a predicate is agentive, then it receives its theta role from the maximal projection of that predicate. [Pesetsky 1981, p.21]

This rule is equivalent to retaining the agent association and eliminating the patient association. Pesetsky proposes this rule to account for the fact that certain Russian verbs are both unergative and unaccusative. Although Pesetsky's rule forces agent verbs to be unergative, it imposes no constraints on how the semantic role patient is assigned. This allows patient single argument verbs to be either unergative or unaccusative.

Although this approach handles the facts concerning the agent role, I question whether the rule relating the patient role to the d-object relation can be eliminated. Without the patient rule, there is no explanation for the fact that it is usually noun phrases bearing the patient role that are associated with the d-object rather than noun phrases bearing other semantic roles, even if both are part of the verb's argument structure. Patients in accusative languages are usually not expressed by means of oblique case noun phrases or prepositional phrases, while arguments bearing other roles are. Even when a verb's argument structure does not include a patient, the other arguments are usually not expressed as the patient would have been. Some language-specific exceptions exist, but even those are limited to at most a small semantically defined class (for example, the goal with verbs like *give*). It seems that the patient association is necessary in accusative languages and should not be eliminated making Pesetsky's proposal untenable.

Another approach is to focus on the question of the obligatoriness of the associations: the agent association appears to be obligatory while the patient association is optional. Therefore, agents are never associated with the d-object although patients, contrary to

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37. Pesetsky proposes two rules which are equivalent to the Ergativity Hypothesis for accusative languages and then suggests they should be replaced with the rule cited here.

expectation, may be associated with the d-subject relation. Simply marking the rules according to their obligatoriness is unacceptable; it complicates the Ergativity Hypothesis without accounting for the difference. A desirable solution would be one that attributed the difference in applicability to independent principles, allowing the Ergativity Hypothesis to specify the associations alone without imposing any constraints on their applicability.

Such a solution might be possible: the asymmetry is in fact reminiscent of another asymmetry, and the solution to the latter might be extended to the former. The semantic role assignment asymmetry is similar to an asymmetry in the possible correspondences between d-subject and d-object and s-subject and s-object presented in Section 1.2.3. This asymmetry is attributed within the GB framework to the rule Move Alpha. Extending the rule Move Alpha to the lexicon, as proposed in Keyser and Roeper [1983] may provide a solution to the semantic role assignment asymmetry.

The similar character of the two asymmetries is brought out by examining the correspondences between d-structure and s-structure relations. Consider again the possibilities, first presented in Section 1.2.3.

Transitive verb:	d-subject	-->	s-subject
	d-object	-->	s-object
Unergative verb:	d-subject	-->	s-subject
Unaccusative verb:	d-object	-->	s-object
Unaccusative verb:	d-object	-->	s-subject

There is one possibility that was not permitted. The d-subject of an unergative verb could not be the s-object as a consequence of constraints on the rule Move Alpha. Compare these possibilities to the semantic role/d-structure possibilities observed:

Agent-patient verb:	agent	-->	d-subject
	patient	-->	d-object
Agent verb:	agent	-->	d-subject
Patient verb:	patient	-->	d-object
Patient verb:	patient	-->	d-subject

The possibility that is not observed is the agent argument of an agent verb as a d-object of an unaccusative verb.

The possible correspondences between d-structure relations and s-structure relations are exactly the same as the ones just described between semantic roles and d-structure relations, if the following equivalences are made:

<u>Sem Role/D-str</u>	<u>D-str/S-str</u>
agent	d-subj
patient	d-obj
d-subj	s-subj
d-obj	s-obj

This similar distribution of properties suggests the possibility that the account proposed for the d-structure/s-structure correspondences within the GB framework could be carried over to explain the semantic role/d-structure correspondences. Just as the mapping from d-structure to s-structure is mediated by Move Alpha so will the mapping from the lexical representation to d-structure be mediated by this rule.

Keyser and Roeper [1983] have argued independently for the existence of such a rule to account for the difference in behavior of ergative verbs<sup>38</sup> and middle verbs in English. Accepting Keyser and Roeper's proposal that Move Alpha applies in the lexicon, it will be possible to develop an account of the asymmetry if the use of the rule Move Alpha is possible with patient verbs but not with agent verbs. This solution will assume that there is a constraint on the possible application of Move Alpha in the lexicon that is the same as that observed between d-structure and s-structure. The nature of such a constraint would have to be determined. The constraint may concern the notions of predicate internal and external arguments in the sense of Williams [1980], capturing the observation that predicate internal argument can be made predicate external, but the reverse is not possible.

In accusative languages, it was observed that patient single argument verbs may exceptionally be unergative verbs although agent verbs may not be unaccusative verbs. Assuming that a solution such as the use of Move Alpha in the lexicon is possible, the exceptional behavior can be attributed to a property of the d-object and d-subject relations. The exceptional behavior of the patient single argument verb class will be due not to the semantic role of the argument to the verb, but to the fact that the patient semantic role is associated with the d-object relation in accusative languages. If this exceptionality is not a

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38. They use the term "ergative" verb to refer to the anti-causative member of the causative/anti-causative alternation. See Section 3.3.2 for discussion of this alternation.



property of the patient role but a property of the d-object relation, then it is possible to predict that in ergative languages it will be the agent single argument verbs that should show exceptional behavior. There may be agent single argument verbs that are unergative as well as unaccusative, but there should only be unergative patient single argument verbs.

### 3. Properties of Ergative Languages

This chapter will consider a number of properties that are predicted to hold of ergative languages as a consequence of the Ergativity Hypothesis within the GB framework.<sup>1</sup> While this chapter is not intended as an exhaustive survey of such properties, it will cover a variety of phenomena, including case marking, properties of semantic composition and lexical properties, the passive and anti-passive constructions, control constructions, and reflexive constructions (both with reflexive verb forms and reflexive anaphors). Where possible, evidence bearing on the predictions will be presented from representative ergative languages. Throughout the chapter, I will point out the account of phenomena traditionally associated with so-called ergative languages that ensues given the Ergativity Hypothesis.

In discussing some phenomena, certain differences between ergative and accusative languages will be identified. These differences will provide a basis for tests to determine the status of a language. A number of tests of this kind will be formulated in this chapter. They will be exploited in the case studies of the three languages that are said to be ergative presented in Chapters 4-6.

#### 3.1 Predictions Concerning Case Marking

To begin, this section will examine the systems of morphological case observed in ergative and accusative languages in light of the Ergativity Hypothesis. Then, several predictions concerning case assignment in ergative and accusative languages that follow from the Ergativity Hypothesis will be presented. These predictions involve expressions of goals, expressions of duration, the Adjacency Condition on case assignment [Stowell 1981],

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1. A number of the phenomena that will be discussed in this chapter were first considered by Marantz, with illustrative examples from Dyirbal and some Eskimo languages. These phenomena will be explicitly indicated when they are introduced. They include case marking, the passive and anti-passive constructions, and the passive-reflexive ambiguity. Only one phenomenon that Marantz discusses will not be examined in this chapter, the double object alternation. This alternation is discussed in the Appendix to Chapter 5.

and the genitive of negation.<sup>2</sup> -

Since case marking is assigned at s-structure, the s-structure verb class associated with each of the semantic verb classes must first be presented. In addition, the s-structure relation that each of the arguments to verbs in these classes will bear must be determined. In the previous chapter, the predicted associations of d-structure verb classes with semantic verb classes were presented. The s-structure verb classes associated with each semantic verb class can be predicted simply from these given the mapping from d-structure verb classes to s-structure verb classes presented in Section 2.2. The same mapping between levels would be expected to apply in both ergative and accusative languages because according to the Ergativity Hypothesis the difference between accusative and ergative languages simply concerns the d-structure/semantic role associations.

The d-structure/s-structure verb class associations, and the correspondences between d-structure and s-structure relations presented in Section 1.2.3 are repeated below:

<u>D-structure</u> <u>Verb Class</u>	<u>D-structure</u> <u>Relation</u>	<u>S-structure</u> <u>Relation</u>	<u>S-structure</u> <u>Verb Class</u>
Transitive	d-subject d-object	s-subject s-object	Transitive
Unergative Unaccusative	d-subject d-object	s-subject s-subject	Intransitive Intransitive

Combining them with the semantic verb class/d-structure verb class associations, leads to the following predictions:

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2. Two other predictions involving case marking that will not be developed concern *there* insertion and *of* insertion. The phenomenon of *there* insertion is found with a limited class of verbs in accusative languages, a subset of the patient verbs, the verbs of existence and appearance. This observation has been attributed to the fact that these verbs are unaccusative. *There* insertion is considered to provide a way for the d-object of an unaccusative verb to be an s-object while satisfying the Case Filter (see Burzio [1981]). Therefore, this phenomenon should be observed of unaccusative verbs in ergative languages. But, in ergative languages the unaccusative verbs are agent verbs, so this phenomenon if found will have a different distribution than in accusative languages.

A second prediction concerns the existence of a phenomenon comparable to *of* insertion. The preposition *of* is used as a syntactic case assigner after nouns and adjectives in English in order to avoid a Case Filter violation (see Section 1.2.4). A similar preposition or case marker would be expected after nouns or adjectives in ergative languages as well. In addition, with nominalized verb forms, the syntactic case assigner marks the d-object of the verb. With agent-patient verbs, in English, this is the patient argument, but in an ergative language, it should be the agent argument.

- Accusative Languages

<u>Verb</u>	<u>Semantic</u>	<u>D-str</u>	<u>S-str</u>
<u>Verb</u>	<u>Role</u>	<u>Relation</u>	<u>Relation</u>
Agt-pat	agt	d-subj	s-subj
	pat	d-obj	s-obj
Agt	agt	d-subj	s-subj
Pat	pat	d-obj	s-subj

Ergative Languages

<u>Verb</u>	<u>Semantic</u>	<u>D-str</u>	<u>S-str</u>
<u>Type</u>	<u>Role</u>	<u>Relation</u>	<u>Relation</u>
Agt-pat	agt	d-obj	s-obj
	pat	d-subj	s-subj
Agt	agt	d-obj	s-subj
Pat	pat	d-subj	s-subj

As these tables show, agent-patient verbs will be transitive verbs at s-structure in both ergative and accusative languages, while agent verbs and patient verbs will be intransitive verbs in both ergative and accusative languages. The s-structure relation of the agent argument and patient argument of agent-patient verb will differ in ergative and accusative languages, as the tables show. The single argument of agent verbs and patient verbs will be the s-subject in ergative and accusative languages.

### 3.1.1 Case Systems in Ergative and Accusative Languages

Among the properties of ergative languages that must be considered are the morphological case marking systems shown by these languages. In this section, the systems of case observed in these languages will be described. Their relation to the notion of abstract case will be touched on. An investigation of the interaction of case marking systems available to languages with the Ergativity Hypothesis is relevant in several respects, as Marantz points out. First, since the traditional notion of ergativity is defined in terms of case marking, an investigation of case assignment in the framework of the Ergativity Hypothesis might reveal how ergativity in the sense of this hypothesis is related to the traditional notion of ergativity. Second, a discussion of case marking systems is necessary for understanding that case marking is not a sufficient clue to ergativity and for preventing misidentification of ergative languages.

To begin, the interaction of case assignment and the Ergativity Hypothesis will be reviewed, drawing on the discussion in Marantz [p.234-6]. Marantz identifies two types of case marking systems, called Type A and Type B, both defined on the notions of s-structure

subject and object (s-subject and s-obj). These systems are set out below:

<u>Verb</u> <u>Type</u>	<u>S-Structure</u> <u>Relation</u>	<u>Type A or</u> <u>Accusative</u> <u>System</u>	<u>Type B or</u> <u>Ergative</u> <u>System</u>
Transitive:	s-subject s-object	UNMARKED (nom) MARKED (acc)	MARKED (erg) UNMARKED (abs)
Intransitive:	s-subject	UNMARKED (nom)	UNMARKED (abs)

Marantz identifies two cases, which I will refer to as the MARKED and UNMARKED cases.<sup>3</sup> The UNMARKED case is the case of the s-subject of an intransitive verb. The MARKED case is the name given to the case of the s-subject or s-obj of a transitive verb, whichever receives a distinct case from the s-subject of the non-transitive verb. The UNMARKED case is often phonologically null, while the MARKED case is not. Marantz's Type A pattern of case marking corresponds to the traditional definition of a nominative-accusative case system and his Type B pattern of case marking to an ergative-absolutive case system. I will refer to these case marking systems as ergative and accusative. When referring to ergative case systems, the term absolutive will be used to refer to the UNMARKED case and the term ergative will be used to refer to the MARKED case. When referring to accusative case systems, the terms nominative and accusative will be used to refer to the UNMARKED and MARKED cases, respectively.

Marantz takes advantage of the fact that case marking is assigned at s-structure to assume that the two systems of case marking are available to both ergative and accusative languages. This seems to be a reasonable assumption as ergativity in the sense of the Ergativity Hypothesis is defined by semantic role/d-structure relation correspondences and does not affect s-structures. Both ergative and accusative languages have the same s-structure relations, so they would be expected to show the same case marking possibilities.

Ergative and accusative languages should each be able to show accusative and ergative case systems, giving rise to four possible language types:

- Accusative languages with accusative case marking
- Accusative languages with ergative case marking
- Ergative languages with accusative case marking
- Ergative languages with ergative case marking

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3. Marantz actually uses the terms nominative and accusative to refer to what I call the UNMARKED and MARKED cases, respectively, since he uses these terms in this sense. This should help to clarify the discussion of case systems.

Consider first the possibilities for accusative languages. The table below shows for each semantic verb class, the semantic roles of the arguments, their corresponding d-structure relations (as determined by the Ergativity Hypothesis), s-structure relations (assuming the d-object of an unaccusative verb is an s-subject), and finally the case assigned in both types of case marking systems.<sup>4</sup>

Accusative Language

<u>Verb Type</u>	<u>Semantic Role</u>	<u>D-str Relation</u>	<u>S-str Relation</u>	<u>Accusative System</u>	<u>Ergative System</u>
Agt-pat	agt	d-subject	s-subject	UNMARKED(nom)	MARKED(erg)
	pat	d-object	s-object	MARKED(acc)	UNMARKED(abs)
Agt	agt	d-subject	s-subject	UNMARKED(nom)	UNMARKED(abs)
Pat	pat	d-object	s-subject	UNMARKED(nom)	UNMARKED(abs)

Below is a similar table for ergative languages:

Ergative Language

<u>Verb Type</u>	<u>Semantic Role</u>	<u>D-str Relation</u>	<u>S-str Relation</u>	<u>Accusative System</u>	<u>Ergative System</u>
Agt-pat	agt	d-object	s-object	MARKED(acc)	UNMARKED(abs)
	pat	d-subject	s-subject	UNMARKED(nom)	MARKED(erg)
Agt	agt	d-object	s-subject	UNMARKED(nom)	UNMARKED(abs)
Pat	pat	d-subject	s-subject	UNMARKED(nom)	UNMARKED(abs)

The simplified table below shows for each semantic verb class, the semantic roles of the arguments and the case that will be assigned to the noun phrases bearing this semantic role in languages of each type:

Accusative Languages

<u>Verb Type</u>	<u>Semantic Role</u>	<u>Accusative System</u>	<u>Ergative System</u>
Agt-pat	agt	UNMARKED(nom)	MARKED(erg)
	pat	MARKED(acc)	UNMARKED(abs)
Agt	agt	UNMARKED(nom)	UNMARKED(abs)
Pat	pat	UNMARKED(nom)	UNMARKED(abs)

Ergative Languages

<u>Verb Type</u>	<u>Semantic Role</u>	<u>Accusative System</u>	<u>Ergative System</u>
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4. Marantz's discussion of case systems is simply from the point of view of s-structure relations. He does not consider the behavior of unergative and unaccusative verbs separately.

Agt-pat	agt	- MARKED(acc)	UNMARKED(abs)
	pat	UNMARKED(nom)	MARKED(erg)
Agt	agt	UNMARKED(nom)	UNMARKED(abs)
Pat	pat	UNMARKED(nom)	UNMARKED(abs)

The table represents the semantic role/surface case correspondences, which are the relations often considered in the usual definitions of case systems. As Marantz points out, from this perspective it is not possible to distinguish an accusative language with ergative case marking from an ergative language with accusative case marking. This is clear from an examination of the table. In both language types, the MARKED case is used for the agent of the agent-patient verb, even though the agent is a d-object in an ergative language and a d-subject in an accusative language. Similarly, accusative languages with accusative case marking will be indistinguishable from ergative languages with ergative case marking. In both language types the MARKED case is used for the patient of the agent-patient verb.

The table above shows how a superficial examination of the data will conceal the differences between the languages in each pair: it is not obvious that these languages differ in both ergativity and case marking type. From this point of view, there appear to be only two types of languages, differentiated by whether the agent or patient of an agent-patient verb receives the marked case. By ignoring the s-structure, the true interpretation of the case marking is lost. For this reason, case marking can be deceptive and cannot reveal ergativity. Languages differing in ergativity can still show the same pattern of case marking with respect to a particular semantic verb class.

In order to discriminate between the four possibilities, the semantic roles, d-structure relations or s-structure relations and case marking must all be considered. Traditional approaches to ergativity have failed to recognize the necessary levels. In most work the subject and object are always assumed to be equated with the noun phrases bearing the agent and patient roles respectively. Sometimes, the notions of subject and object have been rejected and superseded by the notions of agent and patient. Either way only two language types are identified, so that the four types are collapsed into two.

The assumption that ergative and accusative case systems should be found in both ergative and accusative languages is supported by the existence of languages of the predicted types. Among accusative languages there are languages showing both types of case systems. Accusative languages with accusative case systems are common; Russian is such a language. There are also accusative languages with ergative case marking. Many of

the languages that have been identified as "ergative" fall into this class.<sup>5</sup> Greenlandic Eskimo and Warlpiri will be shown to be examples of such languages. Not all accusative languages show only one case system. There are examples of accusative languages which show both types of case systems; such languages, called split ergative languages, have been discussed by Silverstein [1976]. The choice of case system in such languages may be conditioned by tense, mood, clause type, or agency of the arguments.

A few ergative languages with accusative case marking are found; these include Central Arctic and Yup'ik Eskimo, Dyirbal, and Yidiny. These languages have usually not been differentiated from the previous type because of the superficial resemblances described above. As discussed, in true ergative languages such as these what appears to be ergative case marking is in fact accusative case marking.<sup>6</sup>

There do not seem to be any examples of ergative languages with solely ergative case marking. The absence of languages showing this possibility could be attributed to the marked character of such languages. Accusative languages seem to be much more prevalent than ergative languages. Among case marking systems, accusative case marking appears to be more common than ergative. This suggests that an ergative language with ergative case marking would be the most marked possibility, while an accusative language with accusative case marking would be the least marked. Furthermore, ergative languages with ergative case marking look superficially like accusative languages with accusative case marking, the least marked type.

Possibly, languages with accusative case marking are more frequent than those with ergative case marking because an accusative case system does not cut across the categories of s-subject and s-object as an ergative system does, and in this sense is an "unmarked" system. This is consistent with the theory of abstract case assignment proposed in Section

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5. In fact, as Marantz notes, Mel'chuk [1979] recognizes the existence of the class of languages that are referred to here as ergative languages in the sense of the Ergativity Hypothesis, but defines an ergative language to be what is referred to here as an accusative language with ergative case marking.

6. Actually, Dyirbal and Yidiny both have a split system of case marking. Traditionally the split is described as an accusative case system for first and second person pronouns and an ergative case system for third person pronouns and nouns. Since these languages are ergative in the sense of the Ergativity Hypothesis, the split is actually the reverse of what it appears to be: ergative for the first and second person and accusative for the third person.



1.2.4. The systems of case marking described here are the morphological realization of abstract case assignment. It would appear that the unmarked realization of abstract case assignment would be an accusative system. Case is assigned to the s-subject by INFL (inflection) but to the s-object by the verb. Therefore, the s-subject and s-object might be expected to have different cases assigned to them as in the accusative system of case marking. But, there is no reason to expect a system such as an ergative system where the s-subject's case depends on the verb's transitivity. One question that remains unanswered then is why an ergative case system is even possible.

### 3.1.2 Case Marking with Expressions of Duration

In some accusative languages with accusative case marking, the accusative case is used not only as a structural case but also as a semantic case. The typical use of the accusative case is structural; it is the case assigned by a transitive verb to its s-object. But the accusative case may have other functions. Two of these uses of the accusative case will be examined in order to make predictions about comparable phenomena in ergative languages with accusative case marking. This section will consider the use of accusative case to indicate expressions of duration, and the next the use of accusative to indicate goals.

The use of the accusative for expressions of duration is found in Russian as in (3.1), and, to a more limited extent, in English as in (3.2), two accusative languages.

(3.1) On spal nedelju.  
He-NOM slept-PST week-ACC  
He slept a week.

(3.2) He slept a week.

In these examples, the expression of duration is in the accusative case in Russian and occurs as a noun phrase without any preposition in English.<sup>7</sup> This is precisely how the s-object of a transitive verb is expressed in these languages. The s-object of a transitive verb is frequently the patient argument of an agent-patient verb in accusative languages by the Ergativity Hypothesis. As a result, even though they do not bear a semantic role in the verb's argument structure, expressions of duration show the same surface case as the patient of an

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7. The use of the accusative for expressions of duration contrasts with instrumental, locative, or manner phrases in these languages which occur as oblique case noun phrases or as prepositional phrases.

agent-patient verb.

The use of accusative case for expressions of duration can be accounted for by assuming that in some languages expressions of durations are assigned their semantic role simply by being expressed as [NP, VP]s (noun phrases in the verb phrase) rather than from an oblique case marker or preposition. There is evidence from Russian [Pesetsky 1981, 1982] for this assumption. Expressions of duration show several properties associated with [NP, VP]s. These properties are shown by d-objects which are also [NP, VP]s but not by oblique noun phrases in the verb phrase. For example, they may appear marked for the genitive of negation, a property that they share with d-objects but not with d-subjects.

In these languages, accusative case seems to be used as the case of [NP, VP]s independent of their function. This is consistent with the accusative case as a structural case. As [NP, VP]s, expressions of duration and s-object would be expected to show the same case, accusative case.<sup>8</sup> Expressions of duration, for example, should not and do not occur in the nominative case, the case assigned to the subject of the verb phrase.

If, in an accusative language, expressions of duration are [NP, VP]s, the structural case assigned to the s-object of the verb, the accusative case, will be used to mark expressions of duration. Expressions of duration should be able to be expressed as [NP, VP]s in ergative languages as well. Then, they should appear in accusative case in ergative languages with accusative case systems.

Although the use of the structural position [NP, VP] for expressions of duration should be an option in both ergative and accusative languages, they will show a superficial difference. By occurring in this position, they will receive accusative case like the s-object of

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8. In English the use of accusative case for expressions of duration is much more limited than in Russian. There is an alternation between bare noun phrases and *for* prepositional phrases. *For* phrases do not seem to have restrictions on their distribution as accusative expressions of duration. Roeper and Siegel [1978] note that accusative of duration occurs with non-transitive verbs in English. In fact their examples are not only non-transitive but also intransitive (i.e. agent single argument verbs). This fact may be relevant to Burzio's Generalization [+T] <-> [+A]. According to this principle, intransitive verbs should be able to assign accusative case, explaining why the occurrence of English accusative of duration could be restricted to sentences with intransitive verbs. Russian does not show similar restrictions on distribution, suggesting that languages might differ in whether accusative case can be used as a semantic case.

a transitive verb. An s-object of a transitive verb will usually be the agent in an ergative language instead of the patient as in an accusative language. In ergative languages, it is the agent which should show the same case as expressions of duration, while in accusative languages it should be the patient. This property will make ergative languages appear different from accusative languages in their treatment of expressions of duration.

The predictions for accusative languages with ergative case marking are less clear. If expressions of duration are expressed as [NP, VP]s, agent noun phrase of an agent-patient verb should not have the same case as the expression of duration since the agent will be the d-subject of a transitive verb. The s-object of a transitive verb in an accusative language with ergative case marking is the patient, and it will receive nominative case. It is the nominative case which would be expected as the case of expressions of duration. But languages with ergative case systems do not have a case whose sole function is to mark s-object of transitive verbs, and this difference may prevent these languages from extending the use of the nominative case.

The Caucasian language Adyghe has expressions of duration in the "ergative" case [Rogava and Kerasheva 1966]. Unfortunately, it is not clear whether it is a true ergative language.<sup>9</sup> If it is not, it raises questions about the prediction. Possibly, the ergative case, as a morphologically marked case, is able to be used as a semantic case assigner in accusative languages with ergative case systems. Since Warlpiri is an accusative language with ergative case marking (see Chapter 4), the use of the ergative case in Warlpiri to express points in time may be an example of a semantic use of the ergative case.

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9. Adyghe has been considered an "ergative" language because it has ergative systems of case marking and agreement, as well as relative clause formation on an ergative basis [Rogava and Kerasheva 1966, Hewitt 1979]. Expressions of duration take the ergative case, the case of the agent of the transitive verb, rather than absolutive case or one of the two oblique cases. Expressions of duration do not bear an argument relation to the verb. They do not trigger verb agreement, unlike the agent of a transitive verb. It is difficult to evaluate the significance of the use of ergative case for expressions of duration in the absence of other evidence for "true" ergativity. In Adyghe, reflexivization, for example, does not seem to provide evidence bearing on ergativity. Verbs take a reflexive person marker as the absolutive person marker and still take an ergative subject. The fact that the verb still takes an ergative noun phrase, even in the absence of an overt absolutive argument, may be evidence that the verb is still transitive. If so, the construction will be reminiscent of the Warlpiri reflexive construction, see Section 4.6.1.2. If Adyghe is not ergative, then the use of ergative case for expressions of duration must be considered an instance of semantic case.

### 3.1.3 Case Marking with Expressions of Goal

The predicate-argument structure of a verb often includes arguments bearing semantic roles other than agent or patient. One of the most common of these roles is the goal role found with verbs of motion, giving, and communication. Usually the noun phrase bearing the goal role is not assigned its semantic role by the verb; it is not even mentioned in the Ergativity Hypothesis. It must be assigned its semantic role by receiving semantic case or occurring as the object of a preposition at s-structure. Languages allow a certain degree of variation in their treatment of the noun phrase bearing the goal role. For example, the goal role may be exceptionally assigned by the verb.<sup>10</sup>

Although a language may have a specific case associated with the noun phrase bearing the goal role, this is not necessary. I want to consider what happens when the semantic case associated with the goal is the same as the structural case assigned by the verb to its s-object in languages with accusative case marking. This phenomenon does not involve changes in the assignment of semantic roles to d-structure relations. The noun phrase in the goal role will simply show the same case marking as the d-object, but it is not the d-object and should not show properties of a d-object. This phenomenon should be distinguished from the situation where the goal exceptionally becomes a d-object, as in Marantz's analysis of English double object constructions.

In accusative languages with accusative case systems, this phenomenon results in the goal being marked by the same case as the patient of an agent-patient verb. Georgian is an example of an accusative language showing this phenomenon, but only in Series I tenses, a particular set of tenses in which Georgian has an accusative case system.<sup>11</sup> This case is referred to as the dative case in the literature on Georgian, but functions formally as

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10. Marantz discusses some forms that the expression of goals can take in languages of different types. He examines constructions where the goal is expressed as the patient is usually expressed, such as the double object construction in English. He presents an analysis of such constructions in ergative languages which he uses to support the Ergativity Hypothesis. See the Appendix to Chapter 5 for a discussion of this analysis.

11. This qualification is necessary since Georgian uses different case systems in different series (sets) of tenses. The series that will be discussed here, Series I, uses accusative case marking. The data and analyses of Georgian are taken from Harris [1981]. Harris's book makes clear that Georgian is an accusative language in spite of apparent ergative case marking in Series II tenses (optative and aorist). In fact, this series has an active-inactive system of case marking rather than an ergative system.

accusative case in Series I.<sup>12</sup> Harris [1981] presents evidence that the goal is not a d-obj of the verb. As might be expected in an accusative language, the patient and goal arguments are both assigned the same case.<sup>13</sup>

The same phenomenon should occur in an ergative language with accusative case marking. Both types of languages allow accusative case marking, and if an accusative language allows a single case to be assigned structurally to the d-object of a transitive verb and inherently to the goal, an ergative language should also. As in an accusative language, when this happens, the goal will not be the d-object of the verb, although it should be assigned the same case as the d-object. The d-object will be assigned its usual semantic role.

This phenomenon appears different in ergative and accusative languages. In an accusative language, the s-object of a transitive verb will be the patient, so the patient and the goal will be assigned the same case. In an ergative language, where the s-object of a transitive verb will be the agent, it will be the noun phrase with the agent role that will be assigned the same case as the noun phrase with the goal role. Since the case of the agent in an ergative language is typically called the "ergative" case, such a language could be described as "double ergative".

The Caucasian language Adyghe discussed above uses the same case for the agent of an agent-patient verb and the goal. Adyghe shows verb agreement on an ergative basis, as well as a set of agreement marker for the goal. The choice of person markers for the agent is independent of that for the goal. But, without independent evidence of Adyghe's status, it is difficult to know whether this observation exemplifies the prediction or not.

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12. This case is probably called the "dative" because it is used with dative-like functions in the other Series, but functions as "accusative" case only in Series I. This case marks goals in both Series I and II, as well as the "subject" of inversion verbs and Series III verbs.

13. Georgian is interesting in that even though the goal is not a d-obj of the verb, when the verb cannot assign structural case to its d-obj (whether in Series I or II), the goal cannot receive dative case but appears as a postpositional phrase. This happens in passive constructions and in inversion constructions, for example. Harris analyzes both as involving unaccusative verbs. Therefore, in both constructions the verb loses its ability to assign case, and it seems that this prevents it from assigning case to the goal as well. Russian expressions of duration do not have this property. They may be marked for accusative case even in sentences with passive and unaccusative verbs. These properties of accusative case need to be investigated further.

### 3.1.4 The Adjacency Condition on Case Assignment

Stowell's Adjacency Requirement on Case Assignment [1981], which requires a noun to be adjacent to its case assigner, can be used to predict word order preferences in ergative languages where word order is not free. Stowell proposes the Adjacency Requirement to account for facts in accusative languages, but given that ergative and accusative languages should differ only as specified by the Ergativity Hypothesis, it should carry over to ergative languages as well. After Stowell's account is sketched, the predictions that follow for ergative languages will be presented.

Stowell proposes the Adjacency Requirement as part of an account for the observation that the d-object of a transitive verb must be adjacent to the verb in many languages, as it is in English. An account of this observation is necessary because the revised theory of phrase structure that Stowell presents dissociates word order from phrase structure rules. Stowell suggests that the constraint on adjacency is linked to the requirement that the s-object of an active transitive verb must be assigned case to prevent a violation of the Case Filter. Since objects in active sentences are assigned case by the verb, any conditions on case assignment by the verb must be satisfied. Stowell suggests the Adjacency Requirement is one of the conditions that must be met for the object of a verb to receive case.<sup>14</sup>

The Adjacency Requirement, although proposed for accusative languages, should carry over to ergative languages. As a consequence, verb-object adjacency would be expected in ergative languages as well as accusative languages. Because of the Ergativity Hypothesis, the manifestation of this requirement in ergative languages will differ from that in accusative languages. With agent-patient verbs, the requirement would hold of the verb and agent argument in an ergative language rather than the verb and patient argument as in an accusative language.

Although the verb may impose an adjacency requirement on case assignment, the relative order of the verb and the noun bearing the object relation are not constrained by this requirement. Stowell suggests that the order in a particular language follows from a language-specific parameter indicating whether the head of a category is final or initial. This

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14. Stowell proposes that the strictness of the Adjacency Requirement varies from language to language depending on slight variations in the notion of government used.

parameter would be necessary in ergative as well as accusative languages. It suggests that ergative languages should be found showing either option, i.e., the order VO (= verb - agent) or OV (= agent - verb). Although Dyirbal is possibly a candidate for a language of the verb-final type (see Section 5.6.5), I know of no ergative language of the other type.

It is interesting to compare an accusative language with ergative case marking to an ergative language with accusative case marking with respect to expected word order. For purposes of comparison, consider a verb-final language. In such a language, given the Adjacency Requirement, there is a preference for SOV order. Described in terms of the semantic roles associated with the grammatical relations, the word order in a sentence with an agent-patient verb in an SOV language of each type will be:

<u>Language Type</u>	<u>S</u>	<u>O</u>	<u>V</u>
Accusative:	agent	patient	verb
Ergative:	patient	agent	verb

The realization in terms of surface case will be:

<u>Language Type and Case System</u>	<u>S</u>	<u>O</u>	<u>V</u>
Accusative/Ergative Case:	ergative	absolutive	verb
Ergative/Accusative Case:	Nominative (= abs)	Accusative (= erg)	verb

The relative order of the "ergative" and "absolutive" noun phrase in an accusative language with ergative case marking will be the opposite of that in an ergative language with accusative case marking. If it were ergative, the North-West Caucasian language Adyghe would be an example of an ergative language with accusative case marking showing this order.

One more consequence of the Ergativity Hypothesis for word order will be mentioned here. An ergative language with SOV or SVO word order could easily be mistaken for an accusative language with OSV or OVS order, two of the less frequently attested orders, according to Greenberg [1966]. The order OSV in an accusative language and the order SOV in an ergative language will both be realized as "patient - agent - verb" in a sentence with an agent-patient verb. The order OVS in an accusative language and the order SVO in an ergative language will both be realized as "patient - verb - agent". As a consequence, confusion could result because, despite the difference in grammatical relations, the relative order of the arguments in terms of their semantic roles is the same. This is set out again in the table:

<u>Order in</u>	<u>-Order in</u>	<u>Corresponding</u>
<u>Accusative</u>	<u>Ergative</u>	<u>Semantic Roles</u>
OSV	SOV	patient agent verb
OVS	SVO	patient verb agent

Since the word order studies do not take ergativity into account, this observation suggests that it would be interesting to reexamine languages that have been classified as OSV or OVS to see if any are actually ergative languages. If so they would be examples of more widely occurring language types.

To summarize, the Ergativity Hypothesis points to an expected difference between ergative and accusative languages with respect to potential word orders. The prediction, which stems from the Case Adjacency Requirement, should be valid in any language where there are constraints on word order. Evidence bearing on this prediction from Dyirbal will be discussed in Chapter 5. This prediction was also shown to have some implications for language typology.

### 3.1.5 The Genitive of Negation

The Ergativity Hypothesis makes a prediction about the distribution of certain types of quantified expressions in ergative and accusative languages. This prediction is motivated by Pesetsky's [1981, 1982] analysis of various phenomena involving quantification in Russian. Pesetsky argues that these phenomena are limited to d-objects and do not affect d-subjects, suggesting that such phenomena could form the basis for a prediction concerning the properties of ergative languages.

Pesetsky presents evidence that several types of quantified expressions in Russian occur at s-structure in positions that are filled by d-objects but not d-subjects. This observation is true of the genitive of negation, an exceptional use of the genitive case found optionally instead of the expected structural case with arguments of negated verbs. Genitive of negation is shown by transitive objects, passive subjects, and unaccusative verb subjects, as illustrated below.

- (3.3) Ja ne poluchal pisem.  
I NEG receive-PST letters-GENp  
I didn't receive any letters. [Pesetsky 1981, 4b]
- (3.4) Ni odnoj gazety ne byla polucheno.  
Not one paper-GENf NEG was received  
Not one paper was received. [Pesetsky 1981, 5b]



- (3.5) gribov                   zdes' ne rastet.  
Mushrooms-GENp here NEG grow-PRES-3s  
Not a mushroom grows here. [Pesetsky 1981, 9b]

Subjects of transitive and unergative verbs never show the genitive of negation, but remain in the nominative case in negative sentences.

- (3.6) \* Studentov       ne smotrit           televizor.  
student-GENp NEG watch-PRES-3s television-ACC  
Not a student watched television. [Pesetsky 1981, 19b]

- (3.7) \* Ni odnogo rebenka   ne           prygnulo.  
not one child-GEN jump-PSTn  
Not a single child jumped. [Pesetsky 1981, 13b]

As Pesetsky discusses, the same distribution is shown by two other phenomena involving quantification in Russian: *po* phrases, which express a distributive reading, and no agreement numeral phrases.

Such phenomena are not particular to Russian, but occur in other accusative languages as well; therefore, they constitute a valid basis for a prediction concerning ergative languages. The genitive of negation is found in other languages. Pesetsky notes that *de* phrases, when used to express the genitive of negation in French, show the same distribution as their Russian counterparts. The phenomenon of *ne* cliticization in Italian, used to provide a partitive interpretation of a noun phrase, is also only possible from positions associated with d-objects (see Burzio [1981]).

Are the phenomena observed of quantified expressions characteristic of d-objects or are they characteristic of patients? An answer to this question is a prerequisite to forming a prediction since in Russian, an accusative language, the properties of the d-object and the patient role may be confused. Pesetsky presents convincing evidence that this behavior is a property of d-objects and not of patients.

Pesetsky argues that these quantified expressions in Russian are not noun phrases but quantifier phrases, and that quantifier phrases can only appear in positions of the form [NP, VP] in a well-formed sentence. Since d-object position is a [NP, VP] position, these quantifier phrases may occur in this position. They may also appear in other [NP, VP] positions if they exist. In Russian, there is such a position, and quantifier phrases may occur in it. Expressions of duration occur as [NP, VP]s and are marked by the accusative case just like the d-object of a transitive verb. Expressions of duration show the same properties as

d-object with respect to the quantifier phrase phenomena:

(3.8) Ja i odnogo chasa ne spala.  
I even one-GEN hour-GEN NEG sleep-PASTf  
I didn't sleep for even an hour. [Pesetsky 1981, 34b]

Clearly, expressions of duration bear no semantic role to the verb in the sentence. The only property they have in common with noun phrases bearing the patient role to the verb is that they are also expressed as noun phrases in the verb phrase. Therefore, patient noun phrases show these properties in accusative languages not by virtue of their semantic role but because the patient role is assigned to the d-object which is a [NP, VP] position.

In accusative languages, certain types of quantified expressions can only occur within the verb phrase. Therefore, they can occur as the d-object position but not as the d-subject. An ergative language should also show the same distribution of these quantified expressions since it should show the same constraints on d-structure. But the surface manifestation of this phenomenon will differ from that in accusative languages. In ergative languages, d-objects may be assigned the agent role, but never the patient role. Therefore, in ergative languages, noun phrases bearing the agent role should show special behavior with respect to quantified expressions analogous to that observed of noun phrases bearing the patient role in accusative languages. Furthermore, the distribution of these expressions can provide a clue to the ergativity of a language. Unfortunately, I know of no evidence in any of the true ergative languages bearing on this prediction.

### 3.2 Predictions Involving Properties of D-Structure

Any subject-object asymmetry will have a different manifestation in ergative and accusative languages due to the nature of the Ergativity Hypothesis. Such asymmetries, therefore, can be used to determine the status of a language. Two subject-object asymmetries found at d-structure, one concerning semantic role assignment and one concerning semantic composition will be discussed in this section. Then, several phenomena involving these asymmetries will be discussed with respect to the Ergativity Hypothesis.

Given the assumption that the subject-*vp* distinction of d-structure reflects the compositional semantics of a sentence, the d-subject and the d-object will enter into the semantic composition of the sentence in different ways. The verb and any non-subject arguments combine to form a predicate (i.e. the *vp*), and therefore, will determine the

meaning of the predicate. The predicate then combines with the d-subject to form a sentence. But, the subject, as an argument outside the predicate has no part in determining the meaning of the predicate. Furthermore, some verbs can assign a semantic role to one of the arguments in the predicate, an argument known as the d-object. Unlike the d-subject, the d-object, as one of the arguments that the verb takes to form the predicate, does have an effect on the meaning that the predicate can take on.

Some predictions concerning the nature of ergative and accusative languages follow from the different manner in which the d-subject and d-object of a verb may participate in the semantic composition of a sentence given the subject-*vp* distinction at *d*-structure. Certain phenomena are observed by Marantz to exhibit this asymmetry: the structure of verbal idioms and range of meanings of predicates. As a consequence of the Ergativity Hypothesis, the realization of these phenomena will not be the same in ergative and accusative languages. They will be discussed in turn in Sections 3.2.1-3.2.2.

A second subject-object asymmetry stems from the manner in which semantic roles are assigned to noun phrases bearing *d*-structure relations to a verb. The verb participates directly in the assignment of a semantic role to the d-object, but only indirectly in the assignment of a semantic role to the d-subject. The noun phrase bearing the *d*-object relation to the verb, if there is one, is assigned a semantic role by the verb. The verb phrase, the predicate formed from the verb and any non-subject arguments, assigns a semantic role to the noun phrase bearing the *d*-subject relation. The semantic role assigned to the d-subject will be determined compositionally by the predicate formed from the verb and its other arguments. Therefore, both the verb and d-object, if there is one, will have an effect on the choice of subject but the presence of a d-object is determined solely by the verb.

The difference in semantic role assignment is reflected in the verb's ability to impose semantic constraints (i.e. selectional restrictions) on the d-object and make exceptional demands on the expression of the d-object. A prediction about ergative languages stemming

from this asymmetry concerns "quirky case marking, as will be discussed in Section 3.2.3.<sup>15</sup> The interaction of this asymmetry with the compositional semantics asymmetry will account for the frequency of different types of verbal idioms; this again leads to predictions concerning ergative languages.

### 3.2.1 Range of Meanings

In arguing for the subject-predicate distinction, Marantz uses as evidence an observation concerning the range of meanings that transitive verbs can take on in English. When this observation is abstracted away from English, it gives rise to a prediction concerning the range of meanings that a transitive verb may be expected to take on in ergative and accusative languages.<sup>16</sup>

Marantz notes an asymmetry in the manner in which the d-subject and d-object participate in determining the range of meanings that a transitive verb can take on in English. In a sentence with a transitive verb, the choice of d-object, independent of the choice of d-subject, determines the meaning associated with a particular use of the verb. That is, as the choice of d-object of a verb is varied, the verb may take on a number of meanings. Among the examples Marantz presents are the uses of *throw* in (3.9).

- (3.9) a. throw a baseball  
b. throw support behind a candidate  
c. throw a boxing match (i.e. take a dive)  
d. throw a party  
e. throw a fit

The choice of d-subject, independent of the choice of d-object, does not have a similar effect on determining the range of meanings. Contrast the uses of *throw* in (3.10) which differ in

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15. A further asymmetry of this type that could be considered in light of the Ergativity Hypothesis concerns suppletive verb forms. Harris [1982] notes that in Georgian properties of the d-object of both unaccusative and transitive verbs determine the use of suppletive verb forms, but the d-subject of a transitive verb does not. This property would follow from the verb's ability to impose constraints on its d-object but not the d-subject. Suppletion would be expected in ergative languages as well, although its manifestation would differ from that in accusative languages. In accusative languages suppletion would depend on properties of the patient argument, while in ergative languages it would depend on those of the agent argument.

16. Predictions involving range of meanings of unergative and unaccusative verbs should be possible as well, but they will not be explored here. As one argument verbs, no asymmetry of the type found with transitive verbs will be shown.

choice of subject with those in (3.9).

- (3.10) a. The policeman threw NP.  
b. The boxer threw NP.  
c. The social director threw NP.  
d. Aardvarks throw NP.  
e. Throw NP!

The observed asymmetry is expected given a subject-predicate distinction, and, consequently, Marantz takes the asymmetry as evidence for this distinction. The d-subject and the verb never form a single unit that is independent of the d-object in the semantic composition of a sentence. Therefore, the d-subject should never be able to pick out a particular meaning for a verb independently of a choice of d-object. The d-subject may only disambiguate the predicate formed from the verb and its non-subject arguments as a whole. In contrast, since the d-object combines with the verb to form a predicate, it will be possible for the d-object to have a part in determining the meaning of the predicate involving the verb.

Marantz describes the range of meanings asymmetry for an accusative language, English, but the same asymmetry will be found in any language, including ergative languages, since the organization of d-structure should be the same in all languages. The manifestation of the asymmetry will differ in ergative and accusative languages because of the different association of semantic roles with d-structure grammatical relations. In particular, in accusative languages, the agent argument should never enter into determining the range of meanings of predicates independently of the patient argument, while in an ergative language, it should be the reverse: the patient argument should not enter into determining the range of meanings of predicates independently of the agent argument. Also, there should be a related tendency for the patient argument in accusative languages and the agent argument in ergative languages to participate in selecting the range of meanings of the predicates involving a verb.

### 3.2.2 The Structure of Verbal Idioms

The second argument Marantz presents for the subject-*vp* distinction leads to a further prediction concerning the nature of ergative and accusative languages. This argument concerns a constraint Marantz observes on the structure of verbal idioms, which he considers a consequence of the assumed subject-predicate distinction. The observation concerning idiom structure, like that involving range of meanings, may be used as a basis for a prediction about the structure of idioms in ergative and accusative languages.

The structure of verbal idioms must also reflect the compositional structure of a sentence. In particular, with transitive verbs, idioms involving a verb plus d-object combination that takes on an idiomatic meaning predicated of the d-subject should be possible, but verb plus d-subject combinations that take on an idiomatic meaning predicated of the d-object should be impossible. Again, this follows from the fact that the verb and d-subject never form a unit independent of the d-object in the semantic composition of a sentence. Marantz observes that in English the prediction concerning the structure of verbal idioms appears to hold. There are numerous transitive verb plus d-object idioms that are predicated of the d-subject, but there do not appear to be any transitive verb plus d-subject idioms predicated of the d-object.

Marantz's generalization concerning the structure of transitive verb idioms does not imply a prohibition against subject idioms altogether. It is only a particular type of subject idiom that is forbidden: d-subject plus transitive verb idioms that are predicated of the d-object. But, the d-subject should be able to enter into idioms involving transitive verbs if the d-object enters into the idiom as well. Marantz does cite one example of an idiom involving a transitive verb and both the d-subject and d-object, *The shit hit the fan*. Putting aside the question of open possessor and prepositional phrase positions, which will be discussed below, there appear to be some other examples as well:

- (3.11) The cat's got X's tongue.
- (3.12) Someone walked over my/\*his/\*our grave.
- (3.13) Curiosity killed the cat.
- (3.14) A black cat crossed my path.

These idioms seem to be much rarer than transitive verb plus d-object idioms. This scarcity may be due to the fact that the verb, by assigning a semantic role, may impose restrictions on its d-object. But, it cannot impose similar restrictions on its d-subject, since it only indirectly enters into semantic role assignment to the d-subject.

Another apparent class of subject idioms that might be expected involving transitive verbs are idioms which involve a passive form of a transitive verb and its s-subject. These idioms are actually instances of transitive verb plus d-object idioms since the s-subject of a passive verb is a d-object. Such idioms would be expected since the ability of a verb and d-object combination to take on an idiomatic meaning should not depend on whether the verb is [+T] (i.e. transitive) or [-T] (i.e. unaccusative). Some transitive verb idioms can occur with the verb in either an active or passive form.

- (3.15) a. They turned the tables on X.  
b. The tables were turned (on X).

Passive idioms with no corresponding active are also found in English, as illustrated in (3.16).

- (3.16) a. The die is cast.  
b. X's days are numbered.  
c. X's hands are tied.  
d. X's goose is cooked.  
e. X's lips are sealed.

The passive idioms differ from idioms involving active transitive verbs in not being predicated of a d-subject, but despite this difference some do have an "open" position, the possessor of the s-subject.

Subject idioms involving both unaccusative and unergative verbs would also be expected, although Marantz does not discuss the possibility of such idioms. Unergative verbs have a d-subject but no d-object. The d-subject of an unergative verb should combine with the predicate formed from the unergative verb to form an idiom in the same way that the d-subject of a transitive verb may combine with the predicate formed from the verb and its d-object to form an idiom. These verbs will not take a d-object to form a predicate, so no d-object will be involved in determining the idiomatic meaning that the verb plus the d-subject takes on. Since unergative verb subject idioms involve a d-subject, they might be expected to be rare for the same reasons that subject idioms involving a transitive verb plus d-object such as (3.14) are rare.

A class of verbs giving rise to apparent subject idioms are the unaccusative verbs. Idioms involving an unaccusative verb and its s-subject are actually instances of idioms involving a verb and a d-object since the s-subject of an unaccusative verb is a d-object. There is no reason why an unaccusative verb and its d-object should not be able to combine and take on an idiomatic meaning just as an active or passive transitive verb and its d-object can. These idioms will be parallel in structure to the passive transitive verb idioms. The difference is that with transitive verbs the d-object and verb combination will be predicated of a d-subject while the d-object plus unaccusative verb combination will not, forming an idiom that will not be predicated of a d-subject.

English does show a number of "subject" idioms involving intransitive verbs. Several are illustrated in (3.17).

- (3.17) a. X's ship came in. -  
b. X's number came up.  
c. The buck stops here.  
d. All hell broke loose.  
e. The sparks flew.  
f. Butter wouldn't melt in X's mouth.  
g. The axe fell (on X).  
h. The coast is clear.  
i. The smoke has cleared.  
j. The dust has settled.  
k. The tide has turned.  
l. The roof caved in (on X).

Most of these idioms appear to involve verbs which would be characterized as unaccusative verbs, given their semantics. The greater number of idioms of this type may be a reflection of the fact that verbs can select their d-object but not their d-subject. Note that like the passive idioms, some unaccusative verb idioms do use the possessor of the s-subject as an "open" position.

The structure of possible idioms is determined by the organization of d-structure. Therefore, the various types of idioms that are possible in English should also be found in other accusative languages and in ergative languages. That is, the following types of idioms, observed in English, might be expected in any language:

- (A) Transitive verb plus d-object idioms, either active or passive, but not transitive verb plus d-subject idioms.
- (B) Transitive verb plus d-object and d-subject idioms.
- (C) Intransitive verb plus s-subject idioms, whether the verb is unaccusative or unergative.

The manifestation of the idioms in an ergative language will be determined by the Ergativity Hypothesis. Intransitive verb idioms in ergative and accusative languages are predicted to appear the same at s-structure: they will all involve an s-subject and a verb. Similarly, idioms of type (B) will also look the same in all languages since they involve both arguments of the verb. Because idioms of type (A) show a subject-object asymmetry, these idioms will appear to differ in ergative and accusative languages. In an accusative language, verb plus patient argument idioms that are predicated of an agent argument should be possible while in an ergative language, verb plus agent argument idioms that are predicated of the patient argument would be expected. This difference can be used as evidence for determining whether a language is ergative or accusative. In contrast, type (B) and (C) idioms cannot be used alone to determine the ergativity of a language.



The theory of semantic composition must be extended to handle more complex types of composition. An examination of English idioms suggests two specific problems that remain to be accounted for: "open" possessor positions and prepositional phrases. Both of these problems are illustrated in the examples given. Handling these phenomena will require a refinement of the theory presented here. In fact, Bresnan [1982b] argues that Marantz's assumption concerning idiom structure cannot be maintained since there are in fact subject idioms with free non-subject positions. The examples she cites<sup>17</sup> involve free arguments in prepositional phrases or as the possessor of a noun phrase. Bresnan considers the fact that some idioms involve "open" positions of this type a problem for the theory of semantic composition that Marantz presents. It does not appear clear to me that it is possible to make this claim without a better developed theory of semantic composition.

First of all, ignoring the question of "open" possessive phrases and prepositional phrases, each of these types of idioms is allowed: there is no verb plus subject idiom where a possessed noun bearing the d-object relation (but not its possessor) is the "open" position. That is, an idiom where the verb plus possessor of the d-object form an idiom but the possessed noun bearing the d-object relation is free. Each of the idioms that involve a s-subject plus verb with an open possessor position are instances of verb plus d-object idioms (on the assumption that the intransitive verb idioms are unaccusative). Verb plus d-object idioms allow "open" possessor positions independently. Transitive verb plus d-object idioms that are predicated of a d-subject appear to allow the possessor of the d-object to be an "open" position as in the examples in (3.18) and (3.19).

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17. Only one of the examples she cites, which is of a different type, appears problematic, the expression *what's eating him*. Although this may appear to be a verb plus subject idiom, it seems that it actually involves independently found idiomatic (or extended) uses of *what* and *eat*. Similar uses of *what* are found in other expressions with similar interpretations such as:

- (i) What's getting him?
- (ii) What's bothering him?
- (iii) What's with him?
- (iv) What's bugging him?
- (v) What's on his mind?

The use of *eat* in this sense is found with other d-subjects, although there is a tendency to use it in passive sentences.

- (vi) He was being eaten by envy/rage.

- (3.18) a. X pulled Y's leg. -  
b. X wrung Y's neck.  
c. X filled Y's shoes.  
(3.19) a. He followed his nose.  
b. He showed his cards.

The only restrictions imposed on the possessor in idioms with an "open" possessor seem to be restrictions on whether a verb requires a possessor and on whether it is bound to the s-subject.<sup>18</sup> The use of such possessive phrases in idioms might actually provide a way of introducing an additional "open" position into idioms without violating the rules of compositionality.

It is not clear the examples with "open" possessor positions violate the rule of semantic composition described here. In general, even outside of idioms, it appears that verbs cannot impose constraints on the possessor position. The selectional constraints that a verb puts on its d-object appear to be independent of whether or not the object is possessed. And, if the d-object is possessed, the choice of possessor has no effect on the selectional restrictions of verbs. In idioms, as discussed, it seems that the verb cannot impose any constraints on the possessor without putting a constraint on the possessed noun phrase. This would support the view that "open" possessor positions do not argue against the subject-*vp* distinction. Obviously, a better developed theory of semantic composition will be necessary to determine whether "open" possessor positions even argue against the distinction.

How prepositional phrases and case marked noun phrases in the verb phrase enter into the semantic composition of predicates must also be investigated. This will require an examination of idioms that involve combinations of a verb, a d-object, and a prepositional phrase. There appear to be idioms that involve a transitive verb plus object which also allow an "open" position in a prepositional phrase as well as an "open" s-subject, as in (3.20).

- (3.20) a. Y couldn't hold a candle to X.  
b. Y stole a march on X.  
c. Y kept tabs on X.

Idioms such as these appear to be much more common than idioms formed from a verb plus

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18. A verbal idiom may specify a particular possessor if it also specifies the possessed noun, as in (i).

(i) Someone walked over my/\*his/\*our grave.

prepositional phrase with both "open" d-subject and d-object positions, as in (3.21).

- (3.21) a. Y drove X up a wall.  
b. Y took X for a ride.

The difference in frequency might again be attributed to the fact that verbs can assign semantic roles to d-objects. There are also idioms that involve both the d-object and a prepositional phrase such as (3.22).

- (3.22) to sweep the dirt under the rug

The examples discussed with open prepositional phrases and possessor positions may raise questions about using idioms to argue for the subject-*vp* distinction. But, even if there are problematic examples, a survey of English idioms shows that there is certainly a tendency against d-subject plus transitive verb idioms. Assuming that this tendency reflects the organization of the d-structure of a sentence, the same tendency should be found in all languages including ergative languages.

As discussed, a number of important issues remain to be resolved concerning the compositional structure of a sentence. Like the predictions concerning the form of verbal idioms, the range of meanings predictions depend on the theory of compositional semantics. Therefore, to the extent that the unresolved issues raise questions about the validity of the predictions involving idioms, the same issues question the range of meanings predictions. In the absence of a better developed theory of compositional semantics, evidence for ergativity involving both range of meanings or verbal idioms will be presented primarily for completeness.

The data available in grammars concerning idioms and range of meanings in ergative languages is sparse making it difficult to reach any definite conclusions about the predictions for ergative languages or about the theory of compositional semantics itself. Some evidence concerning the predictions for ergative languages will be discussed with respect to Dyrbal in Section 5.6.2.

### 3.2.3 Quirky Case

The distribution of quirky case marking reflects the subject-object asymmetry involving semantic role assignment. It should provide the basis for another difference between accusative and ergative languages. "Quirky case" is the name adopted for a phenomenon found in Icelandic, an accusative language, which has been extensively discussed in Andrews

[1982], L. Levin [1981], and L. Levin and Simpson [1981]. In Icelandic, certain noun phrases show the syntactic behavior of intransitive subjects (in the intransitive-transitive sense) or transitive objects but do not show the case marking associated with these grammatical relations.

The phenomenon of quirky case marking is lexically determined; it is limited to certain verbs which must specify the case required in their entry. Quirky case may involve accusative, dative, or genitive case. One of the characteristics of quirky case in Icelandic is known as the Case Preservation Effect: the quirky case marked noun phrase retains its case marking even after the application of syntactic rules such as Raising, Passive, or Equi. The ability to undergo these rules is evidence that these noun phrases do bear a grammatical relation to the verb.

L. Levin argues that quirky case marking is limited to elements subcategorized by the verb. This will include the argument assigned a semantic role by the verb, the d-object, but not the d-subject. She shows that all verbs with quirky case marked "subjects" are unaccusative verbs. This means that the quirky case marked noun phrase is a d-object of the verb, and not a d-subject. Similarly, with transitive verbs, the d-subject but not the d-object may receive quirky case. There are no examples of transitive verbs with quirky case marked subjects in Icelandic. Verbs that take a quirky case marked d-object will specify in their lexical entry a particular case that is always to be used for the d-object. The d-object will always be expressed by this particular case rather than the structural case appropriate to its grammatical relation. This guarantees the Case Preservation Effect.

Before considering what predictions about quirky case marking follow in an ergative language, it is worthwhile looking more closely at what verbs assign quirky case in Icelandic. An examination of the list of Icelandic unaccusative verbs taking quirky case in L. Levin's paper shows that they fall into two major classes on the basis of the semantic role of the quirky case marked noun phrase.

(1) The quirky case marked noun phrase has the semantic role of patient with verbs describing a state change; it is assigned dative or accusative case. For example, the Icelandic counterparts of the verbs *melt*, *remain*, *drift* select accusative case; the counterparts of the verbs *abate*, *fall asleep*, *slope*, *get better* take dative case.

(2) The quirky case marked noun phrase has the semantic role of experiencer with verbs describing perception, mental states, sensations; it is assigned dative, or accusative case. For example, the Icelandic counterparts of the verbs *crave*,

*be nauseated* take accusative case; the counterparts of the verbs *seem*, *abhor*, *like* take dative case.

The verbs in the first class are typical unaccusative verbs: they are among the unaccusative verbs in an accusative language as a result of the Ergativity Hypothesis which states an association between the patient role and the d-object. The Ergativity Hypothesis does not make any predictions concerning the second class in either accusative or ergative languages. The verbs in this class show considerable variation cross-linguistically in the expression of their arguments, although it does seem to be within certain bounds. An examination of accusative languages shows that these verbs are sometimes unaccusative verbs, but often are [-T] [-d-obj] verbs taking their argument in an oblique case. Occasionally they are even transitive, but they differ from agent-patient verbs which are always transitive. Obviously there is parametric variation in the expression of the arguments to these verbs that needs further investigation; this will require an examination of both their syntactic and semantic properties.

The two classes defined differ as to what is "quirky" about them. The adjective "quirky" in the name "quirky case" refers to the fact that with certain verbs the noun phrase with the syntactic behavior of a d-object is assigned an unexpected case rather than the case generally associated with a d-object. The d-object usually receives structural case, that is its case is determined by its s-structure relation to the verb; the d-object will receive nominative case if it is an s-structure subject and accusative case if it is an s-structure object. Quirky case is not structural but is determined by the verb and stated in its lexical entry. As a consequence it shows the Case Preservation Effect. The case is "quirky" with respect to the s-structure grammatical relations of the noun phrases receiving quirky case. The first class of verbs shows quirky case in this sense.

The name "quirky case" seems to be somewhat misleading for the verbs in the second class. With these verbs, "quirky case" is not always "quirky" if considered with respect to the semantic role of the noun phrase receiving it: the case of the quirky case marked noun phrase is usually the case typically associated with noun phrases bearing those semantic roles. Dative case, for example, is often associated with experiencers. Frequently these noun phrases occur in an oblique relation to the verb, rather than as d-object. What is "quirky" is that these noun phrases are the d-object of the verb and furthermore still retain the case that they were assigned as oblique noun phrases.

As the survey of quirky case marked verbs shows, quirky case is a property of d-object rather than the patient semantic role. The observation that quirky case marking is limited to d-object is consistent with the subject/object asymmetry with respect to the assignment of semantic roles. A verb can impose requirements on the expression of the d-object since it assigns a semantic role to the object. The verb cannot impose a requirement on the expression of the d-subject since a verb does not assign the role directly to the d-subject. The verb can only specify that the predicate it heads assigns a semantic role to its d-subject. Therefore, the subject cannot receive a special expression.

Having identified quirky case as a property of the d-object but not the d-subject, it is now possible to make predictions about the expected distribution of quirky case in ergative languages. The first class of quirky case verbs identified above are typical patient single argument verbs and are usually among the unaccusative verbs of an accusative language. This class of quirky case verbs consists of verbs that are typically unaccusative verbs that exceptionally have quirky case. This should be a possible class in an ergative language as well, since unaccusative verbs are found in both accusative and ergative languages.

In an ergative language, the typical unaccusative verbs are the agent single argument verbs. Therefore, they might be expected to show quirky case in an ergative language even though they cannot in an accusative language. In an accusative language, noun phrases bearing the agent role never show quirky case since they are associated with the d-subject of an unergative verb, and never with a d-object. In an ergative language, the patient role is typically associated with the d-subject, so it should not show quirky case. As unergative verbs, agent single argument verbs are not candidates for quirky case in an accusative language and patient single argument verbs are not in an ergative language. The predictions are summarized below:

Quirky Case Marking Distribution

<u>Semantic Class</u>	<u>Accusative language</u>	<u>Ergative language</u>
Agent only	impossible	possible
Patient only	possible	impossible

A prerequisite for receiving quirky case is for the noun phrase in question to be a d-object of the verb. The Ergativity Hypothesis specifies the associations of agent and patient with d-subject and d-object thereby imposing constraints on their ability to receive quirky case. But if a language allows the d-object of a verb to be assigned a semantic role other than agent or patient, then noun phrases bearing other semantic roles should be able to occur as

quirky cased marked d-objects.-

The predictions about the behavior of the second class of quirky case marked verbs, verbs of perception, sensation, and mental state are less clear. Even in accusative languages these verbs tend to show more variation in their expression than other semantic classes. Until their properties are better understood it will be difficult to make predictions about their behavior in ergative languages. Since these verbs do not come under the Ergativity Hypothesis, they might show similarities in their possible expression in ergative and accusative languages.

Besides the unaccusative verbs with quirky case, there are transitive verbs with quirky case marked objects but never with quirky case marked subjects in Icelandic. This again reflects the difference between d-subjects and d-objects in terms of the requirements the verb may impose on them. In an accusative language, this means that the noun phrases bearing the agent role cannot receive quirky case, although noun phrases bearing patient or other semantic roles could bear quirky case. In an ergative language, transitive verbs should also be able to have quirky case marked d-object. But d-objects are never patients in an ergative language, so that the semantic distribution of quirky case will be different. Agents will be able to receive quirky case, as will other noun phrases bearing semantic roles other than patient. There is no evidence bearing on these predictions in the languages I have considered.

### 3.3 The Passive and Anti-Passive

This section will consider the passive construction within the framework of the Ergativity Hypothesis, as well as a construction termed the "anti-passive" construction. The anti-passive construction is a construction found in so-called ergative languages involving an "intransitive" verb form morphologically derived from a transitive verb. Due to its properties, this construction has been both compared and contrasted with the passive construction. This section will provide an analysis of the constructions in so-called ergative languages that have been labelled "passive" or "anti-passive" constructions. It will conclude with a brief discussion of the impersonal passive.

An account of the nature of the "anti-passive" construction and its relation to the passive construction is possible only within a theory of ergativity. This section will review the account that Marantz presents of the anti-passive and passive constructions within the framework of the Ergativity Hypothesis. In his discussion, Marantz makes two important but

related points about the constructions: (1) what has been labelled an "anti-passive" construction in an ergative language with accusative case marking is actually a passive construction, and (2) the anti-passive construction in an accusative language with ergative case marking can be easily mistaken for a passive construction in an ergative language with ergative case marking. The discussion will then move beyond Marantz's discussion to consider so-called "passive" constructions in ergative languages. These constructions will turn out to be anti-passive constructions.

### 3.3.1 The Passive Construction in an Ergative Language

An ergative language might be expected to have a passive construction just as an accusative language does. Passivization was defined as the addition of an affix with the feature [-T] to a (usually) transitive verb. There is no reason why such affixes should not be possible in both ergative and accusative languages. Furthermore, the addition of a [-T] affix to a verb will have the same consequences for the mapping between the d-structure relations and s-structure relations of the arguments to the verb as in an accusative language since no difference in syntax is assumed. Due to Burzio's Generalization, the addition of a passive affix with feature [-T] will result in the verb acquiring the feature [-A] as well. As a consequence, the d-object of a transitive verb will be the s-subject in a passive sentence in order to receive case and prevent a Case Filter violation. This "change" in grammatical relation is allowed since a passive verb does not assign a semantic role to its subject, it is [-T]. The correspondences between the two constructions that are found in accusative languages will also hold between the two constructions in an ergative language, because the passive construction is syntactically-defined.

Despite the identical syntactic characterization, the passive construction in ergative and accusative languages has a different surface manifestation due to the different association of semantic roles with d-structure grammatical relations. This will be schematized below. The grammatical relations associated with the arguments of an agent-patient verb in an accusative language in active and passive sentences are given below. The last two rows show the case marking associated with the arguments given an accusative and ergative system of case marking. (Read down the columns, each row is a different level of representation).



	<u>agent</u>	<u>patient</u>
D-structure:	d-subject	d-object
S-structure:	oblique	s-subject
Accusative Case System:	OBL	NOM
Ergative Case System:	OBL	ABS

In an ergative language, the correspondences would be the following:

	<u>patient</u>	<u>agent</u>
D-structure:	d-subject	d-object
S-structure:	oblique	s-subject
Accusative Case System:	OBL	NOM
Ergative Case System:	OBL	ABS

When the passive construction in each language type is considered from the point of view of semantic role/s-structure correspondences, the languages appear to differ. To illustrate this, the relevant correspondences are given below:

Accusative Language

Active:	agent	-	s-subject	Passive:	agent	-	oblique
	patient	-	s-object		patient	-	s-subject

Ergative Language

Active:	patient	-	s-subject	Passive:	patient	-	oblique
	agent	-	s-object		agent	-	s-subject

The s-subject of a passive will be assigned the agent role in an ergative language and the patient role in an accusative language. It is due to this difference that the syntactic similarity is not immediately apparent.

### 3.3.2 The Anti-Passive Construction

A construction that has received a lot of attention in discussions of ergativity is the so-called "anti-passive" construction.<sup>19</sup> The term "anti-passive" is traditionally applied to a construction in a so-called ergative language which involves a derived intransitive form of a

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19. Discussions of the anti-passive construction can be found in almost any of the general discussions of ergativity. There are also several of papers that focus on the anti-passive construction such as Heath [1976], Postal [1977], and Silverstein [1976]. The term "anti-passive" has been extended to refer to a somewhat wider range of phenomena by Postal and Heath. As Marantz notes, their use of the term encompasses sentences involving indefinite object deletion.

transitive verb. Two properties observed of this construction hint that it may be important to an understanding of ergativity: its limited resemblance to passive constructions and its interaction with other syntactic processes.

To begin, I will describe the anti-passive construction pretheoretically in terms of the observed correspondences between semantic roles and surface case avoiding the question of grammatical relations. In this construction, a two-argument verb in a so-called ergative language usually receives a special affix, the anti-passive affix. Certain other deviations from the typical case marking associated with the arguments of a two argument verb are associated with this construction. The argument that would typically be marked for ergative case is marked for absolutive case while the argument typically marked for absolutive case is marked for an oblique case or omitted. The relation between an "active" construction (one with the morphologically simple form of the verb) and the corresponding anti-passive construction is schematized below:

Active Use:	np1-ERG	np2-ABS	V
Anti-Passive Use:	np1-ABS	(np2-OBL)	V-ANTIPASS

This pattern of case marking suggests that in an anti-passive construction a verb that takes two arguments functions syntactically as a one-argument verb.

When the anti-passive construction involves an agent-patient verb, it will be the agent argument, as the argument marked for ergative case in the "active" construction, that will be marked for absolutive case. The patient argument will be marked for oblique case rather than absolutive case, or it may be omitted. The semantic role/surface case correspondences in the anti-passive construction are given below.

Active Use:	agt-NOM	pat-ACC	V
Passive Use:	agt-OBL	pat-NOM	V

Examples of so-called anti-passive constructions in various languages are illustrated below: Dyirbal in (3.23), Yidiny in (3.24), Greenlandic Eskimo in (3.25), and Central Arctic Eskimo in (3.26). The (a) sentence in each pair is an "active" sentence while the (b) sentence is the corresponding anti-passive.

(3.23) a. payi            parrkan            pangkul            yarangku jurrkanyu  
          THERE-ABS wa!laby-ABS THERE-ERG man-ERG spear-NFUT  
          man is spearing wallaby [Dixon 1972, 64]

- b. payi yara - pakul parrkanku jurkananyu  
THERE-ABS man-ABS THERE-DAT wallaby-DAT spear-APASS-NFUT  
man is spearing wallaby [Dixon 1972, 68]
- (3.24) a. wakujangku juki kuntal (kalpa:nta)  
man-ERG tree-ABS cut-PRES axe-INST  
The man is cutting a tree (with an axe). [Dixon 1979a, 26]
- b. wakuja kuntajing jukil (kalpa:nta)  
man-ABS cut-APASS-PRES tree-LOC axe-INST  
The man is cutting a tree (with an axe) [Dixon 1979a, 27]
- (3.25) a. Angutip arnaq unatarpaa.  
man-ERG woman-ABS beat-INDIC-3s/3s  
The man beat the woman [Sadock 1980, 16]
- b. Angut arnamik unataavoq.  
man-ABS woman-INST beat-APASS-INDIC-3s  
The man beat the woman [Sadock 1980, 17]
- (3.26) a. Piruutisiup Siisa kapivaa  
Brutus-ERG Caesar-ABS stab-INDIC-3s/3s  
Brutus stabbed Caesar. [Johnson 1980, 3]
- b. Piruutisi Siisamik kapisivuq  
Brutus-ABS Caesar-Com stab-APASS-INDIC-3s  
Brutus stabbed Caesar [Johnson 1980, 20]

The anti-passive receives its name because of its apparent relation to the passive construction in an accusative language. It resembles the passive construction in an accusative languages in form. Both constructions involve a derived intransitive verb, and the argument typically in the marked case appears in the morphologically unmarked case in this construction. That is, the argument marked by the ergative case in the "active" becomes the argument marked for absolutive case in the corresponding anti-passive contrasting with a passive construction where it is the argument marked for accusative case which becomes the argument marked for nominative case in the corresponding passive.

To appreciate why this construction is named the "anti"-passive construction requires considering the semantic roles associated with the "subject", i.e. the argument marked for unmarked case, in the anti-passive and passive constructions. The semantic role/surface case correlations for agent-patient verbs in active/passive constructions in accusative languages and active/anti-passive constructions in so-called ergative languages are given below:

Active Use:	-	agt-NOM	pat-ACC	V
Passive Use:		agt-OBL	pat-NOM	V
Active Use:		agt-ERG	pat-ABS	V
Anti-Passive Use:		agt-ABS	(pat-OBL)	V

In the passive construction it is the patient argument of an agent-patient verb that will be the "subject", while in the anti-passive construction it is the agent argument of an agent-patient verb that is the "subject". In this sense, the two constructions are opposites.

The anti-passive construction appears to have a central place in the syntax of some so-called ergative languages where there appear to be syntactic processes which operate only on absolutive arguments. Essentially, its use allows the ergative case marked argument of a transitive verb to be marked for the absolutive case so that it may participate in such processes. This use of the anti-passive construction is frequently observed in constructions involving more than one clause, for example in purposive or coordinate constructions. An example of this use found in Dyirbal will be discussed in Section 5.6.3.2.<sup>20</sup>

Marantz notes that the passive verb form in a language that is ergative with accusative case marking in the sense of the Ergativity Hypothesis would resemble the construction that has been called the "anti-passive". Consider the semantic role/surface case correspondences in a passive construction in an ergative language with accusative case marking, discussed in Section 3.3.1.

Passive: agent-NOM patient-OBL V

Compare this to the semantic role/surface case correspondences in an "anti-passive" construction.

Anti-Passive: agent-ABS patient-OBL V

Notice that when considered in terms of marked and unmarked case, the correspondence of semantic role to surface case is the same in the two constructions. Those instances of the

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20. See also Dixon [1979a] for discussion of this use of the anti-passive in Dyirbal and in general. The anti-passive construction in Mayan languages deserve further consideration because in these languages it seems to participate extensively in constructions involving *Wh*-movement such as relativization, question formation, or topicalization. See Smith-Stark [1978] for a survey of anti-passive in Mayan languages, as well as other papers on the anti-passive construction in particular languages, such as those in England (ed.) [1978] and England [1983].

so-called "anti-passive" construction that occur in ergative languages turn out to be passive constructions. It will account for the construction in Dyirbal and Yidiny since there is independent evidence for their ergativity, but not for the construction in Greenlandic, which is accusative.

Not all instances of the so-called "anti-passive" construction can be considered instances of the passive construction. The passive construction will account for only those instances of the "anti-passive" construction that occur in ergative languages in the sense of the Ergativity Hypothesis. Instances of the "anti-passive" construction found in accusative languages with ergative case marking cannot be passive constructions. It is the syntactic construction exemplified by these remaining instances of the "anti-passive" construction that Marantz defines to be the anti-passive construction. He proposes that the syntactic process involved in these constructions involves the addition of an affix with the feature [-A] to a transitive verb which also associates a syntactic case assigner with the verb.<sup>21</sup> I will accept Marantz's definition of the anti-passive construction.

The addition of such an affix to a transitive verb will result in a construction showing the properties described above as characteristic of the anti-passive construction. Transitive verbs have the features [+d-obj], [+T], [+A] so that the addition of the anti-passive affix creates a verb which is [+d-obj], [+T], [-A]. The affix therefore will not affect the semantic role assignment properties of the verb. The anti-passive verb is still [+T], so that the s-subject is still assigned its semantic role by the verb phrase. Furthermore, the s-subject of an anti-passive verb will correspond to the d-subject. Therefore, it will be assigned the same role as the s-subject of the corresponding "active" sentence.

Consider now the expression of the d-object in the anti-passive construction. The anti-passive verb form will still select a d-object but will not be able to assign case to an s-object because of the feature [-A]. In order to prevent a Case Filter violation, the d-object must have an alternative surface expression that allows it to be assigned case. The option allowed in the passive, for the d-object to assume the s-subject relation, is not open since the verb retains the feature [+T] and therefore assigns a semantic role to its subject. The only

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21. In Marantz's framework this affix would carry the feature [-trans]. The analogue to this feature in the GB framework would be the feature [-A], as mentioned in Section 1.2.4.

alternative is to introduce a syntactic case assigner at s-structure, a preposition or oblique case. The argument bearing the d-object relation to an anti-passive verb will be assigned its semantic role by the verb, but it will be assigned its case by the syntactic case assigner associated with the anti-passive construction. The d-object will be the object of the preposition or oblique case marker at s-structure. In fact, as observed, the introduction of an anti-passive morpheme is accompanied by a particular case assigner.

Marantz cites Greenlandic Eskimo as a language with an anti-passive construction. This construction is the construction cited above as an example of an "anti-passive" construction; the sentences illustrating this construction are repeated here as (3.27).

(3.27) a. Angutip arnaq unatarpa.  
man-ERG woman-ABS beat-INDIC-3s/3s  
The man beat the woman [Sadock 1980, 16]

b. Angut arnamik unataavoq.  
man-ABS woman-INST beat-APASS-INDIC-3s  
The man beat the woman [Sadock 1980. 17]

Sentence (3.27a) is the active sentence and (3.27b) is the corresponding anti-passive. As Greenlandic Eskimo is an accusative language<sup>22</sup> with ergative case marking, this construction would be an actual instance of the anti-passive construction as defined here. The anti-passive construction in Greenlandic would involve the addition of an affix to a verb which will be associated with the feature [-A]. The syntactic case assigner in Greenlandic is the instrumental case, as the example shows.

The effect of the anti-passive construction in an accusative language is schematized below. The figure shows the surface case assigned to the arguments of an agent-patient verb in this construction both in languages with accusative and ergative case marking.

The Anti-Passive in an Accusative Language

<u>Semantic Role</u>	<u>D-structure Relation</u>	<u>S-structure Relation</u>	<u>Accusative Case System</u>	<u>Ergative Case System</u>
agent	d-subject	s-subject	NOM	ABS
patient	d-object	oblique	OBL	OBL

In an accusative language with ergative case marking, the agent argument, although the

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22. Marantz presents evidence from the passive-reflexive ambiguity that Greenlandic Eskimo is an accusative language, in contrast to Yup'ik and Central Arctic Eskimo, which appear to be ergative.

s-subject in both active and anti-passive constructions, will receive a different surface case in the two constructions because in an active sentence the verb is transitive while in an anti-passive sentence the verb is intransitive. In an accusative language with accusative case marking there is no difference in the case assigned to the s-subject of either construction.

So-called anti-passive constructions in isolation cannot be used to determine whether a language is ergative or accusative. Marantz notes that the association of semantic roles and surface case in an anti-passive sentence in an accusative language with ergative case marking is the same as that in a passive sentence in an ergative language with accusative case marking.

<u>Passive</u> (Erg lang/acc case):	agt-NOM	(pat-OBL)	V
<u>Anti-Passive</u> (Acc lang/erg case):	agt-ABS	(pat-OBL)	V

As a comparison of the two structures shows, in both language types, the agent argument will be in the morphologically marked case in an active sentence and in the unmarked case in the corresponding passive or anti-passive sentence. From the point of view of surface case/semantic role correspondences, it is impossible to distinguish the two constructions. For this reason, the status of a language with respect to the Ergativity Hypothesis cannot be discovered from a so-called "anti-passive" sentence.

Marantz warns that the anti-passive construction should not be confused with the indefinite object deletion alternation. The two constructions might appear to resemble each other because the indefinite object deletion has no overt patient argument, and this same argument may be omitted in "anti-passive" sentences. The indefinite object deletion alternation is a semantic alternation. It involves two predicates that are related by a specific semantic relationship. Therefore, it is restricted to a set of verbs that meets a particular semantic characterization and is not productive. Often its expression does not involve a special form of the verb, as in English, for example. The anti-passive construction differs from indefinite object deletion in being mediated by an affix, being completely productive, and not being associated with a change in semantic interpretation.

An issue that remains to be accounted for is the distribution of the anti-passive construction. The anti-passive construction appears to be found primarily in accusative languages with ergative case marking. If, as this observation suggests, there is some connection between ergative case marking and the anti-passive construction, then additional investigation of the anti-passive construction may provide insight into the nature of ergative

case marking. In investigating the link between an anti-passive affix and case marking systems, the fact that a language with an anti-passive affix violates Burzio's generalization should also be considered.

The anti-passive construction has implications for Burzio's Generalization. Verbs with the anti-passive affix will violate Burzio's Generalization, [-T] <-> [-A]. The anti-passive affix carries the feature [-A], so that when it attaches to a transitive verb, it creates a verb with the features [+T] [-A]. This means that the implication [-A] --> [-T] will be violated in languages with an anti-passive. Burzio argues that this generalization must hold in languages such as English and Italian to explain why passive morphology, which is characterized by the feature [-A], will also be associated with the feature [-T], the feature taken here as the primary characterization of a passive affix. In presenting this argument, he makes an implicit assumption: that when a verb does not assign case to its object, the object can only receive case by assuming the subject grammatical relation. In anti-passive constructions, there is an independent syntactic role assigner that will assign case to the argument bearing the d-object relation. This obviates the need for the d-object to become an s-subject. Therefore, the implication [-A] --> [-T] need not and cannot hold in languages with an anti-passive construction.<sup>23</sup> It is possible that this generalization is assumed to hold in a language in the absence of positive evidence for the existence of an independent syntactic role assigner. Certainly, in languages without an anti-passive it is possible to maintain that this implication is exceptionless, but this implication cannot be maintained in a language with an anti-passive. In this sense the anti-passive is a marked construction.<sup>24</sup>

To complete the discussion of passive and anti-passive, it is necessary to consider what an anti-passive sentence would look like in an ergative language. This is one option that Marantz does not consider. Since the anti-passive is a syntactically-defined construction, it should apply equally in ergative languages and again involve the same affixation process and

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23. The other implication making up Burzio's Generalization, [-T] --> [-A] can still hold in languages with an anti-passive affix. The fact that the d-object of a passive verb or an unaccusative verb is an s-subject follows from this part of Burzio's Generalization. So an account of this fact is possible even in a language with an anti-passive affix.

24. Although Marantz does not discuss the implications of the anti-passive construction for Burzio's Generalization, he does point out that it violates the principle which is his counterpart to Burzio's Generalization. The anti-passive construction, Marantz suggests, would be a more marked construction than the passive construction because it violates this principle.



introduction of a syntactic case assigner. The effect of the anti-passive affix on an agent-patient verb in an ergative language is schematized below. This figure is the counterpart of the figure illustrating the anti-passive construction in an accusative language.

The Anti-Passive in an Ergative Language

<u>Semantic</u> <u>Role</u>	<u>D-structure</u> <u>Relation</u>	<u>S-structure</u> <u>Relation</u>	<u>Accusative</u> <u>Case System</u>	<u>Ergative</u> <u>Case sSystem</u>
patient	d-subject	s-subject	NOM	ABS
agent	d-object	oblique	OBL	OBL

In an ergative language, the addition of the anti-passive affix results in a construction in which the patient argument bears the s-subject relation to a derived intransitive form of a transitive verb. In this respect, the anti-passive in an ergative language will resemble the passive in an accusative language. The passive construction in an accusative language also involves the patient argument bearing the s-subject relation to a derived intransitive verb. The difference is in the feature characterization associated with a passive verb form and an anti-passive verb form.

One of the perplexing questions in the study of some so-called ergative languages (Eskimo languages, for example) has been the existence of a "passive" construction as well as an "anti-passive" construction [Johnson 1980, Mallon 1974, Reed et al. 1977]. In some of these languages, the accusative languages with ergative case marking such as Greenlandic, the so-called "passive" construction is in fact a passive. In other languages, the ergative languages with accusative case marking, this construction cannot be a passive, but is instead an anti-passive. Yup'ik and Central Arctic Eskimo are both ergative languages with accusative case marking that show constructions that have been referred to as "passive" constructions as well as a construction that has been referred to as an "anti-passive" construction. In the framework of the Ergativity Hypothesis, the "anti-passive" construction is actually a passive construction while the "passive" construction is a candidate for an

anti-passive construction.<sup>25</sup> The so-called "passive" construction is illustrated in the sentences in (3.28) from Central Arctic.

- (3.28) a. Piitaup    Maali    kunikpaa  
Peter-ERG Molly-ABS kiss-INDIC-3s/3s  
Peter kissed Molly. [Johnson 1980, 12]
- b. Piitamit    Maali    kunitauvuq  
Peter-ABL Molly-ABS kiss-PASS-INDIC-3s  
Molly was kissed by Peter. [Johnson 1980, 13]

### 3.3.3 Impersonal Passives

Perlmutter's paper [1978] proposing the need to distinguish two types of "intransitive" verbs was based on the ability of only some intransitive verbs to have impersonal passives. He presented evidence that in Dutch and Turkish, both accusative languages, only the unergative verbs have impersonal passives while unaccusative verbs do not. To begin with, these verb forms will simply be referred to as passives ignoring the question of their "impersonal" character.

The account of the difference between the unaccusative and unergative verbs with respect to the possibility of passive in Dutch depends on syntactic properties of the verbs and not on the particular semantic verb classes associated with these verbs. In particular, Marantz argues that only unergative verbs have passives, and that passive involves the addition of the feature [-T] to those verbs which are [+T]. In an accusative language, the unergative verbs are primarily agent verbs and the unaccusative verbs are primarily patient verbs, so it is the agent single argument verbs that show passives. In an ergative language, it is the patient single-argument verbs that would be expected to have passives. This difference follows from the Ergativity Hypothesis, since in an ergative language, it is the patient single argument verbs, rather than the agent single argument verbs, that are associated with the

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25. The qualification "candidate" for an anti-passive construction is made because of the nature of the derivational affix found on this construction. It is possible that this construction is not an anti-passive (or "passive") in the sense described here. According to Mallon [1974], in Central Arctic Eskimo, the derivational affix glossed PASS in (3.28b) is actually a morphologically complex affix consisting of an affix which forms a noun from a verb and a second affix forming a verb from a noun. I assume that the same is true of the Yup'ik affix which is cognate. This is one of several affixes that Reed et al. [1977] term "passive" in Yup'ik. Even if the construction in (3.28b) is not truly an anti-passive (passive) construction, it illustrates what such constructions should look like.

unergative configuration. Since the ability to have a passive is a property of the unergative configuration, the patient single argument verbs should show this property if the ergative language has passives and allows passives of unergative verbs. The agent single argument verbs, which should be unaccusative in an ergative language, would never have passives in an ergative language (if the language makes the unaccusative/unergative distinction).

One of the questions raised by the possibility that there could be passive forms of patient single argument verbs in ergative languages is what semantic interpretation such a form would receive. Consider first the interpretation of passive sentences in an accusative language. For a transitive verb, both active and passive sentences describe the same action and have the same predicate argument structure. A passive sentence differs from a corresponding active sentence in leaving unspecified the agent who accomplishes the action described, although in some languages such as English the agent may be expressed in an oblique phrase. For an unergative verb, there is only one argument, the agent argument, and the result of passivization is to deprive the verb of the ability to assign a semantic role to this argument. This argument receives an unspecified impersonal interpretation. The verbs involved are activity verbs, so the interpretation of the sentence is that unspecified people are carrying out the activity. The name of this construction reflects this interpretation.

In an ergative language, a passive sentence with a transitive verb and its active counterpart both describe the same action, but in the passive sentence the patient is left unspecified since the patient role is associated with the d-subject. The passive sentence, therefore, describes the action of an agent without specifying the patient argument involved in the action. What interpretation will be assigned to the passive of an unergative in an ergative language? An unergative verb will have a single argument with the role of patient. These verbs often are statives or inchoatives describing states or state changes or movements undergone by the argument. In the passives of these verbs, the single argument can no longer be specified, just as with the single argument to passives of unergative verbs in an accusative language. The verbs, therefore, will be expressing the existence of particular states or state changes, without reference to the objects these states or state changes are predicated of. Such sentences might correspond in meaning to "There was breaking," "There was bursting," "There was exploding/an explosion," "There was coming" (for example "there was much coming and going"). These sentences contrast with the impersonal interpretation of unergative verbs in accusative language where the identity of the agent was left unspecified although its existence was assumed.

To summarize, ergative and accusative languages should both allow passives of unergative verbs. In accusative languages, it is the agent single argument class which will permit passives. These passives will receive an impersonal interpretation. In ergative languages, it is the patient single argument class which will permit passives. These passive sentences would describe the existence or occurrence of some phenomenon. In an ergative language, if there are sentences with agent single argument verbs which receive impersonal interpretations, they would not be expected to show passive morphology.

There is no support for the prediction that patient single argument verbs should allow passives in ergative languages. In Dyirbal, Yidiny, and Inuktitut, there do not seem to be passives of single argument verbs, although they each have a passive construction. The lack of evidence relevant to these predictions may not be surprising since even accusative languages with passive constructions rarely allow impersonal passives. But there is also no evidence against the prediction that passive morphology should not be used to convey an impersonal interpretation with agent single argument verbs.

### 3.4 Predictions Involving Reflexive Verb Forms

A number of predictions concerning ergative and accusative languages involve the varied uses of reflexive verb forms. Many of these uses will have characteristic manifestations in ergative and accusative languages. Where ergative and accusative languages are predicted to differ with respect to the manifestation of a particular use of the reflexive verb form, these differences may be used to formulate tests for the status of a language. Tests based on the reflexive verb form are among the most effective for determining ergativity, but their usefulness is limited since many languages do not have an explicit reflexive verbal form.

Languages have several means available for associating a reflexive interpretation with a sentence. The existence of a reflexive relation between two noun phrases in a sentence can be expressed through the use of a morphologically derived form of the verb or through the use of explicit reflexive anaphors which are interpreted as being coreferent to another noun phrase in the sentence. English, for example, has reflexive anaphors while Russian has both a reflexive anaphor and a reflexive verb form. This section will be concerned with the implications of reflexive verb forms for the Ergativity Hypothesis. Section 3.5.3 will consider predictions concerning reflexive and reciprocal anaphors.

The analysis of derived-reflexive verb forms that I will assume here is the analysis proposed by both Marantz and Burzio [1981]. Under this analysis, reflexive verb forms are characterized by the feature [-T]. In some languages, a sentence receives a reflexive interpretation when the verb is in a special morphologically marked form, referred to as the reflexive verb form. Examples of reflexive verb forms in Russian (3.30), Italian (3.31), and French (3.32) corresponding to the English sentences (3.29) are given below.

(3.29) a. The mother washes the children.  
b. The children wash themselves.

(3.30) a. Mat' moet rebenki.  
b. Rebenki mojutsja.

(3.31) a. La mamma lava i bambini.  
b. I bambini si lavano.

(3.32) a. La mère lave les enfants.  
b. Les enfants se lavent.

In these examples of the reflexive construction which involve agent-patient verbs, the two arguments of the verb are understood to have a single referent.

Both Marantz and Burzio argue that the reflexive verb form must be an unaccusative form at d-structure. That is, they suggest that the reflexive affix used to derive this form of the verb is associated with the feature [-T], as well as the features of a reflexive anaphor. There is evidence that in reflexive sentences with a transitive verb in the reflexive form, as in (3.30)-(3.32), the reflexive verb form is intransitive [Grimshaw 1980]. In contrast, in reflexive sentences with overt reflexive anaphors the verb is still transitive.<sup>26</sup>

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26. Marantz proposes that there are two possible analyses of reflexive verbal morphology, which he labels the clitic analysis and the non-clitic analysis. The non-clitic analysis is the analysis presented here; under this analysis, the reflexive affix is associated with the feature [-T]. In the clitic analysis, the reflexive affix functions as a reflexive anaphor. That is, there is no change in the features associated with the verb. In particular, the verb does not show any properties of an unaccusative verb. Marantz is unaware of any evidence for this analysis and suggests that it is not possible. But, Burzio, who also argues for these two analyses of reflexive constructions, presents evidence that in Italian the clitic analysis is possible for some constructions with the reflexive clitic *si*. The two analyses can be distinguished because under the clitic analysis the verb will be transitive while under the non-clitic analysis it will be intransitive.

Burzio and Marantz propose similar analyses of the reflexive verb construction. Essentially, the argument is that the reflexive verb form must be [-T] in order to account for why the s-subject is interpreted as having both the semantic role associated with the d-object and that associated with the d-subject. The semantic role of the d-subject will be absorbed by the reflexive affix, as indicated by the feature [-T] associated with this affix. The semantic role of the d-object will be associated with the s-subject because the verb is [-T], and the d-object of a [-T] verb is its s-subject. The reflexive interpretation will be attributed to the fact that the reflexive affix, which has absorbed the role of the d-subject, must be bound to the s-subject (= d-object) because of the reflexive features of the affix.

In the next sections I will present predictions that follow from the Ergativity Hypothesis involving other uses of the reflexive affix. The fact that reflexive affix has many uses is well-known.<sup>27</sup> Those that will be discussed with respect to the Ergativity Hypothesis are the passive use (also discussed by Marantz), the inherent reflexive use, the anti-causative use, and the middle use. All of these predictions exploit the fact that the reflexive affix is

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27. For further discussions of the syntax of constructions involving the reflexive affix see Burzio [1981], Marantz, Zubizarreta [1982]. For a descriptive account of the possible uses see Nedjalkov and Silnitskij [1973]. This is actually a study of causative constructions, but the anti-causative affix in many languages is often the reflexive affix, so that the list of uses they propose carries over to the reflexive.

associated with the feature [-T].<sup>28</sup>

### 3.4.1 The Reflexive-Passive Ambiguity

The most convincing proof of the existence of ergative languages that Marantz presents follows from a prediction involving an ambiguity found in some reflexive constructions, referred to as the reflexive-passive ambiguity. This ambiguity results when the lexical reflexive verb form can also be used to form a passive construction. The Ergativity Hypothesis leads to a clear prediction concerning the form that the reflexive/passive ambiguity should take in ergative and in accusative languages. Since each type of language is characterized by a distinct ambiguity, the form of this ambiguity in a particular language can be easily used to determine whether a language is ergative or accusative. Marantz's discussion of this prediction will be summarized together with evidence bearing on this

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28. There is a use of the Russian reflexive affix where the verb appears to have the features [+T][-A] rather than the features [-T][-A]. This use is discussed in standard grammars, as well as Babby [1975], and illustrated by the pair of sentences below:

- (i) Sobaka kusaet deti.  
dog-NOM bite-PRES-3s children-NOM  
The dog bites the children.
- (ii) Sobaka kusaetsja (\*deti).  
dog-NOM bite-PRES-3s-REFL (\*children-NOM)  
The dog bites.

Evidence that the verb is [+T] comes from the inability of its subject to take the genitive of negation, unlike other reflexive verbs, as illustrated by an example of such a sentence in Pesetsky [1981, 1982]. Evidence that it is [-A] comes from its inability to take an object.

The Russian example in (ii) argues for a reflexive affix associated with the features [+T][-A]. Ken Hale has suggested to me that in fact there is a second possible non-clitic analysis of the reflexive affix which would be associated with these features. Under the clitic analysis, as proposed by Burzio, the verb retains the features [+T][+A], with the clitic being assigned the object's case. When the reflexive verb form involves a clitic, the clitic analysis would be possible, but when the reflexive verb form involves an affix, as in Russian, then the analogue to the clitic analysis would have to involve absorption of the object's case by the affix, i.e. an affix that is [-A]. Hale proposes that if the reflexive affix were associated with the features [+T][-A] together with the reflexive features, a sentence would be able to receive a reflexive interpretation. The object could not be a lexical noun phrase in such a sentence because the verb is [-A], but it could be an empty category bound to the subject. Note that a reflexive affix with these features would be marked since it would violate Burzio's Generalization. In addition, if an affix were used as both a [-T] and a [+T] affix, it would violate the uniformity principle on semantic role assignment that Chomsky [1981] proposes.

prediction.

In many accusative languages, the reflexive verb form may be used to indicate a passive use of a transitive verb as well as a reflexive use of the verb. Examples of passive constructions involving the reflexive form of the verb are given from Italian in (3.33), and French in (3.34).

(3.33) Le mele si mangiano.

(3.34) Les pommes se mangent.

These sentences may be compared to the verbal passives in (3.35)-(3.36).

(3.35) Le mele sono state mangiate.

(3.36) Les pommes ont été mangés.

In both the verbal and reflexive passive sentences, the s-subject is understood to be assigned the semantic role assigned to the s-object of the corresponding active sentence. That is the s-subject is the argument that bears the patient role.

The use of a reflexive form of a verb to express the passive is accounted for by the similarity in the syntactic characterization of the two constructions.<sup>29</sup> Both the reflexive and passive verb forms are associated with the feature [-T], the inability to assign a semantic role to the d-subject. Therefore, the reflexive form, as a [-T] form, may be used to indicate the passive.

The dual use of the reflexive verbal form should lead to ambiguity. In the absence of sufficient context, some sentences with reflexive verb forms are ambiguous between a passive and a reflexive interpretation, as in (3.37) from French.

(3.37) Les enfants se lavent.

(3.38) a. The children are washing themselves.

b. The children are being washed.

Consider the form that the ambiguity takes in these examples, which are from an accusative language. Under the passive interpretation, the argument expressed as the s-subject is the argument that bears the patient role to the verb. Although the argument assigned the patient role is expressed, the existence of an argument assigned the agent role is merely implied in this sentence.

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29. See Marantz and Burzio for more discussion.



Marantz assumes that when a reflexive verb form is found in an ergative language the analysis presented for this form in accusative languages will extend to ergative languages. The same analysis should apply to reflexive constructions even though ergative languages show the reverse assignment of semantic roles to d-structure grammatical relations, due to the symmetry in the reflexive relation. With a two argument verb, both arguments will be involved so that the difference in assignment of roles to d-structure relations is irrelevant. If the construction has the same analysis in ergative languages, the reflexive verb form will again be associated with the feature [-T].

The reflexive verb form would be expected to be used as a passive verb form in ergative languages as well as accusative languages. The passive construction in an ergative language involves a [-T] affix as it does in an accusative language, as discussed in Section 3.3.1. Therefore, if the reflexive verb form may be used to express the passive in an accusative language, it should also be used in an ergative language. Ambiguities in sentences with the reflexive verb form will again be expected. Such sentences should be ambiguous between passive and reflexive interpretations as they are in accusative languages. But, in an ergative language, the s-subject of a passive sentence is the argument that is assigned the agent role (see Section 3.3.1). Therefore, a sentence with a reflexive verb form that receives a passive interpretation will have the s-subject understood as the agent argument and there will be no argument bearing the patient role specified.

To summarize, because of the similarity in the syntactic characterization of the passive and reflexive verb forms, a single affix may be used to express both verb forms. This will result in sentences that are ambiguous between passive and reflexive interpretations. Because of the different associations of semantic roles with d-structure grammatical relations found in ergative and accusative languages, the ambiguity takes on a different form in the two types of languages. The s-subject of a passive verb is the argument that is assigned the agent role in an ergative language and the argument that is assigned the patient role in an accusative language. In a sentence involving the reflexive form of the verb see for example, the ambiguity is predicted to take the form below.

Accusative Language: -

The man saw himself.

The man was seen. (patient argument)

Ergative Language:

The man saw himself.

The man saw. (agent argument)

The predicted difference between the two language types with respect to this ambiguity means that if a language shows such an ambiguity, the form of the ambiguity can be used to determine its status.

The Ergativity Hypothesis then leads to a particular prediction about the form of the reflexive passive ambiguity. Evidence in favor of this prediction will provide support for the Ergativity Hypothesis. Marantz does offer evidence in support of this prediction from Dyirbal and Central Arctic Eskimo. Since Dyirbal will be discussed in detail in Chapter 5, a discussion of the ambiguity in Dyirbal will be deferred. Instead, I will present evidence from the comparable construction in Yidiny, a language related to Dyirbal. I will also review the Eskimo data Marantz presents.

In Yidiny, the reflexive form of a two argument verb is formed by adding the affix *-ji-n* to the verb. A sentence with a transitive verb and the corresponding reflexive sentence are given in (3.39) and (3.40).

(3.39) a. wakujangku juki kuntal (kalpa:nta)  
man-ERG tree-ABS cut-PRES axe-INST  
The man is cutting a tree (with an axe). [Dixon 1979a, 26]

b. wakuja kuntajing (kalpa:nta)  
man-ABS cut-APASS-PRES axe-INST  
The man is cutting himself (with an axe) [on purpose] [Dixon 1979a, 28]

The fact that the argument bearing a relation to the verb in the reflexive sentence in (3.39) is marked for absolutive case indicates that the reflexive verb form is intransitive. Therefore, the reflexive affix in Yidiny may be considered a [-T] affix, and is not an anaphor. This same affix may be used to express what has been referred to as an "anti-passive" construction, as illustrated by (3.40)-(3.41).

(3.40) a. wakujangku juki kuntal (kalpa:nta)  
man-ERG tree-ABS cut-PRES axe-INST  
The man is cutting a tree (with an axe). [Dixon 1979a, 26]

- b. wakuja kuntajing - jukil (kalpa:nta)  
man-ABS cut-APASS-PRES tree-LOC axe-INST  
The man is cutting a tree (with an axe) [Dixon 1979a, 27]

This construction will be a passive construction since it involves a [-T] affix. Therefore, ambiguities concerning this affix will bear on the question of Yidiny's ergativity. Dixon notes that some sentences involving the reflexive affix are ambiguous. As an example, consider (3.41).

- (3.41) ngayu pampi:jinyu  
I-ACC cover-APASS-PST [Dixon 1977a, p.281]  
(3.42) a. I covered myself  
b. I covered someone/something

This ambiguity is that predicted for an ergative language, suggesting that Yidiny is an ergative language in the sense of the Ergativity Hypothesis.<sup>30</sup> Additional evidence bearing on Yidiny's ergativity will be mentioned in Sections 3.4.2 and 3.5.1.

In Central Arctic and Yup'ik Eskimo, as in other Eskimo languages, to form a reflexive sentence with a transitive verb, the verb is conjugated as if it were an intransitive verb rather than as if it were a transitive verb. Verbs in Eskimo belong to one of two conjugations: transitive verbs take the transitive conjugation which shows agreement with two arguments, while intransitive verbs take the intransitive conjugation which shows agreement with a single argument. Sentences where transitive verbs are found in the intransitive conjugation receive a reflexive interpretation.

With some transitive verbs, sentences where the verb takes the intransitive conjugation are ambiguous between a reflexive interpretation and an interpretation which has been described as an "anti-passive" or "passive" interpretation depending on the Eskimo language involved.<sup>31</sup> As mentioned, the "anti-passive" construction in a so-called ergative language might actually be a passive construction in a true ergative language. As languages

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30. There are some additional uses of the Yidiny reflexive where the verb appear to retain at least the feature [+T] and possibly also the feature [+A]. These uses will have to be accounted for; they may be candidates for the analysis of the reflexive affix proposed in footnote 28. In these uses, the reflexive form of an agent-patient verb expresses a deviation from the prototypical agent act on patient situation. See Dixon [1977a, 1979a] for more details.

31. Other transitive verbs take an explicit anti-passive affix. See Section 3.4.3 for more discussion.

with ergative case marking, this may be true of the Central Arctic and Yup'ik constructions which have been referred to as "anti-passive" [Johnson 1980, Reed et al. 1977]. Evidence bearing on this question will come from an examination of the intransitive conjugation to express the "anti-passive" in Arctic. As Marantz notes, the s-subject in the "anti-passive" is the argument bearing the agent role, rather than the argument bearing the patient role, as in (3.43).

(3.43) angut     arnarmik     takuvuq  
man-ABS woman-COM see-INDIC-3s  
The man sees the woman [Marantz, 186a]

The s-subject of the same verb form may be interpreted as the subject of a reflexive as in (3.44).

(3.44) angut     ingminik     takuvuq  
man-ABS self-COM see-INDIC-3s  
The man sees himself. [Marantz, 187a]

That the s-subject of the same verb form may be interpreted as the subject of the reflexive or the argument that bears the agent role to the verb in a non-reflexive interpretation is evidence that Central Arctic is ergative. Marantz concludes from an examination of this construction that Central Arctic is indeed ergative and that the non-reflexive use of the intransitive conjugation with transitive verbs is a passive use. Comparable evidence is available in Yup'ik. Marantz notes that Greenlandic contrasts with Central Arctic and Yup'ik in this respect. Consider the possible interpretations of sentence (3.45) from Greenlandic.

(3.45) Piniartoq     toquppoq  
hunter-ABS kill-INDIC-3s [Sadock 1980, 12]

(3.46) a. The hunter killed himself.  
b. The hunter was killed.

The Greenlandic ambiguity differs from that in Yidiny or Central Arctic; it is the argument with the patient role that is understood as the s-subject of the reflexive verb form under the non-reflexive interpretation. This is the ambiguity that characterizes accusative languages.

### 3.4.2 Inherent Reflexives

Another use of the reflexive affix is the inherent reflexive use [Burzio 1981]. The only evidence I have been able to find in support of the predictions that ergative languages should have unaccusative and unergative classes concerns inherent reflexive verbs. Before presenting this evidence I will explain how inherent reflexive verbs could provide evidence bearing on the Ergativity Hypothesis.

Inherent reflexive verbs are intransitive verbs with the reflexive verbal affix which are not paired with transitive counterparts lacking this morphology, unlike true reflexive verbs. They are not necessarily associated with a reflexive interpretation. Inherent reflexive verbs are found in languages with reflexive verbal morphology, such as French, Italian, and Russian. Sentence (3.47) illustrates the use of the inherent reflexive verb *vergognarsi* "to be ashamed/shy" in Italian.

(3.47) La ragazzina si vergognava di quello che aveva detto.  
The little girl was ashamed of what she had said.

Burzio argues that inherent reflexive verbs have the feature [-T]. Therefore, they may be unaccusative verbs, but cannot be transitive or unergative verbs. Evidence that the inherent reflexive verbs are unaccusative comes from their syntactic properties. Furthermore, the inherent reflexive verbs in Italian are verbs which assign the patient semantic role to their argument. This is consistent with their being unaccusative since Italian is an accusative language. Among the inherent reflexive verbs in Italian that Burzio lists are *pentirsi* "repent", *stancarsi* "to get tired", *arrabbiarsi* "to get angry", and *riposarsi* "to rest".

Why does the reflexive affix turn up on these verbs if they do not have a reflexive meaning? The presence of the reflexive affix on these verbs signals that these verbs are associated with the feature [-T] which is common to unaccusative verbs but not to unergative verbs. Further evidence that this morphology indicates a particular feature comes from the use of the reflexive affix to convey a passive sense in many languages.

Inherent reflexive verbs should be possible in ergative languages which have reflexive verbal morphology. If the reflexive verbal form is found in some accusative languages as an indication that a verb is unaccusative, i.e. [-T], then it might be expected to be used for this purpose in ergative languages. In accusative languages unaccusative verbs are patient single argument verbs, and, in fact, the examples of inherent reflexives cited in such languages meets this semantic criterion. But in an ergative language unaccusative verbs are agent single argument verbs. Therefore, if an ergative language has inherent reflexive verbs, they should be verbs that belong to the semantic class of verbs with an agent as its single argument.

It has already been shown that the reflexive affix can be used to indicate the passive form of a verb in ergative languages. There is no reason to suppose that it could not be used to from inherent reflexive forms as well.

Is there any evidence bearing on the prediction concerning inherent reflexive verbs? There will be no evidence bearing on this prediction from the Eskimo languages since there is no overt morphology indicating the reflexive verbal form. Dyrbal, one of the two ergative languages identified by Marantz, is a language with reflexive verbal morphology, but I could not find any mention of inherent reflexive verbs in Dixon's grammar of Dyrbal. Yidiny, a language related to Dyrbal, though does seem to be an ergative language with some inherent reflexives. Evidence from the passive-reflexive ambiguity that Yidiny is ergative was presented in Section 3.4.1; evidence from control will be discussed in Section 3.5.2.

In his grammar of Yidiny, Dixon [1977a, p.280] notes that several verbs in Yidiny always occur with the reflexive suffix even though they have no counterparts without the reflexive affix. These verbs are all intransitive. These verbs meet the characterization of inherent reflexive verbs. Dixon cites four examples of such verbs: *nyangka:ji-n* "to talk", *wangka:ji-n* "to get up", *pani:ji-n* "to grumble", *murri:ji-n* "to scream". Three of these verbs are verbs of communication, the verb *nyangka:ji-n* "to talk" and two others describing manners of speaking. The argument to these verbs, the person who is speaking, has an agent role. The occurrence of these verbs among inherent reflexives in Yidiny is consistent with the prediction for ergative languages, and contrasts with accusative languages where such verbs show the properties of intransitive verbs (although occasionally they are transitive). These verbs are not among the inherent reflexive verbs in accusative languages. The use of the reflexive affix with verbs of speaking in an accusative language generally imparts a reflexive, reciprocal, or impersonal passive meaning. The reciprocal use in Russian is illustrated in (3.48).

(3.48) Oni           govorilis'       drug s drugom.  
They-NOM talk-PST-REFL each other-INST  
They talked to each other.

It is more difficult to determine whether the fourth verb Dixon lists, *wangka:ji-n* "to get up", is consistent with the prediction that the inherent reflexive verbs in an ergative language should have an argument with the semantic role of agent. The problem is deciding whether the semantic role of the argument to this verb is the agent or patient role. First of all it is not clear from Dixon's gloss of the verb whether the verb denotes standing up and waking up. Second, both of these actions might be voluntary or involuntary. In the absence of examples of the verb's use and a more precise definition, it is difficult to say whether the argument to this verb is necessarily an agent or not. The argument to verbs such as *get up* could have

either the agent or patient semantic role, and the verb therefore could be put in either the agent or patient verb class. Which class is chosen seems to be a language specific property. For example, in Russian there is a pair of verbs meaning to *get up*, one an inherent reflexive verb and the other not. Further questions about the status of this verb are raised by its treatment in accusative languages. The verb *get up* in Italian, *alzarsi*, is an unaccusative verb. It always appears with the reflexive affix and has a transitive counterpart, *alzare*, which means "to raise". The Italian verbs *alzarsi* and *alzare* seem to form a causative/anti-causative pair. Even in the absence of sufficient evidence, it is clear that this verb cannot be considered an outright counterexample to the prediction.

### 3.4.3 The Anti-causative Alternation

The passive and inherent reflexive uses of the reflexive affix both provide the basis for diagnostics to determine whether a language is ergative or accusative as well as characteristics of ergative and accusative languages. There is another common use of reflexive morphology which is also relevant to the characterization of differences in ergative and accusative languages: this is the use of the reflexive affix in expressing the anti-causative member of the anti-causative alternation. I will show below that this use of the reflexive should be possible only in accusative languages.

By causative/anti-causative pair, I am referring to a pair of semantically related verbs differing in the notion of causation.<sup>32</sup> Such a pair is illustrated below by the transitive and "intransitive" uses of English *break*:

- (3.49) a. The child broke the toy.  
b. The toy broke.

Sentence (3.49a) is causative in meaning. It describes an agent causing or bringing about a particular state change or state. The anti-causative sentence (3.49b) expresses a particular state change without any mention of how it came about. The members of a particular causative-anti-causative pair express the same state change, but only the causative member expresses the causer of the state change. Causative verbs have two arguments, an agent who brings about the state change and a patient who undergoes it. Anti-causative verbs have a single argument: a patient who undergoes the state change. Causative verbs are transitive,

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32. For more discussion of this alternation see Marantz.

anti-causative verbs are not.

The anti-causative alternation is found with some members of a semantically restricted class of predicates. These are predicates describing an object undergoing a change in its physical or psychological state or position. It differs from the syntactic process known as causativization, a process which involves the addition of an affix to a verb to form a verb that has a causative meaning. First, causativization is a productive process; the causative affix may be added to any verb, not just verbs in a particular semantic class. Second, the anti-causative construction expresses a more "direct" notion of causation than a causative construction does.<sup>33</sup> The anti-causative alternation seems to reflect a regularity in semantic organization found in all languages. This alternation is found even in languages that do not have productive morphological causatives, while in languages that do have them, there is usually a different means of expressing this alternation. Usually, the members of a particular anti-causative alternation seem to be expressed by morphologically related verbs. See Burzio for an account of why this alternation might be expressed without overt morphology.

Many languages with a reflexive affix use this affix<sup>34</sup> to derive the anti-causative member of the alternation from the causative member; among them are Italian, French, Spanish, Russian, and Nivkh (Gilyak). This use of the reflexive affix is illustrated with examples from Russian (3.50) and Italian (3.51), which correspond to the English in (3.52).

- (3.50) a. Rebenok slomal igrushku.  
child-NOM break-PST toy-ACC  
b. Igrushka slomalas'.  
toy-NOM break-PST-REFL

- (3.51) a. Il bambino ha rotto il giocattolo.  
b. Il giocattolo si e' rotto.

- (3.52) a. The child broke the toy.  
b. The toy broke.

The (a) sentences illustrate the causative member and the (b) sentences the anti-causative

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33. See Shibatani [1976] for some discussion.

34. Nedjalkov and Silnitskij [1973], in a study of causativization, found that to express the anti-causative alternation, the anti-causative member is most commonly expressed by a verb derived by adding an "anti-causative" affix to the verb expressing the causative member of the alternation. This is the case when a verb and its reflexive form are used to express the causative and anti-causative members of the alternation.



member of the alternation. The causative sentences use a transitive verb. The anti-causative sentences use the reflexive form of the transitive verb; *si* is the reflexive clitic in Italian and *-sja* (*-s'* after vowels) the reflexive suffix in Russian.

Why is the reflexive verbal form used to express this alternation? As noted in the discussion of the passive and inherent reflexive use of the reflexive verbal form, this form indicates that the verb has the feature [-T], that is the verb does not assign a semantic role to its subject. Burzio [1981] argues that the members of the anti-causative alternation differ exactly in the value of the feature [T]. The causative verb is a transitive verb, so it is [+T] [+d-obj], while the anti-causative verb is an unaccusative verb, so it is [-T] [+d-obj]. The use of the reflexive verbal form to express an anti-causative verb would again signal the feature [-T], as it does in expressing the passive form of a verb.

Burzio proposes that the lexical entries of the verbs in the anti-causative alternation differ in the value of the feature [T] while sharing the feature [+d-obj]. The causative member of the opposition will have the features [+T][+d-obj] making it a transitive verb. The anti-causative member of the opposition will be [-T][+d-obj], it will be an unaccusative verb. Burzio presents syntactic evidence for this analysis from Italian. In particular, the single argument of an anti-causative verb shows syntactic properties associated with d-objects suggesting that these verbs are unaccusative.

This analysis of causative and anti-causative verbs also accounts for the semantic relation between them. The problem that this alternation posed for previous analyses is that the surface subject of the anti-causative verb has the same semantic role as the surface object of the transitive. The similarity in role is explained by the fact that the single argument of the anti-causative verb is its d-object just as the direct object of the transitive is the d-object of the causative. This allows the semantic role of patient to be associated with the d-object. The causative verb differs from the anti-causative in describing how the state change came about; it denotes an action with an agent and a patient. The anti-causative verb denotes a state change with no reference to its cause. The difference in the value of the feature [T] reflects this difference in semantics. As a transitive verb, the causative verb can assign a semantic role directly to its d-object and indirectly to its d-subject, assigning both the agent and patient roles. The anti-causative verb has only one argument that needs a semantic role, this is the role that is assigned to the d-object. The verb does not need to assign an additional role to its d-subject, so it does not need to have the feature [+T].

The argument for using the reflexive verbal form to indicate anti-causative verbs is based on evidence from accusative languages. Each of the languages cited above which use the reflexive verbal form to express the anti-causative alternant is accusative. In accusative languages the anti-causative alternation involves the feature [T], so the reflexive affix may be employed to express this alternation. The reflexive affix does not have to be used. English, for example, has no morphological indication of this alternation, while, in Indonesian, it is the causative member of the opposition that is derived from the anti-causative member via the suffix *-kan*.

The anti-causative alternation is not restricted to accusative languages since it reflects principles of semantic organization of a language. Can the reflexive affix be used in ergative languages to express the anti-causative alternation? The reflexive morpheme is still associated with the feature [-T] in ergative languages as shown by the discussion of the passive and inherent reflexive uses. Therefore, the reflexive verbal form can be used to express the anti-causative alternation in ergative languages only if the expression of this alternation involves the feature [T].

In an ergative language, the anti-causative alternation does not involve the feature [T] but rather the feature [d-obj]. By the Ergativity Hypothesis, the patient role is associated with the d-subject in an ergative language and not with the d-object. As a consequence of the Ergativity Hypothesis, patient single argument verbs such as anti-causative verbs are associated with unergative verbs rather than unaccusative verbs in an ergative language. Unergative verbs are [+T][-d-obj] verbs, so anti-causative verbs will be unergative verbs. Causative verbs, as agent-patient verbs, will still be transitive verbs, that is [+T][+d-obj]. Therefore, the feature [d-obj] will be the distinguishing feature between causative and anti-causative verbs in an ergative language.

The table below illustrates the d-structure verb classes associated with the causative and anti-causative members of the anti-causative alternation in ergative and accusative languages.

	<u>Accusative Language</u>	<u>Ergative Language</u>
Causative Verb:	Transitive	Transitive
Anti-Causative Verb:	Unaccusative	Unergative

Given the Ergativity Hypothesis, the anti-causative alternation in an ergative language will involve the feature [d-obj] and not the feature [T] while in an accusative language it will

involve the feature [T]. Since the reflexive morpheme is associated with the feature [-T], it cannot be used in ergative languages to express the anti-causative alternation. The prediction then is: the expression of the anti-causative alternation should never use the reflexive affix in an ergative language. Therefore, ergative languages will contrast with accusative languages in this respect.

The fact that a given language does not use reflexive verbal form to express the anti-causative alternation reveals nothing about the language's status. For example, English, which does not use a reflexive verbal form for this purpose, is an accusative language. But, in the presence of independent evidence for ergativity, the use of some means other than the reflexive verbal form to express the anti-causative alternation provides further confirmation of the language's ergativity. If an examination of ergative languages shows that they do not use the reflexive affix in expressing the anti-causative alternation, then the facts will be consistent with the Ergativity Hypothesis. If a language does make a syntactic distinction between unaccusative and unergative verbs, the presence of the reflexive affix in the anti-causative alternation in an ergative language will be evidence against the Ergativity Hypothesis.

It is not possible to show that no ergative language uses a reflexive verb form to express the anti-causative alternant, but an examination of this alternation in some ergative languages will show whether the prediction is satisfied in at least some languages. Some support for this prediction comes from Dyirbal and Yidiny. There is independent evidence for the ergativity of these two languages, and as predicted these languages do not use the reflexive affix for the anti-causative alternation. Both languages derive both the causative and anti-causative alternants from adjectives by the addition of verbalizing suffixes. The expression of the alternation in Dyirbal will be discussed in Section 5.6.1.

The discussion of the anti-causative alternation suggests a diagnostic for accusativity: if a language uses the reflexive morpheme to express the anti-causative alternation, then it is accusative.<sup>35</sup> Ergative languages will not allow this use of the reflexive morpheme. This diagnostic together with the other diagnostics given above concerning passives and inherent reflexives form the beginning of a collection of tests for the ergativity of a language.

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35. But see Section 5.6.1 for a discussion of the Dyirbal mother-in-law language where an apparent counter-example to this claim is found.

In an accusative language, the anti-causative alternation used the reflexive affix because it involves the feature [T] associated with this morpheme. If there is a semantic alternation in an ergative language which uses the feature [T], then it too would be able to use the reflexive affix. A [+T] verb allows a semantic role to be assigned to its d-subject, while a [-T] verb does not allow a semantic role to be assigned to its d-subject. In an ergative language verbs that differ in the feature [T] differ in whether they assign a semantic role to the d-subject, and, by the Ergativity Hypothesis, the d-subject is usually assigned the patient role. Therefore, an alternation that involves the feature [T] in an ergative language should express a semantic alternation that deals with the verb's ability to assign the patient semantic role, contrasting with an accusative language where such an alternation in semantic role assignment concerned the feature [-d-obj].

There are two properties of the anti-causative alternation which when appropriately abstracted might help identify the nature of this alternation. These properties stand out when the anti-causative alternation is compared to the active and passive forms of verbs in an accusative language. The verbs in each pair differ in the ability to assign a semantic role to the agent, but they differ in their semantics. In the anti-causative alternation, the verbs differ in whether they describe a state change with or without an agent implicated. This alternation contrasts in this respect with the active and passive verb forms. The passive verb form implies an agent, even if it is not specified. Also although passivization is considered a productive process, the anti-causative alternation is lexically restricted to a semantically defined verb class. There are some core members of this class showing the alternation across languages, but there is also some variation.

Are there two comparable phenomena involving the assignment of a semantic role to the patient? One would be a lexically restricted alternation, and the other a productive derivational process. They would also differ in the nature of the involvement of the patient in the non-transitive verb forms, although it is hard to characterize what this would mean.

One semantic alternation involving the patient is the indefinite object deletion alternation, exemplified below:

(3.53) The man ate the fruit.

(3.54) The man ate.

In this alternation, the transitive use of the verb alternates with a use of the verb in which the patient is left unspecified although an indefinite patient is understood. In this alternation, the

single argument to the indefinite object verb is understood as the agent of the action. The focus is on the activity of the agent; there is no explicit patient. This verb will be an unergative verb in an accusative language and an unaccusative verb in an ergative language. The other use of the verb always has an agent and a patient as arguments; it will be transitive in all languages. The table below illustrates the d-structure verb classes associated with the two members of the alternation in ergative and accusative languages.

	<u>Accusative Language</u>	<u>Ergative Language</u>
Specified Object:	Transitive	Transitive
Indefinite Object:	Unergative	Unaccusative

This alternation will involve an unaccusative and a transitive verb in an ergative language just as the anti-causative alternation involves an unaccusative and a transitive verb in an accusative language. The alternation involves a pair of verbs differing in the feature [T]. This alternation, therefore, could be indicated by the reflexive morpheme

The problem is the status of this alternation. As noted in Section 3.3.2, the indefinite object deletion alternation looks very similar to the passive (anti-passive) construction in ergative languages, which may be marked with the reflexive affix.<sup>36</sup> But it is not clear to me whether what is being called the passive construction in an ergative language in the sense of the Ergativity Hypothesis is the same phenomenon as the indefinite object deletion alternation. The descriptions of the meaning of the passive construction do not make clear whether this construction receives the same interpretation as an indefinite object deletion sentence or a distinct interpretation. Indefinite object deletion in English is restricted to a small semantically coherent class of verbs, while all transitive verbs in an ergative language such as Dyrbal will have corresponding (anti-)passive forms. This is one of the differences observed between passivization and the anti-causative alternation. Yet, a clear semantic difference has been recognized between passivization and the anti-causative alternation, but not between (anti)passives and the indefinite object deletion alternation. These phenomena

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36. In fact, Heath [1976] and Postal [1977] extend the term "anti-passive" to cover both types of constructions.

need to be examined more closely.<sup>37</sup>

The use of the same verb form for the reflexive and for both the anti-causative and indefinite object deletion alternation in Eskimo languages may seem problematic given the discussion in this section. These languages do not seem to employ an explicit reflexive affix. Instead, they rely on the use of the intransitive conjugation with verbs that are transitive (and therefore usually take the transitive conjugation) to convey a reflexive interpretation, as discussed in Section 3.4.1. With most verbs, the use of a transitive verb with the intransitive conjugation may be associated with a second interpretation that seems to be lexically determined. This interpretation is usually the anti-causative or indefinite object interpretation according to the semantic class of the verb [Marantz]. The relation between the transitive and intransitive conjugation of a verb in Eskimo seems to resemble the relation in English between transitive and intransitive uses of a comparable verb.

The fact that the same verb form may be used for both alternations in Eskimo languages suggests that the form is not associated with the feature [-T]. The intransitive conjugation is found with intransitive verbs from any semantic class, not with a subset of intransitive verbs. It is possible that the intransitive conjugation when used with transitive verbs indicates that the verb is intransitive at s-structure, i.e. that the verb takes an s-subject but not an s-object. If so, it would be found with verbs that are either unergative or unaccusative. Even though the intransitive conjugation is used to express the reflexive with a transitive verb, it is not a special verb form that is associated with the feature [-T] as the reflexive form is. I assume that the predictions concerning the use of a reflexive verb form for expressing semantic alternations are not relevant to Eskimo language since the intransitive conjugation is different from such a form.

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37. The expression of the indefinite object deletion alternation in various languages has never been studied systematically in the way the anti-causative alternation has. The indefinite object deletion alternation deserves further attention because of its relevance to many questions concerning transitivity, including those discussed here. For example, there appears to be a relation between the indefinite object deletion construction and the cognate object construction, another construction that has raised questions about the notion of transitivity. Occasionally cognate object constructions may be used to express an indefinite object deletion reading, as in Turkish [Underhill 1976] or Warlpiri (see Chapter 4).

This raises questions about the evidence discussed earlier on the passive-reflexive ambiguity in Eskimo. In fact, it appears that this evidence is still valid, as will be explained. There is a class of transitive verbs that do not participate in any semantic alternations. For some of these verbs, the intransitive use may take on a second interpretation besides the reflexive interpretation. This interpretation seems to be language-specific. Marantz assumes that both interpretations are associated with the feature [-T] and, therefore, that the second interpretation will be the expression of the passive use of the verb in that language.<sup>38</sup> He then uses the nature of the ambiguity to determine the ergativity of the language. The question is why should the second interpretation be the passive interpretation. Marantz does not justify making this assumption, but some arguments he presents elsewhere bear on this question. Marantz assumes that the reflexive verb form can be used for a passive unless the same verb form is also used to express some other semantic alternation. The idea is that the non-productive use would prevent the productive extension of the reflexive use to a passive use. That is, it is only with verbs from the residue class that the passive interpretation is possible. For the verbs that participate in other semantic alternations, there are affixes that derive the [-T] form.<sup>39</sup>

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38. Although Marantz considers the verbs showing this ambiguity a residue class, as discussed, this is not entirely clear in Central Arctic. The verbs Johnson [1980] cites that do show the ambiguity include *see, watch, look for*. It is interesting that the examples given are all from a semantically restricted class, verbs of perception. Further investigation may show this to be simply an artifact of her choice of examples, but for the moment it must be taken into account in evaluating the evidence from the ambiguity. But it is clear that these verbs do show the ambiguities predicted by the Ergativity Hypothesis. Note that for many verbs the intransitive conjugation is not used for the (anti)passive. Instead, a derived intransitive is formed by adding an (anti)passive suffix. In Central Arctic Eskimo, Johnson characterizes these verbs as verbs in which there is a direct effect on the object; they include *kiss, stab, tell, give, find*. The ambiguity is significant since as Marantz points out, with some verbs the form of the ambiguity is language-specific.

39. In Yup'ik, which appears to be an ergative language in the sense of the Ergativity Hypothesis, the (anti)-passive affix is not used with verbs that participate in the indefinite object deletion alternation, instead the verbs simply appear in the intransitive conjugation. With these verbs, the feature [-T] would be associated with the intransitive conjugation in both the reflexive and semantically selected use (i.e. indefinite object deletion use). The fact that there is no conflict in features between these uses and the passive use may explain why there is no (anti)-passive affix with these verbs. With verb where the intransitive conjugation is used to express the reflexive and the anti-causative, the two uses are associated with different values of the feature [T]. Such verbs use a special affix for the (anti)-passive.

### 3.4.4 Middle Constructions

The reflexive affix is used in some accusative languages to form a middle verb from a transitive verb. The middle use of the reflexive is illustrated below in Italian, French, and Russian, with English counterpart (3.56).

- (3.55) a. Questi libri si vendono bene.  
b. Ces livres se vendent bien.  
c. Eti knigi xorosho prodajutsja.

(3.56) These books sell well.

These languages also allow other uses of the reflexive affix including passive, anti-causative, and inherent reflexive uses.

Middle constructions are formed from transitive verbs to express the ability or propensity of the patient to undergo the action denoted by the verb.<sup>40</sup> They are formed from verbs denoting actions under the control of an agent to describe the potential for carrying out the action with respect to a particular patient. Middle verbs are non-eventive; they do not denote specific events. The verb is almost always qualified by an adverb. An agent who performs the action is implicit in the middle construction but never expressed.

Middle verbs resemble anti-causative and passive verbs in being formed from transitive verb. The subject of all three is the noun phrase bearing the patient semantic role. Like passive sentences, but unlike anti-causative sentences, there is an agent implicit in the middle sentence. But passive sentences differ from middle sentences in allowing their agent to be expressed optionally.

Keyser and Roeper [1983] argue that middle sentences like passive sentences are formed by the application of the rule Move Alpha, so that the s-subject of the middle sentence is its d-object. The use of the reflexive affix in both passive and middle sentences is assumed to indicate the absorption of accusative case. If verb cannot assign accusative case to its

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40. The terms (reflexive) passive and middle have been used interchangeably to refer to the same construction because the middle construction show the same syntactic relation to the active construction as the verbal passive does, despite the difference in meaning between the middle and verbal passive constructions. In this section, I will assume that the middle construction is a semantically defined construction in the sense just set out. In Section 5.6.1, I will argue that the middle construction is actually the manifestation in an accusative language of a more general construction and that the same construction is found in ergative languages.



s-object, the resulting sentence will be ill-formed unless the s-object can receive case in some other way. By moving to s-subject position through the application of Move Alpha, the d-object will be able to receive nominative case. But movement can only take place if the s-subject position is not filled, so middle sentences must not assign a semantic role to the agent.

The Ergativity Hypothesis predicts that middle verbs would not use the reflexive affix in ergative languages. A middle construction is a semantically defined construction: it expresses the ability of an agent to perform an action on a particular patient. This will require the patient to be specified even though an agent need not be. The reflexive affix allows the semantic conditions to be met in accusative languages but not in ergative languages.

The reflexive affix indicates that the verb does not assign a semantic role to its d-subject, but it still allows the verb to assign a semantic role to its d-object. In accusative languages, the d-object is assigned the patient role. Since the patient role must be expressed, and the reflexive affix allows it to be expressed, reflexive morphology may be used with middle verbs. In ergative languages, the d-subject is assigned the patient role. Reflexive constructions do not assign a semantic role to the subject, so the patient role, which must be assigned in middle sentences, will not be assigned. This would rule out the use of the reflexive affix in middle constructions in ergative languages. The fact that the discussions of the reflexive affix in Dyirbal and Yidiny do not cite a middle use as one of the possible uses is consistent with the prediction. The data available on ergative languages does not make any reference to how a sentence with a middle interpretation is expressed, so how middle sentences are expressed in ergative languages is still an open question.

### 3.5 Predictions Involving The Binding Theory

Many predictions about the nature of ergative languages will follow from an examination of the Binding Theory in the context of the Ergativity Hypothesis. In the Government-Binding framework, the Binding Theory is the subsystem of grammar that "is concerned with the relations of anaphors, pronouns, names, and variables to possible antecedents" [Chomsky 1981, p.6]. These relations must satisfy the conditions of the Binding

Theory, cited below:<sup>41</sup> -

- (A) An anaphor is bound in its governing category.
  - (B) A pronoun is free in its governing category.
  - (C) An R-expression is free.
- [Chomsky 1981, p.188]

This section will focus on two predictions resulting from this interaction. These predictions involve the distribution of anaphors and controlled arguments in ergative and accusative languages.

Although the conditions of the Binding Theory were formulated to account for properties observed in accusative languages, ergative languages would be expected to conform to the conditions of the Binding Theory just as accusative languages do. The conditions of the Binding Theory are independent of the Ergativity Hypothesis. These conditions do not refer to the association of semantic roles and d-structure grammatical relations that the Ergativity Hypothesis is concerned with. In fact, the conditions of the Binding Theory do not even apply at d-structure; they are assumed to hold at the level of Logical Form and s-structure [Chomsky 1981]. Assuming that the Ergativity Hypothesis completely characterizes the difference between ergative and accusative languages, there is no reason to expect that the two types of languages should differ with respect to the Binding Theory.

In the next two sections, the distribution of controlled arguments and anaphors in ergative and accusative languages will be investigated more closely, taking as a starting point the assumption that the conditions of the Binding Theory should hold in any language, whether ergative or accusative. If the Binding Theory must be satisfied in all languages, certain expectations about the properties of controlled arguments and anaphors follow. In particular, since the distribution of each must meet the conditions of the Binding Theory, the same pattern of distribution should be found in ergative and accusative languages at the level of representation where the Binding Theory holds, i.e. s-structure. But this similarity will only be evident when viewed from this standpoint. Because of the different association of

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41. A number of different definitions of governing category have been discussed in the GB literature. What is important for the arguments here are several of the core instances of government: that a finite clause constitutes the governing category of each of the noun phrases in it, while in a non-finite clause the subject is not governed although the complements to the verb are.

semantic roles and d-structure relations, the similarity may be obscured when the distribution is considered from the point of view of the semantic role associated with the PRO or anaphor.

### 3.5.1 The Controlled Argument

Several predictions that follow from the interaction of the Ergativity Hypothesis and the Binding Theory concern the nature of the controlled argument in a control structure in ergative and accusative languages.<sup>42</sup> Differences in the semantic role assigned to the controlled noun phrase in clauses with agent-patient verbs are predicted for languages of these two types. How these differences can be exploited in constructing a test for ergativity will be discussed.

Control constructions exhibit a number of characteristic properties. In control structures, the controlled argument in the embedded clause can only be interpreted as the argument bearing the s-subject grammatical relation but never the s-object grammatical relation or other oblique relations. Control refers to a notion of s-subject as evidenced by the fact that the s-subject (= d-object) of a passive use of a transitive verb as well as the s-subject (= d-subject) of an active use of a transitive verb can be the controlled noun phrase. In fact, a frequently noted property of subjects is their ability to be the controlled argument in a control structure. Control is restricted to non-finite clauses. In finite clauses even the s-subject cannot be controlled.

The Binding Theory must account for the pattern of distribution of controlled arguments. The controlled argument is assumed to be the empty category PRO, which is described as a pronominal anaphor since it shows properties of both pronominals and anaphors. In order for PRO to satisfy the conditions of the Binding Theory, it must be ungoverned. As both a pronominal and an anaphor, PRO must meet both conditions (A) and (B) of the Binding Theory, which require PRO to be both free and bound in its governing category. PRO is sanctioned only if it is ungoverned.

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42. One of the predictions that will be presented concerning control, the prediction involving active transitive agent-patient verbs, is mentioned by Marantz, but he presents no evidence bearing on this prediction. Nor does he develop further predictions concerning control with other types of verbs.

This condition also places restrictions on PRO's distribution: it must be the s-subject of a non-finite clause. On the assumption that the controlled argument is PRO, it must necessarily be the s-subject of a non-finite clause in order not to violate the conditions of the Binding Theory. In non-finite clauses, the absence of inflection allows the s-subject to be ungoverned. In contrast, s-objects are governed by the verb and s-subjects of finite clauses by tense.

As discussed, the distribution of PRO must satisfy the conditions of the Binding Theory in both ergative and accusative languages. There is no reason that the conditions of the Binding Theory that account for the distribution of PRO should not extend to ergative languages as well as accusative languages. In particular, PRO must necessarily be the s-subject of non-finite clauses in ergative as well as accusative languages.

Given the nature of the Ergativity Hypothesis, the distribution of PRO must also be considered from a second point of view: that of the associated semantic role. A description of its distribution in terms of s-structure relations does not make the properties of ergative and accusative languages completely clear. The different associations of semantic roles and d-structure relations that characterize ergative and accusative languages determine the semantic role associated with the s-subject, and, therefore, with PRO in the language of both types. As a consequence, the expected association of semantic roles with PRO is important to understanding the consequences of the Ergativity Hypothesis.

As PRO is always a s-subject, the associations of s-structure relations with semantic roles are relevant to predictions concerning PRO's distribution. These associations were discussed in Section 3.1 and are repeated here.

Accusative Languages

<u>Verb</u> <u>Type</u>	<u>Semantic</u> <u>Role</u>	<u>D-str</u> <u>Relation</u>	<u>S-str</u> <u>Relation</u>
Agt-pat	agt	d-subj	s-subj
	pat	d-obj	s-obj
Agt	agt	d-subj	s-subj
Pat	pat	d-obj	s-subj

- Ergative Languages

<u>Verb</u> <u>Type</u>	<u>Semantic</u> <u>Role</u>	<u>D-str</u> <u>Relation</u>	<u>S-str</u> <u>Relation</u>
Agt-pat	agt pat	d-obj d-subj	s-obj s-subj
Agt	agt	d-obj	s-subj
Pat	pat	d-subj	s-subj

Since the associations depend on the semantic class of the verb, the predictions concerning PRO's distribution will depend on the verb class also. With an agent-patient verb in the embedded clause, the argument receiving the controlled interpretation will be the argument bearing the agent role in accusative languages and the patient role in ergative languages. The noun phrase bearing the argument relation to either agent or patient single argument verbs will bear the s-subject relation in languages of both types. With agent and patient single argument verbs, PRO will be associated with the single argument in both language types.<sup>43</sup>

The s-structure characterization of the distribution of PRO is simple: PRO must be an s-subject. The same generalization applies to all sentences independent of the argument structure of the verb the controlled argument bears a relation to. In contrast to the simplicity of the s-structure characterization, a characterization of the semantic role associated with PRO is not possible without reference to the argument structure of the verb. When the distribution of PRO is viewed from this perspective, it will appear to differ somewhat in ergative and accusative languages. Verbs in the single argument classes are expected not to show different behavior with respect to control in ergative and accusative languages. But, variation is expected in the semantic role associated with the controlled argument of agent-patient verbs.

The Ergativity Hypothesis will receive further support if the distribution of PRO is found to be consistent with the predictions in languages that have been characterized as ergative by virtue of other tests. There appears to be some evidence supporting the prediction

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43. Patient single argument verbs in accusative languages and agent single argument verbs in ergative language are generally unaccusative verbs at d-structure. The assumption is that NP movement occurs causing the d-object to become a s-subject in both finite and non-finite clauses. The motivation for movement in control structures is different from that in finite clauses: it depends on government rather than case. Movement occurs in finite clauses since the verb cannot assign case to the object. Movement occurs in control structures because the object is always governed and PRO must be ungoverned.



- (3.58) Angun taiciqniug. -  
man-ABS come-FUT-say-INDIC-3s  
The man says that he will come. [Reed et al. 1977, p.236]

In order to check whether the prediction for ergative languages stands, the crucial question concerns the semantic role of the controlled argument in the embedded clause. When the verb in the embedded clause is intransitive, as in (3.57) and (3.58) above, the controlled argument is expected to be the single argument to the intransitive verb. When the verb in the embedded clause is transitive, the expectation is that the controlled argument is the argument that would be marked for absolutive case in a simple sentence and not the argument that would be marked for ergative case.<sup>44</sup> An example is given below with the postbase *-cete-* "to let, allow, compel":

- (3.59) Anucetaa qimugta.  
take outside-let-INDIC-3s/3s dog-ABS  
He lets the dog be taken outside. [Reed et al. 1977, p.235]

The examples show that the same pattern of control is found with both the transitive and intransitive use of the postbases. The argument of an agent-patient verb marked for absolutive case typically bears the patient role in Yup'ik. The pattern of control observed is that expected in an ergative language where the patient argument should receive the controlled interpretation in a control construction with an agent-patient verb because it is the s-subject.

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44. When the embedded verb is transitive, the argument typically marked for ergative case may occur, but it is marked for the terminalis case.

- (i) Angutem neresqaa kemek neviarcamun.  
man-ERG eat-want-INDIC-3s/3s meat girl-TERM  
The man wants the girl to eat the meat. [Reed et al. 1977, p.234]

The terminalis case is also found on arguments typically taking the ergative case in several constructions, including one resembling English passive in detransitivizing the verb and putting the agent into an oblique case. The so-called "ergative" case in a true ergative language is actually the accusative case, the case assigned by a verb to its object. The use of the terminalis case where the ergative case might be expected suggests that the terminalis case is used when ergative case cannot be assigned. That is, these uses of the terminalis case might be comparable to *of* insertion with nouns and adjectives in English. The appearance of the terminalis case in control structures might indicate that some form of "clause union" has taken place requiring the argument typically receiving ergative case to receive case in some other way.

There is a further prediction involving the argument of an agent-patient verb that bears the d-object relation, that is the argument assigned the patient role in an accusative language and the agent role in an ergative language. This argument cannot be the controlled argument in a control structure with an agent-patient verb unless the verb is passivized. By the Ergativity Hypothesis, this argument will be a d-object of the agent-patient verb, and therefore the s-object of the verb in an active sentence. Since the object is governed by the verb, if this argument were a PRO, the requirement that PRO be ungoverned would be violated. Therefore, this argument of an agent-patient verb is not controllable in an active sentence. It will only be controllable if it can escape government by the verb. This is possible if it can assume the s-subject relation through NP movement, for example, in a passive sentence.<sup>45</sup>

Again there is evidence that ergative languages show the predicted behavior from Yup'ik. Not all Yup'ik verbs have overt passive morphology, but even with the verbs that lack it (3.60), when the agent is controlled the patient must occur marked for the ablative-modalis case, the case of the patient in (anti)-passive sentences. In Yup'ik in order for the agent of an agent-patient verb to be controlled, the clause must first be passivized (anti-passivized in the traditional terminology), as illustrated in (3.61)-(3.62).

(3.60) Angutem neresqaa tan'gurraq akutamek.  
man-ERG eat-want-INDIC--3s/3s boy-ABS akutaq-ABL/MOD  
The man wants the boy to eat the akutaq. [Reed et al. 1977, p.235]

(3.61) Tan'gurram tuqutellrunia carayak aataminun.  
boy-ERG kill-PST-say-INDIC-3s/3s bear-ABS father-3R-TERM  
The boy says his father killed the bear. [Reed et al. 1977, p.236]

(3.62) Tan'gurram tuqucillrunia aatani carayagmek.  
boy-ERG kill-APASS-PST-say-INDIC-3s/3s father-3R-ABS bear-ABL/MOD  
The boy says his father killed the bear. [Reed et al. 1977, p.236]

The appearance of the passive morphology is just what is predicted for ergative languages. Verbs that do not use a morphologically marked (anti)passive form show the expected ambiguity.

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45. Although NP movement follows from lack of case assignment to the object in finite clauses, the motivation for NP movement in a control structure is government and not case assignment. PRO does not need to be assigned case: it is always a s-subject and subjects of non-finite clauses do not receive case. See also footnote 43 on unaccusative verbs.



(3.63) Angutem neresqaa -- tan'gurraq.  
man-ERG eat-want-INDIC-3s/3s boy-ABS  
The man wants the boy to eat.  
The man wants someone to eat the boy. [Reed et al. 1977, p.234]

Passivization allows the agent argument, a d-object in ergative languages, to bear the s-subject relation allowing it to be controlled.

The predicted differences in control structures with agent-patient embedded verbs make this construction in turn an ideal candidate for checking ergativity. Suppose that a control construction has been recognized in a language whose status needs to be determined. By examining an instance of the construction where the verb in the embedded clause is an agent-patient verb; the language's ergativity can be determined readily. The s-subject is easily identifiable in a control construction: it is the argument to the embedded verb which receives the controlled interpretation. According to whether this argument bears the agent or patient semantic role, the language will be accusative or ergative. Test such as this one hinge on a predicted difference in the behavior of agent-patient verbs in languages of the two types. Agent and patient verbs will be intransitive verbs at s-structure with their single argument as the s-subject in both accusative and ergative languages. Therefore, when agent or patient verbs are embedded verbs in control structures, the controlled argument will be the same in both ergative and accusative languages. Because of this, tests for the status of a language involving these verbs are not possible.

In summary, the controlled argument must necessarily be the s-subject of non-finite clauses in ergative as well as accusative languages. But, as discussed, this description of the distribution of PRO in terms of s-structure relations suggests a similarity between ergative and accusative languages that is not readily apparent. This is due to the different association of semantic roles and d-structure relations characteristic of the two types of languages. The differences are manifested in agent-patient verbs in both active and passive sentences. In ergative languages, the controlled argument will be the argument of an agent-patient verb assigned the patient role, while in accusative languages, it will be the argument of an agent-patient verb assigned the agent role. In passive sentences, the controlled argument is the agent argument in ergative languages and the patient argument in accusative languages. The difference between the two types of languages can be used to formulate a test for ergativity.

### 3.5.2 Control Verbs in Ergative Languages

A discussion of control in ergative languages would not be complete without an examination of the properties of the counterparts of control verbs in ergative languages (assuming that they have control verbs), including a characterization of the controller. The previous section considered only the question of the distribution of the controlled argument in ergative languages, a question which is independent of the properties of matrix control verbs. This section will sketch some of the properties that might be expected of control verbs in ergative languages as a consequence of the Ergativity Hypothesis. The focus will be on transitive control verbs.

In an accusative language such as English, transitive control verbs, such as *persuade* or *force*, select a sentential complement and two arguments; one is an agent whose referent asks or forces the referent of the second argument, the patient of the matrix verb, to carry out an action. Typically, most English transitive control verbs are verbs of object control, that is the argument that bears the role of the person persuaded, coerced, or asked, is the controller of the embedded clause. The verb *promise* is one of the few verbs of subject control. Intransitive control verbs such as *try* are unergative verbs in English; their subject, which bears the agent role, is the controller.

In ergative languages in which control is possible, it seems plausible that the counterparts of the control verbs in accusative languages will take the same set of arguments. If these verbs allow control in ergative languages as well, they would be expected to select the same argument as the controller of their complement clause since the controller is determined by the semantics of the verbs. But the association of the arguments to a verb with d-structure relation differs in ergative and accusative languages. In fact, the assignment of the agent and patient roles to the d-subject and d-object relations is reversed. This means that, in an ergative language, verbs that are considered verbs of object control in an accusative language would be verbs of subject control in an ergative language. That is, these verbs would resemble the English verb *promise* in their syntax rather than their English counterparts. Similarly, a verb of subject control like the English verb *promise* would be a

verb of object control in an ergative language.<sup>46</sup> The counterparts of intransitive control verbs such as *try* would also be intransitive, although they would be unaccusative rather than unergative verbs. But, on the assumption that their argument is a s-subject in both ergative and accusative languages, these verbs would be verbs of subject control in both types of languages.

These predictions will have implications for Control Theory, the subsystem of grammar that is concerned with the potential reference of PRO. The generalization in English, with few exceptions, is that the controller is the object if there is one (i.e. if the verb is transitive) and the subject otherwise. In an ergative language, the generalization would be that the controller is always the s-subject no matter what the transitivity of the verb. In particular, the Minimum Distance Principle [Rosenbaum 1967] which has been proposed to account for the English control data would not be applicable in an ergative language. With transitive control verbs, it would be the subject rather than the object that would be the controller in an ergative language.

This section is intended merely to sketch the analyses that follow from the Ergativity Hypothesis and to raise some issues about the nature of control verbs that become important in the context of the Ergativity Hypothesis. In particular, given the Ergativity Hypothesis, it appears that the nature of the controller will differ. Whether or not this is desirable deserves further consideration. More extensive investigation of control verbs will be necessary to see if the predictions do in fact hold and whether control verbs are common in ergative languages. Control verbs in Dyirbal will be discussed in Section.

### 3.5.3 Reflexive and Reciprocal Anaphors

A prediction about the distribution of reflexive anaphors in ergative languages follows from the Ergativity Hypothesis and the conditions of the Binding Theory. Furthermore, a corresponding test for ergativity can easily be derived from this prediction. The discussion of reflexive anaphors in this section will be the second discussion of the phenomenon of

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46. The verb *promise* itself may not be a transitive verb of object control in an ergative language. In other languages, this verb is often not a transitive verb as it is in English, but instead it is an intransitive verb taking the person promised something as an oblique argument. It would still be interesting to examine the properties of the verb *promise* in an ergative language.

reflexivization. The other discussion, in Section 3.4, centered on the polysemy of derived reflexive forms of verbs, while the focus in this section will be on reflexive anaphors. But as the argument underlying the prediction is applicable to other bound anaphors, analogous predictions and tests may be formulated for them. In particular, in languages where the reflexive and reciprocal anaphors are distinct, the prediction and test will extend to reciprocal anaphors.

Accusative languages show a restriction on the distribution<sup>47</sup> of reflexive anaphors in finite clauses: although a s-subject can be the antecedent of a non-subject anaphor in the same clause, the s-subject itself cannot be an anaphor with a non-subject antecedent elsewhere in the clause.

(3.64) She watched herself on TV.

(3.65) \*Herself watched her on TV.

When an anaphor-antecedent pair involves a s-subject, the s-subject must always be the antecedent but never the anaphor. In the GB framework, the asymmetry follows from Condition (A) of the Binding Theory.

(A) An anaphor must be bound in its governing category.  
[Chomsky 1981, p.188]

No subject anaphors are found in tensed clauses because subject anaphors would violate Condition (A). To satisfy this condition, an anaphor in a tensed clause would have to be bound within the clause since a tensed clause is the governing category of each of the noun phrases in it. But, this is impossible as there are no potential antecedents for a subject anaphor within a tensed clause. The c-command condition on anaphor-antecedent pairs requires that an anaphor not c-command its antecedent [Reinhart 1976]. Yet, a subject c-commands the verb phrase and, therefore, all potential antecedents within the clause. Consequently, subject anaphors cannot occur in tensed clauses.

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47. The distribution of reflexive anaphors and their antecedents show both universal and language-specific restrictions. This section will focus on a restriction of the first type that follows from the Binding Theory. A common language-specific restriction involves the set of potential antecedents of an anaphor. In many languages, only the subject can be the antecedent of an anaphor. This restriction applies, for example, to the Russian reflexive anaphor *sebjja*, but it does not apply to the English reflexive anaphor.

The ability of a noun phrase in a tensed clause to serve as an antecedent for an anaphor while never being a potential anaphor itself is a property that necessarily identifies that noun phrase as a s-subject. Noun phrases bearing other non-subject relations to the verb are all potential anaphors. Since the subject c-commands the verb phrase, non-subject noun phrases at least have the subject of the clause as a possible antecedent. The existence of an antecedent within the clause allows non-subject anaphors to be bound within their governing category, satisfying condition (A) of the Binding Theory. Only the subject can never be bound without violating condition (A).

Predictions about the distribution of anaphors in ergative and accusative languages should follow from the observed asymmetry, assuming that the conditions of the Binding Theory should apply equally to ergative and accusative languages. The asymmetry in anaphor distribution these conditions give rise to should be observed in both language types. That is, in either type of language, the s-subject will never be a possible anaphor.

The manifestation of the asymmetry in anaphor distribution will be different in ergative and accusative languages due to the different association of semantic roles and d-structure (and therefore s-structure) relations that characterize ergative and accusative languages. In particular, the noun phrase bearing the s-subject relation to an agent-patient verb is assigned the agent role in an accusative language but the patient role in an ergative language. Therefore, with an agent-patient verb in an accusative language, the noun phrase assigned the agent role should never be an anaphor while in an ergative language the noun phrase bearing the patient role should not be. The single argument of agent and patient single argument verbs is an s-subject in both ergative and accusative languages,<sup>48</sup> so it should never be a possible anaphor in languages of either type.

As a result of the properties of anaphors, an examination of reflexive anaphor distribution in a sentence with an agent-patient verb will allow the ergativity of a language to be determined. Agent-patient verbs will be transitive verbs in both ergative and accusative languages, and as transitive verbs will require an s-subject and an s-object. The asymmetry

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48. The assumption is that the agent argument of an agent single argument verb in an ergative language and the patient argument of a patient single argument verb in an accusative language, as d-object s of unaccusative verbs, become s-subjects since unaccusative verbs do not assign case to their objects.

discussed above holds for agent-patient verbs allowing the s-subject to be determined. In a sentence with an agent-patient verb, the s-subject will be the argument that cannot itself be the reflexive anaphor. In contrast, when the s-subject is a reflexive anaphor, it can serve as the antecedent for the other arguments. By taking advantage of this property, one of the two arguments of the agent-patient verb will be identified as the s-subject. Once the s-subject is recognized, its semantic role will determine the ergativity of the language. If the s-subject bears the agent role, the language will be accusative, while if the s-subject bears the patient role the language will be ergative.

The reflexive anaphor test predicts that in an ergative language, the argument bearing the patient role to an agent-patient verb cannot be the reflexive anaphor, although it is a possible antecedent for such an anaphor. It is difficult to assess the evidence bearing on this prediction in the ergative languages considered because of the limited data available, but the predictions do not seem to be violated. Each of the languages discussed typically uses a special verbal form to express the reflexive. Yup'ik also has a reflexive pronoun which has only a limited use, while Dyirbal has a nominal affix that can have a reflexive meaning.

In Dyirbal, reflexivization is expressed by a reflexive verbal affix which serves to detransitivize the verb as in (3.66).<sup>49</sup>

(3.66) a. pala            yuku            pangkul            yaranku puypan  
          THERE-ABS stick-ABS THERE-ERG man-ERG hide-NFUT  
          man hides stick [Dixon 1972, 215]

          b. payi            yara            puypayirrinu  
          THERE-ABS man-ABS hide-REFL-NFUT  
          man hides himself [Dixon 1972, 216]

In Yup'ik Eskimo, the intransitive conjugation is used to express the reflexive. An agent-patient verb typically takes the transitive conjugation when the agent and patient are disjoint in reference but takes the intransitive conjugation when the agent is bound to the patient, as in a reflexive sentence.

Although Dyirbal has no reflexive pronoun, there is an affix, *dilu*, which can optionally attach to the subject in sentences with the reflexive form of the verb for purposes of disambiguation since in Dyirbal the same form of the verb may also express the (anti)passive.

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49. See Section 5.6.3.1 for more discussion of Dyirbal reflexivization.

Dixon describes this affix as an intensifier; the reflexive use of this affix is only one of its functions. It can also be suffixed to noun markers, adjectives, time words, particles, and interjections. Yup'ik has a reflexive pronoun, *ellmi*, which like Yup'ik personal pronouns, is primarily used for emphasis or clarification. For example it is used for disambiguation like the Dyrbal affix *dilu* since the same form of the verb may express either the reflexive or the (anti)passive. It can be inflected for case, but Reed et al. [1977] note that it rarely occurs in the ergative or absolutive case, while the other personal pronouns do occur in these cases. The example given by Reed et al. [1977] to illustrate the reflexive pronoun involves the occurrence of the pronoun in a reflexive sentence with an agent-patient verb.

(3.67) Ellminek           tuqutellruuq.  
3R-ABL/MOD kill-PST-3sABS  
He killed himself. [Reed et al. 1977, p.277]

In this example, the verb is in the reflexive form, as shown by the use of the intransitive rather than the transitive conjugation. The reflexive pronoun occurs in the ablative-modal case, the case of a complement to an intransitive verb. This use of the reflexive pronoun is found in other Eskimo languages. The behavior of this pronoun appears to be generally consistent with the predictions for ergative languages.<sup>50</sup>

The test introduced here for reflexive anaphors can be easily applied to other anaphors. In particular, the reciprocal anaphor, when distinct from the reflexive anaphor would also provide a test for the status of a language. The predictions concerning their distribution cannot be confirmed on the basis of evidence from the ergative languages discussed. Dyrbal uses a derived intransitive verbal form, distinct from the reflexive form, to express the reciprocal; it does not have a reciprocal anaphor. The Yup'ik grammar does not give any data on reciprocals.

The observed asymmetry in the distribution of reflexive anaphors leads to the prediction that ergative and accusative languages will differ in the distribution of reflexive anaphors in sentences with agent-patient verbs. In non-passive sentences in accusative languages, the argument bearing the agent role will never be a potential anaphor while in an ergative language the argument bearing the patient role will never be a potential anaphor.

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50. Yup'ik also has a reflexive possessive pronoun. Although not discussed here, an investigation of the properties of such pronouns should provide additional evidence bearing on the Ergativity Hypothesis and the nature of ergative languages.

Since the asymmetry in the distribution of reflexive anaphors allows one of the arguments of an agent-patient verb to be picked out as its s-subject, the ergativity of the language in question can be determined trivially from the semantic role of the s-subject.



#### 4. Warlpiri

Warlpiri, a language spoken in Central Australia, will be the first language whose status as an ergative language will be reassessed in the context of the Ergativity Hypothesis.<sup>1</sup> Warlpiri, which exhibits an ergative system of case marking, has been called a "morphologically" ergative language by Hale [EFW]. By the term "morphologically" ergative, Hale refers to Comrie's proposal [1978] that in some languages ergative phenomena are found only in the morphology (i.e. in the system of case marking or person marking), but that the syntax of such languages is not really different from that of accusative languages.

The proposal that many ergative phenomena are merely "superficial" has been central to a number of recent papers on ergative languages<sup>2</sup> and must be taken into consideration in formulating a theory of ergativity. Marantz allows for such languages within the framework of the Ergativity Hypothesis by introducing a class of accusative languages (in the sense of the Ergativity Hypothesis) with ergative case marking. These are languages which can be shown to be accusative in the sense of the Ergativity Hypothesis although they have a system of case marking which superficially resembles that of ergative languages with accusative case marking. Accusative languages with ergative case marking will be the analogue within the context of the Ergativity Hypothesis to a so-called "morphologically" ergative language.

In this chapter, Warlpiri will be shown to be an accusative language with ergative case marking in the sense of the Ergativity Hypothesis. After introducing the syntax of simple sentences in Warlpiri, Hale's evidence for considering Warlpiri "morphologically" ergative, the presence of an ergative system of case marking, will be reviewed. The question of Warlpiri's ergativity will be examined from the point of view of the Ergativity Hypothesis. Evidence will be presented for considering that Warlpiri is an accusative language, primarily from the control and reflexive constructions. Then, the various case arrays associated with Warlpiri verbs will be surveyed in order to determine the grammatical relations of the

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1. The discussion of Warlpiri in this chapter draws especially on Hale's paper "The Essential Features of Warlpiri Main Clauses" [1982a], abbreviated EFW. Many of the example sentences are taken from this paper. Other unattributed examples have been provided by Mary Laughren and Ken Hale.

2. These papers include the surveys of ergativity by Comrie [1978] and Dixon [1979a], a number of general papers such as Anderson [1976], and many papers on particular languages, for example those on Australian languages in Dixon [1976].

arguments to the verbs. This, in turn, will allow a reexamination of the system of case marking in Warlpiri.

#### 4.1 Simple Verbal Sentences

A simple finite verbal sentence<sup>3</sup> in Warlpiri consists of a verb, an auxiliary, and the noun phrases required by the verb's argument structure. Sentence (4.1) illustrates a simple sentence with the one-argument verb *parnka-mi* 'ABS run'.<sup>4</sup>

(4.1) Ngaju ka-rna        parnka-mi.  
      I        PRES-1sM1 run-NPST  
      I am running. [EFW1b]

Although Warlpiri verbs are inflected for tense and mood, they are not inflected for person and number. Instead, the auxiliary includes person markers which are construed with the arguments to the verb following a base which expresses tense, mood, and aspect. The tense, mood, and aspect of the sentence is determined by the verb form and auxiliary base together.

Word order in Warlpiri simple sentences is basically free, with the exception of the auxiliary which must occur in first or second position.<sup>5</sup> Free word order is one of the properties associated with non-configurational languages, and, in fact, Warlpiri is considered a typical example of a non-configurational language. Warlpiri exhibits a number of other properties characteristic of non-configurational languages including discontinuous expressions, a rich case system, a verb and auxiliary system, an absence of pleonastic noun phrases, frequent "pronoun drop", and a lack of noun phrase movement transformations

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3. Warlpiri has two major parts of speech, nouns and verbs. Both may serve as predicates in main clauses, so that besides verbal sentences, Warlpiri has nominal sentences, as in (i), where the nominal *ma:ia* 'tired' is the predicate.

(i) Kurdu mata.  
      child tired  
      The child is tired. [EFW2a]

Nominals when used as predicates may express concepts which are typically expressed in other languages by adjectives (as in (i) above), nouns, or stative verbs. Nominal sentences will not be discussed here, but see Hale [EFW], Nash [1980], and Simpson [1983] for more details.

4. Noun phrases whose case is not specified in the gloss are in the unmarked case, the absolutive case.

5. This statement of auxiliary distribution is not entirely accurate. See Hale [EFW], Nash [1980], and Simpson [1983] for more discussion.

[Hale 1982b]. This aspect of Warlpiri syntax has been discussed extensively by Hale in a series of papers [1981a, 1982b, 1983].

Warlpiri has a large set of nominal cases which fall into two classes, the grammatical cases and the semantic cases.<sup>6</sup> Hale [EFW] identifies the grammatical cases as the cases that mark the arguments of a verb that are assigned their semantic role by the verb. The semantic cases, in contrast, are cases that can assign a semantic role directly to the noun phrase they mark, and rarely mark a noun phrase that is an argument of the verb. Among the semantic cases are a number of spatial cases such as the allative, elative, locative, and perlative. This chapter will be almost exclusively concerned with the grammatical cases.

The grammatical cases in Warlpiri are the cases that can be construed with person markers in the auxiliary. These are the ergative (ERG), absolutive (ABS), and dative (DAT) cases. The person markers in the auxiliary are never construed with noun phrases marked for a semantic case.<sup>7</sup> Sentence (4.2) illustrates the use of one of the semantic cases, the locative.

(4.2) Ngalipa kapi-rlipa      pirli-patu-rla    nyina-mi.  
we      FUT-1plincM1 stone-PL-LOC sit-NPST  
We (plural inclusive) will sit on the (several) stones. [EFW14b]

The auxiliary in (4.2) shows a person marker construed with the ABS argument, but it shows no marker construed with the locative (LOC) noun phrase. Construal will be discussed further in the sections that follow.

Verbs in Warlpiri can be classified according to their case arrays, the set of nominal cases assigned to the arguments in the verb's argument structure. Each argument in a verb's argument structure has a specific case associated with it, so that the arguments can be identified according to the associated case and will be referred to by this case. The set of

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6. Simpson [1983] also identifies a third class, derivational cases.

7. The only exceptions to this generalization concern the allative case, which at times shows functions similar to the dative case. Mary Laughren informs me that occasionally instances of agreement with the allative case are found, as in (i).

(i) Nyinyapa-ju kuju-rnu      ngaju-kurra yalumpu-rlu.  
spit-1sM2 throw-PST I-ALL      that-one-ERG  
That one spit on me.

cases that participate in the case arrays are the grammatical cases, the ERG, ABS, and DAT cases. Although, Warlpiri verbs show a number of different arrays, the three principal arrays are the ERG-ABS array, the ABS array, and the ABS-DAT array.

Warlpiri is a free "pronoun drop" language. The arguments of a verb need not be overt in a sentence. First and second person pronouns, as well as third person plural noun phrases, are construed with markers in the auxiliary, so they are recoverable even if dropped, as illustrated below.

(4.3) Ngaju ka-rna parnka-mi.  
I PRES-1sM1 run-NPST  
I am running. [EFW1b]

(4.4) Parnka-mi ka-rna.  
run-NPST PRES-1sM1  
I am running. [EFW15b]

Third person singular noun phrases are not registered in the auxiliary, but any argument in the case array which is not expressed by a noun phrase or overtly marked in the auxiliary receives a third person singular definite interpretation. Compare (4.5) and (4.6).

(4.5) Marlu-ngku ka ngarrka nya-nyi.  
kangaroo-ERG PRES man see-NPST  
The kangaroo sees the man. [EFW3c]

(4.6) Marlu-ngku ka nya-nyi.  
kangaroo-ERG PRES see-NPST  
The kangaroo sees him/her/it. [EFW16b]

Both Hale [1983] and Simpson [1983] account for this property with a rule specifying the default interpretation of unexpressed arguments. This rule will assign a third person singular definite interpretation to any argument in the argument structure which is not explicitly represented by an overt noun phrase or a person marker.

## 4.2 The System of Case Marking and Person Marking in Warlpiri

This section will introduce the system of case marking and person marking in Warlpiri

through an examination of the properties of two of the principal verb classes in Warlpiri.<sup>8</sup> Verbs in one class, the ABS class, take a one argument array and those in the other, the ERG-ABS class, take a two argument array. On the basis of the behavior of verbs in these two classes, Warlpiri is said to have an ergative system of case marking and an accusative system of person marking. Verbs taking other case arrays will be discussed in Sections 4.3 and 4.4, along with the associated pattern of person marking.

The verbs in the major one argument class in Warlpiri take their arguments in the morphologically unmarked case. A member of this class, the one argument verb *wangka-mi* 'ABS speak, sound', is illustrated in (4.7).<sup>9</sup>

(4.7) Ngarrka ka wangka-mi.  
man PRES speak-NPST  
The man is speaking. [EFW3b]

The verbs in this class express predicates which coincide to a significant extent with the class of intransitive verbs in English, among them are:

- (4.8) a. *wangka-mi* 'ABS speak, sound'  
b. *parnka-mi* 'ABS run, move swiftly'  
c. *wita-jarri-mi* (small-INCH) 'ABS become small'  
d. *nyina-mi* 'ABS sit, be sitting'  
e. *kaljarr-(y)ani* 'ABS melt'

The members of this class will be discussed in more detail in Section 4.3.

A major class of two argument verbs takes one argument in the unmarked case and a second argument in a morphologically marked case indicated by the suffix *-ngku*, with alternant *-rlu*. An example of a sentence using a verb from this class, the verb *panti-rni* 'ERG pierce/poke ABS; ERG spear ABS', is given below.

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8. The third principal case array is the two argument ABS-DAT array which will be introduced in Section 4.4.2. It is not discussed here since this array, although common in Australian languages, is typically not considered relevant to determining the nature of the system of case. As Hale writes, "My identification of Warlpiri case marking as 'ergative' conforms to the traditional usage according to which the sentence type employing the ABS-DAT array (not considered 'fully transitive') is left out of consideration in assessing the typological position of the system as a whole." [EFW, p.221].

9. Verbs are cited in the non-past form, a form which identifies conjugation membership of the verb.

- (4.9) Ngarrka-ngku ka marlu panti-rni.  
man-ERG PRES kangaroo spear-NPST  
The man is spearing the kangaroo. [EFW3d]

The English counterparts of verbs in the ERG-ABS class are primarily transitive verbs. Hale notes that verbs in this class have a common semantic property: they involve the notion of causation and include the members of the agent-patient verb class. These verbs include verbs of affect, as in (4.10), verbs of causation, as in (4.11), verbs of physical transfer and holding, as in (4.12).

- (4.10) a. paka-rni 'ERG strike ABS'  
b. panti-rni 'ERG pierce/poke ABS; ERG spear ABS'  
c. yurrrpa-rni 'ERG grind ABS (as seed, ochre)'  
d. yarlki-rni 'ERG bite ABS'
- (4.11) a. wita-ma-ni (small-CAUS-) 'ERG cause ABS to become small'  
b. wiri-ma-ni (big-CAUS-) 'ERG cause ABS to become big; ERG raise ABS'  
c. ngurrju-ma-ni (good-CAUS-) 'ERG cause ABS to become good; ERG fix ABS; ERG make ABS'  
d. linji-ma-ni (desiccated-CAUS-) 'ERG desiccate ABS'
- (4.12) a. yirra-rni 'ERG put ABS, ERG position ABS'  
b. ka-nyi 'ERG carry ABS, ERG transport ABS'  
c. marda-rni 'ERG hold ABS; ERG have ABS'  
d. rarra-ka-nyi (dragging-transport-) 'ERG drag ABS'

The ERG-ABS verb class also includes verbs of perception; some examples are listed in (4.13).

- (4.13) a. nya-nyi 'ERG see ABS; ERG look at ABS'  
b. kari-nya-nyi (other-see-) 'ERG visually misapprehend ABS'  
c. parnti-nya-nyi (smell-see-) 'ERG smell ABS, perceive odor of ABS'  
d. purda-nya-nyi (PV-see-) 'ERG hear ABS; ERG listen to ABS; ERG feel ABS'

With the ERG-ABS verbs, the argument in the unmarked case bears the patient role. It corresponds to the object of the English counterpart. The argument in the marked case bears the agent role and corresponds to the subject of the English counterpart. In the example above, the noun phrase in the marked case, *ngarrka* 'man', is the one who does the spearing, while the noun phrase in the unmarked case, *marlu* 'kangaroo', is the entity that is affected by the action.

The distribution of case in Warlpiri can be stated as follows: the single argument of the one argument class and the patient argument of the two argument class share the same case, the unmarked case, but the agent argument of the two argument class receives a different, morphologically marked, case. Warlpiri's system of case marking is considered ergative given

this pattern. Consistent with the ergative system of case marking, the unmarked case is referred to as the absolutive (ABS) and the marked case as the ergative (ERG). The one argument verb class described above requires the ABS case array and the two argument class requires the ERG-ABS case array. These classes will be referred to by their case arrays.

Warlpiri's system of person marking<sup>10</sup> in the auxiliary contrasts with its system of case marking in being accusative. There are two sets of person markers in Warlpiri. Both follow the auxiliary base or cliticize to the first element of the sentence when the base is null. In Warlpiri, unlike some other languages, the case array of the verb has no effect on the choice of auxiliary base. The case array only determines the person markers in Warlpiri.<sup>11</sup>

Consider first the pattern of person marking found with a verb taking the ABS array. For example, in sentences (4.14)-(4.15) with the ABS verb *wangka-mi* 'ABS speak sound', there is a single person marker construed with the ABS noun phrase.

(4.14) Ngaju ka-rna       wangka-mi.  
I       PRES-1sM1 speak-NPST  
I am speaking. [EFW9a]

(4.15) Nyuntu ka-nga       wangka-mi.  
you     PRES-2sM1 speak-NPST  
You are speaking. [EFW9b]

In (4.14) the person marker *-rna* is construed with the first person singular pronoun *ngaju*, while in (4.15) the person marker *-nga* is construed with the second person singular pronoun *nyuntu*. There is no overt marker in the auxiliary for third person singular noun phrases, as shown by (4.16).

(4.16) Ngarrka ka       wangka-mi.  
man     PRES speak-NPST  
The man is speaking. [EFW3b]

These examples illustrate that the person marker and the ABS argument must agree in person and number.

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10. In this discussion I am ignoring the question of whether there is a distinct position for number markers. For an extensive discussion of the system of person marking see Hale [1973], and also Nash [1980]. For an analysis in Lexical-Functional Grammar [Bresnan 1978, Kaplan and Bresnan 1982] see Simpson [1983].

11. The person markers are generally construed with particular arguments in the verb's argument structure. The exception is the construal of a person marker with the adjunct dative. See Section 4.5.

With an ERG-ABS verb, the auxiliary shows two sets of person markers, as in (4.17).

- (4.17) Ngajulu-rlu ka-rna-ngku nyuntu nya-nyi.  
I-ERG PRES-1sM1-2sM2 you see-NPST  
I see you. [EFW9f]

The marker immediately following the auxiliary base is construed with the ERG noun phrase, and the marker following it is construed with the ABS noun phrase. These markers must agree in person and number with the ERG and ABS arguments of an ERG-ABS verb.

The set of markers construed with the ERG noun phrase of an ERG-ABS verb is identical to that construed with the ABS noun phrase of an ABS verb. The first person marker construed with the ABS argument of an ABS verb as in (4.18) is identical with the first person marker construed with the ERG argument of the ERG-ABS verb in (4.19) but differs from the first person marker construed with the ABS argument of the same ERG-ABS verb, as shown in (4.20).

- (4.18) Ngaju ka-rna wangka-mi.  
I PRES-1sM1 speak-NPST  
I am speaking. [EFW9a]
- (4.19) Ngajulu-rlu ka-rna marlu nya-nyi.  
I-ERG PRES-1sM1 kangaroo see-NPST  
I see the kangaroo. [EFW9c]
- (4.20) Marlu-ngku ka-ju ngaju nya-nyi.  
kangaroo-ERG PRES-1sM2 I see-NPST  
The kangaroo sees me. [EFW9e]

This pattern is that typical of an accusative system: the "object" (patient) of a transitive verb is treated differently than the single argument of an intransitive verb and the "subject" (agent) of a transitive verb.<sup>12</sup> And consistent with an accusative system, the set of person markers construed with an ABS noun phrase of an ABS verb and an ERG noun phrase of an ERG verb are referred to by Hale as "subject" markers and the set of person markers construed with the ABS noun phrase of an ERG-ABS verb are referred to as "object"

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12. Calling the system accusative is inappropriate in that an accusative system of case marking involves a marked/unmarked distinction. But, unlike an accusative system of case marking, both person markers are explicitly marked. There is no null person marker which would correspond to the notion of nominative case as an unmarked case. Furthermore, a consideration of the construal patterns associated with other case arrays will show that the choice of person marker reflects a subject/non-subject distinction, while an accusative system marks the object of a transitive verb.



markers. The two sets of markers will be referred to by position as M1 and M2 in order not to prejudge the question of grammatical relations.

To summarize, Warlpiri shows an ergative system of case marking and an accusative system of person marking in the auxiliary. Therefore, Warlpiri's morphology is neither consistently accusative nor ergative. This dichotomy leads Dixon, in his survey of ergativity [1979a], to cite Warlpiri as an example of a split-ergative language. This term refers to a language whose morphology can be described as ergative with respect to some criterion and accusative with respect to a second.<sup>13</sup> Warlpiri, according to Dixon, would be a language exemplifying a "free versus bound pronoun" split.

Sometimes free-form pronouns can be straight ergative in their inflection, while bound pronominal markers are pure accusative; this is so for Walbiri, among other languages. [Dixon 1979a, p. 92]

The split in Warlpiri is better described as involving nominals versus agreement markers, as characterized by Comrie [1978]. In Warlpiri, noun phrases and pronouns receive case on an ergative basis<sup>14</sup> while the system of person markers in the auxiliary (bound pronouns) is accusative.<sup>15</sup> In this respect, Warlpiri contrasts with Basque, for example, which is described as having both an ergative system of case marking and agreement, see Chapter 6.

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13. Dixon adopts the term "split-ergative" from Silverstein [1976] who introduces the term in the context of splits according to person-number categories. Dixon extends the use of this term, recognizing the following possibilities: person-number splits, tense-aspect splits, main versus subordinate clause splits, and free versus bound pronoun splits. For a typology of person-number splits see Silverstein [1976]. Dyrbal, which is discussed in Chapter 5, shows such a split. Georgian is commonly cited as a language showing a tense-aspect split, but Harris [1981] argues that although Georgian does show different case systems according to tense/aspect, none is ergative.

14. First and second person singular pronouns do not obligatorily have to be marked with the ERG case suffix unlike other pronouns and noun phrases.

15. Case marking/agreement (free/bound pronoun) splits of the type found in Warlpiri are not necessary. Languages in which both systems are ergative include the Caucasian language Adyghe [Hewitt 1979, Rogava and Kerasheva 1966] and Basque (as traditionally described, but see Chapter 6 for a reinterpretation). Other languages, for example Bantu languages, have both on an accusative basis. But, Anderson [1977], Comrie [1978], and Dixon [1979a] note that free versus bound pronoun splits always take the form found in Warlpiri. That is, the splits always occur with an ergative system of free pronouns but an accusative system of bound pronouns, and never the reverse. Dixon attributes this asymmetry to the historical development of such systems.

The only evidence for considering Warlpiri ergative comes from the system of case marking. Apart from an ergative system of case marking, Warlpiri does not show any other characteristics associated with ergative languages. Warlpiri does not have an anti-passive construction, for example. Furthermore, certain syntactic phenomena in Warlpiri appear to function on an accusative basis, as will be discussed in Section 4.6.1. Hale sums up the question of Warlpiri's ergativity as follows:

It should be mentioned at this point - though it will become increasingly obvious as we proceed - that Warlpiri shows relatively little ergativity in its grammar as a whole. In fact, the case system just outlined is the principal manifestation of ergativity in Warlpiri. As we have seen, the agreement system operates according to the 'accusative' principle in which subjects - whether of transitive or intransitive sentences - are treated uniformly and in opposition to the objects of transitive sentences. (See the papers in Dixon 1976 for discussions of ergative as opposed to accusative systems.) Warlpiri is predominantly accusative, not ergative, and it properly belongs to the type sometimes designated 'morphologically ergative' (cf. Comrie 1978) by virtue of the fact that the major manifestation of ergativity is in the case marking of noun phrases. [EFW p.228]

### 4.3 Single Argument Verbs

In this section, the semantic subclasses of verbs represented in the ABS class will be examined, and a second very small verb class with a single argument array, the ERG class, will be introduced. The purpose of the survey of the ABS class is to show that it includes both agent and patient single argument verbs, even though patient verbs may predominate. Warlpiri is not unusual in this respect; usually, the intransitive (one-argument) verb class in a language includes verbs that could be described as both agent and patient single argument verbs.<sup>16</sup> In contrast, the members of the ERG verb class, verbs taking a single argument in the ERG case, are drawn from two semantically coherent subclasses of the agent verbs.

The ABS verb class includes a number of readily identifiable subclasses. Hale [EFW] recognizes the following subclasses of ABS verbs:

Verbs of process and change of state:

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16. This survey in part anticipates Chapter 6 on Basque. In Basque, the so-called "intransitive" class (the NOR class) is semantically homogeneous, including only the patient verbs. This, together with other properties of Basque, leads to a reinterpretation of the case marking system. The examination of the Warlpiri ABS verb class will show that Warlpiri does not resemble Basque in this respect. The Warlpiri ABS class contains not only patient verbs but also agent verbs.

pali-mi 'ABS die; ABS (fire) go out'  
lirri-mi 'ABS swell'  
papi-mi 'ABS ignite, catch fire'  
kaljarr-(y)ani 'ABS melt'  
yawu-pardi-mi 'ABS abate, stop (e.g. rain)'

**Verbs of stance:**

nyina-mi 'ABS sit, be sitting'  
karri-mi 'ABS stand, be standing'  
nguna-mi 'ABS lie, be lying (prone)'  
parntarri-mi 'ABS crouch, be in a crouching stance'  
jarda-nguna-mi 'ABS sleep, lie asleep'

**Verbs of motion:**

ya-ni 'ABS go, move linearly'  
karrka-mi 'ABS proceed (as to objective)'  
yarnka-mi 'ABS set out, start out'  
pardi-mi 'ABS arise, emerge, start going'  
kulpa-mi 'ABS return'  
parnka-mi 'ABS run, move swiftly'  
wapa-mi 'ABS walk about'

**Verbs of sound production**

wangka-mi 'ABS speak, sound'  
purla-mi 'ABS shout, yell'  
yula-mi 'ABS cry, weep'  
ngarlarri-mi 'ABS laugh'  
wirnpirli-mi 'ABS whistle'  
ngaarr-ma-ni 'ABS (frog) croak'  
walkurr-ma-ni 'ABS (dog) bark'

A number of morphologically complex verbs formed from nominals by means of the inchoative suffix *-jarri-mi* are also found among the verbs of process and state change, for example:

wita-jarri-mi (small-INCH) 'ABS become small'  
wiri-jarri-mi (big-INCH) 'ABS become big, grow'  
ngurrju-jarri-mi (good-INCH) 'ABS become good, improve'  
palka-jarri-mi (manifest-INCH) 'ABS become manifest, be born'  
lawa-jarri-mi (absent-INCH) 'ABS disappear, become absent'  
linji-jarri-mi (desiccated-INCH) 'ABS become desiccated'

An additional class of ABS verbs are verbs of emotional reaction. Hale includes these among the ABS-DAT verb class (see Section 4.4.2), but the DAT argument is optional. These verbs also include a significant subclass formed with *-jarri-mi*. Examples include:

wardinyi-jarri-mi 'ABS rejoice'  
kulu-jarri-mi 'ABS get angry'  
yirraru-jarri-mi 'ABS be homesick, lovesick'  
lani-jarri-mi 'ABS be afraid'

The verbs of stance may also be used to describe "characteristic modes of being of certain

inanimate entities" [EFW p236], i.e. as verbs of existence.

(4.21) Karru ka nguna-mi.  
creekbed PRES lie-NPST  
The creekbed lies, extends. [EFW27b]

(4.22) Yuwarli ka parntarri-mi.  
house PRES crouch-NPST  
The house stands, is in position (lit. crouches). [EFW27c]

Furthermore, among Hale's list of verbs of process and change of state are verbs of appearance, disappearance, and occurrence.

palka-jarri-mi 'ABS become manifest, be born'  
lawa-jarri-mi 'ABS disappear, become absent'  
pardi-mi 'ABS arise, emerge, start going'  
wilypi-pardi-mi 'ABS emerge, go out'

The verbs of motion in Warlpiri include both verbs of change of location, including verbs describing change of position, as well as verbs describing particular kinds of motion.

As this survey of the ABS class shows, the class includes members of the major semantic subclasses of patient single argument verbs. But, the ABS class is clearly not limited to such verbs as shown by the presence among the ABS verbs of verbs of sound production, including both verbs of communication and verbs of characteristic sounds, including sounds made by animals. These verbs are clearly not patient verbs, and in most accusative languages they would belong to the unergative class instead of the unaccusative class, the class which includes the patient verbs. Their inclusion suggests that the Warlpiri ABS class is not purely a patient class but an intransitive class.

A small set of single argument verbs in Warlpiri require the ERG array rather than the ABS array. These verbs belong to two semantically coherent classes, verbs of performance and verbs of bodily function.<sup>17</sup> The single ERG argument of these verbs is construed with the M1 marker in the auxiliary.

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17. When members of these classes are expressed by transitive verbs, they typically are expressed by verbs taking "cognate objects" or by semantically "empty" verbs with "objects" that characterize the action. This is apparent, for example, in Austin's [1980] survey of cognate object verbs in a number of Australian languages. Although Austin does not explicitly look at generalizations concerning the class membership of the verbs allowing these constructions, there are several classes that are represented in each language he cites, including verbs of performance and verbs of bodily function.

Warlpiri possesses a set of verbs of performance which alternate between the ERG array and the ERG-ABS array, as illustrated in the pairs below.

(4.23) a. Ngarrka-ngku ka purlapa yunpa-rni.  
man-ERG PRES corroboree sing-NPST  
The man is singing a corroboree. [EFW29a]

b. Ngarrka-ngku ka yunpa-rni.  
man-ERG PRES sing-NPST  
The man is singing. [EFW30a]

(4.24) a. Ngarrka-ngku ka purlapa pi-nyii.  
man-ERG PRES corroboree hit-NPST  
The man is performing/dancing (lit. hitting) a corroboree. [EFW29b]

b. Ngarrka-ngku ka pi-nyii.  
man-ERG PRES hit-NPST  
The man is dancing (corroboree-style). [EFW30b]

The ERG argument denotes the performer, or agent, with both arrays. The verb occurs with the ERG-ABS array when the particular performance is overtly mentioned (as the ABS argument), but it is found with the ERG array to express the performance in general. The use of the verb with the ERG array conveys an indefinite object deletion sense; the performance receives an indefinite interpretation. This differs from other examples of missing noun phrases in Warlpiri where the missing argument is interpreted as definite in reference<sup>18</sup> as mentioned in Section 4.1.

The second group of ERG verbs that Hale [EFW] cites consists of a set of four verbs of bodily function. These verbs, illustrated in (4.25), are all morphologically complex verbs made

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18. Obviously, the presence of the ERG array with these verbs and the indefinite object interpretation need to be accounted for. Hale [EFW] and Nash [1980] both discuss this problem. Hale notes that if these verbs are considered intransitive when taking the ERG array, the use of this array will have to be explained. To avoid this, he proposes that these verbs are not detransitivized, but instead a special interpretation rule allows the ABS argument of these verbs to receive an indefinite interpretation. With this approach, the ERG array would be treated as an instance of indefinite object deletion, even though indefinite objects in Warlpiri are generally expressed through the use of an appropriate general noun as the ABS argument. Mary Laughren informs me that ERG-ABS verbs may appear with a suppressed ABS noun phrase with indefinite interpretation usually when expressing continuous repeated action. This use, which is accompanied by several repeated mentions of the verb, is not restricted to ERG-ABS verbs.

up of a nominal preverb, and a verb.<sup>19</sup>

- (4.25) a. Ngarrka-ngku ka ngungkurru-pangi-rni.  
man-ERG PRES snore-dig-NPST  
The man is snoring. [EFW32a]
- b. Kurdu-ngku ka ngaany-kiji-rni.  
child-ERG PRES breath-throw-NPST  
The child is breathing, expelling breath. [EFW32b]
- c. Kurdu-ngku ka ngalngal-kiji-rni.  
child-ERG PRES pulsing-throw-NPST  
The child is panting (from exhaustion). [EFW32c]
- d. Karnta-ngku ka kuntul-pi-nyi.  
woman-ERG PRES cough-hit-NPST  
The woman is coughing. [EFW32d]

These verbs would be counter-examples to any generalization that single argument verbs must take the ABS array. Since across languages, verbs of bodily function, when expressed as single argument verbs, generally pattern with agent verbs and not patient verbs. Interestingly, Hale notes that the verbs in (4.25b-d) have been found with the ABS array. This fact supports the hypothesis that the ABS verbs in Warlpiri are truly an intransitive class rather than a semantically limited class.<sup>20</sup> Further evidence comes from the existence of morphologically complex verbs of bodily function, built on an ABS verb base and taking an

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19. There are certain morphological tests for determining when a nominal is being used as a preverb. For example, preverbs can be followed by the directional particles *-rni*, *-rra*, *-mpa* whereas nominals cannot. See Laughren [1977], Nash [1981, 1982]. A second test is only applicable to nominals ending in consonants, such nominals occur with the augment *-pa* unless they are part of a compound word. See Nash [1981, 1982] and Simpson [1983].

20. Hale suggests that these verbs may have developed through nominal incorporation, even though incorporation is not a productive process in Warlpiri, since several of the preverbs are nominal in nature. The occurrence of the ABS array with these verbs would be consistent with a single argument status such as might result from incorporation. Hale notes that it might be preferable to consider (4.25a) to involve an idiom rather than a complex verb since it is not amenable to the incorporation analysis. In fact, (4.25a) has also been recorded as a verb plus ABS nominal combination as well as nominal preverb plus verb combination. When the verb *snore* is expressed as a verb plus ABS nominal, it is an instance of an idiom, see Section 4.6.2.2.

ABS argument.<sup>21</sup> Two examples of this type mentioned in Hale [EFW] use the ABS verb *karri-mi* 'ABS stand'.

*mirmirr-karri-mi* 'ABS shiver'  
*kuntul-karri-mi* 'ABS cough'

In this section the semantic subclasses making up the ABS verb class have been examined to show that this class includes both agent and patient single argument verbs. Warlpiri also shows a small number of verbs taking the ERG array. Both uses of this exceptional single argument array are limited to non-patient verbs, verbs of bodily function and verbs of performance. Furthermore, most of the ERG verbs of bodily function have been found with the ABS array, an alternation that emphasizes suggests that the ABS class is not limited to patient verbs.<sup>22</sup>

#### 4.4 Other Verb Classes

The description of the Warlpiri case and agreement systems focused on the two case arrays pertinent to showing in what respect Warlpiri is considered ergative. As a consequence, only two of the three grammatical cases in Warlpiri, the ERG and the ABS cases, have been introduced. A full account of the case and agreement systems in Warlpiri must take into account the remaining grammatical case, the DAT case.

Besides the verb classes discussed in the previous sections, Warlpiri has a number of additional verb classes characterized by arrays involving an argument marked for the DAT case.<sup>23</sup> These are the ERG-ABS-DAT, the ABS-DAT, and the ERG-DAT arrays. In this

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21. Not all verbs of bodily function are ERG verbs or ABS verbs. Some, particularly verbs of elimination, are expressed by an ERG-ABS verb plus ABS nominal combination, for example:

(i) *Ngajulu-rlu ka-rna jirrjinti kiji-rni.*  
I-ERG PRES-1sM1 sneeze throw-NPST  
I am sneezing. [EFW33d]

22. It is interesting to note that the deviations from the use of the ABS array for single argument verbs are found with agent verbs. In this section the semantic subclasses making up the ABS verb class have been examined to show that this class includes both agent and patient single argument verbs. This is consistent with the close association noted between the ERG case and the agent role.

23. Besides marking arguments in the case array of verbs, the DAT case has a number of other functions. The DAT case is the case of the complements to nominals. It is also the case that marks a nominal in an adjunct relation to the verb, see Section 4.5.

section, I will present an overview of these classes, discussing the case arrays together with the associated person marking facts. The question of the grammatical relations associated with the arguments in each array and the relationships between the arrays will be deferred until after the question of Warlpiri's ergativity has been resolved.

#### 4.4.1 The ERG-ABS-DAT Verbs

A small set of Warlpiri verbs selects a three place case array. These are verbs of physical transfer, (4.26)-(4.27), and verbs of transfer of information, (4.28), that is verbs that are found in the ditransitive class across languages.

- (4.26) a. *yi-nyi* 'ERG give ABS to DAT'  
b. *punta-rni* 'ERG take ABS away from DAT'
- (4.27) a. *yilya-mi* 'ERG send ABS; ERG send ABS to DAT'  
b. *kiji-rni* 'ERG throw ABS (to DAT); ERG put ABS (decoration) on DAT (person)'  
c. *yirra-rni* 'ERG place ABS; ERG put ABS (decoration) on DAT (implement)'  
d. *kan-nyi* 'ERG carry ABS; ERG carry ABS to DAT'
- (4.28) a. *ngarri-rni* 'ERG tell ABS (things, words) to DAT'  
b. *payi-rni* 'ERG ask ABS (person) about DAT'  
c. *japi-rni* 'ERG ask ABS (person) about DAT'

Sentence (4.29) illustrates the use of one of the verbs selecting the three place array.

- (4.29) *Ngarrka-ngku ka-rla kurdu-ku japujapu kiji-rni.*  
man-ERG PRES-RLA child-DAT ball throw-NPST  
The man is throwing the child the ball. [EFW59]

Two of the arguments are marked for the ABS and ERG cases. The use of these cases is consistent with their use with ERG-ABS verbs. The ERG argument bears the agent role, causing some entity, denoted by the ABS argument, to be transferred. The third argument, which corresponds to the goal of the transfer, is in the third grammatical case in Warlpiri, referred to as the DAT (dative) case and marked by the suffix *-ku*. The verbs taking a three place array will be referred to by their array as ERG-ABS-DAT verbs.

The dative case is not only the case marking the "goal" of a verb of transfer such as the verb *kiji-rni* 'ERG throw ABS (to DAT)' in (4.29), but also the case of the "source" of a verb of dispossession, as illustrated in (4.30) with the verb *punta-rni* 'ERG take ABS away from DAT'.

- (4.30) *Ngajulu-rlu kapi-rna-ngku nyuntu-ku karli-patu punta-rni.*  
I-ERG FUT-1sM1-2sM2 you-DAT boomerang-PL take-NPST  
I am going to take the (several) boomerangs away from you. [EFW53]

Of the verbs of physical transfer, only the verbs *yi-nyi* 'to give' and *punta-rni* 'take away'



require a DAT argument obligatorily. All the other verbs listed in (4.27)-(4.28) select a DAT argument optionally.

Although the ERG-ABS-DAT verbs resemble the ERG-ABS verbs in their case marking, they differ from them in their person marking properties. Compare (4.30) with an ERG-ABS-DAT verb and sentence (4.31) with an ERG-ABS verb.

(4.31) Ngajulu-rlu kapi-rna-jana karli-patu jarnti-rni.  
I-ERG FUT-1sM1-3pM2 boomerang-PL trim-NPST  
I will trim the (several) boomerangs. [EFW54]

The M1 marker is construed with the ERG argument of the ERG-ABS-DAT verb, just as it is with the ERG argument of an ERG-ABS verb. But, with the ERG-ABS-DAT verb the M2 marker is construed with the DAT argument and not with the ABS argument. In contrast, in (4.31), the M2 marker is construed with the ABS argument of the ERG-ABS verb. If the M2 marker of an ERG-ABS-DAT verb were construed with the ABS argument, the M2 marker in (4.30) should be *-jana* as it is in (4.31). Instead, in (4.30), the ABS argument is not registered in the auxiliary.

With a third person singular DAT argument, a special marker *-rla* is found in the auxiliary.

(4.32) Ngajulu-rlu kapi-rna-rla kurdu-ku karli-patu punta-rni.  
I-ERG FUT-1sM1-RLA child-DAT boomerang-PL take-NPST  
I am going to take the (several) boomerangs away from the child. [EFW55]

Hale calls this marker a dative registration marker since this marker is not an agreement marker, but simply a marker registering the presence of a third person singular DAT argument.<sup>24</sup> Construal with the ABS argument is precluded even in (4.32) in spite of the dative registration marker. The assumption is that a third person singular DAT argument, like a third person singular ABS argument of an ERG-ABS verb, is not construed with an overt M2 marker in the auxiliary. The generalization, then, is that the M2 marker is construed with the DAT argument of an ERG-ABS-DAT verb.

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24. The dative registration marker *-rla* is not an M2 marker since it can co-occur with an M2 marker, for example in a sentence with two datives such as an adjunct dative and a dative selected by a verb's case array. I will not discuss all of the intricacies of person marking with ERG-ABS-DAT verbs, see Hale [1973, EFW] and Simpson [1983] for more details.

#### 4.4.2 The ABS-DAT Verbs

Besides the ERG-ABS verb class, there is a second large class of two argument verbs, the ABS-DAT verbs. These are verbs that require one of their two arguments in the ABS case and the other in the DAT case, as illustrated in (4.33), with the ABS-DAT verb *parda-rni* 'ABS wait for DAT'.

- (4.33) Kurdu ka-rla        ngarrka-ku parda-rni.  
child PRES-RLA man-DAT wait-NPST  
The child is waiting for the man. [EFW6a]

The nature of the ABS-DAT verb class is relevant to the interpretation of the system of case marking in Warlpiri. This case array is common among Australian languages, and the DAT case is characterized as the case of the complement of intransitive verbs [Blake 1977]. Hale mentions that it is typical to omit this class in examining the pattern of case marking exemplified in a particular Australian language. In fact, this class of verbs is left out in arriving at the characterization of the Warlpiri case system as ergative.

Unlike the ERG-ABS verbs, the ABS-DAT verbs are not associated with the notion of causation.

Verbs selecting the latter array have the property that their absolutive subjects, far from being agents of causation, correspond rather to the entity most directly affected by the process depicted by the verb -- i.e. they correspond more closely to the 'patient' or 'experiencer' role than to the 'agent' role -- while their dative objects correspond to entities which are themselves unaffected by the process but are related to it in a variety of other ways -- e.g. the source of an emotion, the object of an encounter, the object of a quest, a beneficiary, and so on. [EFW, p.245-6]

Examples drawn from two semantically coherent subclasses of the ABS-DAT verbs, verbs of communication and verbs of emotional reaction, are listed in (4.34) and (4.35).

- (4.34) a. wangka-mi 'ABS speak; ABS speak to DAT'  
b. purla-mi 'ABS shout/yell; ABS shout to DAT'  
c. ngurnturri-mi 'ABS grumble to DAT'  
d. waraparnpi-mi 'ABS announce DAT, mention name of DAT'
- (4.35) a. yulka-mi 'ABS cherish DAT, love DAT'  
b. kapati-mi 'ABS feel uneasy in DAT (place or situation)'  
c. nyurunyuru-jarri-mi 'ABS hate/despise DAT'  
d. mari-jarri-mi 'ABS pity DAT, feel sorry for DAT'

The ABS verbs of emotional reaction introduced in Section 4.3 may also take the ABS-DAT array, with the person or entity the reaction is directed towards expressed by the DAT

argument. They are repeated here:

- (4.36) a. wardinyi-jarri-mi 'ABS rejoice in DAT'  
b. kulu-jarri-mi 'ABS be angry at DAT'  
c. yirraru-jarri-mi 'ABS become homesick for DAT, pine for DAT'  
d. lani-jarri-mi 'ABS be afraid of DAT'

Other ABS-DAT verbs include:

rdipi-mi 'ABS encounter DAT, come upon DAT'  
jija-mi 'ABS succumb to DAT'  
wapalwapai-wapa-mi 'ABS move about in search of DAT'  
wapal-wangka-mi 'ABS guess at DAT, verbally search for DAT'  
parda-rni 'ABS wait for DAT'  
rdanpa-rni 'ABS accompany DAT'  
yura-ka-nyi 'ABS stalk DAT, sneak up on DAT'  
japirdi-mi 'ABS make threat against DAT (behind back, not face-to-face)'

A characterization of the ABS-DAT verb class must consider the pattern of construal shown by members of this class. An obvious question concerns the ABS argument: is it construed with a M1 marker as is the ABS argument of an ABS verb or with a M2 marker like the ABS argument of an ERG-ABS verb. The example below show that the ABS argument is construed with the M1 marker.

- (4.37) Ngaju ka-rna-ngku nyuntu-ku parda-rni.  
I PRES-1sM1-2sM2 you-DAT wait-NPST  
I am waiting for you. [EFW12g]

The ABS argument of the ABS-DAT behaves like the ABS argument of an ABS verb rather than the ABS argument of an ERG-ABS verb in terms of agreement.

The example (4.37) above shows that the DAT argument is construed with the M2 marker, just as the ABS argument of an ERG-ABS verb is.<sup>25</sup> With a third person singular dative, the auxiliary show the dative registration marker *-rla* which is not found with a third person singular ABS argument of an ERG-ABS verb, although it is found with the DAT argument of an ERG-ABS-DAT verb.

- (4.38) Ngaju ka-rna-rla kurdu-ku parda-rni.  
I PRES-1sM1-RLA child-DAT wait-NPST  
I am waiting for the child. [EFW12d]

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25. Simpson [1983] notes that there are instances of ABS-DAT verbs which do not show agreement with the DAT argument and discusses the significance of this fact for an analysis of these verbs.

The construal facts concerning ABS-DAT verbs can be summarized as follows. The ABS argument is construed with the M1 marker and the DAT argument with the M2 marker. When the DAT argument is third person singular, the auxiliary shows the dative registration marker. With the exception of this element, the construal facts are the same as with ERG-ABS verbs, with parallels between the ABS argument of the ABS-DAT and ERG argument of the ERG-ABS and between the DAT argument of the ABS-DAT and the ABS argument of the ERG-ABS verbs.

Despite the similarity in the construal pattern found with the ABS-DAT verbs and ERG-ABS verbs, Hale argues that the ABS-DAT verbs differ from the ERG-ABS verbs in several ways while resembling the ABS verbs. These differences concern conjugation class membership, derivational suffixes forming verbs from nouns, semantics, and case array.

One difference between the ABS-DAT verbs and the ERG-ABS verbs concerns the case array. With an ERG-ABS verb, a definite referent is understood for a non-overt ABS argument. Indefinite referents are found only with the verbs of performance discussed in Section 4.3 or when a verb is used in a sentence expressing an action continued or repeated without a break over a long period of time. In contrast, in (4.39), the DAT argument of an ABS-DAT verb can be omitted without an implication of an understood definite referent for this argument. To obtain a definite referent for the DAT argument, the dative registration marker must appear in the auxiliary.

(4.39) *Nyina-mi ka-rna.*  
sit-NPST PRES-1sM1  
I'm sitting.

(4.40) *Nyina-mi ka-rna-rla.*  
sit-NPST PRES-1sM1-RLA  
I'm waiting for him.

This suggests that most verbs found with the ABS-DAT array can also occur with an alternate array, the ABS array.<sup>26</sup>

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26. Relatively few ABS-DAT verbs require the ABS-DAT array exclusively, including the verbs *parda-rni* 'to wait for', *yulka-mi* 'to love', *rdanpa-rni* 'to accompany', and *yuraka-nyi* 'to sneak up on', *waraparnpi-mi* 'to announce', *kapati-mi* 'to be uneasy with', *jija-mi* 'to lose to'.

The ABS-DAT verbs do not satisfy the semantic characterization typical of ERG-ABS verbs. The ERG-ABS verbs incorporate a notion of causation, while the ABS-DAT verbs do not. The ERG argument of an ERG-ABS verb is typically an agent and causer, while the ABS argument of an ABS-DAT verb is rarely an agent or causer, just as the ABS argument of an ABS verb is not.

The ABS-DAT verbs are like ABS verbs rather than ERG-ABS verbs with respect to two morphological properties, conjugation class membership and derivational suffixes. Warlpiri shows certain significant correspondences between case array and conjugation class membership. The ABS-DAT verbs resemble ABS verbs in belonging primarily to the first conjugation rather than the second conjugation like most ERG-ABS verbs. Also, many of the ABS-DAT verbs are formed from nominals through the use of the inchoative suffix *-jarri-mi*, the same suffix which forms many members of the ABS verb class that express change of state.<sup>27</sup> The ABS *-jarri-mi* verbs of change of state have causative counterparts derived from the same nominal by the causative suffix *-ma-ni*. Interestingly, there are no ABS-DAT verbs formed by the causative suffix *-ma-ni*. This is consistent with the semantic characterization of this class and with the observation concerning conjugation class membership.

The ABS-DAT verbs formed by the inchoative suffix *-jarri-mi* may have ERG-ABS counterparts formed by the causative suffix *-ma-ni*. Two semantic relations expressed by causative/inchoative pairs are illustrated in (4.41)-(4.42). The pair in (4.41) involves an ABS verb and an ERG-ABS verb denoting a change of state, that in (4.42) an ABS-(DAT) verb and an ERG-ABS verb denoting an emotional reaction.

- (4.41) a. *wita-jarri-mi* 'ABS become small'  
b. *wita-ma-ni* 'ERG cause ABS to become small'

- (4.42) a. *lani-jarri-mi* 'ABS be afraid (of DAT), ABS fear DAT'  
b. *lani-ma-ni* 'ERG frighten ABS'

When pairs such as (4.42) exist, the ABS-DAT verb denotes an emotional state (optionally directed at a DAT argument), and the ERG-ABS verb denotes an action causing an emotional state. The ABS argument of the ABS-DAT verb will bear the same semantic role as the ABS argument of the ERG-ABS verb. The DAT argument of the ABS-DAT verb is optional and will

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27. This suffix was introduced in Section 4.3. See Section 4.7.1 for more discussion of this suffix and related suffixes used to express the anti-causative alternation in Warlpiri.

have no counterpart in the ERG-ABS array. The ERG argument of the ERG-ABS array will refer to the causer of the emotional reaction experienced by the ABS argument. The relation between verbs with the derivational suffixes is probably between an ABS verb denoting an emotional state and an ERG-ABS verb denoting the causing of an emotional state. A DAT argument, denoting the entity the emotional reaction is directed towards would be incorporated into the ABS verb array creating an ABS-DAT array.<sup>28</sup>

This brief introduction to the ABS-DAT verb class demonstrates that the characterization of the class is not clear. The construal pattern of this class resembles that of the ERG-ABS class except for the use of the dative registration marker *-rla* in the third person singular. But, in other respects, the ABS-DAT verbs resemble the ABS verbs.

#### 4.4.3 The ERG-DAT Verbs

A small class of two argument verbs, which may be characterized semantically as verbs of seeking, take the ERG-DAT array. Sentence (4.43) illustrates this array with the verb *warri-rni* 'ERG seek DAT'.

(4.43) Ngarrka-ngku ka-rla karli-ki warri-rni.  
man-ERG PRES-RLA boomerang-DAT seek-NPST  
The man is looking for a boomerang. [EFW44a]

In (4.43), the referent of the ERG argument, is the agent, the one who searches for something, and the DAT argument denotes the entity that is being sought. Besides the verb *warri-rni* 'to search', this class includes verbs formed from ERG-ABS verbs by means of the preverb *wapal-* 'in search of'.

wapal-karla-mi 'ERG dig in search of DAT (e.g. yams)'  
wapal-pangi-rni 'ERG dig in search of DAT (e.g. water)'

The ERG-DAT array is also found with several verbs that typically take the ERG-ABS array. When used with the ERG-DAT array, these verbs are interpreted as verbs of seeking. The semantic shift associated with the change of arrays is illustrated below:

nya-nyi (1) 'ERG sees ABS'  
(2) 'ERG look about in search of DAT'

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28. This approach to ABS-DAT verbs is proposed by Simpson [1983] as part of an account of the ambiguous status of the ABS-DAT verbs.

- karla-mi           (1) 'ERG dig up ABS (as yams)'  
                      (2) 'ERG dig in search of DAT (e.g. yams)'
- pangi-rni           (1) 'ERG dig ABS (hole, well)'  
                      (2) 'ERG dig in search of DAT (e.g. water)'

The pattern of construal found with verbs taking the ERG-DAT array resembles that found with other verbs taking two place arrays. Sentences (4.44)-(4.45) illustrate the use of the ERG-DAT verb *warri-rni* 'ERG seek DAT'.

(4.44) Karnta-patu-rlu ka-lu-rla           kurdu-ku warri-rni.  
      woman-PL-ERG PRES-3pM1-RLA child-DAT seek-NPST  
      The (several) women are looking for the child. [EFW44b]

(4.45) Karnta-ngku ka-jana           kurdukurdu-ku warri-rni.  
      woman-ERG PRES-3pM2 children-DAT seek-NPST  
      The woman is looking for the children. [EFW44c]

The examples show that the ERG argument of the ERG-DAT array is construed with the M1 marker as is the ERG arguments of other arrays. The DAT argument is construed with the M2 marker, as in (4.45). When the DAT argument is third person singular, sentence (4.44) shows that as expected the DAT registration marker appears in the auxiliary.

Another use of the ERG-DAT array, referred to as the conative, is associated with the semantic notion of unachieved or attempted action. A semantically restricted class of ERG-ABS verbs, primarily verbs of contact, permit the nominal usually marked for ABS case to be marked for the DAT case. In other words, these verbs are found with either the ERG-ABS or the ERG-DAT array, as illustrated below by (4.46) and (4.47) with the verb *paka-rni* 'ERG strike ABS'.

(4.46) Kurdu-ngku ka-ju-rla           ngaju-ku paka-rni.  
      child-ERG PRES-1sM2-RLA I-DAT strike-NPST  
      The child is striking at me. [EFW47b]

(4.47) Kurdu-ngku ka-ju           ngaju paka-rni.  
      child-ERG PRES-1sM2 I strike-NPST  
      The child is striking me. [EFW48b]

The ERG-ABS array is associated with the notion of achieved action, while the ERG-DAT array is associated with attempted action, and its use does not imply that the action was

carried through.<sup>29</sup>

The use of the ERG-DAT array to convey attempted action involves a special use of the registration marker in the auxiliary, referred to as double dative registration.<sup>30</sup> In (4.46), besides the M1 marker construed with the ERG argument and the M2 marker construed with the DAT argument, there is the dative registration marker *-rla*. Compare this to (4.47), where the dative registration marker is absent. Although the array involves one DAT argument, an additional dative marker is found in the auxiliary,<sup>31</sup> apparently to signal the unachieved status of the action.

#### 4.5 Summary of Case Array and Person Marking Facts

In this section, the different case arrays in Warlpiri and their associated patterns of

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29. See Hale [EFW] for more discussion of the semantics of the conative use of the ERG-DAT array. Simpson [1983] argues that with ERG-ABS verbs that take the ERG-DAT array in the conative use, the two arrays are related by a semantic redundancy rule analogous to the rule relating pairs of verbs in English such as *shoot* and *shoot at*.

30. The nature of the property triggering double dative registration needs further study. Some examples of double dative registration do not precisely satisfy the notion of unachieved action. Several idioms require double dative registration. For example, double dative registration is sometimes found in expressions involving the word *lawa* "not". Contrast the pair (i) and (ii) which involves the verb *karri-mi*, but whose members differ in whether there is double dative registration.

(i) Lawa-juku ka-rla karri.  
not-constant PRES-RLA stand-NPST.  
He's still not here.

(ii) Murnma ka-jana-rla karri.  
not yet PRES-3pM2-RLA stand-NPST  
They are not back yet.

In the absence of double dative registration, simple sentential negation is understood.

31. When the DAT argument is third person singular, double dative registration is still required and indicated by the sequence *-rla-jinta*.



person marking in the auxiliary will be summarized.<sup>32</sup> The case arrays involve the three grammatical cases, the ERG, ABS, and DAT cases. The system of case in Warlpiri is considered to be ergative on the basis of two of the major case arrays, the ABS and ERG-ABS arrays. The ABS verbs in Warlpiri, which include both agent and patient verbs, are the major single argument class, although there are a few verbs with the ERG array. The ERG-ABS array, one of two major two argument arrays, is associated with the semantic notion of cause. The second major two argument array, the ABS-DAT array, is not included in the assessment of the Warlpiri case system as ergative. The ABS-DAT verbs pattern with the ERG-ABS verbs with respect to construal, but show other properties reminiscent of ABS verbs. A final two argument array is the ERG-DAT array found with verbs of seeking and also with some verbs that are usually ERG-ABS verbs as an alternative array indicating unachieved action. Finally, there is a three place array, the ERG-ABS-DAT array found with verbs of transfer.

The auxiliary in Warlpiri consists of an auxiliary base followed by two positions for person markers, referred to here by position as M1 and M2; these markers are in turn followed by the dative registration markers *-rla* and *-jinta*. The composition of the auxiliary is schematized in (4.48):

(4.48)                                      BASE + M1 + M2 + *rla* + *jinta*

The table below summarizes which argument in a verb's case array, if any, the person markers are construed with.

<u>Case Array</u>	<u>M1</u>	<u>M2</u>
ABS	ABS	
ERG	ERG	
ERG-ABS	ERG	ABS
ABS-DAT	ABS	DAT
ERG-DAT	ERG	DAT
ERG-ABS-DAT	ERG	DAT

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32. Nash [1980] suggests that there is an additional array, the ABS-ABS array, noting that the verb *wangka-mi* 'ABS speak' appears to take this array when used in the sense 'ABS speak ABS (= a language)'. Mary Laughren has suggested to me that what is involved here is actually an instance of predication, i.e. that the language is predicated of the speaker through the use of case agreement. She points out that with the ERG-ABS-DAT verb *ngarri-rni* 'ERG tell ABS (things, words) to DAT', the language used to tell something may be expressed by a noun marked for ERG case, the same case used for the noun denoting the speaker. Taken together, the two examples show that it is the case of the noun phrase whose referent is the speaker that determines the case of the language.

Hale [EFW] formulates construal rules that predict the pattern of construal associated with each case array.<sup>33</sup>

The M1 marker is construed with the ERG argument if there is one, otherwise with the ABS argument.

The M2 marker is construed with the DAT argument if there is one, otherwise with the ABS argument.

These rules state which cases have precedence in construal with the auxiliary and will predict the correct pattern for each array listed in the table.

The clitic *-rla* appears in the auxiliary to register the presence of a third person singular DAT nominal. When a sentence involves two third person singular DAT noun phrases, the sequence *-rla-jinta* is used in the auxiliary. The conative use of the ERG-DAT array is signalled by double dative registration.

Finally, one other use of the DAT case, referred to as the adjunct dative, will be introduced briefly. An adjunct dative noun phrase can be introduced in almost any sentence to indicate a person in some way affected by the event described in the sentence. The adjunct dative encompasses the uses of the dative that come under the label "ethical dative," both in a benefactive or adversative sense. Adjunct datives are frequently construed with the auxiliary but do not have to be. Although an adjunct dative noun phrase is not part of the argument structure of the verb in the sentence, in this property it behaves like an argument in the verb's case array. The precedence of DAT noun phrases over ABS noun phrases in construal with the M2 marker extends to the adjunct dative, when it is construed. In sentences with an ERG-ABS verb and an adjunct dative, the adjunct dative rather than the ABS argument is construed, as illustrated in (4.49).<sup>34</sup>

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33. The generalizations are adapted from Hale [EFW]; I have substituted M1 and M2 for "SUBJ" and "OBJ", Hale's names for the agreement markers.

34. Some preverbs introduce adjunct datives. These adjunct datives do not differ from other adjunct datives in their properties. They also show the same semantic relation as the adjunct datives that are not introduced by preverbs. Among the adjunct dative preverbs are the causative preverb *marlaja* "because of DAT", the benefactive preverb *kaji* "for DAT", and the comitative preverb *jirrnganja* "with DAT". Therefore, some points concerning adjunct datives will be illustrated with adjunct datives introduced by preverbs. See Hale [EFW], Nash [1980], and Simpson [1983] for discussion of dative adjunct preverbs and their properties.

(4.49) Karli-patu-rna-palangu kurdu-jarra-ku kaji-jarntu-rnu.  
boomerang-PL-1sM1-3dM2 child-DUAL-DAT BEN-trim-PST  
I trimmed the boomerangs for the two children.

In sentences where the verb selects a case array that includes a DAT argument, the auxiliary may have markers construed with more than one DAT noun phrase, so that construal with both a DAT argument and an adjunct dative is possible.<sup>35</sup>

(4.50) Ngarrka-ngku ka-ju-rla ngaju-ku karli-ki warri-rni  
man-ERG PRES-1sM2-RLA I-DAT boomerang-DAT seek-NPST  
The man is looking for a boomerang for me. [EFW62a]

#### 4.6 Evidence that Warlpiri is Accusative

This section will investigate Warlpiri's status with respect to the Ergativity Hypothesis. First, evidence bearing on this question from two tests based on the Binding Theory will be presented. This evidence will argue that Warlpiri is accusative. Further evidence in favor of this proposal will come from the structure of idioms and range of meanings tests. These two tests, which are based on the organization of d-structure, will be discussed in Section 4.6.2. Of the tests formulated in Chapter 3, only the tests just mentioned appear to be relevant to Warlpiri.

In order to consider the evidence for Warlpiri's status, it will be necessary to adopt an assumption, proposed by Hale [1983], about the nature of the level of underlying representation in Warlpiri. Independent evidence for this assumption will be provided in the next section. This assumption is also a prerequisite for an examination of Warlpiri's syntax in light of the fact that it is accusative.

Before the Binding Theory tests can be applied to Warlpiri, one more issue must be resolved: do the conditions of the Binding Theory hold in Warlpiri? This question arises since the conditions of the Binding Theory refer to particular configurational notions, yet Warlpiri has been considered a canonical example of a non-configurational language. Hale [1983] notes that Warlpiri exhibits certain asymmetries with respect to reflexive-reciprocal and control constructions that would be expected to follow from the Binding Theory. The existence of these asymmetries suggests that Warlpiri does meet the conditions of the Binding Theory. Hale uses these asymmetries to argue that despite Warlpiri's apparent

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35. See Hale [EFW], Simpson [1983] for details.

surface non-configurationality, configurational notions must be relevant to Warlpiri at some level of representation. He uses the asymmetry to argue for incorporating a subject-predicate distinction at this level of representation.

In fact, Hale argues that a single level of representation, which he calls Lexical Structure (LS) is relevant to principles A and B of the Binding Theory in Warlpiri. That is, the LS structure will provide the configurational structure necessary to allow the Binding Theory to apply, thereby accounting for the observed asymmetries. Hale takes the level of LS to be the level where the argument structure of verbs is represented. The level of LS is analogous to d-structure in the sense that it provides a representation of the compositional structure of the sentence. In some sense, the level of LS in Warlpiri collapses the properties of d-structure and s-structure.

Hale argues for the level of LS structure to account for properties that have been attributed to Warlpiri as a non-configurational language. For example, Hale argues that the level of LS he proposes will account for the fact that there is no evidence in Warlpiri for the rule Move NP, the rule that is responsible for any differences between the d-structure and s-structure grammatical relations of a particular argument.

I will accept Hale's proposal that there is a single level of representation, LS structure in Warlpiri. Furthermore, I will assume that since this level of representation is like d-structure in representing the argument structure, the Ergativity Hypothesis should apply at this level of representation. The tests dealing with the compositional semantics of d-structure, the structure of idioms and range of meanings tests should also apply at this level. The Binding Theory tests were formulated on the assumption that the Binding Theory holds at s-structure. But, these same tests hold at whatever level the Binding Theory holds. In Warlpiri, this will be LS. The tests that are applicable to Warlpiri take advantage of exactly those properties of d-structure and s-structure that Hale proposes are incorporated in Warlpiri's LS structure. As will be discussed in Section 4.7, the tests that do not apply are those expected not to apply given the assumption concerning the level of underlying representation in Warlpiri. I will simply omit prefixes on grammatical relations to remain neutral as to the nature of this level of representation.

#### 4.6.1 Evidence from the Binding Theory

The tests based on the interaction of the Binding Theory with the Ergativity Hypothesis will be used to argue that Warlpiri is accusative in the sense of the Ergativity Hypothesis through an examination of reflexive-reciprocal interpretation and control.<sup>36</sup> These two phenomena will be examined in turn in the next sections. Both tests provide evidence that Warlpiri is accusative.

The outcome of these tests supports Hale's proposal that Warlpiri is a "morphologically ergative" language rather than a "syntactically ergative" language. This proposal is the result of an examination of the Warlpiri system of construal (discussed in Section 4.2) as well as the phenomena of control and reflexive-reciprocal interpretation. None of these phenomena can be described simply in terms of case or configuration,<sup>37</sup> as will be discussed in this section and the next, leading Hale to argue that the grammar of Warlpiri requires a notion of grammatical relations:

I believe that the processes just exemplified clearly establish the relevance of grammatical functions to the grammar of Warlpiri. [Hale 1983, p.27]

Syntactic processes in Warlpiri resemble those in an accusative language. The single ABS argument of an ABS (intransitive) verb and the ERG (agent) argument of an ERG-ABS (transitive) verb share certain properties while the ABS (patient) argument of an ERG-ABS (transitive) verb shows different behavior. This pattern suggests that a notion of subject and object analogous to that in accusative languages is necessary to capture certain generalizations about the grammar of Warlpiri.

A number of processes of Warlpiri grammar make reference to a particular argument in LS [=Lexical Structure, a level of underlying representation where the argument structure of a predicate is explicit - BL] discriminating among them along lines parallel to the traditional, much discussed, apportionment of arguments to grammatical functions, subject, object, etc. [Hale 1983, p.20]

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36. Due to the nature of the Binding Theory tests, the behavior of agent-patient verbs with respect to reflexive-reciprocal interpretation and control will be considered almost exclusively in this section. In Section 4.8, the same phenomena will be reexamined in a broader context to identify the subject and object in Warlpiri.

37. Arguments of this nature for grammatical relations are presented especially clearly and forcefully by Simpson and Bresnan [1982] in a discussion of the controller of some non-finite complement clauses.

The approach taken here differs from Hale's since it relies on properties that are independently shown to hold of subjects to identify the subject in Warlpiri as a first step towards establishing Warlpiri's status. Hale does not discriminate between properties that hold necessarily of a particular grammatical relation and those that do not. The subject properties that Hale identifies include construal with the M1 marker, the ability to be an antecedent of the reflexive agreement marker, the ability to control certain non-finite clauses, and the ability to be the controlled argument in non-finite control clauses. The Binding Theory tests that will be used here will only be concerned with the distribution of reflexive anaphors and controlled arguments.

The Binding Theory tests take advantage of the same asymmetries that Hale uses in his arguments for LS in Warlpiri, but point to a different implication of the asymmetries. By looking at these asymmetries in the context of the Ergativity Hypothesis, it is possible to establish that Warlpiri is accusative: the asymmetries take the form expected in an accusative language.

#### 4.6.1.1 Evidence from Control Structures

Control phenomena in Warlpiri provide evidence that Warlpiri is indeed an accusative language. Warlpiri shows a range of non-finite clauses, many of them control structures. Some of these clauses are selected by a verb, while others are clauses dependent on the main clause for time reference. In this section, the three types of non-finite clauses of contemporaneous action will be examined.<sup>38</sup> The distribution of the controlled argument in these clauses will be shown to correspond to the pattern expected in accusative languages, as set out in Section 3.5.1.

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38. See Hale [EFW], Nash [1980], Simpson [1983], and Simpson and Bresnan [1982] for a more comprehensive survey of non-finite clauses in Warlpiri, and also Simpson and Bresnan [1982] for a discussion of non-finite clauses of contemporaneous action. The complementizers that differentiate the three types of non-finite clauses of contemporaneous action make up the Warlpiri obviation system discussed in these references. Hale originally identified a four-way system, but one of the complementizers has since been reanalyzed as a case marker [Simpson 1983]. The focus here will be on the control properties of these clauses and not on the structure of the obviation system they participate in.

To review the controlled argument test, the status of a language is identified by the semantic role assigned to the controlled argument in a controlled clause with an agent-patient verb: if the controlled argument is the argument bearing the agent role the language is accusative, while if it is the argument bearing the patient role the language is ergative. All that is pertinent to the question of Warlpiri's status is the nature of the controlled argument when the verb of the controlled clause is an agent-patient verb, that is an ERG-ABS verb in Warlpiri. For simplicity, only the immediately relevant aspects of control structures will be introduced in this section. A more thorough discussion of the nature of the controller and the nature of the controlled argument when the embedded verb is not an ERG-ABS verb will be deferred to Section 4.8.

The control structures considered here are referred to as non-finite clauses of contemporaneous action because the events described in the matrix and embedded clause occur simultaneously.<sup>39</sup> These clauses are formed by adding a complementizer to the infinitival form of the verb, and will be referred to by their complementizers: *kurra*, *karra*, and *rlarni*. The choice of complementizer determines the controller, the controlled argument in the non-finite clause. The *kurra* and *karra* clauses are structures of obligatory control while the *rlarni* clauses are not. Simpson [1983] presents evidence from disjoint reference and the interpretation of the anaphor *kariyinyanu* that these clauses must have a controlled argument, i.e. a PRO, and do not merely lack one of the arguments of the embedded verb.

Sentences (4.51a)-(4.52a) illustrate examples of *karra* clauses and (4.53a) shows a *kurra* clause. Sentence (4.51) has a matrix ABS verb and sentences (4.52)-(4.53) have matrix ERG-ABS verbs. The (b) sentences give a finite counterpart of the non-finite clauses in the (a) sentences.

- (4.51) a. Wangka-mi ka-rna      parnka-nja-karra.  
          speak-NPST PRES-1sM1 run-INF-KARRA  
          I'm talking while I'm running. [jwolex p15]

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39. These are not the only control structures found in Warlpiri. But, the argument of the verb that is controlled in contemporaneous action clauses is the argument that would be controlled in other types of control structures. That is, the contemporaneous action clauses are representative of other control structures in Warlpiri. See Hale [EFW], Simpson [1983] for a more extensive survey of control structures.

- b. Parnka-mi ka-rna  
run-NPST PRES-1sM1  
I'm running.
- (4.52) a. Ngurlu-lpa-rna yurrrpa-rnu nyina-nja-karra-rlu.  
seeds-IMPf-1sM1 grind-PST sit-INF-KARRA-ERG  
I ground the seeds while I was sitting down.
- b. Nyina-ja-lpa-rna.  
sit-PST-IMPf-1sM1  
I was sitting.
- (4.53) a. Purda-nya-nyi ka-rna-ngku wangka-nja-kurra.  
aural-perceive-NPST PRES-1sM1-2sM2 speak-INF-KURRA  
I hear you speaking. [Hale 1983, 22a]
- b. Wangka-mi ka-npa.  
speak-NPST PRES-2sM1  
You are speaking.

Note that the presence of person marking in the matrix auxiliary in each example show that there is a controller in the matrix clause. It is sufficient for the purpose of the discussion in this section to note that the ERG argument of an ERG-ABS verb, as in (4.52), and the ABS argument of an ABS verb, as in (4.51), can control *karra* clauses and the ABS argument of an ERG-ABS verb can control *kurra* clauses, as in (4.53), but that the reverse is not possible. These non-finite clauses show case agreement. This is evident in (4.52) where the *karra* clause is marked for ERG case, the case of the controller.<sup>40</sup>

The examples given all have ABS verbs in the non-finite clause. And, in each example, the ABS argument is the controlled argument. As discussed in Section 3.5.1, evidence concerning intransitive verbs in control structures does not help determine a language's ergativity. But, the argument of an intransitive verb is expected to be a controlled argument, and these examples confirm that this is in fact so in Warlpiri.

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40. The case agreement found with non-finite controlled clauses is an instance of a more general phenomenon in Warlpiri discussed by Hale [EFW] and extensively by Simpson [1983]. For example, expressions of location in Warlpiri may receive dual case marking, as in (i).

(i) Ngarrka-ngku ka maliki yilya-mi ngurra-kurra-rlu.  
man-ERG PRES dog send-NPST camp-ALL-ERG  
The man, on his way to camp, is sending (e.g. shooting away) the dog. [EFW86]

The purpose of the dual case marking is to indicate the argument of the verb whose location is being described.



To determine Warlpiri's status, *kurra* and *karra* clauses with agent-patient verbs must be examined. This will allow the argument which receives the controlled interpretation to be identified. In Warlpiri, agent-patient verbs are ERG-ABS verbs with the ERG argument associated with the agent role and the ABS argument associated with the patient role. Sentences (4.54)-(4.55) exemplify controlled *karra* and sentence (4.56) a *kurra* clause involving ERG-ABS verbs. In (4.54) the matrix clause has an ABS verb, while in (4.55) and (4.56) the matrix clause has an ERG-ABS verb.

(4.54) Ngarrka ka wirnpirli-mi, karli jarnti-rninja-karra.  
man PRES whistle-NPST, boomerang trim-INF-KARRA  
The man is whistling, while trimming the boomerang. [EFW134a]

(4.55) Ngarrka-ngku ka purlapa yunpa-rni, karli jarnti-rninja-karra-rlu.  
man-ERG PRES corroboree sing-NPST, boomerang trim-INF-KARRA-ERG  
The man is singing a corroboree, while trimming the boomerang. [EFW134c]

(4.56) Ngarrka-ngku marlu pantu-rnu, marna nga-rninja-kurra.  
man-ERG kangaroo spear-PST, grass eat-INF-KURRA  
The man speared the kangaroo (while it was) eating grass. [EFW137a]

In each of the sentences, the controlled argument is understood as the argument bearing the agent role, the ERG argument of the verb. Example (4.57) below shows that even when there is no overt ABS or ERG argument, it is still the ERG argument that receives the controlled interpretation.

(4.57) Ngarrka ka wirnpirli-mi, jarnti-rninja-karra.  
man PRES whistle-NPST, trim-INF-KARRA  
The man is whistling, while trimming it.

Given the controlled argument test for ergativity, the observation that the controlled argument is the argument of an agent-patient verb bearing the agent role establishes that Warlpiri is accusative. In addition, the ERG argument, as the controlled argument, will be the subject of the verb while the ABS argument, the argument associated with the patient role will be the object.

This is confirmed by the third type of contemporaneous action clause, clauses with the complementizer *rlarni*. These clauses are not structures of obligatory control. Both controlled and non-controlled uses of *rlarni* are found, as illustrated in (4.58) and (4.59) respectively.

(4.58) Ngarrka-ngku ka-rla kurdu wita-ku karli kaji-jarnti-rni,  
man-ERG PRES-RLA child small-DAT boomerang BEN-trim-NPST,

jarda nguna-nja-rlarni(-ki).  
sleep lie-NPST-RLARNI(-DAT)

The man is trimming a boomerang for the little child while it is sleeping. [EFW140b]

- (4.59) Ngarrka-ngku ka karli jarnti-rni, kurdu-ku jarda nguna-nja-rla-rni.  
man-ERG PRES boomerang trim-NPST, child-DAT sleep lie-NPST-RLARNI  
The man is trimming a boomerang, while the child is sleeping.

In control structures, *rlarni* clauses are controlled by an adjunct dative rather than an argument selected by the matrix verb. In (4.58), the controller is *kurdu wita* "the small child", which bears a benefactive relation to the matrix verb. The controller is in the matrix clause as evidenced by the presence of the dative registration marker *rla* on the auxiliary. The controlled noun phrase in this example, which involves an ABS verb, is the ABS argument, just as in *kurra* and *karra* clauses with ABS verbs.

Each of the arguments in a verb's case array may be present in a non-finite clause with the non-control use of *rlarni*, as in (4.59). But, the argument in the case array that would be the controlled argument in the control use of *rlarni* is marked for the DAT case, rather than the case typically associated with that argument. In (4.60), the argument of the ABS verb *nguna-mi* 'ABS lie' is marked for DAT case rather than ABS case. Evidence that the DAT is not a controller in the matrix clause comes from the absence of construal in the auxiliary in (4.59).

When *rlarni* clauses are control structures, what is the controlled argument when the verb in the *rlarni* clause is an agent-patient verb? An example of a *rlarni* clause involving an agent-patient verb is given in (4.60).

- (4.60) Kurdu-ngku ka-rla jarntu warru-wajili-pi-nyu karnta-ku,  
child-ERG PRES-RLA dog around-running-verb-NPST woman-DAT,  
miyi purra-nja-rlarni(-ki)  
food cook-INF-RLARNI(-DAT)  
The child is chasing her dog around, while the woman is cooking food. [EFW141a]

As illustrated in (4.60), in *rlarni* clauses, as in *kurra* and *karra* clauses, the controlled argument is the argument with the agent role, that is the ERG argument. This fact provides more evidence that Warlpiri is accusative.

#### 4.6.1.2 Evidence from the Reflexive Construction

Further evidence that Warlpiri is accusative derives from the reflexive-reciprocal construction. Warlpiri expresses the reflexive and reciprocal through the use of a special agreement marker, *nyanu*, in the auxiliary. The reflexive marker *nyanu* functions as an anaphor allowing the anaphor test introduced in Section 3.5.3 to be applied to Warlpiri. Through this test, Warlpiri will be shown to be an accusative language because the marker *nyanu* has the distribution predicted of an anaphor in an accusative language.

The reflexive-reciprocal construction in Warlpiri is indicated by the occurrence of the marker *nyanu* in the auxiliary as the M2 marker.<sup>41</sup> Sentences (4.61) and (4.62), respectively, illustrate non-reflexive and reflexive constructions with the ERG-ABS verb *nya-nyi* "ERG see ABS".

(4.61) Ngarrka-jarra-rlu ka-pala wawirri nya-nyi.  
man-DUAL-ERG PRES-3dM1 kangaroo see-NPST  
The two men see the kangaroo.

(4.62) Ngarrka-jarra-rlu ka-pala-nyanu nya-nyi.  
man-ERG PRES-3dM1-REFL/RECIP see-NPST  
The two men see themselves/each other.

The presence of an M1 marker construed with the ERG argument in both sentences shows that the marker *nyanu* is indeed an M2 marker. The marker *nyanu* indicates that the argument (or adjunct dative) construed with the M2 marker is bound to the argument construed with the M1 marker. The sentence receives a reflexive or reciprocal interpretation, as appropriate.<sup>42</sup> With an ERG-ABS verb, the marker *nyanu* indicates that the ABS argument is bound by the ERG argument, which in (4.62) results in a reflexive interpretation. Uses of the reflexive construction with other than ERG-ABS verbs will be discussed in Section 4.8.

The Warlpiri reflexive marker *nyanu* should be considered an anaphor; it does not form a derived intransitive verb form. That is, *nyanu* resembles the English reflexive anaphor in its syntax and not the French reflexive clitic. The Warlpiri reflexive marker *nyanu* behaves like other M2 markers, as will be shown with evidence from case marking, control, and

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41. The marker *nyanu* is used except in first person or second person singular imperative reflexives where the corresponding M2 markers are used.

42. The reciprocal interpretation is only possible with a plural antecedent.

predication.

Consider the pattern of case marking in reflexive sentences. In the reflexive sentence above, (4.62), the ERG argument of the ERG-ABS verb is still marked for ERG case, as in the non-reflexive sentence (4.61). This suggests that there is no change from the two place ERG-ABS array, which the verb *panti-rni* usually selects, to an ABS array. If the affix *nyanu* formed a reflexive verb form, as the French reflexive clitic or the Russian reflexive affix do, then the derived verb form should be intransitive and take the ABS case array. Hale [1982c] notes that Warlpiri differs in this respect from another Central Australian language, Western Aranda,<sup>43</sup> where the appearance of the reflexive marker seems to be associated with a change in transitivity as indicated by the use of the ABS case instead of the ERG case when a reflexive sentence involves an ERG-ABS verb, as shown by the pair of sentences below.

(4.63) Artwe-le gherre re-me.  
man-ERG kangaroo see-NPST  
The man sees the kangaroo. [Hale 1982c, A1]

(4.64) Artwe re-lhe-me.  
man see-REFL/RECIP-NPST.  
The man sees himself. [Hale 1982c, A6]

Only in sentences where the reflexive marker is construed with an adjunct dative, the verb in the sentence may still take all the arguments overtly in its case array.<sup>44</sup>

(4.65) ...ka-nyanu kuyu nyanungu-ku pi-nyi liwiringki-rli + ji.  
PRES-REFL/RECIP meat-ABS it-DAT hit-NPST lizard sp.-ERG + TOP  
It kills animals for itself, that type of lizard. [Simpson 1983]

Even stronger evidence that there is no change in the verb's case array in reflexive sentences comes from the choice of non-finite control complements possible.<sup>45</sup> *Kurra* clauses, which are selected by the ABS argument of an ERG-ABS verb but not by the ABS argument of an ABS verb or the ERG argument of an ERG-ABS verb, are possible in reflexive sentences.

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43. Hale [1982c] compares the Warlpiri and Western Aranda facts in a problem set for MIT course 24.951, Fall 1982. The Western Aranda examples are from this problem set.

44. In this example, there is an overt nominal coreferential with *nyanu*. Simpson [1983] notes that occurrences of *nyanu* with overt coreferential nominals are restricted to adjuncts.

45. This evidence is discussed in Hale [EFW], Simpson [1983], and Simpson and Bresnan [1982].

- (4.66) Kurdu-ngku ka-nyanu                      nya-nyi,      karri-nja-kurra.  
child-ERG PRES-REFL/RECIP see-NPST, stand-INF-KURRA  
The child sees himself standing (as in mirror or glass door). [EFW138b]

This suggests that the marker *nyanu* functions as the ABS argument. *Nyanu*'s lack of effect on the verb's case array is characteristic of reflexive sentences with overt anaphors. Western Aranda contrasts with Warlpiri in this respect as well: it does not allow the counterparts of *kurra* clauses to occur in reflexive sentences. Compare the two sentences below with the Western Aranda counterpart of a *kurra* clause.

- (4.67) \*Artwe re-lhe-me                      arjane-menge.  
man see-REFL-NPST run-OBVIATIVE  
The man sees himself running. [Hale 1982c, A7]

- (4.68) Artwe-le gherre re-me                      arjane-menge.  
man-ERG kangaroo see-NPST run-OBVIATIVE  
The man sees the kangaroo running.

Only the non-reflexive sentence, (4.68), may take the counterpart of the *kurra* clause.

A reflexive sentence with an ERG-ABS verb may also take a *karra* complement, as shown in sentence (4.69).

- (4.69) Ngarrka-ngku ka-nyanu                      mapa-rni wangka-nja-karra-rlu.  
man-ERG PRES-REFL/RECIP rub-NPST speak-INF-KARRA-ERG  
The man is rubbing himself (e.g. with red ochre) while speaking. [EFW136]

As discussed in Section 4.6.1, *karra* clauses are selected by the ERG argument of an ERG-ABS verb and the ABS argument of an ABS verb. That both *kurra* and *karra* clauses are possible implies that the verb still requires a two-argument array.

Another type of evidence that an ERG-ABS verb in a reflexive sentence still requires the ERG-ABS array comes from predication, as pointed out to me by Mary Laughren. Any argument in the verb's case array may have a noun phrase predicated of it. Predication is indicated by case agreement. In particular, an ABS argument in a non-reflexive sentence with an ERG-ABS verb may have a nominal predicated of it, as in (4.70).

- (4.70) Yapa-ngku ka-lu-jana                      kurdu-kurdu palka parlji-rni.  
person-ERG PRES-3pM1-3pM2 children body wash-NPST  
People are washing the children (their bodies).

In a reflexive sentence, it is still possible to have an ABS nominal predicated of the argument that participates in the reflexive relation. In (4.71), the ABS nominal *palka* 'body' must be predicated of the ABS argument since predication is indicated by case agreement.

- (4.71) Yapa-ngku ka-lu-nyanu palka parji-rni.  
person-ERG PRES-3pM1-REFL/RECIP body wash-NPST  
People wash their bodies. [hn]

The ability to predicate an ABS nominal in a reflexive sentence argues that the verb still retains the ERG-ABS array.

The anaphor test for ergativity can be applied to Warlpiri by examining the behavior of a reflexive construction involving an agent-patient verb, which in Warlpiri would take the ERG-ABS array. An example with an agent-patient ERG-ABS verb is given here.

- (4.72) Ngarrka-ngku ka wawirri panti-rni.  
man-ERG PRES kangaroo spear-NPST  
The man is spearing the kangaroo.

- (4.73) Ngarrka-ngku ka-nyanu panti-rni.  
man-ERG PRES-REFL spear-NPST  
The man is spearing himself.

When an ERG-ABS verb participates in a reflexive construction, the reflexive agreement marker *nyanu*, an M2 marker, is bound to the M1 marker, the marker construed with the ERG argument. There is no comparable reflexive M1 marker which can be bound to the M2 marker, the marker construed with the ABS argument, with the same effect.

The anaphor test uses the asymmetry in the distribution of anaphor-antecedent pairs involving the two arguments of agent-patient verbs to identify the subject and the object of the verb. The asymmetry in Warlpiri concerns the existence of M2 but not M1 reflexive markers. In particular, with reference to the ERG-ABS array, this means that, the agreement marker construed with the ERG argument can never be anaphoric. As discussed in Section 3.5.3, this property identifies the ERG argument as a subject. Because the agent role in Warlpiri is assigned to the ERG argument, the subject is assigned the agent role, identifying Warlpiri as an accusative language.

#### 4.6.2 The Structure of Idioms and Range of Meanings Tests

The two other tests that are applicable to Warlpiri are (1) the test based on the structure of idioms and (2) the test involving the range of meanings of predicates. The idiom and range of meaning tests are both tests that take advantage of asymmetries arising from the assumptions concerning the organization of d-structure. In particular, they exploit an asymmetry concerning the compositional semantics of a sentence: that a sentence involve a subject-*vp* distinction. The outcome of both tests suggests Warlpiri is accusative. However,

evidence from these tests should not be given too much weight because of some of the problems discussed in Section 3.2. This section will conclude with a brief discussion of expressions of physiological states in Warlpiri since they do not appear to conform to the generalizations discussed.

#### 4.6.2.1 The Range of Meanings Test

The range of meanings test introduced in Section 3.2.1 is also applicable to Warlpiri. This test is concerned with asymmetries in how the arguments of a transitive verb participate in determining the range of meanings that the verb can take on. The range of meanings should be determined by the combination of the verb and d-object rather than the verb and d-subject.

Some ERG-ABS verbs in Warlpiri have a number of senses, as will be illustrated with the verbs *luwa-rni* 'ERG hit ABS with missile, ERG pelt ABS' and *paka-rni* 'ERG strike ABS', using material from the Warlpiri Dictionary Project. A survey of the dictionary entry of each of these verbs shows that the meaning a given instance of the verb takes on appears to depend on the choice of ABS argument rather than the choice of ERG argument. At least, the choice of ERG argument is not involved in determining the meaning independently of the ABS argument.

Consider the meanings associated with the verb *luwa-rni*, as excerpted from its entry in the Warlpiri Dictionary File.<sup>46</sup>

1. xERG produces a concussion on the surface of yABS by some entity moving rapidly through the air and coming into contact with y: to strike, hit, pelt, lapidate, shoot.

xERG, being, finds yABS, being, typically after searching for y and intentionally renders y lifeless by striking: to hunt and kill.

2. x is wind or lightning: to strike, to blow on.

3. xERG, human being, transforms some entity, so that it comes to assume a desired state or form yABS, by causing said entity, or some second entity in contact therewith, to move rapidly, regularly and iteratively to and from (or up

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46. The complete entry for this verb and the other verbs discussed in this section will be found in the appendix to this chapter. I would like to thank Mary Laughren and Ken Hale for making these entries available to me.

and down). Only a very limited class of *y* arguments are selected by LUWA-RNI 2, such that the overall meaning of the VERB + ARGUMENTS is a function of the lexical items selected:

(a) *y* is fire. This is produced by *x* manipulating some sharp thin edged instrument (zERG) made of hard wood serving as fire-saw, such as spear-thrower which *x* causes to move to and fro rapidly in groove of another object made of soft wood such as shield: to ignite by friction, to make fire by friction.

(b) *y* is string. This is typically produced by *x* manipulating a spindle (zERG) in contact with the raw material source of *y* in the appropriate manner: to spin.

(c) *y* is seeds or fruits: to winnow.

4. xERG makes yABS, seed-cakes by putting raw matter of *y* into hot ashes to cook: to cook, bake (seed-cakes), prepare (seed-cakes).

The different meanings that *luwa-rni* takes on depend on the ABS argument. The exception is (2) where the ERG argument also enters into the meaning of the predicate. But, note that in (2) there are no restrictions on the ABS argument implying that the ERG argument does not affect the choice of ABS argument. In this sense, the range of meanings prediction is not violated. The significance of such examples will be discussed in Section 4.6.2.3.

As a second example, the meanings in the entry for *paka-rni* are given below:

1. xERG produces concussion on the surface of yABS, by some entity coming into contact with *y*:

(a) *x* is active: hit, strike, bump, crash into, slap, kick, knock, whip, run into, beat, thrash, thresh.

xERG obtains yABS from zEL by hitting *z*: to thresh and get out of, get from by hitting/threshing.

xERG, being, finds yABS, being, typically after searching for *y* and renders *y* lifeless typically by hitting *y*: to hunt and kill, kill.

(b) *x* is inactive, typically an inanimate rigid entity as tree, doorframe, wall etc. and *y* is typically a being in motion. *x* is typically unmentioned; reference is to the effect of concussion on *y*: to bump, knock.

2. xERG cuts yABS, typically wood, tree by forcefully manipulating some sharp edged instrument (zERG), typically an axe, so that it comes into contact with *y*: to chop, cut.

xERG, human being, transforms some entity, typically wood so that it assumes a desired state or form yABS, implement, by chopping said entity: to fashion into, chop into.

xERG obtains yABS, entity internal to some other entity (zCOIN.) by chopping the



latter entity and in the process separating y from that entity: to chop out of.

3. xERG pierces yABS, typically the ground, by forcefully manipulating some sharp ended instrument: to pierce, dig, thrust into, stick into.

4. xERG paints yABS: to paint, put on, apply, smear with.

5. xERG, being, fills self [REFL] by eating/drinking yERG, large quantity of food or drink: to fill oneself with, stuff oneself with, have one's fill of, gorge oneself on.

6. xERG moves along a path towards yDAT in order to be at same place as y: to try to catch up with, try to reach.

7. xERG, typically man, performs ceremony yABS by moving along a path in a stylized manner usually involving a high stepping movement of legs and forceful stamping of feet: to dance, perform (corroboree).

8. xERG, initiated man, performs ceremonial actions for the benefit of yABS, male human previously uninitiated, at circumcision ceremony: to initiate, circumsize, make man.

9. xERG, head cold/influenza causes yABS, being, to be ill: to have a cold, have the 'flu, be stricken with cold/flu/pneumonia/bronchitis.

Here the problematic example is (9), but see the discussion of such expressions in Section 4.6.2.3.

As a final example consider the verb *paji-rni*.

1. xERG produces a linear separation in the material integrity of yABS, by sharp edge coming into contact with y:

(a) x is active: to cut, carve, slash, hack, sever.

(b) x is not active: to cut, rip, tear.

2. xERG produces a complete separation in the material integrity of yABS by coming into contact with y, in such a way that part of y comes to be separated from the remainder of y: to break off, pick, pluck, cut off.

xERG obtains yABS by producing a linear separation (as in 2) in the material integrity of some entity, the material source or habitual location of y: to get, obtain.

3. xERG, typically being, produces a separation in the material integrity of yABS, typically a being, by teeth or stinger coming into contact with y: to bite, sting.

4. xERG, human, produces linear separation yABS in the material integrity of zDAT, human, by bringing sharp edge into contact with z and causing sharp edge to move along a path on the surface of z. This is customarily done in association with initiation or other recognition of change in age-grade status of z: to cut, incize, make cut, cicatrices, scarifications, subincision.

5. xERG, human, causes yABS, horse, to become tame by the appropriate procedure: to break (in) (of a horse).

6. N-PAJI-RNI (V): xERG, human, in speaking about some entity yABS, refers to said entity by means of the term N: to call, name, refer to as, dub.

For the ERG-ABS verbs discussed above, the verb plus ABS nominal combination determines the meaning of a particular instance of the verb. This fact suggests that the ABS argument is the object given the compositional properties of verbs. Once the ABS argument of an ERG-ABS verb is identified as a object, it follows that Warlpiri is accusative because the ABS argument, which has been identified as a object, is assigned the patient role.

#### 4.6.2.2 The Idiom Test

The idiom test, introduced in Section 3.2.2, is based on the assumption that a transitive verb and its d-object may take on an idiomatic meaning which can then be predicated of the d-subject, but that a transitive verb and a d-subject may not take on an idiomatic meaning predicated of the d-object. This difference follows from an assumption concerning the compositional semantics of a sentence. An idiom involving a transitive verb can only involve the d-subject if the idiom includes the d-object as well.

Warlpiri shows a number of verbal idioms composed of an ERG-ABS verb together with an ABS noun phrase which are predicated of the ERG argument. Some verbal idioms of this type are given in (4.74). Only the verb and nominal forming the idiom are given; the translation identifies the open positions in the idiom by case.<sup>47</sup>

- (4.74) a. ngungkurru pangi-rni  
snore-ABS dig  
xERG snore
- b. nguru-yirra-rni  
sky/country-put  
xERG give a lead to yDAT

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47. The idiom (4.74a) also can occur as a nominal preverb plus verb combination, see Section 4.3. Idiom (4.74d) involves an ERG nominal predicated of an ERG argument. Note that this idiom does not involve the usual case array of the verb *nga-rni* which is usually an ERG-ABS verb.

- c. paka-rni nyanu  
hit self (with reflexive agreement marker)  
xERG fills self with yINST
- d. kura-ngku nga-rni  
semen-ERG/INST eat (with double dative registration)  
xERG copulates with yDAT

Verbal idioms involving ABS verbs are also found in Warlpiri. One type of ABS verb idiom consists of the verb together with a noun phrase in a semantic case predicated of an ABS argument. Some examples of this type of ABS verb idioms are:<sup>48</sup>

- (4.75) a. miyalu-kurra yuka-mi  
stomach-ALL enter  
xABS enters into friendly relations with yDAT/ALL
- b. langa-wangu parnka-mi  
ear-without run  
xABS runs very fast, heedlessly
- c. pirriya-rla nyina-mi  
cold-LOC sit  
xABS gets warm by the fire (lit. sit when it is cold)
- d. waninja nyina-mi  
throat sit  
xABS feels love towards yDAT

These ABS verb idioms do not bear on the status of Warlpiri but are given for completeness.

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48. In idiom (4.75a), the allative phrase *miyalu-kurra* 'stomach-ALL' is predicated of the DAT argument. In Warlpiri, predication of this type is used to express part-whole relation, with the part predicated of the whole by case agreement. The predicated nominal appears to have a similar function to the possessed noun phrase in English idioms, while the argument the nominal is predicated of is an "open" position just as the possessor of a possessed noun can be. In (4.75d), the ABS nominal *waninja* is predicated of the ABS argument. Or, possibly it has been incorporated as a preverb. There is a second idiom related to this one which involves the ERG-ABS verb *yirra-rni* 'ERG put ABS':

- (i) waninja yirra-rni  
throat put  
xABS manifests strong desire for yDAT

The verb *yirra-rni* is an ERG-ABS-DAT verb, but here it has taken on the ABS-DAT case array. This change of array is extremely unusual in Warlpiri.

A second class of ABS verb idioms are made up of an ABS nominal and an ABS verb and predicated of a DAT argument. Two examples are given below, in (4.76a) and (4.77a). Sentences (4.76b) and (4.77b) illustrate their uses.

- (4.76) a. *wirrilpa wapa-mi*  
vertigo(?) - ABS move  
yDAT feels dizzy (lit. the vertigo moves to yDAT)
- b. *Wirrilpa ka-ju wapa-mi wanta-jangka-ku*  
vertigo-ABS PRES-1sM2 move-NPST sun-from-DAT  
I feel dizzy from the sun. (0365)
- (4.77) a. *walya wirriripiripi-nyina-mi*  
earth-ABS PREVERB(move around)-sit  
yDAT feels dizzy (lit. the earth is moving around yDAT)
- b. *Walya ka-rla wirriripiripi-nyina*  
earth-ABS PRES-RLA PREVERB-sit  
He feels dizzy. (0366)

Note that the DAT nominal is registered in the auxiliary, but this does not clarify whether the DAT nominal is selected by the verb or an adjunct dative. Another example of an idiom with an ABS verb predicated of a DAT argument involves the verb *wangka-mi* 'ABS speak, sound' used with a preverb.

- (4.78) *kirijirijirri-wangka-mi*  
rushing-sound/speak  
yDAT makes a rushing sound (yDAT is a boomerang, water, or urine)

This idiom involves no overt ABS argument.<sup>49</sup> The idioms (4.76)-(4.78) seem to be examples of subject idioms, but whether they are problematic depends on the grammatical relation of the DAT nominal and on a more precisely articulated theory of idioms. As Simpson [1983] discusses the status of ABS-DAT verbs is not entirely clear (see also footnote 70); therefore, it is difficult to predict their compositional properties. Certainly there are idioms in English which have an "open" dative position, for example "to give X the cold shoulder" or an "open" prepositional position in the verb phrase, as in "to steal a march on X," or "to draw the line at X." There are also subject idioms in English with "open" prepositional phrase

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49. This example is interesting because not only is there no overt ABS argument, but it is difficult to find any referent for an ABS argument. Mary Laughren informs me that this is rare in Warlpiri. Ken Hale suggests that in the idiom *wirrilpa wapa-mi* above, the word *wirrilpa* "vertigo" may be a preverb. If so, sentences involving this idiom would also have no overt ABS argument. The examples of the idiom found in texts do not offer evidence bearing on this question.

positions, "the axe fell on X". These idioms have been mentioned primarily for their pertinence to a general theory of compositional semantics. It is the behavior of ERG-ABS verb idioms that is particularly relevant here.

The generalization concerning ERG-ABS verb idioms seems to be that they involve the verb and ABS nominal rather than the verb and the ERG nominal. As the argument incorporated in the idiom, the ABS argument would be the d-object, while the ERG argument would be the d-subject. If so, given that the ABS argument receives the patient role, Warlpiri would have to be an accusative language.

#### 4.6.2.3 Expressions of Physiological States

Warlpiri's manner of expressing some physiological states<sup>50</sup> appears to raise a question about the validity of the assumption concerning compositional structure underlying the structure of idiom and range of meanings generalizations. Although these expressions could suggest that the proposed generalizations concerning these phenomena should not be considered to be exceptionless but rather to express a tendency. But, it is also possible that the existence of such examples may be related to other properties of Warlpiri, in particular the case system, as will be discussed in Section 4.9. Certainly, outside of the type of examples discussed in this section, the structure of idioms and range of meanings of predicates in Warlpiri conforms to the generalizations.

Consider (4.79), which would be used in Warlpiri to express feeling cold.<sup>51</sup>

(4.79) Pirriya-rlu ka-ju pi-nyi.  
cold-ERG PRES-1sM2 hit-NPST  
I'm feeling cold (lit. the cold is hitting me)

This sentence involves the ERG-ABS verb *pi-nyi* 'ERG hit ABS' with the ERG argument indicating the physiological state, cold, which the ABS argument experiences. Compare this use of *pi-nyi* to a typical use of the verb, as (4.80).

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50. I would like to thank Mary Laughren for providing me with examples of this construction.

51. An alternative means of expressing this sentence is through the use of the causal preverb *marlaja*. This preverb is a dative adjunct preverb, that is, a preverb that adds a dative argument. The argument introduced by *marlaja* denotes the cause of the event expressed by the verb and its arguments. There are verbs used explicitly to express feeling cold, the verbs *kaaly-pi-nyi* and *karlpi-mi* 'ERG cause ABS to feel cold' and *kaaly-karri-mi* 'ABS feel cold'.

(4.80) Wati-ngki ka wawirri pi-nyi.  
man-ERG PRES kangaroo hit-NPST  
The man is killing the kangaroo.

Sentence (4.81) illustrates that *pi-nyi* is regularly an ERG-ABS verb with the ERG argument as the agent and the ABS argument as the entity affected by the action. This way of expressing physiological experience is unusual in the perspective taken: the physiological state is seen as coming into contact with an animate entity, and, thereby, affecting it. But, the notion of causality associated with the verb is retained in the physiological experience use. In fact, this way of expressing physiological states is fairly typical in Warlpiri.

The manner of expressing physiological states in Warlpiri seems to pose a potential problem. The physiological state expressed in (4.81) is identified by the ERG argument of the verb, so that it seems plausible to assume that the verb and its ERG argument form an idiom. Assuming that Warlpiri is accusative, if such expressions were idioms, they would be subject idioms and, therefore, would provide evidence against the generalization about the structure of idioms and the assumption about semantic composition. It is necessary to argue that these sentences are not idioms, or at least not verb plus subject idioms, in order to maintain the assumption.

Expressions of physiological state do not have some of the properties of idioms. This construction shows limited productivity within a particular restricted semantic class, physiological experiences. A wide range of nominals, all denoting physiological experiences, enter into this construction as the ERG nominal found with the verb *pi-nyi*. They include:

<u>Nominal</u>		<u>State expressed</u>
pardayi	sultriness	to feel the heat
pirriya	cold	to feel cold
miirnta	head cold	to catch cold
kuntulpa	head cold	to catch cold
jarda	sleep	to feel sleepy
jinirra	diarrhea	to have diarrhea
mijarrku	cold	to feel cold
yarnunjuku	hunger	to feel hungry
purraku	thirst	to feel thirsty
pardilypa	conjunctivitis	to have conjunctivitis

Besides the verb *pi-nyi* 'ERG hit ABS', a second verb, the verb *paka-rni* 'ERG strike ABS', is also found in expressions of this kind. This verb is also an ERG-ABS verb from the same semantic class as *pi-nyi* affect verbs. The expressions that have been observed with *paka-rni* involve a subset of the nominals found with *pi-nyi* as the ERG nominal: *miirnta* 'head cold',

*kuntulpa* 'head cold', and *yarnunjuku* 'hunger'. There is also an example involving the verb *paka-rni* together with the preverb *kuurnku* 'throb/pain'.<sup>52</sup>

- (4.81) Japirnpa-rlu ka-ju kuurnku-paka-rni.  
boil-ERG AUX-1sM2 throb-hit-NPST  
I am suffering from a boil. (0366)

The verb *paka-rni* 'ERG strike ABS' is less widely used than the verb *pi-nyi* 'ERG hit ABS', but it also has a more specific meaning than the verb *pi-nyi*.

In forming a coherent semantic class, these expressions differ from idioms. Idioms seem to be quite idiosyncratic in meaning. Two idioms built on the same noun or verb can vary tremendously in meaning. This is illustrated by the pairs of idioms below. The pair of idioms in (4.82) involves the same noun, while those in (4.82) and (4.82) involve the same verb.

- (4.82) a. the cat's got X's tongue  
b. to let the cat out of the bag
- (4.83) a. to pull the wool over X's eyes  
b. to pull X's leg
- (4.84) a. to throw in the towel  
b. to throw the baby out with the bathwater

In fact, two idioms with a similar meaning need not resemble each other, as illustrated by the idioms in each of the groups below:

- (4.85) a. to spill the beans  
b. to let the cat out of the bag
- (4.86) a. to hit the roof  
b. to fly off the handle  
c. to blow one's top
- (4.87) a. to bite the bullet  
b. to take the bull by the horns

The examples (4.88)-(4.88) show that it is difficult to find any form-meaning correlations with idioms of the sort found with physiological expressions in Warlpiri.

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52. There is a second expression of this type with the same meaning as (4.81) formed with the verb *panti-rni* 'ERG pierce/poke ABS' and the nominal *kurra* 'pus' in the ERG case. Again the ABS argument refers to the experiencer.

The fact that in English and many other languages physiological states are not expressed as in Warlpiri is not a valid reason for considering the Warlpiri constructions idiomatic. English, for example, differs from Warlpiri in the way it expresses physiological states. It frequently uses a copula plus adjective (e.g. *to be hungry*) or the verb *have* plus a noun (e.g. *to have a cold*). In English, there is a preference for an animate experiencer to be the subject in such expressions. This is part of a more general tendency as illustrated by the active-passive pair below, where the first sentence, with an animate subject, is the more natural of the two.

- (4.88) a. I was hit by a car.  
b. The car hit me.

But, whatever the nature of the difference between the two languages, it is independent of the question of whether the expressions of physiological state are idioms.

That Warlpiri chooses to express physiological states in this way does not seem an argument for considering these expressions idioms. Other languages appear to express physiological states as Warlpiri does, for example, Navajo. If Warlpiri is not alone in this property, then it seems unlikely that these expressions are truly idioms, since idioms tend to be language-specific and idiosyncratic. Instead, what is involved is a choice among the options languages have available for expressing these predicates. In fact, languages, in general, show considerable variation in how they express such predicates. A solution to this problem clearly goes beyond the questions that have been raised in conjunction with the structure of idioms and the range of meaning of predicates. This is particularly clear since the same questions that are posed by the expressions of physiological states surface elsewhere in Warlpiri.

The manner in which Warlpiri expresses physiological states is an instance of a more general phenomenon in Warlpiri. In order to express that an animate entity undergoes an experience, generally seen as detrimental to the animate entity's well-being, Warlpiri allows constructions similar in form to those expressing physiological states. In particular, the animate entity that undergoes the experience is expressed as the ABS argument to an appropriate ERG-ABS verb. Three examples are given in (4.89)-(4.91).

- (4.89) Juru-ju paka-rnu -- yi-rna nganta yuwarli-rla yuka-yarla-rra.  
head-1sM2 hit-PST -- COMP-1sM1 supposedly house-LOC enter-IRR-DIR  
I bumped my head as I was trying to go into the house. (lit. it struck my head)  
[PAKA-RNI]



(4.90) Jiri-ngki-ji pantu-rnu.  
prickle-ERG-1sM2 pierce-PST  
The prickle pricked me. (lit. the prickle stuck into me.)

(4.91) Kurdu-ngku ka-ju pangi-rni.  
child-ERG PRES-1sM2 dig-NPST  
I'm having contractions (of woman in child-birth). (lit. The child is digging at me).  
[PANGI-RNI]

The verbs involved in these expressions, *paka-rni* 'ERG strike ABS', *panti-rni* 'ERG pierce/poke ABS', and *pangi-rni* 'ERG dig ABS', are ERG-ABS verbs of surface contact and affect, just as the verbs in the physiological experience examples discussed above are. In fact, sentence (4.89) uses the verb *paka-rni* 'ERG strike ABS', which is also found in physiological state expressions in such sentences. Where a particular cause can be identified, it can be expressed as the ERG argument, as in (4.90) and (4.91). Otherwise, the ERG argument can be left unexpressed, as in (4.89). In such sentences, the ERG argument, when expressed is not a causative agent. Compare the use of *panti-rni* 'ERG pierce/poke ABS' in (4.90) with its use to denote a canonical agent act on patient situation, as in (4.92).

(4.92) Marlu ka wati-ngki panti-rni.  
kangaroo PRES man-ERG pierce-NPST  
The man spears the kangaroo.

The use of the verb *panti-rni* in (4.90) is closer semantically to the use of verbs in the physiological state expressions than to the stereotypical use in (4.92).

Warlpiri seems to be taking a particular perspective on an event in the way it expresses the experiences of animate entities. Since the ERG-ABS verbs are the type of verbs that incorporate a notion of causation, the use of such verbs suggests that all of these experiences are viewed in cause-effect terms. That the animate entity has been affected in some way is seen as implying the existence of a causal relation, usually involving surface

contact and affect.<sup>53</sup>

The same phenomenon is found in sentences describing natural forces acting on some entity. Mary Laughren has pointed out to me that the verb *panti-rni* 'ERG pierce/poke ABS' is used with the nominal *wanta* 'sun' as the ERG argument to describe the sun shining on something.

(4.93) Kaji-lpa yangka piri-rangu      wanta-ngku panti-karla wurnturu, ...  
if-IMPF that hill-for example sun-ERG pierce-IRR distant, ...  
If the sun shines on a distant hill, ... (Tape28 [[0070]])

This example differs from the physiological experience examples in allowing both animate and inanimate entities as the ABS argument. It is similar to the use of the verb *luwa-rni* to with the nominals wind or lightning as the ERG argument describe wind blowing or lightning striking mentioned in Section 4.6.2.1. Although, it appears that the ERG noun phrase and the verb form an idiom, note that there is no restriction at all on the ABS argument in these expressions. The choice of ERG argument denoting a natural force depends on the verb, but the ERG argument itself does not impose any limitations on the choice of ABS argument. In particular, it is not clear that the verb plus ERG nominal compositionally determine the semantic role of the ABS argument.

Even if the expressions discussed in this section are not idioms, they could be considered to exemplify instances where an ERG argument enters into determining the range of meaning of the predicate. An alternative point of view is that verbs of affect may combine with an ABS argument to express an experience, with the choice of ERG argument determining the experience. The examples above show that there appears to be a general

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53. The notion of using an ERG-ABS verbs to express experience is taken to its limit in the expression in (ia), illustrated in (ib).

- (i) a. *nyiya-rlu            nya-nyi*  
something-ERG see  
Something happened to ABS (lit. Something saw ABS)
- b. *Nyiya-rlu-ngku       nya-ngu?*  
something-ERG-2sM2 see-PST?  
What happened to you?

There are no restrictions on the ABS argument in this expression, it may be animate or inanimate. This expression differs in involving a verb of perception.

principle allowing verbs of affect to express experiences. This principle will be one of the principles determining a particular meaning of verbs of affect. Since the two verbs entering into expressions of physiological experience differ as to which ERG nominals they may occur with, even given such a principle, the particular nominals associated with a given verb must still be listed in its lexical entry. Mary Laughren suggests that the ability of a verb to impose such requirements is related to other properties of Warlpiri (see Section 4.9).

#### 4.7 Ergativity Tests That are not Applicable to Warlpiri

A survey of the tests discussed in Chapter 3 reveals that many cannot be used for determining Warlpiri's status with respect to the Ergativity Hypothesis since the appropriate type of evidence is not available. What is more striking is that several of the tests share a common property. They are based on syntactic phenomena that permit the identification of d-structure grammatical relations. This section will first show that certain tests cannot apply through a survey of several phenomena in Warlpiri. Then, the significance of this observation for the nature of the underlying representation of Warlpiri, LS structure, will be considered.

##### 4.7.1 Tests Involving the Reflexive Verbal Form

A major set of tests for ergativity relies on the existence of a reflexive form of a verb, also participating in other semantic or syntactic alternations, that could be associated with the feature [-T], the inability to assign a semantic role to the subject. This form might be a morphologically derived form of the verb, as in Russian, or merely the result of a change from a transitive to intransitive use of the verb (for example, a change in conjugation, as in Eskimo languages).

Warlpiri has no distinct verbal form with an associated reflexive interpretation. As discussed in Section 4.6.1.2, to express the reflexive, Warlpiri uses an explicit reflexive agreement marker *nyanu* in the auxiliary in AM2 position. Sentence (4.94) and (4.95), respectively, illustrate reflexive and non-reflexive uses of the ERG-ABS verb *panti-rni* 'ERG spear ABS'.

- (4.94) Ngarrka-ngku ka wawirri panti-rni.  
man-ERG PRES kangaroo spear-NPST  
The man is spearing the kangaroo.

(4.95) Ngarrka-ngku ka-nyanu panti-rni.  
man-ERG PRES-REFL spear-NPST  
The man is spearing himself.

There is no evidence that *nyanu* is any different from any other Warlpiri agreement marker in its properties, as discussed in Section 4.6.1.2. That is, *nyanu* is a reflexive anaphor rather than a reflexive verbal affix. Evidence was presented to show that it does not derive a one-argument verb from a two-argument verb as a reflexive affix does.

The absence of such a construction in Warlpiri means that Warlpiri does not have a reflexive passive, and that the reflexive/passive ambiguity test is inapplicable. Not only does Warlpiri not show the reflexive passive construction, but it also does not show any "voice" phenomena. There are no constructions said to be passive or anti-passive constructions, constructions that could be considered to involve detransitivization. Furthermore, Hale notes that Warlpiri verbs are rarely doubly subcategorized. Verbs in Warlpiri seem to take the ABS array or the ERG-ABS array but not both.<sup>54</sup>

The expression of the anti-causative alternation, which in other languages may be expressed with a reflexive/non-reflexive alternation, is not expressed in this way in Warlpiri. In Warlpiri, the anti-causative alternation does not involve a pair of verbs where one member is morphologically derived from the second. Rather both members of the pair are derived from a single nominal, describing a state. The anti-causative alternant is derived by the addition of an inchoative suffix to the nominal, usually *-jarri-mi*. The causative alternant is derived by adding the causative suffix *-ma-ni* to the nominal. Examples of the alternation are given below.

wita-jarri-mi (small-INCH-) 'ABS become small'  
wita-ma-ni (small-CAUS-) 'ERG cause ABS to become small'

wiri-jarri-mi (big-INCH-) 'ABS become big, grow'  
wiri-ma-ni (big-CAUS-) 'ERG cause ABS to become big, ERG raise ABS'

linji-jarri-mi (desiccated-INCH-) 'ABS become desiccated'

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54. Only two exceptions to this generalization are known [Hale EFW]. These are the verbs *janka-mi* and *kampa-mi* which both mean either 'ABS burn, cook' or 'ERG burn/cook ABS'. With either array, the ABS argument must be anything that can be "consumed by fire or which can be cooked -- by fire or by sun (i.e. ripened)" [Hale EFW, p.240]. With the ERG-ABS array, the ERG argument must be something which actually directly causes burning and not an animate entity.

linji-ma-ni (desiccated-CAUS-) 'ERG desiccate ABS'

lani-jarri-mi (afraid-INCH-) 'ABS become afraid, frightened'

lani-ma-ni (afraid-CAUS-) 'ERG frighten ABS'

Besides the pair of suffixes *-ma-ni* and *-jarri-mi*, there are a small number of other verb pairs that combine with nominals to express the anti-causative alternation.<sup>55</sup> These pairs are illustrated in the table below:

	<u>Anti-causative</u>		<u>Causative</u>	
	<u>Verbal Base</u>		<u>Verbal Base</u>	
(A)	<i>-jarri-mi</i>	'inchoative'	<i>-ma-ni</i>	'causative'
(B)	<i>ya-ni</i>	go	<i>pi-nyi</i>	hit/damage
(C)	<i>parnkami</i>	run	<i>pi-nyi</i>	hit/damage
(D)	<i>wanti-mi</i>	fall	<i>kiji-rni</i>	throw
(E)	<i>wanti-mi</i>	fall	<i>yirra-rni</i>	put

To express the anti-causative alternation with predicates involving destruction, the alternation takes the form in (B) and occasionally in (C).

rdilyki-ya-ni 'ABS break'

rdilyki-pi-nyi 'ERG break ABS'

When the alternation involves change of location, it uses either of the verb pairs (D) or (E).

ngardaly-(w)anti-mi 'ABS turn over, flip over'

ngardaly-kiji-rni 'ERG turn ABS over, ERG flip ABS over'

parntarrinja-wanti-mi 'ABS crouch'

parntarrinja-yirra-rni 'ERG put ABS into crouching position'

The fact that the expression of the anti-causative alternation does not involve the reflexive form has several implications. First, it means that in isolation it does not provide evidence about whether Warlpiri is accusative or ergative (see Section 3.1.1). Second, the way this alternation is expressed again reflects the absence of a reflexive verb form that could be used to express this alternation in an accusative language.

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55. I would like to thank Mary Laughren for providing me with this data. See Hale [EFW] for some discussion of pairs of verbs related by causation.

#### 4.7.2 Quantifier Tests

Another test that does not seem applicable to Warlpiri is the genitive of negation test discussed in Section 3.1.5, which provides a criterion for identifying d-objects. Warlpiri does not have a case whose function could be considered the counterpart of the Russian genitive of negation. No case alternations are associated with negative sentences in Warlpiri. Compare the affirmative sentence in (4.96) with the negative sentence in (4.97).

(4.96) Ngarrka-ngku ka wawirri nya-nyi.  
man-ERG PRES kangaroo see-NPST  
The man sees a kangaroo.

(4.97) Ngarrka-ngku kula-ka wawirri nya-nyi.  
man-ERG NEG-PRES kangaroo see-NPST  
The man did not see a kangaroo.

Warlpiri also does not exhibit any signs of other quantifier phenomena showing distributional constraints similar to the genitive of negation. In particular, Russian shows two other quantifier phenomena with the same properties as the genitive of negation [Pesetsky 1981, 1982], but there are no comparable phenomena in Warlpiri.

Quantification in Warlpiri can be expressed through the use of preverbs, a set of elements that attach to the verb with concomitant changes in the meaning of the sentence.<sup>56</sup> The quantifier preverbs in Warlpiri are a set of preverbs that function as quantifiers by introducing a quantified interpretation associated either with one of the arguments to the verb, usually the ABS argument, or with the sentence as a whole. The presence of a quantifier preverb does not affect the verb's case array. Nash [1981] lists the following preverbs:

<i>jarnku</i>	each
<i>palju</i>	each
<i>kutu</i>	anything, anywhere, anyhow
<i>puta</i>	some, partly
<i>muku</i>	all, completely
<i>warrarda</i>	always, consistently
<i>yarda</i>	more, again, another

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56. See Nash [1980, 1981] and Simpson [1983] for a discussion of the morphological and syntactic status of preverbs. Nash provides a classification of preverbs, together with a list of preverbs of each type.

The quantifier preverb *muku* "all" is illustrated in (4.98) with an ABS verb and in (4.99) with an ERG-ABS verb.

(4.98) Ngula-lu            muku-lawa-nyina-ja.  
ANAPHI-3pM1 all-NOT-sit-PST  
They all died. [Hale tape 2.19, line 1113]

(4.99) Muku -nga-rnu-rlupa.  
all        -eat-PST-1plincM1  
We ate it all up. [Hale tape 2.19, line 1127]

In sentences with the preverb *muku*, the quantified interpretation can usually be identified with a particular noun phrase in the sentence. The sentences (4.100)-(4.101) exemplify a quantified interpretation associated with the ABS argument. The ABS verb in (4.100) is a verb of change of state, but *muku* is found with ABS verbs from different semantic classes. For example, *muku* occurs with verbs of motion, as in (4.100), and verbs of sound production, as in (4.101).

(4.100) Rdukurduktirirtiri-li            muku-paarr-pardi-ja.  
scarlet honeyeaters-3pM1 all-away-rise-PST  
The scarlet honeyeaters all flew off. [Hale tape 2.19, line 3427]

(4.101) Murrurumurruru ka-lu            muku-wangka.  
hornets            PRES-3pM1 all-speak  
The hornets are all buzzing. [Hale tape 2.19, line 2816]

The variety of verbs found with *muku* suggests that *muku* does not occur with a particular subclass of ABS verbs which might as a consequence be identified as unaccusative. For example, in Russian, the genitive of negation is found with the "subject" of only some intransitive verbs, as well as the d-object of transitive verbs leading Pesetsky [1981, 1982] to suggest that these intransitive verbs are unaccusative. If *muku* were limited in its distribution, it might give evidence that the ABS verb class in Warlpiri includes an unaccusative class as the intransitive class does in Russian. But, clearly, all ABS verbs may cooccur with *muku*.

The following example with the ERG-ABS verb *luwa-rni* 'ERG hit ABS with missile' includes a non-argument as well as the ABS and ERG arguments of the verb.

(4.102) Jangari-rli-rlipa-jana            muku-luwa-rni.  
slingshot-ERG-1plincM1-3pM2 all-shoot-NPST  
Let's shoot them all with slingshot. [Hale tape 2.19, line 3180]

In this example, *muku* is associated with the ABS argument, but there is no evidence that an alternative interpretation with *muku* associated with the instrumental phrase is precluded.

A survey of actual instances of *muku* in texts shows there is a bias towards associating the quantified interpretation with an ABS argument. Ken Hale suggests this may be due to the thematic nature of the ABS argument. But, some uses of *muku* are vague, and it is difficult to associate a quantifier interpretation with a particular noun phrase. Among the quantifier preverbs, *muku* appears to be the preverb most easily associated with a particular argument. With other quantifier preverbs, the quantifier may take the whole sentence in its scope, as illustrated in (4.103) with the preverb *warrarda* 'always'.

(4.103) Wirriya yalumpu ka warrarda jiliwirri-jarri-mi ...  
boy that PRES always fooling-INCH-NPST ...  
That boy is always being funny... [murruru-nju]

### 4.7.3 Implications for LS Structure

Not every language will show every phenomena that gives rise to tests for ergativity. For this reason, the inapplicability of some tests in a given language is to be expected. But, the observation that a number of tests for ergativity are inapplicable to Warlpiri cannot simply be overlooked since these tests exploit a coherent class of phenomena. This section will identify the common property of these tests and explore the implications for the nature of the level of underlying representation in Warlpiri.

Evidence was presented in the previous section, that Warlpiri is an accusative language in the sense of the Ergativity Hypothesis. The strongest evidence derived from an examination of control structures and the reflexive-reciprocal construction in Warlpiri, two phenomena that can be used to identify s-structure relations. Further evidence was presented from an examination of the structure of idioms and range of meanings of predicates in Warlpiri. This evidence took advantage of certain assumptions concerning d-structure as a representation of the compositional semantics of the sentence. As discussed, these tests take advantage of phenomena in LS structure.

What is more interesting is the set of tests that could not be used, the tests just discussed. This set includes most of the d-structure tests, the tests introduced in Chapter 3 that exploit phenomena that identify particular d-structure relations, usually the d-object relation. These tests can be used to determine ergativity by examining the semantic role associated with the d-structure relation identified by the test. The only exceptions are the two tests just mentioned which take advantage of the organization of d-structure. But, none of the tests that make reference to d-structure relations independently of such properties are



applicable. Among them are tests exploiting the unaccusative/unergative distinction and "voice" phenomena (passive and reflexive verbs).

The unavailability of evidence bearing on these tests to Warlpiri raises questions about the nature of the level of underlying representation in Warlpiri. The failure of these tests to apply reflects the absence in Warlpiri of phenomena that have been associated with d-structure grammatical relations, particularly voice phenomena. Warlpiri does not have any constructions that could be termed either passive or anti-passive constructions. Nor does it have a verbal reflexive construction that involves a change of transitivity.

Tests that take advantage of syntactic processes that distinguish unaccusative and unergative verbs are also among the tests that cannot be applied to Warlpiri. In fact, Warlpiri shows no evidence for an unaccusative/unergative distinction. As noted in Section 4.3, the ABS class includes both agent and patient verbs. All ABS verbs behave in the same way with respect to the quantifier preverbs. Anti-causative verbs in Warlpiri are not derived from causative verbs.

The apparent lack of evidence for the unaccusative verb class is consistent with the absence of certain constructions in Warlpiri: constructions involving a passive form of a verb or a reflexive form of a verb. Unaccusative verbs share a common property with passive and reflexive verb forms. They each involve a [-T] verb, a verb which does not assign a semantic role to its d-subject.<sup>57</sup> This suggests that Warlpiri requires verbs to be [+T] at LS-structure.

In particular, this means that all ABS verbs, whether agent or patient verbs will be unergative. That is, the Ergativity Hypothesis will simply apply to agent-patient verbs and an independent principle would map the single argument verbs onto the unergative class. The presence of an unaccusative/unergative distinction at d-structure appears to be a language-specific property. As mentioned in Section 2.2, it appears that in some languages, such as Sanskrit, all intransitive verbs are unergative. I will assume that the lack of evidence

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57. The constructions that are not found in Warlpiri are the constructions where the rule of Move NP usually applies. The rule of Move NP is typically required in constructions involving verbs which do not assign a semantic role to their subject to account for why the d-object of these verbs is a s-subject. The evidence suggests that Warlpiri does not have a rule of Move NP, as suggested by Hale. In fact, Hale argues that the absence of this rule follows from the proposal that Warlpiri has a single level of LS structure. Therefore, these tests would not be expected to apply.

for this distinction in Warlpiri indicates that Warlpiri, like Sanskrit, lacks a class of unaccusative verbs. But, Warlpiri would differ from Sanskrit in this respect, since Sanskrit, which has no unaccusative verbs, does have a passive.

#### 4.8 The Subject and Object in Warlpiri

Up to now, the arguments in a verb's case array have been referred to only by case in order to avoid the question of grammatical relations until the issue of ergativity had been resolved. Having determined that Warlpiri is an accusative language, the question of what grammatical relations are associated with the arguments of verbs taking the various case arrays can be considered. The two subsections that follow will look in turn at the notions of subject and object in Warlpiri.

##### 4.8.1 The Subject in Warlpiri

The tests used for establishing Warlpiri's status were built on tests for identifying subjects that had been applied to agent-patient verbs, the ERG-ABS verbs in Warlpiri. Through these tests, the ERG argument of ERG-ABS verbs, as the agent-patient verbs of Warlpiri, was identified as the subject as a first step in determining that Warlpiri is accusative. The same tests can be applied to verbs requiring other case arrays to determine the argument that is the subject.

The behavior of Warlpiri verbs showing each of the possible case arrays will be considered with respect to control and reflexive-reciprocal interpretation, the two phenomena which identify subjects. It will be shown that the argument that is identified as a subject turns out to be the same argument that is construed with the M1 marker. That is, the following generalization, which describes construal also identifies the subject for any case array:

##### The Subject Disjunction

The subject is the ERG argument of the case array if there is one and the ABS argument otherwise.

The same notion of subject is required to describe the controllers of *karra* clauses, the antecedents of reflexives, and the argument construed with the M1 marker, providing further support for introducing this notion of subject. The arguments for identifying a notion of subject presented here are all adopted from Hale [1983].

First, evidence from control will be examined. As discussed, the controlled argument in a controlled clause is the subject. The ERG argument of the ERG-ABS array has already been identified as a subject using this criterion. Similarly, the ERG argument of the ERG-ABS-DAT array, the ERG-DAT array (both in the conative and the lexically selected uses), and the ERG array will be the controlled noun phrase if the verb of a controlled clause requires one of these arrays. Examples (4.104)-(4.106) illustrate that the ERG argument is the controlled argument in *karra* clauses with these verbs. The *karra* clause involves an ERG verb in (4.104), an ERG-DAT verb in (4.105), and an ERG-ABS-DAT verb in (4.106).

- (4.104) Purlapa ka pi-nyi purla-nja-karra-rlu.  
Corroborree PRES hit-NPST shout-INF-KARRA-ERG.  
He are dancing while shouting.
- (4.105) Marlu-lpa nya-ngu kurdu-ku warri-rninja-karra-rlu.  
kangaroo-IMPf see-PST child-DAT search-INF-KARRA-ERG  
She saw a kangaroo as she was searching for the child.
- (4.106) Wangka-ja-lpa kurdu-kurdu-ku kuyu yi-nja-karra.  
speak-PST-IMPf children-DAT meat give-INF-KARRA  
She spoke while giving the meat to children.

Examples (4.107)-(4.110) show the ERG argument is also the controlled argument in *kurra* clauses with ERG, ERG-DAT, and ERG-ABS-DAT verbs, respectively.

- (4.107) Wati ka-rna-jana purda-nya-nyi yunpa-rninja-kurra.  
man PRES-1sM1-3pM2 aural-perceive-NPST sing-INF-KURRA.  
I hear the men singing.
- (4.108) Wati-ngki ka marlu panti-rni nga-rninja-kurra marna-kurra  
man-ERG PRES kangaroo spear-NPST eat-INF-KURRA grass-KURRA  
The man spears the kangaroo while it is eating grass.
- (4.109) Ngaju ka-rna wati nya-nyi marlu-ku warri-rninja-kurra  
I PRES-1sM1 man see-NPST kangaroo-DAT search-INF-KURRA  
I see the man looking for a kangaroo.
- (4.110) Ngaju ka-rna wati nya-nyi kurdu-ku kuyu yi-nja-kurra.  
I PRES-1sM1 man see-NPST child-DAT meat give-INF-KURRA  
I see the man giving meat to a child.

Control identifies the ABS argument of the ABS and ABS-DAT verbs as the subject, as illustrated in (4.111) with *karra* clauses and in (4.112) with *kurra* clauses. In the (a) sentences the embedded verb is an ABS verb, in the (b) sentences an ABS-DAT verb.

- (4.111) a. Kurdukurdu-rlu ka-lu kuruwarri panti-rni karri-nja-karra-rlu.  
children-ERG PRES-3pM1 painting pierce-NPST stand-INF-KARRA-ERG  
The children are painting standing up. [W'arlpiri.books]

b. Wati ka parntarri-mi kuyu-ku parda-rinja-karra.  
man PRES crouch-NPST animal-DAT wait-INF-KARRA  
The man is crouching waiting for an animal.

(4.112) a. Purda-nya-nyi ka-rna-ngku wangka-nja-kurra.  
aural-perceive-NPST PRES-1sM1-2sM2 speak-INF-KURRA  
I hear you speaking. [Hale 1983, 22a]

b. Wati ka-rna nya-nyi marlu-ku yura-ka-nja-kurra.  
man PRES-1sM1 see-NPST kangaroo-DAT stealth move-INF-KURRA  
I see the man creeping up on the kangaroo.

The generalization is that the controlled argument in both *kurra* and *karra* clauses is the ERG argument if the verb selects one and otherwise the ABS argument.

*Rlarni* clauses, the third type of non-finite clauses of contemporaneous actions may also be control structures. The controlled argument in these clauses is always the argument of the verb that would have received a controlled interpretation in the corresponding *kurra* and *karra* clauses no matter what the case array of the verb in the non-finite clause. An exhaustive list of examples is not given, but the example of control of an ABS argument of an ABS verb given above illustrating the controlled use of *rlarni* is repeated here.

(4.113) Ngarrka-ngku ka-rla kurdu wita-ku karli kaji-jarnti-rni,  
man-ERG PRES-RLA child small-DAT boomerang BEN-trim-NPST,  
jarda nguna-nja-rlarni(-ki).  
sleep lie-NPST-RLARNI(-DAT)  
The man is trimming a boomerang for the little child while it is sleeping. [EFW140b]

These clauses provide evidence for the same notion of subject as *kurra* and *karra* clauses.

The subject in Warlpiri is the argument of a verb's case array identified as the controlled argument. This means that the subject is the ERG argument if the verb selects one and the ABS argument otherwise. This is the same generalization as that introduced in Section 4.5 to describe the argument construed with the M1 marker. The M1 marker, therefore, is actually a subject marker.

The reflexive-reciprocal construction in Warlpiri picks out the same notion of subject as control phenomena, and, therefore, provides additional support for it. The examples below illustrate this construction with various case arrays. The (a) sentence in each pair is a reflexive sentence, the (b) sentence a non-reflexive sentence using the same verb. These sentences illustrate in order the ABS-(DAT) array, the ABS-DAT array, the ERG-ABS-DAT

array, and the ERG-DAT array.<sup>58</sup>

- (4.114) a. *Wangka-mi ka-pala-nyanu ngamarlangu.*  
speak-NPST PRES-3dM1-REFL/RECIP mother&child  
The mother and child are speaking to each other.
- b. *Wangka-mi ka-pala-rla ngamarlangu.*  
speak-NPST PRES-3dM1-RLA mother&child  
The mother and child are speaking to him.
- (4.115) a. *Karnta ka-nyanu yarnka-mi (juru-ku).*  
woman PRES-REFL/RECIP grab-NPST (head-DAT)  
The woman is grabbing herself (by the head). [Hale 1983, 24b]
- b. *Karnta ka-rla yarnka-mi (juru-ku).*  
woman PRES-RLA grab-NPST (head-DAT)  
The woman is grabbing her (by the head).
- (4.116) a. *Ngarrka-patu-rlu ka-lu-nyanu kuruwarri yirra-rni.*  
man-PL-ERG PRES-3pM1-REFL/RECIP design put-NPST  
The men are putting designs on themselves/each other. [Hale 1983, 24c]
- b. *Ngarrka-patu-rlu ka-lu-rla kuruwarri yirra-rni.*  
man-PL-ERG PRES-3pM1-RLA design put-NPST  
The men are putting designs on him.
- (4.117) a. *Ngarrka-jarra-rlu ka-pala-nyanu warri-rni.*  
man-DUAL-ERG PRES-3dM1-REFL/RECIP search-NPST  
The two men are searching for each other.
- b. *Ngarrka-jarra-rlu ka-pala-rla warri-rni.*  
man-DUAL-ERG PRES-3dM1-RLA search-NPST  
The two men are searching for her.

The pattern observed with the ERG-ABS array holds generally. In each example, the reflexive anaphor *nyanu* occurs in M2 position and is interpreted as bound to the argument construed with the M1 marker, i.e. the argument identified as subject by control. These examples show that the subject may be an antecedent to a reflexive anaphor.

As discussed, a noun phrase that is a subject may not itself be an anaphor bound by a non-subject although it is free to be the antecedent of a reflexive anaphor. If the subject has been correctly identified by the Subject Disjunction, the M1 marker, as the marker construed with the subject, should never be used as the reflexive anaphor. In particular, there should be

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58. Since the ABS array is a single argument case array, examples involving it are impossible. Instead, I have given an example of an ABS-DAT use of a verb that can take the ABS array, the verb *wangka-mi* 'ABS speak (to DAT)' in (4.114).

no reflexive M1 marker comparable to the reflexive M2 marker *nyanu*. This prediction holds. Hale notes that there is "no alternative morphology according to which the *subj* [= M1] person marker, rather than *obj* [= M2] is replaced by a special form indicating that the subject is bound within its governing category (e.g. by the object)." [Hale 1983, p.30]. The absence of such a marker confirms that the subject is the argument selected by the Subject Disjunction.

The Warlpiri reflexive-reciprocal construction shows another property that provides further support for a notion of subject, as identified by the disjunction above. Not only is the subject a possible antecedent for the agreement marker *nyanu*, it is the only permissible antecedent. In sentence (4.118) with an ERG-ABS-DAT verb, the DAT argument is interpreted as bound to the ERG argument and never to the ABS argument.

(4.118) Ngarrka-patu-rlu ka-lu-nyanu kuruwarri yirra-rni.  
man-PL-ERG PRES-3pM1-REFL/RECIP design put-NPST  
The men are putting designs on themselves/each other. [Hale 1983, 24c]

Sentence (4.119) shows that in a sentence in which a verb requiring a two-place array, such as an ERG-ABS verb, occurs with an adjunct dative, the ERG noun phrase is again the only possible antecedent of the adjunct dative.<sup>59</sup>

(4.119) Walya-ngka ka-nyanu ngulya pangi-rni  
ground-LOC PRES-REFL/RECIP hole-ABS dig-NPST  
kaninjarrakari -- mamupururnpa-rlu.  
inside -- barking spider-ERG  
The barking spider digs itself a hole straight down in the earth. [mamupururnpa]

The same disjunction is also necessary to identify the potential controllers of *karra* clauses. The ERG argument of an ERG-ABS array and the ABS argument of an ABS array have already been mentioned as possible controllers. Any argument that is construed with the M1 marker is also a possible controller, as shown in (4.120)-(4.124).<sup>60</sup>

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59. Note that the construal rule for the reflexive marker *nyanu* is that observed for all M2 markers. This means that in sentences with ERG-ABS verbs and an adjunct dative, the adjunct dative rather than a non-subject argument of the verb is construed with the reflexive marker. What is important for the argument here is the choice of antecedent.

60. Despite the case agreement, case is not the relevant criterion for identifying the controller. Not all ERG or all ABS noun phrase are possible controllers, as pointed out in Simpson and Bresnan [1982]. The ABS argument of an ERG-ABS verb is not a possible controller even though the ABS argument of an ABS verb is. Being marked for ERG case is also not sufficient. Instrumental noun phrases are marked for ERG case, but they are not controllers.

- (4.120) Ngarrka ka wirnpirli-mi, karli jarnti-rinja-karra.  
man PRES whistle-NPST, boomerang trim-INF-KARRA  
The man is whistling, while trimming the boomerang. [EFW134a]
- (4.121) Ngarrka-ngku ka purlapa yunpa-rni, karli jarnti-rinja-karra-rlu.  
man-ERG PRES corroboree sing-NPST, boomerang trim-INF-KARRA-ERG  
The man is singing a corroboree, while trimming the boomerang. [EFW134c]
- (4.122) Napurrula ka-ju ngaju-ku wangka-mi, ngurlu kipi-rinja-karra.  
Napurrula PRES-1sM2 I-DAT speak-NPST, seed winnow-INF-KARRA  
Napurrula is speaking to me, while winnowing mulga seed. [EFW134b]
- (4.123) Kurdu-ngku ka-rla ngapa-ku wapal-pangi-rni wangka-nja-karra-rlu.  
child-ERG PRES-RLA water-DAT search-dig-NPST speak-INF-KARRA-ERG  
The child is digging in search of water while speaking. [EFW134d]
- (4.124) Nyina-nja-karra-rlu kuyu-jana yu-ngu ngamardi-nyanu-patu-ku.  
sit-INF-KARRA-ERG meat-3pM2 give-PST mother-ANAPH-PL-DAT  
He gave meat to his mothers while sitting.

Although they will not be discussed in detail, purposive clauses in Warlpiri also provide evidence for the notion of subject identified here and for the claim that Warlpiri is accusative. Purposive clauses are non-finite clauses marked with the complementizer *ku*, which is homophonous with the dative case affix. Purposive clauses are obligatory control structures. The controlled argument in a purposive clause is the same argument that would be controlled in the corresponding *kurra* or *karra* clause. Therefore, purposive clauses will provide additional support for the notion of subject identified here.

A notion of subject is necessary in Warlpiri to account for the distribution of anaphors and controlled arguments. The subject in Warlpiri can be identified by the Subject Disjunction: the ERG argument in the verb's case array if there is one and the ABS argument otherwise. The form of this disjunction shows that case is not a relevant criterion for identifying the subject. The subject in Warlpiri does not correspond to an argument bearing a particular case. Although the ERG argument is always the subject, the ABS argument is the subject only in the absence of the ERG argument from the case array.

Support for introducing the notion of subject was also provided by the existence of three other phenomena in Warlpiri that refer to it: the subject is the controller of a *karra* clause, the argument construed with the M1 marker, and the antecedent of the reflexive marker *nyanu*. These generalizations are simple when stated in terms of the notion of subject rather than the Subject Disjunction described above. The existence of generalizations referring to this disjunction, instead of, for example, case, might seem unmotivated if there

were not independent evidence, that this disjunction corresponds to the notion of subject.

#### 4.8.2 The Object in Warlpiri

The next step in providing an analysis of Warlpiri case arrays is to determine the grammatical relation associated with the arguments of the two and three argument case arrays that have not been identified as subjects. Specifically, this section will consider the evidence for calling the non-subject argument of the two argument arrays and one of the non-subject arguments in the three argument array an object. This question is discussed at length by Simpson [1983] in the LFG framework, as well as by Hale [EFW] and Nash [1980]. The analysis given here will draw on their arguments, recasting them in the context of the Ergativity Hypothesis, but arriving at the same notion of object. It will place a greater emphasis on the nature of the evidence available, particularly the motivation for considering certain construal and control properties to be properties of the object.

The task of identifying the object in Warlpiri proves to be less straightforward than that of identifying the subject. The subject in Warlpiri was identified by means of two properties that necessarily hold only of s-subjects cross-linguistically. It would be desirable to take the same approach to finding the object, but unfortunately this is not possible. Warlpiri does not show any properties that necessarily hold only of objects. Syntactic properties that are typically used to identify d-objects cross-linguistically, such as voice phenomena, are not found in Warlpiri.<sup>61</sup> The only object properties observed in Warlpiri are lexical properties involving the structure of idioms and range of meanings of predicates. This evidence alone cannot be taken as definitive due to questions about the validity of using these properties to identify objects.

Due to the nature of Warlpiri, it is necessary to resort to an alternative approach. First, evidence from the Ergativity Hypothesis that the ABS argument of the ERG-ABS array, the array associated with agent-patient verbs, is an object will be presented. The claim will be supported by an examination of the properties of the ABS argument which show it must bear a non-oblique non-subject relation. Evidence from the Ergativity Hypothesis is not available for the other arrays, the ABS-DAT, ERG-DAT, and ERG-ABS-DAT arrays. Instead, an

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61. This point was discussed in Section 4.7.3 in reference to the inapplicability of most d-structure tests for ergativity to Warlpiri.



argument of these arrays will be identified as an object by virtue of showing the same properties as the ABS argument of an ERG-ABS verb. The argument for recognizing a notion of object in Warlpiri will be expanded in the remainder of the section.

Evidence that the ABS argument of an ERG-ABS verb bears the object relation comes from the Ergativity Hypothesis. It is a characteristic of accusative languages, according to this hypothesis, that the patient role is typically assigned to the noun phrase bearing the d-object relation. Therefore, the argument of an agent-patient verb assigned the patient role should bear the d-object relation. In Warlpiri, an agent-patient verb is an ERG-ABS verb, and its ABS argument, as the argument assigned the patient role, should be the object given the assumption that the Ergativity Hypothesis applies at LS structure.

Further support for the claim that the ABS argument is an object is available. There is evidence that the ABS argument of an ERG-ABS verb does not bear an oblique relation to the verb, just as the ERG argument does not. The ABS argument shares properties with the ERG argument of the ERG-ABS verb that it does not share with oblique noun phrases (e.g. locative noun phrases) suggesting they are associated with noun phrases bearing a grammatical relation. First, a given verb, by selecting the ERG-ABS array, will select an argument marked for the ABS case just as it selects an argument marked for the ERG case. In contrast, a noun phrase marked for an oblique case is rarely selected by a verb.<sup>62</sup> Second, the ABS argument may be construed with an agreement marker in the auxiliary (as long as there is no dative present) like subjects but unlike oblique noun phrases. This is illustrated in (4.125).

(4.125) Pirli ka-lu-jana yurutu-wana yirra-rni.  
stone PRES-3pM1-3pM2 road-PERL put-NPST  
They are placing stones along the road. [EFW77d]

As discussed in Section 4.6.1.2, the ABS argument may enter into a reflexive relation with the subject (again in the absence of an adjunct dative), while an oblique noun phrase may not enter into a reflexive relation. Finally, an ABS argument may act as the controller of a

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62. Hale [EFW] mentions a few exceptions including the ABS verb *manyu-karri-mi* 'to play a game' which marks the argument indicating the game in the locative case.

(i) Ngarrka-patu ka-lu karti-ngka manyu-karri-mi karru-ngka.  
man-PL PRES-3pM1 cards-LCC play-stand-PRES creek-LOC  
The men are playing cards in the creekbed. [EFW94]

non-finite clause of contemporaneous action, a property that subjects share but obliques do not (see Section 4.6.1.1). In fact, the ABS argument shares these properties with subjects in general since each property it shares with the ERG argument is a property associated with all subjects.

It appears that the ABS argument bears a non-oblique relation to the ERG-ABS verb. Despite the properties the ABS argument of an ERG-ABS verb may share with the ERG argument and with any other subjects, the grammatical relation of the ABS argument cannot be the subject relation. These shared properties do not include the two properties that hold necessarily of subjects: the ability to be a controlled noun phrase in a control structure and the inability to be the anaphor in an anaphor-antecedent pair. The ABS argument is never a controlled noun phrase and may be an anaphor.

Even the shared properties take a different form with the ABS argument and the subject. Although both the ABS argument of an ERG-ABS verb and the subject are construed with agreement markers in the auxiliary, they are construed with different markers. The ABS argument is construed with the M2 marker and not the M1 marker, the marker construed with the subject. The ABS argument enters into reflexive relations with the ERG argument, but as the reflexive anaphor *nyanu* and not as an antecedent, a property exclusive to subjects. Like the subject, the ABS argument is a potential controller of non-finite clauses of contemporaneous action, but the ABS argument controls *kurra* clauses and not *karra* clauses, which are controlled only by subjects.<sup>63</sup>

The comparison of the properties of the ABS argument with those of the subject and obliques indicates that the ABS argument bears some non-oblique grammatical relation to the verb which, however, is not the subject relation. The outcome of the comparison is consistent with the evidence from the Ergativity Hypothesis that the ABS argument is an object. Therefore, it constitutes indirect evidence for the hypothesis.

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63. In addition to the use of *kurra* as a complementizer with non-finite clauses of contemporaneous action, there is also a second use of *kurra* as a complementizer for non-finite subject controlled clauses. This use is semantically distinct from the use in non-finite clauses of contemporaneous action. In this use, *kurra* clauses do not describe actions that occurs simultaneously with the action in the main clause but rather actions that will occur immediately after the action in the main clause.

Any attempt to address the question of the object in Warlpiri must take into account the adjunct dative. Although the adjunct dative has been ignored so far, an examination of the properties of the adjunct dative is necessary for an understanding of the essential properties of the ABS argument of an ERG-ABS verb. The properties of the adjunct dative that are relevant to the characterization of the ABS argument will be sketched briefly.

If the ABS argument bears a non-oblique goal relation to the verb, then the adjunct dative does also. The arguments presented to demonstrate that the ABS argument of an ERG-ABS verb bears a non-oblique non-subject relation can be repeated with the adjunct dative. I will list the properties of the adjunct dative that suggest this. The adjunct dative shares with the subject the properties that the ABS argument does, but, as with the ABS argument, these properties take a different form. The adjunct dative may be construed with an agreement marker, but like the ABS argument this marker is the M2 marker and not the M1 marker. The adjunct dative participates in reflexive constructions, but as an anaphor and not as an antecedent. Finally, it may control non-finite clauses of contemporaneous action marked by the complementizer *rlarni*. Again, like the ABS argument, it differs from subject in not showing the control and construal properties that necessarily hold of subjects. These observations establish that the adjunct dative shares with the ABS argument properties that suggest it bears a non-oblique non-subject relation.

Although the adjunct dative and the ABS argument both bear non-oblique non-subject relations, they do not bear the same relation. There are a number of properties that distinguish the adjunct dative from the ABS argument. These properties are important to the characterization of the object. The most striking difference is that unlike the ABS argument, the adjunct dative is clearly not selected by a verb.<sup>64</sup> For the purposes of understanding the properties of the ABS argument it is the construal and control properties that are especially important. Both the ABS argument of an ERG-ABS verb and the adjunct dative may be construed with the M2 marker and may participate in the reflexive relation. But, this property only holds of the ABS argument in the absence of an adjunct dative. The adjunct dative takes precedence over the ABS argument for construal with the M2 marker, as shown in (4.126), with an instance of the adjunct dative selected by the benefactive preverb *kaji*.

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64. Adjunct datives resemble obliques in not being selected by the verb. This property also sets the adjunct dative apart from the subject.

- (4.126) Karli-patu-rna-palangu kurdu-jarra-ku kaji-jarntu-rnu.  
boomerang-PL-1sM1-3dM2 child-DUAL-DAT BEN-trim-PST  
I trimmed the boomerangs for the two children.

Another crucial difference concerns control structures. Adjunct datives are not possible controllers of *kurra* clauses, but they may control *rlarni* clauses. In fact, the ABS argument of an ERG-ABS verb will control a *kurra* clause even in the presence of an adjunct dative. This is illustrated in (4.127) which involves an instance of the adjunct dative selected by the causal preverb *marlaja*.<sup>65</sup>

- (4.127) Nantuwu-rlu kalaka-ju ngaju-ku marlaja-kati-rni kurdu  
horse-ERG ADMON-1sM2 I-DAT CAUSE-tread-NPST child-ABS  
jarda nguna-nja-kurra.  
sleep lie-INF-KURRA  
The horse might tread on my child (lit. because of me) while it's sleeping. [R. Granites]

This observation indicates that even if the adjunct dative takes precedence in construal, it does not affect the grammatical relation of the ABS argument but rather bears a different relation. This observation leads Simpson [1983] to argue that the ability to control *kurra* clauses is the criterial property for identifying an object while the ability to be construed with the M2 marker alone is not sufficient.

In spite of the unavailability of independent tests for object, there is evidence that suggests that the notion of object in Warlpiri encompasses more than the grammatical relation of the ABS argument of an ERG-ABS verb to the verb. Other verbs require arrays with more than one argument, and a non-subject argument of these arrays might be a candidate for an object. But without independent tests, the only way an argument of another array might be identified as an object is by showing the same properties as the ABS argument of an ERG-ABS verb. Assuming that the shared properties reflect a shared grammatical relation, then this relation should be the object relation, the relation which the ABS argument of an ERG-ABS verb bears to the verb.

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65. Simpson assumes that the adjunct dative sometimes bears the oblique relation rather than the oblique goal relation since the adjunct dative is not always construed with the auxiliary. The adjunct dative can only participate in the reflexive construction and be the controller of a *rlarni* clause when it is construed. Only instances of the adjunct dative that are construed with the auxiliary will be oblique goals, while the non-construed instances will be obliques. I will only be interested in the construed instances of the adjunct dative.

To resolve this question, it will be necessary to investigate whether any of these arguments show any of the properties of the ABS argument. Having established that the ABS argument of an ERG-ABS verb is an object, any properties that hold of this argument might actually be properties of the object. In particular, evidence bearing on the question of the object in Warlpiri might be obtained by examining the behavior of the non-subject argument of the other two and three argument arrays with respect to the construal and control properties. These properties provided support for considering the ABS argument an object since they were shown to be associated with an argument bearing a non-oblique relation that is not the subject relation.

The behavior of ERG-ABS-DAT verbs with respect to the construal and control properties of the ABS argument is especially revealing. Verbs taking this array have two non-subject arguments, the ABS argument and the DAT argument. Therefore, it is not obvious a priori how the properties associated with the ABS argument of an ERG-ABS verb will cluster. For example, they could hold of a single argument, or they could be split among the arguments. An examination of the ERG-ABS-DAT verbs will reveal that these properties hold of the DAT argument only.

In sentences with an ERG-ABS-DAT verb, the DAT argument is the argument construed with the M2 marker.<sup>66</sup> Consistent with this, it is the DAT and not the ABS argument that participates in the reflexive relation.

(4.128) Ngarrka-patu-rlu ka-lu-nyanu kuruwarri yirra-rni.  
man-PL-ERG PRES-3pM1-REFL/RECIP design put-NPST  
The men are putting designs on themselves/each other. [Hale 1983, 24c]

But, construal with the M2 marker is not sufficient to establish that it is the DAT argument rather than the ABS argument that behaves like the ABS argument of an ERG-ABS verb. In sentences involving ERG-ABS verbs and an adjunct dative, the adjunct dative takes precedence over the ABS argument for construal even though the ABS argument could be construed with the M2 marker in the absence of an adjunct dative. This means that the construal of the DAT argument of an ERG-ABS-DAT verb with the M2 marker may simply be due to the precedence property. The possibility that the ABS argument could have been

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66. For DAT arguments construal with the M2 marker is independent of the presence or absence of an adjunct dative. The auxiliary may show agreement with more than one dative noun phrase because there are two dative registration markers as well as the M2 marker.

construed is not ruled out by the construal facts alone.

The crucial evidence concerns the controller of *kurra* clauses in ERG-ABS-DAT sentences. Simpson [1983] presents sentence (4.129) involving the ERG-ABS-DAT verb *yinyi* 'ERG give ABS to DAT' as evidence that the DAT argument and not the ABS argument is the controller of *kurra* clauses.

(4.129) Yu-ngu-rna-rla kurdu parraja-rla nguna-nja-kurra -- yali-ki.  
give-PST-1sM1-RLA child coolamon-LOC sleep-INF-KURRA -- that-DAT

(4.130) a. \*I gave the child which was sleeping in the coolamon to someone.  
b. I gave the child in the coolamon to that one lying down.

This sentence was constructed to favor an interpretation with the ABS argument as the controller of the *kurra* clause as indicated by the gloss (4.130a). But, this interpretation does not seem to be possible. Simpson, citing Laughren,<sup>67</sup> states that the tendency is still to interpret the DAT argument as the controller, as in the gloss (4.130b). This tendency is accompanied by a marked preference for DAT case agreement on the *kurra* clause.<sup>68</sup>

On the basis of evidence from control of *kurra* clauses, it appears to be the DAT argument and not the ABS argument that shares properties with the ABS argument of an ERG-ABS verb. The behavior of ERG-ABS-DAT verbs with respect to *kurra* clauses is especially striking when compared to ERG-ABS verb sentences with an adjunct dative, where the adjunct dative is construed with the M2 marker although the ABS argument controls *kurra* clauses. If the construal of the M2 marker with the DAT argument was due to the precedence of the DAT case over the ABS case in construal, then the ABS argument of the ERG-ABS-DAT verb might still be the controller of *kurra* clauses. Instead, it turns out that the DAT argument controls the *kurra* clause. This suggests that the DAT argument must have both the construal and control properties since controllers of *kurra* clauses must be able to be construed.<sup>69</sup>

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67. Data sent to J. Simpson, February, 1982.

68. Case agreement is found (optionally) in *kurra* clauses with DAT controllers, as in *kurra* clauses with ERG controllers. This is expected since case agreement is a general phenomenon in Warlpiri when predication is involved. See Simpson [1983] for more discussion.

69. The ABS argument of an ERG-ABS-DAT verb shows neither of the properties of the ABS argument of an ERG-ABS verb. Simpson [1983] concludes that while the DAT argument bears the object relation, the ABS argument bears the "OBJ2" relation (the same relation that the direct object bears in an English double object construction).

With ERG-ABS-DAT verbs, the construal and control properties observed of the ABS argument once again hold of a single argument, as they did with the two argument array. Yet, since these verbs have two non-subject arguments, these properties did not have to hold of the same argument. This means that it is not simply a coincidence that the ABS argument of an ERG-ABS verb shows these properties. The behavior of ERG-ABS-DAT verbs, therefore, lends support to recognizing a grammatical relation characterized by these two properties.

The behavior of the non-subject argument of the other two-place arrays with respect to the construal and control properties will be considered next. Besides the ERG-ABS array, the other two two-place arrays, the ABS-DAT array and the ERG-DAT array (which has two uses, the conative and verb selected uses). The non-subject argument of each array is the DAT argument. The DAT argument of these arrays is construed with the M2 marker, as discussed in Section 4.4. As expected, since the reflexive agreement marker is an M2 marker, the DAT argument may participate in a reflexive relation as shown by the examples below:

(4.131) Karnta ka-nyanu yarnka-mi (juru-ku).  
woman PRES-REFL/RECIP grab-NPST (head-DAT)  
The woman is grabbing herself (by the head). [Hale 1983, 24b]

(4.132) Ngarrka-jarra-rlu ka-pala-nyanu warri-rni.  
man-DUAL-ERG PRES-3dM1-REFL/RECIP seek-NPST  
The two men are looking for each other.

(4.133) Ngarrka-jarra-rlu ka-pala-nyanu-rla luwa-rni.  
man-DUAL-ERG PRES-3dM1-REFL/RECIP-RLA shoot-NPST  
The two men are shooting at each other.

Sentences (4.131)-(4.133) respectively illustrate the reflexive construction with the ABS-DAT array, the verb selected use of the ERG-DAT array, and the conative use of the ERG-DAT array. In each example, the argument bearing the subject relation is interpreted as bound to the other argument of the array.

The most important question for determining if the DAT argument shares the same grammatical relation as the ABS argument of an ERG-ABS verb is whether it is a possible controller of a *kurra* clause. Construal with the M2 marker alone is not sufficient because an adjunct dative also may be construed. Sentences (4.134)-(4.136) illustrate that the DAT argument may be a controller.

(4.134) Karnta ka-rla wangka-mi ngarrka-ku, karli jarnti-rninja-kurra-ku.  
woman PRES-RLA speak-NPST man-DAT, boomerang trim-INF-KURRA-DAT  
The woman is speaking to the man (while he is) trimming the boomerang. [EFW137c]

- (4.135) Ngarrka ka-rla marlu-ku yura-ka-nyi,  
man-ERG PRES-RLA kangaroo-DAT stealth-move-NPST,  
marna nga-rninja-kurra-ku.  
grass eat-INF-KURRA-DAT  
The man is stalking the kangaroo (while it is) eating grass. [EFW137d]
- (4.136) Ngarrka-ngku-rla-jinta marlu-ku pantu-rnu, marna nga-rninja-kurra-ku.  
man-ERG-RLA-JINTA kangaroo-DAT spear-PST grass eat-INF-KURRA-DAT  
The man shot at the kangaroo (while it was) eating grass. [EFW137e]

The controller in these examples are the DAT argument of an ABS-DAT verb in (4.134), of a verb selected use of the ERG-DAT array in (4.135), and of a conative use of the ERG-DAT array in (4.136).

The evidence presented shows the DAT argument of the ERG-DAT and ABS-DAT arrays shares construal and control properties with the ABS argument of the ERG-ABS array.<sup>70</sup> This is additional evidence that these properties are not particular to the ABS argument of the ERG-ABS array. Furthermore, the two properties, once again, hold of a single argument.

An examination of the ERG-DAT, ABS-DAT, and ERG-ABS-DAT arrays reveals that the construal and control properties first observed of the ABS argument of the ERG-ABS array are not limited to this argument. Not only is the ABS argument of the ERG-ABS array construed with the M2 marker, but so are the DAT arguments of the other two and three argument arrays. In fact, the DAT argument of these arrays also exhibits the other property associated with the ABS argument of the ERG-ABS array: the ability to act as the controller of a *kurra* clause. That is, the construal and control properties hold of the same argument in each array. The generalization identifying which argument of a case array has these properties is the disjunction:

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70. Not all ABS-DAT verbs show exactly the properties described here. With some ABS-DAT verbs, there is conflicting evidence concerning the grammatical relation of the DAT argument: the DAT argument may show the behavior of an object, an adjunct dative, or even an oblique. This suggests that there is more than one analysis of at least some ABS-DAT verbs. These variations in the properties of the DAT argument, which have been ignored here, are discussed at length by Simpson [1983] who proposes an analysis of the ABS-DAT verbs which tries to account for the apparent idiosyncrasies in their behavior. Her analysis involves the formation of the ABS-DAT array with an oblique DAT argument from the ABS array by a rule of oblique incorporation and a relation changing rule which changes the relation of the DAT argument from an oblique relation to the object relation. See Simpson for details.



The DAT argument in the case array if there is one, and the ABS argument otherwise.

The properties, then, are associated with a larger set of arguments belonging to several different case arrays and not even marked for the same case.

The existence of a set of arguments in other case arrays that share with the ABS argument of an ERG-ABS verb properties associated with a non-oblique non-subject grammatical relation is evidence for assuming these arguments bear a common grammatical relation. That the ABS argument, which was shown independently to bear the object relation, bears this relation suggests that this relation is the object relation. Then, the shared properties may be taken as characteristic properties of the object. Certainly, these properties cannot be incidental properties of the ABS argument of the ERG-ABS array. In fact, Hale [EFW, 1983] and Simpson [1983] take the clustering of properties as motivation for introducing a notion of object which is identified by the disjunction above. This disjunction will be referred to as the Object Disjunction.

#### 4.9 The Warlpiri System of Case Marking Reconsidered

Having established that Warlpiri is accusative, an account of the system of case marking is necessary. Notions of subject and object have been shown to be independently necessary in Warlpiri to describe certain syntactic phenomena. The grammatical relations associated with the arguments of each case array have been identified by means of the two disjunctions below.

##### The Subject Disjunction

The subject is the ERG argument of the case array if there is one and the ABS argument otherwise.

##### The Object Disjunction

The object is the DAT argument of the case array if there is one, and the ABS argument otherwise.

Now, the system of case marking must be reexamined from the point of view of what case is assigned to the subject and object of a verb. In particular, the reasons for considering Warlpiri "morphologically" ergative will be reviewed.

As a starting point, the grammatical relations associated with the arguments of each case array are summarized below:

<u>Verb Class</u>	<u>Subject</u>	<u>Object</u>
ABS verb:	ABS arg	
ERG verb:	ERG arg	
ERG-ABS verb:	ERG arg	ABS arg
ABS-DAT verb:	ABS arg	DAT arg
ERG-DAT verb:	ERG arg	DAT arg
ERG-ABS-DAT verb:	ERG arg	DAT arg

Having identified the grammatical relations associated with each of the case arrays in Warlpiri, it is possible to identify Warlpiri verbs as transitive or intransitive. The intransitive verbs will be the ABS (and ERG) verbs. The verbs taking the other case arrays will be transitive.

If the focus is limited to verbs in the major intransitive class and the subset of the transitive class associated with agent-patient verbs, it is possible to see why the system of case marking could be describe as ergative. The subject of an intransitive verb, i.e. an ABS verb, is assigned the ABS case. The transitive agent-patient verbs will assign the ERG case to their subject and the ABS case to their object. That is, the subject of an intransitive verb and the object of a transitive verb will share the unmarked case while the subject of a transitive verb will be in the marked case. This is an ergative pattern of case marking. On the basis of this system of case marking, Warlpiri would be characterized as an accusative language with ergative case marking, the counterpart in the framework of the Ergativity Hypothesis to the pretheoretical notion of a "morphologically ergative" language.

This description of the Warlpiri case system ignores a number of important issues which will be mentioned even if they cannot be completely resolved. The characterization of the case system as ergative is based on a consideration of a subset of the transitive class, the ERG-ABS class. Yet, an analysis of the case system should take into account all possible verbs. In particular, some transitive verbs are associated with arrays other than the ERG-ABS array: the ERG-DAT, ABS-DAT, and ERG-ABS-DAT arrays. The omission of the transitive verbs assigned the ABS-DAT array is particularly significant, due to the number of verbs showing this array.

Once the fact that Warlpiri does not have a unique case array associated with transitive verbs is recognized, it becomes clear that both the case assigned to the subject and that assigned to the object of a verb is determined by the verb. This is in apparent conflict with the GB approach that case is assigned to the subject by INFL (inflection). Case assignment cannot, it appears, be defined purely in terms of grammatical relations. Although the case

marking is reminiscent of quirky case marking in a language like Icelandic, it differs in not being limited to objects.<sup>71</sup>

Principles determining the case associated with the subject and object of a given verb need to be formulated. When the case arrays were introduced, correlations between the arrays and verbal semantics were noted. The existence of these correlations suggest that the principles of case assignment have a semantic basis. For example, the ERG-ABS array is associated with agent-patient verbs and not other verbs. In fact, the ERG case is always assigned to the agent argument: in the ERG-DAT and ERG-ABS-DAT array as well as the ERG-ABS array. The object is assigned the ABS case when it is the patient argument. It is assigned the DAT case, if it is an argument not affected by the action. With the exception of the few ERG verbs, the argument of a single argument verb is assigned the ABS case.

As mentioned in Section 4.4.2, many ABS-DAT verbs also occur as ABS verbs. According to the analysis proposed by Simpson [1983], many of the ABS-DAT verbs are derived from ABS verbs through the incorporation of an oblique argument which may become an object. It is interesting that the transitivity process does not change the case associated with the subject. This argues for a semantic analysis of case arrays. If not, these verbs might be expected to show the ERG-ABS array. The ABS-DAT verbs show an invariant case array whether the DAT argument bears the object or oblique goal relation, the two possible relations that Simpson proposes the DAT argument can bear. The DAT case appears to be associated with an argument in the verb phrase rather than with a particular grammatical relation.

In arriving at an analysis of the Warlpiri case system, it is important to note that Warlpiri seems to show a different principle of lexical organization than English. In Warlpiri, the ERG-ABS array is firmly linked to a notion of causal relation. This allows its use to be extended in a manner not usually observed of English transitive verbs. This happens, for example, in the use of certain affect verbs to describe physiological experiences, as well as other experiences. In particular, the ERG case is still associated with the notion of cause even in these uses. The notion of cause is more important than the animacy of the causer. The ERG argument of an ERG-ABS verb does not have to be animate. Equally important in

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71. The quirky case subjects found in Icelandic are actually d-objects of unaccusative verbs.

English is a tendency to require an animate subject, even if meeting this constraint requires putting the sentence in the passive. Warlpiri does not show a parallel restriction. The constraints in English and Warlpiri seem to determine the manner in which these languages can choose to express certain predicates.

Possibly, the different tendencies observed in Warlpiri and English may be attributed in part to the difference in configurationality. Since the notion of subject in English is a configurationally defined notion which can be identified readily in any sentence, it is possible for there to be preferences concerning possible subjects. It is possible to take advantage of processes such as the passive, which are not found in Warlpiri, to ensure that this preference is satisfied. Warlpiri cannot rely on configurational notions, but it does seem to take advantage of its system of case marking in a similar way in requiring that the ERG argument is associated with a notion of cause. But, this still leaves unanswered the nature of the rule assigning the ERG case to the agent argument.

Jane Simpson has suggested to me that one way of accounting for the system of morphological case in Warlpiri is through an extension of the notion of quirky case to subjects. Assume that case in Warlpiri is assigned by the verb phrase rather than INFL (inflection), then the verb would enter into the assignment of case to the subject indirectly, just as it enters into the assignment of semantic role to the subject. This would allow the choice of case to be governed by the verb accounting for the association of more than one case with the subject. In particular, verbs in Warlpiri would assign ERG case to their subjects if they were assigned the agent role.

In fact, as Mary Laughren has pointed out to me, there is probably a connection between the need for a special rule assigning ERG case to an argument bearing the agent role and the apparent examples of selection for an ERG nominal discussed in Section 4.6.2.3. If a verb could select the case of its subject, there is no reason why it could not make other demands of its subject. For example, it could also impose restrictions on the nominal that is the subject. Therefore, the case marking proposal could be used to account for the problematic examples of selection for an ERG nominal. Since this property of verbs would not affect the assumptions concerning compositional structure of the sentence, these examples would not be expected to have the semantic role of the ABS argument compositionally determined by the ERG argument which appears to be the case.

#### 4.10 Conclusion

The Ergativity Hypothesis proposes a particular theory of ergativity that should account for phenomena associated with so-called ergative languages. In particular, among the phenomena that the Ergativity Hypothesis should accommodate is the distinction between "morphologically" and "syntactically" ergative languages that Comrie and Dixon make in their surveys of ergativity [Comrie 1978] [Dixon 1979a], a distinction that follows from the observation that not all ergative languages are ergative in the sense of Dyirbal.

This distinction can be handled simply by an observation that follows from the Ergativity Hypothesis: not all languages with so-called "ergative" case marking turn out to be ergative in the sense of the Ergativity Hypothesis.<sup>72</sup> Some languages, like Warlpiri, are accusative languages with ergative case marking. Such languages would be the counterpart within the Ergativity Hypothesis context to languages that have been called "morphologically" ergative. The fact that these languages are accusative in the sense of the Ergativity Hypothesis captures the intuition that "syntactically" these languages resemble accusative languages rather than ergative languages. Their similarity to ergative languages is purely in their case system; as discussed in Section 3.1.1, an accusative language with an ergative system of case marking looks superficially like an ergative language with an accusative system of case marking.

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72. This indicates that so-called ergative case marking is not a sufficient criterion for ergativity in the sense of the Ergativity Hypothesis.

#### 4.11 Appendix: Sample Lexical Entries

This appendix includes the full lexical entries of the verbs used as examples in Section 4.6.2.1 on range of meanings of predicates. These entries are the current entries for these verbs from the file of the Warlpiri Dictionary Project.

**LUWA-RNI (V): 1.Contact/effect: xERG produces a concussion on the surface of yABS by some entity moving rapidly through the air and coming into contact with y: *to strike, hit, pelt, lapidate, shoot.***

*Ngarrarna luwarni yalumpu, parnkanjakurra, karlingki.* I'll hit that one on the run, with a boomerang. *Yapajarrarlulpapalanyanu karlingki luwarnu.* The two people hit each other with boomerangs (thrown). *Kurdu-kurdurlu kalujana malikipatu luwarni pirlingki.* The children are pelting the dogs with stones. *Jiwinyparlu kangalpa luwa-luwarni yinirnti wirijarlu pakarninjakarrarlu.* He's hitting us with (flying) chips as he chops down the big bean-tree. *Wampanalungalpa kuyu luwaka!* Shoot us a wallaby! *Kuyu nyanungu kumulyurru, luwarni karnalu watiyarlu yangka panuju kupaly-wantinjakurraji.* Those budgerigars, we pelt them with sticks when they are flying in big flocks. *Kapurna ngurrjungku jalangurlu luwarni.* I will succeed in hitting it now. *Karinganta kulu wiri yalumpuju -- kapulungalpa luwarni.* I say there's big trouble there -- they will hit (with boomerangs). *Karlirilkijilpalujana luwarnu.* Then they pelted them with boomerangs. *Pirlingkiji luwarnu.* The stone (e.g. thrown up by passing car) hit me. *Kunardarluju jurru luwarnu.* I got hit on the head by a hail-stone. Cf. KIJ- RNI, YILYA-MI.

★ x is wind (WARLPA, PAYI) or lightning (WIRNPA): *to strike, to blow on.*

*Wirnpangku watiya luwarnu.* The lightning struck the tree. *Kulalpangku yangka payirlangurlu luwakarla kajinpa rdulpu-jarri.* When you are suffocating, it may be that the air can't blow on you. *Jimanypanjangka ka marnakurra yirrarni -- rduul-yinjakungarantikila.* *Kujaka purrujini lirrangku.* *Warlpakurra yinga -- payingki luwarni.* *Kunjuru wirikarda yika rduyu-karri.* After using the fire-stick he puts it (smoldering wood) on the dry spinifex for it to ignite. And he blows on it with his mouth. He puts in in the wind so that they air can blow on it. So that big smoke will form and rise.

★Means by which x manipulates this entity can also be expressed by an ergative expression.

*Marlu kalu watingki luwarni makitirli.* Men shoot kangaroos with rifles. *Wirriya-wirriyarlu kalu jurpu jangarirli luwarni.* The boys shoot birds with sling-shots. *Jangarirliripajana muku luwarni.* Let's shoot them all with our sling-shots. *Kuyukurra yangka yikalu wirlinyi yani panukari.* *Makitirli marda luwarninjaku.* *Kurlardarlu marda pantirninjaku.* People go out to get meat. To shoot them with guns perhaps. Or perhaps to spear them.

●CONATIVE RULE: xERG causes entity to move rapidly through the air toward yDAT [DD] with intent of producing effect (as in 1 above) by coming into contact with y: *to shoot at, have a shot at, take a shot at, try to hit.*

*Marlukurlajinta luwarnu watingki.* The man took a shot at the kangaroo. *Ramparl-luwarnurlajinta.* *Kala wajirli-pungu yaliyijala yitingkakarikirra.* He shot

at it and missed so he then chased it to another place not far off. *Kajilpajarla yaparlangurlu luwakarla wangka jintangku yangka panuku, yampirrikirra, ngula kajikanyanu ngarkirni*. If someone tries to throw something to hit a lot of people say, like into the men's camp, then he would defend himself. *Luwarnurlajinta makitirli. Pulutukarilki yarda manu. Ramparl-luwarnurlajinta*. He tried to shoot him. He took another bullet once more. He shot at him and missed.

●EFFECT RULE:1. xERG strikes (LUWA-RNI) yABS thereby producing an effect zALL on y: ★The zALL. terms expressing effect belong to an extremely restricted set; only three have been recorded: NYURNU-KURRA, TARNNGA-KURRA, YALYU-KURRA. These are to some extent idiomatic, their meaning is not strictly compositional. *to shoot to/until, hit to/until*.

*Nyurnukurra luwarnu makitirli wiyarrpa, kulungku*. He shot the poor thing to death in anger. *Yalyukurra luwarnu karnta karlingki*. He hit her with a boomerang so that she was bleeding.

● KILL RULE:xERG, being; finds (PALKA-MA-NI) yABS, being, typically after searching (WARRI-RNI) for y and intentionally renders y lifeless (NYURNU 2) by striking (as in 1 above):*to hunt and kill*

*Yapakarilpa yanu kuyuku. Ngulajulpa pungu: malalpa pungu, pakurulpa pungu. Panujarlurlulpalu luwarnu -- warrinji-warrinji -- yapangku*. The other went after meat. They hunted it. They killed wallabies and they killed bandicoots. A large number of people in formation would kill (some animal). *Kuyulpa luwarnunjunu, kangurnulpa. Yarlalparla yungu wapirdi -- purlkangku -- kuyukurluku*. He went and killed some animal and brought it back. The old man gave the one with meat some yams when he arrived back. Cf. KATI-RNI, PAKA-RNI, PI-NYI.

2. xERG, human being, transforms some entity, so that it comes to assume a desired state or form yABS, by causing said entity, or some second entity in contact therewith, to move rapidly, regularly and iteratively to and from (or up and down). Cf. YURRPA-RNI. ★Only a very limited class of y arguments are selected by LUWA-RNI 2, such that the overall meaning of the VERB + ARGUMENTS is a function of the lexical items selected:

(a) y is fire (WARLU). ★This is produced by x manipulating some sharp thin edged instrument (zERG) made of hard wood serving as fire-saw (JIMANYPA), such as spear-thrower (PIKIRRI) which x causes to move to and fro rapidly in groove of another object made of soft wood such as shield (KURDIJI): *to ignite by friction, to make fire by friction*.

*Yalumpu pikirri ngakakari kaji linji-jarri, kala warlulkulu luwarni -- jimanyparlu -- kuyuku*. Later when this spear-thrower has dried out, well, they can make fire with it as a fire-saw to cook their meat. *Wakurturdunyayirnilpa nyinaja warluku jimanypakuju luwarninjakuju*. He was very quick at making a fire with the fire-saw. JIMANY(PA)-PI-NYI.

●IMPL(EMENT) RULE: xERG manipulates yABS, fire-saw (JIMANYPA) and causes it to move (as above) in contact with some second entity, a softer wood, in order to produce fire (zABS) (WARLU): *to wield a fire-saw*.

*Yapakariji karnalu linjiji wakirlpirriji pakarni -- watiya linji, tiirl-pakarni karnalu warluku. Warlukungarntiji, ngula karnalu warlu luwarni kurru, warlu karnalu luwarni. Kurru, karnalu ngarrirni -- jimanypa. Warluju karnalu yalijangkanya*

*jarra-mani*. We also cut something else from the dried corkwood -- we split the dried wood for fire. To make fire, we wield a fire-saw, we make fire. The *kurru* is what we call a fire-saw. We light a fire from it. *Jimanypa kujakarnalu ngarrirni, ngulakarlipa warlu -- luwarni ngarrirni, ngulakarlipa warlu -- luwarni jimanypaju -- jimanypa watiya*. What we call *jimanypa* is what we call that related to making fire, that which we wield -- the fire stick. [[check diathesis]]

(b) y is string (WIRRIJI).★ This is typically produced by x manipulating a spindle (zERG) (WIRINKIRRI) in contact with the raw material source of y (JURRU, YUMURRU) in the appropriate manner: *to spin*.

*Wirinkirrirli kalu watingki wirriji luwarni, langajarrakurlurlu*. Men spin hair-string with a two-eared spindle. *Nyinanjarlalpa luwarnu wirriji tarnganguku nyanungunyangurla ngurrangkarlu*. He sat down and then spun hairstring for a long time in his own camp. *Purdujuru kalalu luwarnu wirriji yangka langajarraparntarlu -- wirinkirrirliji*. They used to spin fur with that two-eared thing -- the spindle. Cf. KIJIRNI #

%H.(c) y is seeds (NGURLU) or fruits (MIYI): *to winnow*. See KIPIRNI.

*Ngurlu wakati ka karntangu luwarni parrajarlu kirrkakarda*. The woman is winnowing the pigweed seeds in the dish to clean them. *Kalalu yantarli luwarnu ngurlupatuju. Kalalu kupurnu...* They winnowed the seeds in the camp. They winnowed them. Syn.KIPIRNI, %H. KIRRPINI, WANGUL-PI-NYI, YARDARRA-PI-NYI, YURLKARRNGI-MA-NI

3. IDIOM: xERG makes yABS, seed-cakes (PIRDIJIRRI) by putting (YIRRA-RNI, KIJIRNI) raw matter of y into hot ashes to cook (PURRA-MI): *to cook, bake (seed-cakes), prepare (seed-cakes)*.

*Kalalu yantarli luwarnu ngurlupatuju. Ngawu-ngawulkulpapalarla purkaku luwarnu -- purrajapapalarla. Kangurnulpapalarla piriyikirli*. They made the seed-cakes in camp. They made bad ones for their old husband. They cooked them for him and then they took them to him with pieces of charcoal in them. Cf. PURRA-MI, YURRPA-RNI.

PAJIRNI (V): 1.Contact/effect:xERG produces a linear separation in the material integrity of yABS, by sharp edge coming into contact with y:

(a) x is active: *to cut, carve, slash, hack, sever*.

*Ngajukupirdangkarlu ka kuyu purranjarla pajirni junmanguku*. Having cooked the meat, my sister is cutting it with a knife. *Pajurnuju junmanguku*. He cut me with a knife. *Kuyu kalalu purranjarla pajurnu kantingki jarlupaturlu, kamparruwarnupaturlu*. Having cooked the meat the old men, our ancestors would cut it with stone knives: *Palka kujakalu pajirni -- marlu yirnmilki -- ngulakarrarlu kalu yirrimiji yilyi-wirrpini*. When they are actually cutting up the cooked kangaroo, while doing that they lap up the blood. *Junmajangkarlangu kalu ngarrirni yawarraju -- pajirninjawarnu*. They also call wound that made by the cut of a knife. *Kalalunyanu wanarrirlangu pajurnu, yangka kujakarnalunyanu nganimparlu nyampurla pajirni*. They cut themselves on the thighs just like we here cut ourselves. *Kulalparna kuyu nyampu pajikarla junmanguku nyampurlu -- munjungkuju*. I cannot cut this meat with this knife -- this



blunt one. *Kuyu yalumpu paji-pajika yirna jalangurlu ngarni*. Be quick about cutting up that meat so that I can eat it straightaway. "*Waninjarlangu kajikangkulu larra-pajirni*." "*Waninjayijala kajikarnajana nyanunguju pajirni*." "They might slit your throat." "I can cut their throats too." *Yaruju yakarra-pardiya yinpanyanurla pantirniyijala, pajirni manu yinpanyanurla pakarni*. Get up quick so that you can spear them back, cut then back and hit them. "*Kutu-yanta wiyarrpa. Jurntajana wuruly-kangka kuluparnta panuku*." "*Kala kujajulu nyampu purturlu pajurnu kapirnajana jurnta-kanyi*." "*Kangakayijalajana jurnta – kunka-mantangkurla kujangkulu pajurnu*." "Go anyway and take her away from all those mean people." "Well since they cut me on the back, I will take her away from them." "Yes take her away from them and get back at them for having cut you." *Pajurnulpanyanu – pirlingki, tiirl-pinjarla. Tiirl-pinjarlalpanyanu pajurnu yarttirirli yangka pamarrparlu*. He cut himself with a stone knife that he had flaked. After flaking it he cut himself with a quartz blade with that stone (knife). *Pajurnurnalunyanu nganimpapaturlu mulujarlu*. We cut each other out of jealousy. Cf. JARNNGI-, JITILY-PI-NYI, KARRPARL-PI-NYI, RDAJI-PI-NYI, WARTIRLI-MA-NI, WATUKULYARRI-MANI.

(b) x is not active: *to cut, rip, tear*.

*Turawujunyanu larra-pajurnu watingki wayanguku*. The man ripped his trousers on the wire. *Murlukurnparluju wirliya pajurnu kujalparna katernu mungangkarlu nyanjawangurlu*. The glass cut my foot when I stepped on it at night and couldn't see it. [[(a) and (b) should be merged. cf. KATII-RNI, and comment added]]

2.xERG produces a complete separation in the material integrity of yABS by coming into contact with y, in such a way that part of y comes to be separated from the remainder of y: *to break off, pick, pluck, cut off*.

*Payiji karnalu ngarrirni yangka wiri -- kapi winpirirri. Ngula ka watiyarlangu pajirninjayani -- nyayikanikani ngula ka wiranjiranji-kanyi -- watiya -- jalyirrpargangu*. Gale or whirlwind is what we call that big one. That one that goes along breaking up trees for example -- it carries everything away -- trees -- the leaves and branches that is. *Nyarrparlu kalu yakajirri mani? Rdakangku kalu mani -- pajirni kalu rdakangkulku*. How do they get the berries? They get them by hand -- by picking them by hand. *Pajirni karnarla jalangurlu watiya kurduku yurkalypaparntaku. Kapirna purrami, kapi ngarnirlangu*. I will pick the plant straightaway for the child with the cold. I will cook it and then he'll drink it. *Wirliny yanu watiji, ngulajangkaju. Yanu:: Watiyalku pajurnu, warikalpa, warikalpa watiya yirdi. Pajurnu, puyu-pungu pirlingkaju...* The man went out hunting. He went a long way and then he cut off some wood from the *warikalpa* tree. *Warikalpa* is the name of the tree. He cut it off, crushed it up on a rock... *Kalalu yatijarra yanu, jurnpurnpujangkaju pajirninjarla*. They went north after picking the tobacco. *Watiyarlujana paji-pajika witikingarntirli*. Cut several trees for the *wili* poles. *Karntangu kalu marnikiji paji-pajirni*. The women are picking the conkerberries. *Paji-pajika janyungu. Paji-pajirninjaku yaruju-yarujurlu ngula yaruju yaninjaku. Wurnturukurra*. Pick the tobacco quickly. You must pick it in haste to go quickly. A long way. *Kajilpanpa pama pajikarla, parawujurlangu, ngula kajikanpa kunygunyu-ngarni yangka maru pamayijala*. If you pick some sweet bottle-brush like the corkwood say, then you can suck out that dark-coloured nectar. *Manu watiyarlangukula yangka kalu yirntirni. Kujaka watiyarlangu karri. Ngula kalu yirntirniyijala. Warlurlanguju yangka warlu*

*kujakalu pajirni. Yirntirni.* And they also knock down trees. The trees which are standing they also knock down. Like wood for a fire which they break up. They knock it down. *Marna kalu pajirni, ngula kalu yirrarni – panu yangka yunpu-yirrarni mingkirrirla kalu – yarlungka – marna puyu-pinyi, ngula kalu palyalku kardu-mani.* They pick the spinifex, then they put it down -- they heap up a big pile of it on an ant-bed -- in a clearing -- they crush the spinifex, and then they make gum from it. *Yiljililjili, ngulaji – jangarnkayijala. Jangarnka yangka – kulalpanyanu – pajikarla, yika kujajuku – yiljililjili-wapa. Manu jurru. Jurru – yiljililyijijala ka wapa.* Hairy, that is the beard say. Like if someone doesn't shave their beard, then just just go around like that all hairy. And the hair on the head too. They go around with very long head hair too. *Jurru kapirnaju pajirni.* I'm going to get my hair cut. "*Yarnantingalirla pajika, janyunguku yirli purra.*" "*Yuwayi, kapirna pajirni, yirli purra jangungu. Yarnantirli.*" Cut us some wood to make ash to mix with our tobacco." "Yes, I'll break it off (twigs), so we can mix it with our tobacco. (lit. so that we can cook our tobacco with the ash.)" *Warlawurru, ngulakarnalurla pinkirra waljirni kankarluwarnu. Kankarlumparrarnu, wiri-wiri karnalu pinkirra pajirni. Kanunjuwarnuju karnalu mardukuru pajirni.* The wedgetailed eagle, well we pluck its feathers which are on the upper side. On the upper side, it is those big feathers which we pluck. Underneath we pluck the down. *Kajikarnalu kurlarda pajirniirra wiinpiri.* We can go and cut some spear-wood for spears. *Yunpayiyunpayilijana yalumpu pajikarra purka-purkaku.* Pick the old men some *yunpayiyunpayi* flax. *Yirlaralunglpa kuyu paji-pajikarra.* Cut us off some pieces of meat. *Puluku wirriya kalu kurlurra pajirni jakumanurlu – junmangku.* The stockmen cut off the bulls' testicles using a knife. *Marlukurlu yirnmikirli ka yanirni. Yangka pajirninjawarnu ka kanyirni jarngi, yijalyiji. Wirlinyijangkarlu.* He is coming with a cooked kangaroo. He is carrying one that has been cut up, quartered, in pieces. *Panukarda ka marluju pajirni: mirntilyi, ngurlju, jurru, kantumi.* He cuts the kangaroo into many pieces: the back, the sides, the head, the rump. Cf. PAKA-RNI 2, RDAJI-PI-NYI, WALJI-RNI, YIJALYI, YULU-YIRRA-RNI.

• OBTAIN:xERG obtains yABS by producing a linear separation (as in 2) in the material integrity of some entity, the material source or habitual location of y:to get, obtain.

*Ngarkirdi karnalu pajirni panu.* We get a lot of witchetty grubs. Cf. PAKA-RNI 2.

3. xERG, typically being, produces a separation in the material integrity of yABS, typically a being, by teeth or stinger coming into contact with y ★Especially H. & Wi.:to bite, sting.

*Malikijarrarlangurlu yangka kujakapalanyanu pajirni manyungku, manyu-karri kujakalu maliki, kalunyanu yarlkirni manyungku, ngula kalu julpurrrpayijala kardu-mani -- malikirli.* Two dogs, for example, who are biting each other in fun -- like when dogs are playing -- they bite each other for fun -- well then they cause the earth to break up into dust, the dogs do. *Wirrirli -- pajirninjaparnta.* The March fly bites a lot. *Kajilpa kangkarla, wirlinyirli maliki, marlu kajilpa nyangkarla, ngula kajika malikirli wajili-pinyi. Wajili-pinjarla pajirni.* If one takes a dog out hunting, then if it sees a kangaroo, then the dog will chase it. And having run after it, bite it. *Jamparli, karnalu ngarrirni warna, wiripirdinypa. Pajirninjaparntayijala -- nyanunguju jamparliji. Kajikaji ngulangkuju pajirni – mirrijirlanguju – wirliyarlangu kalakaji pajirni nyanungur!uju -- wiringki. Ngulajala kajikarla marlaja mata-jarri*

*pajirninjawarnuju – nyanungukuju jamparliki wiriki.* Jamparli is what we call a big snake. That snake bites. It can bite me on the lower leg say, or it might bite me on the foot. It is big. One can die from being bitten by it -- by that big *jamparli*. Cf. PANGI-RNI 2, PI-NYI #, YARLKI-RNI, YIRRA-, YIRRI-KIJI-RNI.

•EFFECT:xERG bites (PAJI-RNI 4.) yABS hereby producing an effect zALL on y:★The zALL. terms expressing effect belong to an extremely restricted set; only three have been recorded: NYURNU-KURRA, TARNNGA-KURRA, YALYU-KURRA. These are to some extent idiomatic, their meaning is not strictly compositional.*to bite to.*

*Warnangku kurdu pajurnu nyurnukurra – karnuru.* The snake fatally bit the child -- poor thing. *Maliki ka pajirni tarnngakurrajuku – nyanungurluju jamparlirli – warnangku wiringki – wajirrk-wajirrkirli.* That big green coloured snake, the *jamparli* bites a dog and kills it.

4. xERG, human, produces linear separation yABS (see MURRU, PARA) in the material integrity of zDAT [DD], human, by bringing sharp edge into contact with z and causing sharp edge to move along a path on the surface of z. ★This is customarily done in association with initiation or other recognition of change in age-grade status of z:*to cut, incize, make cut, cicatrices, scarifications, subincision.* *Murru kapirnarlajinta pajirni.* We will cut cicatrices in him. *Para kapilirlajinta pajirni.* We will subincize him. *Murru kalunyanurla pajirni, ngulaju patirlirli.* We cut cicatrices in ourselves with pieces of glass.

5.IDIOM:xERG, human, causes yABS, horse, to become tame (see JAMI) by the appropriate procedure:*to break (in) (of a horse).*

*Kuluparntarlipa nantuwu pajirni.* We're going to break in the wild horse.

See Preverbs: JAMURLU-, KAJURR-, LARRA-, MURUL-, MUURL-, NGUJUL-, NYAMPURL-, PIMPALY-, PIRRARLANY-, PUURR-, PUJUL-, PULPANY-, RAWU-, RDAALY-, RDAJI-, RDAWIRN-, RDIIRR-, RDILYKI-, RDUULY-, TUURL-, WARLA-, WALYAPARR-, YAWIRR-.

6. N-PAJI-RNI (V): xERG, human, in speaking (see WANGKA-MI) about some entity yABS, refers to said entity by means of the term N: *to call, name, refer to as, dub.*

*Japangardirlinya karnajana ngarrkapanji pajirni.* I, being Japangardi, call them *ngarrkapanji*. *Wanarrpir langu, ngulaji papardirlangu.* *Kulalpalupalangu yangka panungku warnarrpir langu-pajikarla kala yangka ngumparnanyanurlumipa.* *Warnarrpir languju ngarrirni.* *Warnarrpir langu* is a pair of brothers. Not everyone can call them *wanarrpir langu* only their brothers'-in-law can call them *wanapirlangu*. *Ngaju kalanpajulu matapardu-pajurnu, kala karna jalangurlu mardarni kurdulku.* They used to call me lazy-bugger, but now I have a child. *Kirlirkirlkirlparlujuku ka ngarni ngurikulku.* *Yapa ngarninjawangujala -- kala ngarni karnalu ngurlu-pajirni – watiyangarnarra.* It is just galahs that eat those seeds. People don't eat them but all the same we call them seeds. *Kalalpaju ngayi Dingo-pajurnu, Dingo-kula ngajuju.* *Pajurnujulu Dingo.* He would just call me Dingo. I was Dingo. They called me Dingo. *Ngurlurpa-pajirnilki karnalunyanu.* We call each other friends. "*Malikikiji kala nyampu wirliyakuju lawa-karri, jarnpangku mayi manu wijingki.*" "*Ngarirlipa purda-nyanyi nyampurula kajingalpa wiji-pajirni.*" "There are no dog tracks here so I wonder if it wasn't a kurdaitcha who stole it." "Let's just listen here while they are calling us

thieves." Cf. NGARRI-RNI, YIRDI.

PAKA-RNI (V): 1. Contact/effect: xERG produces concussion on the surface of yABS, by some entity coming into contact with y:

(a) x is active: *hit, strike, bump, crash into, slap, kick, knock, whip, run into, beat, thrash, thresh.*

*Turakirli puluku wirijarlu pakarnu parnkanjakarrarlu.* The moving car hit a big bullock. *Rdakangku wirriya pakarnu kapirdinyanurlu.* His big sister hit the boy with her hand. *Purlja kalalu pakarnu wirliyarlu.* They used to strike the hair-string ball with their feet. *Mukakilpapala pakarnurra, pakarnurra... Kala mukakilpapala wayipurrurnu.* They threshed the branches of the native plum and continued threshing them. Then they gathered up all the plums. *Kajilpa yapangku wirliyarlangurlu palka-mantarla yuruturla -- murdukayijangka pakarninjawarnu -- marlu, ngula kajikyanu kuyulku manirra.* If someone on foot for example, finds on the road a kangaroo run over by a car, then he can take off the animal for himself. *Kutururlu kalunyanu pakarni karntangkuju -- mimayirli.* The women are hitting each other with wooden clubs out of jealousy. *Watingki kalunyanu pakarni karlingki kulungku.* Men hit each other with boomerangs in anger. *Kurdukari pakarnu jurru watiyakurlurlu kurdu yangka minjirparlu.* That bullying child hit the other child with a stick. Cf. KATI-RNI, LUWA-RNI, NGA-RNI 3, PANTI-RNI, PI-NYI. [[merge (a) and (b), add comment, cf KATI-RNI, PAJI-RNI]]

•CON(ATIVE): xERG moves towards yDAT [DD] with intention of producing effect (as in 1(a)): *to take a swing at, hit at, strike (out) at.*

*Malikikirlajinta pakarnu watiyarlu wirriyapardurlu.* The boy tried to hit the dog with a stick. *Pakarnujurla kulungku.* She tried to hit me in anger.

•EFF(ECT). xERG hits (PAKARNI 1(a)) yABS thereby producing an effect zALL. on y: ★The zALL. terms expressing effect belong to an extremely restricted set; only three have been recorded: NYURNU-KURRA, TARNNGA-KURRA, YALYU-KURRA. These are to some extent idiomatic, their meaning is not strictly compositional: *to hit to/till, hit and make somehow.*

*Karnta pakarnu watingki yalyukurra.* The man hit the woman and made her bleed. *Nyurnukurra pakarnu tarnnga.* He beat him to death. *Tarnngakurralu pakarnu nyurnukurra.* *Marlajajana palija yapapa!ukuju yalumpurlajuku yuntangka.* They beat him to death. He died right there in the shelter as a result of those people.

•OBTAIN: xERG obtains yABS from zEL by hitting (PAKARNI 1(a)) z: *to thresh and get out of, get from by hitting/threshing.*

*Palyalungalpa marnajangka pakaka!* Thresh us the gum out of the spinifex.

• KILL RULE: xERG, being, finds (see PALKA-MA-NI) yABS, being, typically after searching (see WARRI-RNI) for y and renders y lifeless (NYURNU 2) typically by hitting (PAKA-RNI 1(a)) y: *to hunt and kill, kill.* [[Special case of OBTAIN rule]]

*Kuyu wardapipala jarnku pakarnu karntajarrarlu.* The two women both killed goannas. *Kuyu marlu kalu watingki pakarni nyampuardingkirli.* The local men hunt and kill kangaroos. *Kuyukupurdalku karna yani. Kuyu yilparnaju pakakarla miyijangkarlu liwirparlu.* I'm off to hunt for some game. I must kill some animal as I'm meat-starved from only having vegetables and fruit. Cf. KATI-RNI, LUWA-RNI, PI-NYI.

(b) x is inactive, typically an inanimate rigid entity as tree, doorframe, wall etc. and y is typically a being in motion. x is typically unmentioned; reference is to the

effect of concussion on *y:to bump, knock*.

*Jurruju pakarnu – yirna nganta yuwarlirla yukayalarra*. I bumped my head (lit. it struck my head) as I was about to go into the house.

2. xERG cuts (PAJI-RNI) yABS, typically wood, tree (WATIYA) by forcefully manipulating some sharp edged instrument (zERG), typically an axe:*to chop, cut*.

*Warlkurrurlu ka pakarni warlu*. He is chopping fire-wood with an axe. *Wardiji wiri watiya, rdilyki-pakarni karnalu, ngulanya karnalu pampi tiirl-pakarni. Pakarni karnalu pampi*. Those big mulga trees, we chop them down, then we split them in half, we chop them in half. *Karlingardungardu karna murrumurru-jarri. Yingaju warlungku marda wiringki katurnu. Manu watiya yangka wiri – pakarninjarla yirna kangurnu jimantarlu – ngulajuju karlingardungardu katurnu*. My shoulder blade is aching. Perhaps it's because of that big piece of fire-wood that weighed me down. That big piece of wood which I chopped down and then carried on my shoulder -- it pressed down on my shoulder-blade.

●SOURCE: xERG produces yABS by chopping (PAKA-RNI 2) some entity (zABS), the material source of *y:to chop out, cut out, hew out*.

*Karli kalu pakarni manja*. They chop wood for boomerangs from mulga trees. *Pikirri, wardiji wiri watiya – rdilyki-pakarni karnalu, ngulanya karnalu pampi tiirl-pakarni. Ngurrju-mani karnalu, rdukulku-manilki karnalu nyanunguju pikirri, witaralku mani karnalu yangka wakirdi, ngula karnalu yalikirra narra yirrarni*. A spear-thrower, it is from that big mulga tree that we chop down and split it. We makee it, we gouge out the middle of that spear-thrower and we then whittle it down to a point at the end where we attach the hook.

●TRANS(FORMATION) RULE: xERG, human being, transforms some entity, typically wood (WATIYA) so that it assumes a desired state or form yABS, implement (JURNARRPA), by chopping (PAKA-RNI 2) said entity:*to fashion into, chop into*.

*Ngirntirilipanyanurla kurlardaku pakarnirra*. Let's fashion (i.e. by chopping) the butt end of our spears. *Warlkurruju yungka, yungarnaju puju pakarninjayani*. Give me the axe so that I can cut myself some footholds (as in trunk of tree). Cf. JARNTI-RNI, PIRRKI-RNI.

●OBTAIN RULE: xERG obtains yABS, entity internal to some other entity (zCOIN.) by chopping (PAKA-RNI 2) the latter entity and in the process separating y from that entity:*to chop out of*.

*Jurlardarnalu pakarnu*. We chopped out a native bee hive (to get the honey). *Yapa yalirli pakarninyarra – palka karna nyanyi -- pama marda ka pakarni jurlarda*. That person is chopping over there. I can see him -- he is perhaps chopping out sugar-bag.

●GOAL DATIVE: xERG chops (PAKA-RNI 2) yABS in order to come to be at the same place as zDAT and to act on y in some manner: *to chop for, chop to*. [[Need to find some standard phraseology for this]]

*Kalarnalurla watiya pakarnu janganpaku mayingkarlu.e* We used to chop trees with an axe to get possums.

3. xERG pierces (PANTI-RNI) yABS, typically the ground, by forcefully manipulating some sharp ended instrument:*to pierce, dig, thrust into, stick into*.

*Kujakalu yangka rdakurlangu pangirni, yapangku, ngulakalu pikingki pakarni*. When people dig holes for example, they pierce (the ground) with a pick. *Ngapakulku*

*pakaka! Kutu kapurlupa palka-mani.* Dig it in now to see if there's water. We'll find it close (to the surface). Cf. PANGI-RNI, PARRKA-RNI.

4.xERG paints (MAPA-RNI) yABS: *to paint, put on, apply, smear with.*

*Jintawarlayi-jarrinjarlalkulpalunyanu karljiji kujurnu. Pakarnulpalunyanu karrwarawarlu karljingki. Yawuu! Karljingki yungulpalunyanu pakarnu – namurnamunyayirni yilpalu nyinaja yijardunyayirni.* Having assembled, they put white pipe-clay on each other. They painted each other with stripes of white pipe-clay. Yes indeed, they painted each other with white clay -- they were truly perfect. Cf. PIIRL-PAKA-RNI, PUNTARRKU.

5.IDIOM. xERG, being, fills self [REFL] by eating/drinking (NGA-RNI) yERG, large quantity of food or drink: *to fill oneself with, stuff oneself with, have one's fill of, gorge oneself on.*

*Watingkinyanu kuyungku pakarnu.* The man had his fill of meat. *Pamangu kapurnaju jalangurlu pakarni.* I'm going to have my fill of grog today.

6.IDIOM.xERG moves along a path towards yDAT [DD] in order to be at same place as y: *to try to catch up with, try to reach.* (§CONATIVE).

*Purdangirikarinarlajinta pakarninjanu mutukayikirliki.* I tried to catch up with him but his car was too fast. Cf. PURA-MI, YA-NI.

7. IDIOM. xERG, typically man, performs ceremony yABS by moving along a path in a stylized manner usually involving a high stepping movement of legs and forceful stamping of feet: *to dance, perform (corroboree).*★ Only men and boys are said to PURLAPA PAKARNI.

*Watipaturlu kalu purlapa pakarni jalyirrpakurlurlu manu kuruwarrikirlii.* The men are dancing decorated with leafy branches and with painted designs. Cf. KATI-RNI, PI-NYI, PURLAPA, WIRNTI-MI.

8.IDIOM. xERG, initiated man (NGARRKA), performs ceremonial actions for the benefit of yABS, male human previously uninitiated, at circumcision ceremony (KURDIJI-RLA): *to initiate, circumsize, make man.*

*Nyarrparalangkulu pakarnu kurdijirla?* Where did they initiate you? Cf. KURDIJI 2.

9.IDIOM. xERG, head cold/influenza (MIIRNTA) causes yABS, being, to be ill (NYURNU): *to have a cold, have the flu, be stricken with cold/flu/pneumonia/bronchitis.*

*Kuntulparlu kurdu wita pakarnu.* The baby has a cold. (lit. The cold has struck the small child.) *Miirntarluju pakarnu.* I have a cold. Cf. PI-NYI #.

See preverbs: JAARN-, JAWIRRI-, KILYKILY-, KINKI-, KIRTIRL-, KUURNKU, KUWARRI-, LARRA-, LAARR-, LURLURL-, MUNU-, MURRULL-, MURUL-, NARNTIRN-, NGANJINI-, NGANJINY-, NGIRIRNGIRIRR-, NGURRNGULY-, NYAMPIRL-, NYULYU-, NYURNNGARR-, NYUURR-, PAKURR-, PARNNGURR-, PALJU-, PANGKUL-, PARNNGURR-, PARNTARR-, PARRI-, PARRMIRNINY-, PIIRL-, PILJARR-, PIMPALY-, PIRLTALY-, PURRPU-, RDAALY-, RDILYKI-, RDIIRR-, RDUNGKURR-, TAARLTAARL-, TARLARLTARLARL-, TIIRL-, TIYINKI-, WAPIRDI-, WAARR-, WIILY-, WILPINY-, WURRKURULY-, YAARL-, YAWIRR-.

## 5. Dyirbal

Dyirbal, an Australian language of North Queensland, is one of the languages that Marantz claims is an ergative language in the sense of the Ergativity Hypothesis. That is, Marantz proposes that Dyirbal shows the association of semantic roles with d-structure grammatical relations below:

agent - d-object  
patient - d-subject

The purpose of this chapter is to investigate the syntax of Dyirbal, as a representative ergative language. Although properties that should hold of ergative languages were presented in Chapter 3, the focus of that chapter was on the identification of such properties. There was no attempt at providing a coherent picture of a single ergative language. The analysis of Dyirbal in this chapter is intended to make explicit how the various properties of ergative languages in Chapter 3 are realized within the grammar of a single language.

No study of ergativity can ignore the Dyirbal language, which is frequently cited as an example of a language with both a split-ergative case marking system and "ergative" syntax.<sup>1</sup> Dixon, in his grammar of Dyirbal [1972], claims that the syntax of Dyirbal is organized on an "ergative" basis. That is, many syntactic processes in Dyirbal appear to treat intransitive subjects and transitive "patients" in the same way. In contrast, similar processes in so-called "morphologically" ergative languages such as Warlpiri resemble those in accusative languages: the intransitive subject and transitive "agent" pattern together. By motivating the introduction of the notion of syntactic ergativity, Dixon's description of the Dyirbal language has provoked much discussion about the nature of ergative languages and grammatical relations.

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1. There have been a number of detailed discussions of Dyirbal's syntax and ergativity from several different perspectives. Among them are Dixon's grammar of Dyirbal [1972], Mel'chuk [1979], Heath [1979], and Silverstein [1976]. Dixon's and Mel'chuk's accounts will be discussed briefly in this chapter. Heath takes a functional approach which differs significantly from the other approaches, and argues against both an accusative and an ergative syntax analysis of Dyirbal. Dyirbal is often mentioned in general discussions of ergativity and grammatical relations; for example, see Blake [1976], Comrie [1976], Dixon [1979a].

As a theory of ergativity, the Ergativity Hypothesis must account for properties of languages of the Dyirbal type, so-called "syntactically" ergative languages. This chapter is intended to demonstrate that this is possible under the assumption that Dyirbal is an ergative language in the sense of the Ergativity Hypothesis. The analysis of Dyirbal, therefore, should complement the analysis of Warlpiri which was presented as an account of a "morphologically" ergative language within this framework.

An examination of the grammar of Dyirbal reveals there is strong evidence for the claim that Dyirbal is ergative. A wide range of phenomena in Dyirbal, including many that have been termed "ergative" phenomena, take the form predicted in an ergative language. Furthermore, these and other phenomena can be accounted for simply given the claim that Dyirbal is ergative. What is particularly striking is that no additional properties of Dyirbal need to be stipulated that would not also have to be stipulated in an accusative language. The analysis of Dyirbal provides support not only for the Ergativity Hypothesis but also for the GB framework.

The first part of the chapter will review the traditional view of Dyirbal. As background for an account of the syntax of Dyirbal, Section 5.1 sketches some basic facts about the syntax of Dyirbal. In Section 5.2, the system of case marking in Dyirbal is introduced, to show why it has been referred to as a split-ergative system. Then, the motivation for considering Dyirbal "syntactically" ergative will be summarized in Section 5.3.

The second part of the chapter will examine the syntax of Dyirbal in the context of the Ergativity Hypothesis. First, the evidence for the claim that Dyirbal is ergative presented by Marantz from the reflexive-passive ambiguity test will be reviewed in Section 5.4. Section 5.5 reconsiders the facts about Dyirbal's syntax introduced up to this point in light of Dyirbal's ergativity. Additional syntactic phenomena in Dyirbal that conform to the predictions concerning ergative languages in Chapter 3 are examined in Section 5.6. Several other syntactic phenomena, including some that have been termed "ergative", are investigated in Section 5.7.



## 5.1 Simple Verbal Sentences

This section will introduce some facts about the grammar of Dyirbal that are relevant to the discussion of Dyirbal's status with respect to the Ergativity Hypothesis. The material on Dyirbal presented in this chapter is drawn from Dixon's grammar *The Dyirbal Language of North Queensland* [1972], unless otherwise specified.

Dyirbal simple finite verbal sentences include the verb and the arguments to the verb. Sentence (5.1) illustrates the use of a one-argument verb, the verb *pani-y* "to come".<sup>2</sup>

(5.1) *payi yara paninyu*  
THERE-ABS man-ABS come-NFUT  
man is coming [24]

The relation of a noun phrase to a verb in Dyirbal is indicated by morphological case marking on the noun phrase. In sentence (5.1), the noun phrase *payi yara* is marked for absolutive case. Although Dixon notes the existence of certain word order preferences, Dyirbal exhibits relatively free word order. This means that grammatical relations are not necessarily defined in terms of particular syntactic configurations.

In finite sentences, Dyirbal verbs are inflected only for tense, but not for person and number. There are two tenses, a non-future (present/past) tense and a future tense. Various verbal affixes express mood and aspect. Dyirbal lacks a verbal auxiliary, and, therefore, a system of auxiliary agreement. As might be expected given the absence of person marking, Dyirbal is not what is termed a free "pro-drop" language. For example, sentence (5.2) would be unacceptable without the nominal *palan jukumpil* although the nominal *pangkul yarangku* may be omitted as in (5.3).

(5.2) *palan jukumpil pangkul yarangku palkan*  
THERE-ABS woman-ABS THERE-ERG man-ERG hit-NFUT  
man is hitting woman [26]

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2. The Dyirbal examples are taken almost exclusively from Dixon's grammar, and will be identified by the sentence number in the grammar following the translation. Examples taken from other sources will be indicated. I will omit the class of a noun marker from the gloss, unless it is important for the point being made. The unmarked case of nouns will be glossed absolutive instead of nominative, as it is in Dixon's grammar. A single case, ergative, will be used in the glosses instead of the two cases, instrumental and ergative, used by Dixon since only one case affix is involved. See page 5 for the orthography used in the examples.

(5.3) *palan*            *jukumpil*    *- palkan*  
      THERE-ABS woman-ABS hit-NFUT  
      woman is being hit [by someone] [95]

A precise statement of the well-formedness constraint illustrated here will be left to Section 5.6.4.

Each Dyirbal verb may take either one-argument or two-arguments. Therefore, Dyirbal verbs may be split into two classes according to the number of arguments that they take: a one-argument class and a two-argument class. These classes are referred to by Dixon as transitive and intransitive, and their members show a considerable overlap with the transitive and intransitive classes in other languages. The intransitive class includes both agent verbs and patient verbs: *pani-y* "to come", *punta-y* "to break (e.g. string)", *jana-y* "to stand", *miyanta-y* "to laugh", *wula-y* "to vanish, get lost", *wurrpa-y* "to say, speak, talk". The transitive class includes the canonical agent-patient verbs such as *palka-l* "to hit" *paka-l* "to pierce, dig, spear", *jangka-y* "to eat (vegetables)", *pila-l* "to send", as well as verbs such as *miju-l* "to take no notice of", *ngampa-l* "to hear, listen". Initially, I will refer to the two verb classes by number of arguments rather than the terms transitive and intransitive in order to avoid preconceptions about the syntax of Dyirbal.

Verbs in Dyirbal belong to one of two conjugation classes. A verb's conjugation is determined by whether the stem ends in *-l* or in *-y*. There are significant correlations between number of arguments and conjugation membership. About 90% of the two-argument verbs are in the *-l* conjugation while about 80% of the one-argument verbs belong to the *-y* conjugation.

Noun phrases and pronouns in Dyirbal, while both marked for case, show different systems of case marking. Nouns have a larger number of case forms than pronouns. The case forms of lexical nouns can be divided into two classes, the grammatical cases and the semantic cases. The grammatical cases are assigned according to the nominal's syntactic function; they will be described below. The semantic cases include the general genitive case (used to indicate the possessor of an object at some time in the past) and the local cases, the allative, ablative, and locative cases.

Nouns in the grammatical cases are always accompanied by a noun marker. Dyirbal nouns are divided into four classes, and one of the functions of a noun marker is to show the class of the noun it modifies. Noun markers agree with the head noun of a noun phrase in

case. Noun markers also provide information about the location of the noun's referent. The noun marker indicates which of three possibilities holds: whether the referent is visible and here, visible and there (the unmarked choice) or not visible. Noun markers do not specify definiteness, so that a given noun could be singular or plural, definite or indefinite.<sup>3</sup> For this reason, Dixon's glosses, which will be found with the examples cited here, omit determiners. In sentence (1) above, the noun *yara* "man" occurs with the marker *payi* which is the absolutive form of the marker for a noun in class I whose referent is visible and there.

Pronouns in Dyirbal only have grammatical case forms. They also show a different system of case marking from nouns, as will be discussed in the next section. Dyirbal has first and second person and interrogative pronouns. Instead of third person pronouns, the noun markers may be used alone without an accompanying noun, as in (5.4).

(5.4) *payi*                      *paninyu*  
 THERE-ABS/CII come-NFUT  
 [man] is coming [34]

When used in this way, the noun markers still show the system of case marking associated with nouns and not that found with pronouns. In the remainder of the chapter, I will use the term pronoun only to refer to first and second person pronouns and the term noun phrase to refer to nouns and to noun markers used as third person pronouns.

Nouns and pronouns in Dyirbal each may be marked for four grammatical cases. The table below summarizes the grammatical cases.

<u>Nouns:</u>	<u>Case</u>	<u>Affix</u>	<u>Pronouns:</u>	<u>Case</u>	<u>Affix</u>
	absolutive	--		nominative	--
	ergative	- <i>ngku</i>		accusative	- <i>nya</i>
	simple genitive	-( <i>ng</i> ) <i>u</i>		simple genitive	-( <i>ng</i> ) <i>u</i>
	dative	- <i>ku</i>		dative	- <i>ku</i>

There are two grammatical cases that are found only with lexical nouns, the ergative and absolutive cases, and two that are found only with pronouns, the nominative and accusative cases. The use of these cases will be discussed in the following section. The other grammatical cases, the simple genitive and dative cases, may be assigned to both nouns and

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3. There is a determiner *kina-* that can be used to specify definiteness. This determiner only has one case form, the absolutive, so its distribution is restricted. See Dixon [1972, 1979a, 1980] and Heath [1979] for more discussion. Note that this determiner is referred to by its absolutive class I form *kiyi* in Heath.

pronouns The genitive case is the case of the possessor of a noun; it is used to refer to present possession in contrast to the general genitive which is used only to refer to past possession. This case will not be relevant to the discussion here.

The dative case, indicated by the affix *-ku*,<sup>4</sup> has a number of functions. The most important use of the dative case in Dyirbal is as a semantic role assigner in the false reflexive, *-ngay*, and comitative constructions. This use of the dative will be discussed in Sections 5.3-5.5. The dative case may also indicate what Dixon calls an "implicated" noun phrase, a noun phrase which in some sense "implicates" the action in the sentence, as in (5.5).

- (5.5) palan        jukumpil        pangkul        yarangku        muntan        ngaykunku  
      THERE-ABS woman-ABS THERE-ERG man-ERG take-NFUT I-DAT  
      man took woman to me (sc. for her to do something to or for me) [63]

The relation of an "implicated" noun phrase to the verb is rather like that of an "ethical dative" or a "purposive" expression. The dative case can mark the argument bearing the goal role with verbs of transfer, including verbs of giving, as in (5.6).<sup>5</sup>

- (5.6) palam                pangkun                wukan                pakul  
      THERE-ABS/CIIII THERE-ERG/CIII give-NFUT THERE-DAT/CII  
      she gave food to him [p.300]

The ergative case can also be used as a semantic case to mark noun phrases with the instrumental role, as will be discussed in Section 5.5.

- (5.7) palan        jukumpil        pangkul        yarangku  
      THERE-ABS woman-ABS THERE-ERG man-ERG  
      pangku        yukungku        palkan  
      THERE-ERG stick-ERG hit-NFUT  
      man is hitting woman with stick [242]

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4. The same case affix is used in Dyirbal for both the allative and dative cases. Dixon distinguishes two cases marked by a single affix because noun phrases marked for the allative case like noun phrases marked for other semantic cases do not involve a noun marker while those marked for the dative case like those marked for other grammatical cases do. The affix *-ku*, which is used as a marker of dative case in Dyirbal, is also found in other Australian languages including Warlpiri. See Blake [1977], Dixon [1980], and the papers in Dixon [1976].

5. Verbs of giving allow several alternative assignments of morphological case to the arguments bearing a semantic role to the verb, including the one in (5.6). Other verbs of transfer, such as *puti-l* "to carry", do not allow these other alternatives since they do not usually involve a change of possession [Dixon 1980]. See Marantz for one analysis of such verbs within the framework of the Ergativity Hypothesis, as well as Section 5.9 for some discussion of his analysis. See footnote 17 for more discussion of verb-selected uses of the dative.

Dixon identifies this use of the ergative case as a distinct grammatical case, the instrumental case, recognizing five grammatical cases for nouns. Dixon distinguishes two cases despite the use of the same affix *-ngku* because the noun phrases Dixon identifies as marked for instrumental case are characterized by different syntactic behavior from those he identifies as marked for ergative case. The differences in behavior that Dixon cites to motivate the existence of two cases are consistent with the view that there is a single ergative case that may be either structurally or semantically assigned. When marking the A-argument of a two-argument verb, the ergative case appears to be a structural case, while when marking a noun phrase bearing the instrumental role, it appears to be a semantic case. See Section 5.5 for more detailed discussion.

## 5.2 The System of Case Marking

The Dyrbal system of morphological case has been described as a split-ergative system, a system of case marking which is either nominative-accusative or ergative-absolutive depending on the value of some parameter. In Dyrbal, the split is determined by person and number: first and second person pronouns show an accusative system of case marking while nouns, including the noun markers in their use as third person pronouns, show an ergative system of case marking.<sup>6</sup> Dyrbal, therefore, exemplifies a different type of split from Warlpiri, which has also been described as a split-ergative language. In Warlpiri, the split is determined by case marking vs. agreement (or free nouns vs. bound pronouns). This section will introduce the Dyrbal system of case marking showing why its system of case marking has been characterized as split-ergative.

In order to present the system of case marking in Dyrbal, it will be necessary to choose a way of referring to the arguments of both one and two-argument verbs. Until Dyrbal's status as an ergative or an accusative language is established, the grammatical relations associated with the arguments to a verb cannot be determined, so they cannot be referred to

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6. Alternatively, the split can be characterized as involving first and second person pronouns vs. third person pronouns and nouns. The split is described in this way by Silverstein [1976] who introduces the term split-ergative case system. Split-ergative systems where the split is determined by person and number are discussed at length by Silverstein, who chooses Dyrbal as one of two languages used to illustrate the split-ergative system. Silverstein proposes a typology of possible case systems with person/number splits, as well as a functional explanation of why only certain split systems are found. Silverstein's paper is discussed by both Dixon [1979a] and Comrie [1978].

by their grammatical relations. Instead, I will adopt Dixon's approach to this problem, initially identifying three distinct relations. The single argument of a one-argument verb will be referred to as the S-argument. The two arguments of a two-argument verb will be referred to as the A-argument and the P-argument. With an agent-patient verb, the A-argument is the argument assigned the agent role and the P-argument is the argument assigned the patient role. For two-argument verbs that are not semantically agent-patient verbs, the term A-argument will be used to refer to the argument that shows the syntactic properties of the A-argument of an agent-patient verb and the term P-argument will be used to refer to the argument that shows the syntactic properties of the P-argument. The syntactic relation that the S-argument bears to a one-argument verb will be called the S-relation; similarly, the terms A-relation and P-relation will refer to the syntactic relation of the A-argument and P-argument of a two-argument verb, respectively. Once Dyirbal is shown to be ergative, I will recast the discussion in terms of grammatical relations.

First, consider the system of case marking found with nouns. Verbs in the one-argument class take their S-argument in the morphologically unmarked case. Sentence (5.8) illustrates the one-argument verb *pani-l* "to come".

(5.8) *payi yara paninyu*  
THERE-ABS man-ABS come-NFUT  
man is coming [24]

The semantic role of the S-argument corresponds to the semantic role of the subject in the English counterpart to (5.8). Verbs in the two-argument class take one argument in the morphologically unmarked case and the second argument in a morphologically marked case indicated by the suffix *-ngku* (or a phonologically conditioned allomorph).

(5.9) *payi yara pangkun jukumpiru palkan*  
THERE-ABS man-ABS THERE-ERG woman-ERG hit-NFUT  
woman is hitting man [27]

As shown in (5.9), the noun in the marked case is assigned the same semantic role to the verb as the subject of the verb's English counterpart, the agent role. The noun in the unmarked case is assigned the same semantic role as the object of the English counterpart, the patient role.

The pattern of case marking shown by nouns is what is referred to as an ergative system. A noun receives the unmarked case when it is the S-argument of a one-argument verb or the P-argument of a two-argument verb, while it receives a distinct, morphologically

marked, case when it is the A-argument of a two-argument verb. The marked and unmarked cases are referred to as the ergative and absolutive cases, respectively.<sup>7</sup> The same pattern of case marking is found with adjectives and with noun markers.

Pronouns in Dyirbal, unlike nouns, do not show an ergative system of case marking. The examples below illustrate sentences with the same one and two-argument verbs used in (5.8) and (5.9) but involving pronouns rather than nouns.

(5.10) ngaja paninyu  
I-NOM come-NFUT  
I'm coming [28]

(5.11) ngaja nginuna palkan  
I-NOM you-ACC hit-NFUT  
I'm hitting you [30]

The S-argument of a one-argument verb is again in the unmarked case, as in (5.10). But, in a sentence such as (5.11) with a two-argument verb, the A-argument receives the unmarked case, while the P-argument receives the morphologically marked case. The case assigned to the P-argument is indicated by the affix *-nya*. The case affix that is found on a pronoun that is the P-argument is not the same as the affix found on a noun that is the A-argument of a two-argument verb.

The pattern of case marking shown by pronouns is that associated with an accusative system: the S-argument of a one-argument verb and the A-argument of a two-argument verb share the same case, the unmarked case, while the P-argument of a two-argument verb shows a different, morphologically marked, case. The marked and unmarked cases are

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7. In his grammar of Dyirbal, Dixon employs the term nominative to refer to both the absolutive case of nouns and the nominative case of pronouns, i.e. as a term referring to the morphologically unmarked case. In later papers, Dixon distinguishes between nominative case, the unmarked case in the accusative system, and absolutive case, the unmarked case in the ergative system. The use of a single term brings out the fact that the absolutive and nominative case are both the morphologically unmarked case as well as the fact that the argument of a single argument verb is always in the unmarked case whether a pronoun or noun. I will use the two terms absolutive and nominative to keep clear the case system in question: an ergative-absolutive distinction is involved for nouns contrasting with the nominative-accusative distinction for pronouns. The glosses of examples from Dixon's grammar have been changed accordingly.

referred to as the accusative and nominative cases, respectively.<sup>8</sup>

The existence of the two case systems raises a question: what happens in sentences with two-argument verbs that involve both a noun and a pronoun? There are two possibilities to examine: a sentence where the A-argument is the noun and the P-argument is the pronoun, as in (5.12), and a sentence where the A-argument is the pronoun and the P-argument is the noun, as in (5.13).

(5.12) ngaykuna pangkul      yarangku palkan  
I-ACC      THERE-ERG man-ERG hit-NFUT  
man is hitting me [33]

(5.13) ngaja payi      yara      palkan  
I-NOM THERE-ABS man-ABS hit-NFUT  
I am hitting man [32]

An examination of both examples shows that the noun and pronoun each receive the case that is appropriate given their semantic role. In (5.12), the A-argument is in the ergative case, as expected since it is a noun, and the P-argument is in the accusative, as expected since it is a pronoun. In (5.13) the A-argument and P-argument are in the nominative and absolutive cases, respectively, again the cases expected for a pronoun bearing the A-relation and a noun bearing the P-relation.

Another question that follows given Dyrbal's system of case marking is whether there is any justification for considering that both nouns and pronouns with the same semantic role bear the same syntactic relation to the verb. This is an issue because a lexical noun and a pronoun that bear the same semantic role to the verb receive a different case. Evidence will be given throughout this chapter that, case marking aside, syntactic processes do not differentiate between nouns and pronouns. In general, the syntactic relation associated with an argument bearing a particular role to a verb is independent of whether it is realized as a noun or a pronoun. For example, the A-argument of a verb shows the same behavior with respect to syntactic processes whether a noun marked for ergative case or a pronoun marked for nominative case. For this reason, syntactic phenomena can be described without

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8. Proper nouns and some nouns referring to humans have an accusative form, and can appear marked for either the absolutive or accusative case when the P-argument of a two-argument verb. The interrogative pronoun *wanya* "who" has an ergative, accusative, and unmarked nominative/absolutive form used when it is the A-argument, P-argument, or S-argument, respectively.



mentioning whether they involve pronouns or nouns. The examples given will primarily involve nouns, but despite the different case systems, a pronoun with the same semantic role will show the same syntactic behavior.

To summarize, Dyirbal's system of case marking is a split-ergative system showing a person-number split. It is neither wholly ergative or accusative. Nouns receive case on an ergative basis and pronouns on an accusative basis. The association of morphological case with semantic roles is summarized below:

<u>Verb Class</u>	<u>Argument</u>	<u>Case If Noun</u>	<u>Case If Pronoun</u>
One arg:	S-argument	ABS	NOM
Two arg:	A-argument	ERG	NOM
	P-argument	ABS	ACC

In sentences with both nouns and pronouns, there is no interaction between the case marking of nouns and pronouns. Case marking depends on the relation of an individual noun or pronoun to the verb.

Note that each of the types of arguments identified is uniquely associated with a particular combination of surface cases. For example, if an argument to a verb is marked for the ergative case when a noun but the nominative case when a pronoun, it must bear the syntactic relation that the A-argument of a two-argument verb bears. This property of the case system is useful for identifying the syntactic relation that an argument to a verb bears, and will be exploited in the discussion of various constructions.

### 5.3 Dyirbal as a "Syntactically" Ergative Language

Dyirbal has provoked interest more because of its syntax than because of its surface case system. Apart from having a split-ergative case system, Dyirbal has been termed a language with "ergative" syntax.

In fact we shall show that there is only one UNDERLYING constructional pattern -- the nominative-ergative type -- that applies to all sentences, whether involving nouns or pronouns or both. A detailed investigation of its syntactic functioning thus reveals Dyirbal to be a 'pure' nominative-ergative language. [Dixon, p.130]

This section will briefly review the form of the arguments commonly used to demonstrate that Dyirbal is "syntactically" ergative and discuss them with respect to the approach here.

The proposal that Dyirbal is "syntactically" ergative stems from the existence of a number of syntactic processes that refer to the P-argument of a two-argument verb and the S-argument of a one-argument verb. Among the examples of such phenomena are topic chaining, relativization, purposives, word order, and scope of certain particles and affixes. This contrasts with "syntactically" accusative languages where similar processes would refer to the A-argument of a two-argument verb and the S-argument of a one-argument verb.

Dyirbal's syntactic ergativity is frequently illustrated by topic chaining,<sup>9</sup> a phenomenon resembling conjunction. In this construction, a series of clauses involving a common "topic" may be strung together to form a "topic chain" if the S-argument or P-argument in each clause, referred to as the topic of the clause, are coreferent. The S-argument or the P-argument in each of the clauses following the first is (optionally) omitted. The sentences in (5.14) and (5.15) involving a one and two-argument verb, respectively, can be used to form two different topic chains, (5.16) and (5.17).

(5.14) payi           yara           paninyu  
      THERE-ABS man-ABS come-NFUT  
      man came here [416]

(5.15) payi           yara           pangkun    jukumpiru   palkan  
      THERE-ABS man-ABS THERE-ERG woman-ERG hit-NFUT  
      woman hit man [417]

(5.16) payi           yara           paninyu    pangkun    jukumpiru   palkan  
      THERE-ABS man-ABS come-NFUT THERE-ERG woman-ERG hit-NFUT  
      man came here and was hit by woman [418]

(5.17) payi           yara           pangkun    jukumpiru   palkan    paninyu  
      THERE-ABS man-ABS THERE-ERG woman-ERG hit-NFUT come-NFUT  
      man was hit by woman and came here [419]

In (5.16), the S-argument of the first clause is understood as coreferent with the omitted P-argument of the second. In (5.17) the P-argument of the first clause is interpreted as coreferent with the omitted S-argument of the second. The A-argument of a two-argument verb does not enter into a topic chain in the same way as the S-argument or P-argument can. Topic chains can involve pronouns as well as nouns. With pronouns it is again the same

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9. See for example Blake [1976a, 1976b], Comrie [1978], Dixon [1972]. Heath [1979] also looks at topic chaining in Dyirbal, but uses it to argue for a functional approach to Dyirbal syntax. The discussion of topic chains in this section presents only the details relevant to the argument that Dyirbal is "syntactically" ergative. The syntax of topic chains will be discussed in more detail in Section 5.71.

constraint that is important, as shown by (5.20) and (5.21) which are formed by conjoining (5.18) and (5.19).

(5.18) ngaja paninyu  
I-NOM come-NFUT  
I came here [423]

(5.19) ngaykuna pangkun jukumpiru palkan  
I-ACC THERE-ERG woman-ERG hit-NFUT  
woman hit me [424]

(5.20) ngaja paninyu pangkun jukumpiru palkan  
I-NOM come-NFUT THERE-ERG woman-ERG hit-NFUT  
I came here and was hit by woman [425]

(5.21) ngaykuna pangkun jukumpiru palkan paninyu  
I-ACC THERE-ERG woman-ERG hit-NFUT come-NFUT  
I was hit by woman and came here [426]

Sentences (5.20) and (5.21) show that the fact that the topic bears a different surface case in each of the two sentences does not prevent the formation of a topic chain. What matters is that the topics are the S-argument or P-argument.<sup>10</sup>

To account for topic chains and other phenomena which show similar behavior, Dixon proposes that the P-argument and the S-argument bear the same syntactic relation to the verb. Mel'chuk [1979] reaches a similar conclusion, although he considers a somewhat different set of phenomena. That is, Dixon and Mel'chuk both propose that in Dyirbal the P-argument of a transitive verb is the subject and the agent argument the object.<sup>11</sup> This in some sense prefigures Marantz's analysis of Dyirbal as an ergative language in the sense of the Ergativity Hypothesis. Their analysis points to the existence of a similarity between ergative and accusative languages when viewed at the appropriate level of abstraction, a similarity that is implicit in the Ergativity Hypothesis.

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10. This is one of the phenomena that demonstrates that the same syntactic relations are relevant to both nouns and pronouns. Note also that the case marking on the pronoun shows that it bears a syntactic relation to the first verb: in (5.20) it is in the nominative case, the case of the S-argument of a one-argument verb and in (5.21) it is in the accusative case, the case of the P-argument of a two-argument verb.

11. Dixon does not actually call the syntactic relation that the S-argument and P-argument share the subject relation, but he does define this relation in terms of the configurational notion [NP, S], the configurational notion that defines a subject.

But, as Marantz comments, Mel'chuk and Dixon arrive at this analysis by means of arguments that would not be admissible here.

Previous investigators (see, in particular, Dixon 1972 and Mel'chuk 1979) have attempted to show that Dyirbal, among other languages, is truly ergative as defined above, i.e., that the sole syntactic dependent of an intransitive verb and the theme or patient of a transitive verb are syntactic subjects in these languages. The methodology employed by these linguists is to demonstrate that the sole argument of the intransitive verb and the theme/patient of the transitive both exhibit "subject properties." Readers of previous proofs of ergativity were, therefore, persuaded that ergative languages exist to the extent that they believed the properties identified as "subject properties" necessarily single out subjects. [Marantz, p.236]

The problem with Dixon and Mel'chuk's approach is that although shared properties of the P-argument of a two-argument verb and the S-argument of a one-argument verb are identified, these properties are not shown to be subject properties necessarily. Typically, the properties recognized are properties that have been observed to be properties of subjects across languages (for example, properties of the type discussed in Keenan [1976]). In particular, Marantz discusses why topic chaining cannot be used for identifying subjects. As Marantz notes, a comparison of topic chaining in Dyirbal with the same phenomenon in the related language Yidiny shows that a different principle determines the topic in Yidiny suggesting that topic chaining does not necessarily identify a particular grammatical relation. Some of the shared properties recognized, in fact, can be shown to be subject properties, and will be used here.

Even given the essential similarity between the associations of semantic role and underlying grammatical relations in Dyirbal transitive sentences proposed by Dixon and Mel'chuk and those proposed as part of the Ergativity Hypothesis, the accounts of various Dyirbal phenomena presented here will differ in certain respects from those in Dixon's and Mel'chuk's work. The differences follow in part from differences in the theoretical frameworks. Dixon uses a form of the Transformational Grammar framework [Chomsky 1965] while Mel'chuk uses a dependency syntax framework [Mel'chuk 1979], while the analysis of Dyirbal presented in this chapter is within the context of the Ergativity Hypothesis and the GB framework.

A second construction that has been cited as evidence for Dyirbal's syntactic ergativity is the *-ngay* construction. This construction has been referred to as an anti-passive construction, a construction often considered typical of an ergative language due to its

syntactic properties. In particular, the *-ngay* construction involves the addition of the affix *-ngay* to a two-argument verb, creating a derived one-argument verb from a two-argument verb whose S-argument corresponds to the A-argument of the unaffixed verb. The so-called anti-passive construction in Dyirbal seems to support the claim that Dyirbal is syntactically ergative because of its interaction with other "syntactically" ergative phenomena.

Any sentence with a two-argument verb has a counterpart in which the verb exhibits the suffix *-ngay* and the arguments to the verb are not marked with the expected case. The properties of the *-ngay* construction are illustrated by the pair of sentences (5.22); sentence (5.22a) is a typical use of the two-argument verb *jurrka-y* "to spear", and sentence (5.22b) is the corresponding *-ngay* sentence.

- (5.22) a. *payi parrkan pangkul yarangku jurrkanyu*  
THERE-ABS wallaby-ABS THERE-ERG man-ERG spear-NFUT  
man is spearing wallaby [64]
- b. *payi yara pakul parrkanku jurrkananyu*  
THERE-ABS man-ABS THERE-DAT wallaby-DAT spear-NGAY-NFUT  
man is spearing wallaby [68]

In the *-ngay* sentence, the A-argument of the verb is marked for absolutive case rather than the expected ergative case, while the P-argument is marked for the dative case. An example of a sentence with pronouns and the corresponding *-ngay* sentence is shown in (5.23).

- (5.23) a. *ngaja nginuna palkan*  
I-NOM you-ACC hit-NFUT  
I'm hitting you [70]
- b. *ngaja nginunku palkalnganyu*  
I-NOM you-DAT hit-NGAY-NFUT  
I'm hitting you [71]

In (5.23), the A-argument is marked for nominative case in both sentences, but the

P-argument is marked for dative case rather than the expected accusative case.<sup>12</sup> Besides the change in case marking, the P-argument, which is obligatory in sentences such as (5.22a) and (5.23a), is optional in *-ngay* sentences.

As shown by (5.22b) and (5.23b), in a *-ngay* sentence, the A-argument to a two-argument verb receives the absolutive case if it is a noun and the nominative case if it is a pronoun. This pattern of case marking indicates that the A-argument bears the S-relation to the derived verb in the *-ngay* sentence and not the A-relation. The change in syntactic relation that accompanies the affixation of *-ngay* means that the *-ngay* form of the verb behaves syntactically like a one-argument verb. If the *-ngay* verb is a one-argument verb, then the P-argument must bear an oblique relation in the *-ngay* sentence rather than the relation it bears in the sentence with the unaffixed form of the two-argument verb. The use of the dative case (or the ergative case if a noun) is consistent with this, as is the fact that the P-argument is optional in the *-ngay* sentence.

The properties described of the *-ngay* construction are the syntactic properties that characterize a so-called anti-passive construction. An anti-passive construction, like the *-ngay* construction, involves a one-argument verb, the anti-passive verb, derived from a two-argument verb. The A-argument of the two-argument verb bears the S-relation to the derived anti-passive verb, while the P-argument optionally bears an oblique relation.

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12. In *-ngay* sentences, the P-argument, when a noun, may also be marked for ergative case rather than dative case, as in (i).

- (i) payi           yara           pangkul           parrkandu           jurrkananyu  
    THERE-ABS   THERE-ERG   wallaby-ERG   spear-NGAY-NFUT  
    man is spearing wallaby [66]

This is not the use of the ergative case found with a noun bearing the A-relation. If it were, then sentence (ii) would simply involve a reversal in the case assigned to the arguments of the verb. A comparable sentence involving pronouns with the case marking reversed would be expected, but, in fact, sentences such as are found instead. A pronoun which bears the P-relation in the non-affixed counterpart can only be marked for the dative case, unlike nouns which can be marked for either the dative case or the ergative case. This property of pronouns can be attributed to the fact that pronouns have no ergative case form. See Section 5.5 for more discussion of this use of the dative and ergative case with the *-ngay* construction.

The *-ngay* construction plays an important part in the syntax of Dyirbal: it enables the A-argument to a two-argument verb to participate in processes where it would otherwise be excluded because Dyirbal is syntactically ergative. For example, as just discussed, topic chains involve noun phrases bearing the S-relation or P-relation to the verb. In order for a noun phrase which is the A-argument of a verb to be involved in a topic chain, the verb is put in the *-ngay* form so that the A-argument will bear the S-relation to the verb. Then, it may participate in a topic chain in the same way as any other noun phrase bearing the S-relation. For example, in order to form a topic chain involving the noun *yara* "man" which bears the S-relation to the one-argument verb *pani-y* "to come" in (5.24) and the A-relation to the two-argument verb *palka-l* "to hit" in (5.25a), sentence (5.25a) is first put in the *-ngay* form, as in (5.25b).

(5.24) *payi yara paninyu*  
THERE-ABS man-ABS come-NFUT  
man came here [416]

(5.25) a. *palan jukumpil pangkul yaranku palkan*  
THERE-ABS woman-ABS THERE-ERG man-ERG hit-NFUT  
man hit woman [420]

b. *payi yara pakun jukumpilku palkalnganyu*  
THERE-ABS man-ABS THERE-DAT woman-DAT hit-NGAY-NFUT  
man is hitting woman [69]

Now, sentences (5.24) and (5.25b) can be combined to form the topic chain in (5.26) since the noun *yara* "man" bears the S-relation to the verb in both sentences.

(5.26) *payi yara paninyu pakun jukumpilku palkalnganyu*  
THERE-ABS man-ABS come-NFUT THERE-DAT woman-DAT hit-NGAY-NFUT  
man came here and hit woman [421]

The *-ngay* construction enters into other "syntactically" ergative phenomena such as relativization and purposive complements in a manner similar to that in which it interacts with the topic chaining construction. This suggests that the *-ngay* construction provides further support for Dyirbal's "syntactic" ergativity. It is this use of the anti-passive construction, as well as its resemblance to an "inverse" of the passive, that has resulted in the anti-passive being taken as another sign of "ergative" syntax. But, as discussed in Section 3.3.2, the existence of a so-called anti-passive construction itself establishes nothing about the status of a language. Anti-passive constructions in accusative languages and passive constructions in ergative languages appear the same superficially.

## 5.4 Evidence from the Reflexive-Passive Ambiguity

Having demonstrated why Dyirbal is considered "syntactically" ergative, it is time to reconsider the syntax of Dyirbal in the context of the Ergativity Hypothesis. In the second part of this chapter, Dyirbal will be shown to be ergative in the sense of the Ergativity Hypothesis. The fact that Dyirbal shows properties predicted by the Ergativity Hypothesis for ergative languages will provide evidence for this claim.

This section will review some evidence in favor of the claim that Dyirbal is an ergative language in the sense of the Ergativity Hypothesis. This is evidence presented by Marantz that derives from an examination of the passive-reflexive ambiguity. This evidence will be taken as motivation for an analysis of Dyirbal's simple sentence syntax on the assumption that Dyirbal is ergative in the next section. The evidence from the passive-reflexive ambiguity will be substantiated by additional evidence in Section 5.6.

The evidence Marantz presents for proposing that Dyirbal is an ergative language comes from the passive-reflexive ambiguity. Dyirbal has a reflexive verb form which has both a reflexive use and a second use termed the "false reflexive" by Dixon. Some Dyirbal sentences with a verb in the reflexive verb form turn out to be ambiguous between the reflexive and "false reflexive" interpretation. Marantz shows that this ambiguity is an instance of the passive-reflexive ambiguity and that the ambiguity takes the form predicted for an ergative language.

Before introducing the Dyirbal reflexive, the use of the passive-reflexive ambiguity as a test for ergativity, first discussed in detail in Section 3.4.1, will be reviewed. In languages with lexical reflexive verb forms, the reflexive verb form may be used to express the passive because both the reflexive and passive verb forms are associated with the feature [-T]. This gives rise to some sentences that can have either a reflexive or passive interpretation. But, as a consequence of the Ergativity Hypothesis, ergative and accusative languages are characterized by different ambiguities. The ambiguity expected in each type of language in a sentence with the verb *see* is repeated below:



Accusative Language:

The man saw himself.  
The man was seen. (patient argument)

Ergative Language:

The man saw himself.  
The man saw. (agent argument)

Due to the predicted difference in the form of the ambiguity, an examination of the form of the ambiguity in a given language will reveal its status.

Dyirbal expresses the reflexive through a morphologically derived verb form rather than through the use of a reflexive anaphor. All two-argument verbs of the type discussed in Dyirbal have a counterpart formed by the suffix *-rriy*. A sentence where the verb has the affix *-rriy* receives a reflexive interpretation, as shown by comparing sentences (5.27) and (5.28) involving the unaffixed and *-rriy* forms of the verb *puyya-l* "to hide" respectively.

(5.27) pala            yuku            pangkul            yarangku puypan  
THERE-ABS stick-ABS THERE-ERG man-ERG hide-NFUT  
man hides stick [215]

(5.28) payi            yara            puypayirrinnyu  
THERE-ABS man-ABS hide-RRIY-NFUT  
man hides himself [216]

In sentence (5.28) the A-argument and P-argument of the verb have the same referent. The *-rriy* form of a verb will be referred to as the lexical reflexive form.

The reflexive verb form behaves syntactically as a one-argument verb and not as a two-argument verb. As evidence consider the case marking of the argument to the reflexive verb form. When the argument is a noun phrase, it is marked for absolutive case, as in (5.28). In a reflexive sentence involving a pronoun, the argument is in the nominative case, as illustrated in (5.29) with the verb *walmpi-l* "to waken, get up (trans)".

(5.29) ngaja walmpiyirrinnyu  
I-NOM get up-RRIY-NFUT  
I am getting up [225]

The noun phrase bearing a syntactic relation to the reflexive verb form is in the absolutive case when a noun and the nominative case when a pronoun. This establishes that the noun phrase bearing a syntactic relation to the reflexive verb bears the relation that the S-argument bears to a one-argument verb. The reflexive verb form is syntactically a one-argument form. Furthermore, all derived lexical reflexive verbs belong to the *-y* conjugation, the conjugation primarily associated with single argument verbs.

Dixon discusses a second use of the reflexive verb form, which he calls the "false reflexive" use, that is not associated with a reflexive interpretation. This use of the *-riiy* form of the verb resembles the *-ngay* form of the verb in its syntactic properties. In particular, the false reflexive and the *-ngay* construction show the same syntactic relation to the construction with an underived verb.<sup>13</sup> The similarity between the *-ngay* and false reflexive constructions has suggested that the false reflexive is a second anti-passive construction.

A regular unaffixed use of the two-argument verb *jangka-y* "to eat (vegetables)" is given in (5.30) together with the corresponding false reflexive sentence.

- (5.30) a. *palam wuju pangkul yaranku jangkanyu*  
THERE-ABS fruit-ABS THERE-ERG man-ERG eat-NFUT  
man eats fruit [219]
- b. *payi yara jangkaymarrinyu pakum wujuku*  
THERE-ABS man-ABS eat-RRİY-NFUT THERE-DAT fruit-DAT  
man eats fruit [220]

Comparable sentences involving a pronoun are given in (5.31).

- (5.31) a. *ngaja payi kuya wakanyu*  
I-NOM THERE-ABS fish-ABS spear-NFUT  
I am spearing fish [221]
- b. *ngaja wakaymarrinyu pakul kuyaku*  
I-NOM spear-RRİY-NFUT THERE-DAT fish-DAT  
I am spearing fish [222]

The *-riiy* form of a verb in the false reflexive use is syntactically a one-argument verb just as it is in the reflexive use. This is evident from an examination of sentences (5.30b) and (5.31b): the noun in the absolutive case in (5.30b) bears the same relation to the verb as the pronoun in nominative case in (5.31b); therefore, they must bear the S-relation to the verb. In the false reflexive sentence, as in a *-ngay* sentence, the noun phrase bearing the S-relation to the derived verb is understood as the A-argument of the verb. Thus, the noun *yara*, which as the A-argument to the verb in (5.30a) is marked for ergative case, is marked for absolutive case, the case of a noun phrase bearing the S-relation, in (5.30b). The dative noun phrase in the false reflexive sentences has the same properties as the dative noun phrase in *-ngay* sentences. The noun phrase in the dative case in the false reflexive sentence corresponds to

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13. There is a subtle difference in meaning between the false reflexive and *-ngay* constructions discussed by Dixon. The false reflexive cannot refer to an actual event while the *-ngay* verb form may.

the P-argument in the unaffixed use of the verb, just as the dative noun phrase in the *-ngay* construction does. The dative noun phrase in both constructions, unlike the noun phrase in the P-relation in an unaffixed use of the verb, is not obligatory.

The *-riiy* form of a verb can be used both for expressing the reflexive and for forming a one-argument verb from a two-argument verb. Across languages, derived reflexive verb forms are typically associated with the feature [-T], suggesting that this feature should be associated with the *-riiy* form of the verb in its reflexive use, particularly since it is syntactically a one-argument verb. The same feature should also be associated with the *-riiy* form of the verb in the false reflexive use. If so, as a verb form associated with the feature [-T], the false reflexive would probably be a passive form of the verb. But this suggestion is possible only if Dyirbal is ergative because the noun phrase bearing the S-relation to a false reflexive verb is the A-argument of the verb.

The proposal that the false reflexive is a passive is plausible since, as noted in Section 3.3.2, passive constructions in ergative languages with accusative case marking can be mistaken for anti-passive constructions in accusative languages with ergative case marking. Evidence for considering the false reflexive use to be a passive in an ergative language would be provided by an examination of the reflexive-passive ambiguity. In Dyirbal, this would mean that the ambiguity characteristic of ergative languages should be found. Dixon notes that some sentences with the *-riiy* form of the verb are ambiguous, citing (5.32) as an example.<sup>14</sup>

(5.32) *payi jangkaymarrinyu*  
THERE-ABS eat-*RRİY*-NFUT  
he eats/he eats himself [223]

Compare this use of the verb to a simple use of the verb, as in (5.33a) and a false reflexive use of the reflexive verb with both arguments overt, as in (5.33b). (These sentences repeat sentences (5.30).

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14. In order for a sentence with the *-riiy* form of a verb to unambiguously receive a reflexive interpretation, the intensifier marker *jilu* may be affixed to the noun bearing the S-relation to a *-riiy* verb, as in (i).

(i) *payinjilu jangkaymarrinyu*  
THERE-ABS-JILU eat-*RRİY*-NFUT  
he eats himself [224]

This is only one of the uses of this intensifier. See Dixon's grammar for further discussion.

- (5.33) a. palam wuju pangkul yaranku jangkanyu  
 THERE-ABS fruit-ABS THERE-ERG man-ERG eat-NFUT  
 man eats fruit [219]
- b. payi yara jangkaymarrinyu pakum wujuku  
 THERE-ABS man-ABS eat-RRYIY-NFUT THERE-DAT fruit-DAT  
 man eats fruit [220]

One interpretation of the ambiguous sentence (5.32) is the reflexive interpretation. The second interpretation is a false reflexive interpretation where the P-argument receives an unspecified interpretation analogous to that in sentence (5.33b), except that the P-argument is omitted.

The ambiguity shown here is exactly that expected in ergative languages. The form of the ambiguity supports the proposal that Dyirbal is ergative, and also the proposal that the false reflexive construction is a passive construction. The next section will look at the repercussions of the claim that Dyirbal is ergative for the constructions examined so far, before presenting additional evidence for Dyirbal's ergativity.

## 5.5 Simple Sentence Syntax Reconsidered

In this section, the details of simple sentence syntax in Dyirbal introduced up to now will be reassessed on the assumption that Dyirbal is ergative. Analyses of the various verb classes, constructions, and case system will be proposed in this context. These should help to clarify the material discussed so far, which was presented without making a commitment to the status of Dyirbal. The account given here will be a first step in providing a picture of an ergative language and will serve as a basis for the discussion in the remainder of the chapter.

The table first presented in Chapter 3 presenting the expected correspondences of surface case, d-structure and s-structure relations, and semantic roles for verbs in each class in an ergative language is repeated here for reference.

### Ergative Language

<u>Verb</u> <u>Type</u>	<u>Semantic</u> <u>Role</u>	<u>D-str</u> <u>Relation</u>	<u>S-str</u> <u>Relation</u>	<u>Accusative</u> <u>System</u>	<u>Ergative</u> <u>System</u>
Agt-pat	agt pat	d-object d-subject	s-object s-subject	MARKED(acc) UNMARKED(nom)	UNMARKED(abs) MARKED(erg)
Agt Pat	agt pat	d-object d-subject	s-subject s-subject	UNMARKED(nom) UNMARKED(nom)	UNMARKED(abs) UNMARKED(abs)

Given that Dyirbal is ergative, the two-argument verb class will be the transitive verb class. As specified by the Ergativity Hypothesis, the P-argument to a two-argument verb bears the d-subject relation to the verb, while the A-argument to the verb bears the d-object relation. In an active sentence, that is a sentence where the verb occurs without any derivational affixes, the A-argument and P-argument will respectively bear the s-object and s-subject relations to the verb.

In an ergative language, the patient single argument verbs will be the unergative verbs. That is, the argument to these verbs, since it is assigned the patient role, should bear the d-subject relation to the verb. This argument will also bear the s-subject relation to the verb, so that at s-structure these verbs should be intransitive.

In an ergative language, any unaccusative verbs should be drawn from the agent single argument verb class since the single argument of an unaccusative verb, as a d-object would be assigned the agent role. Unfortunately, I know of no evidence that any agent single argument verbs are in fact unaccusative verbs in Dyirbal.<sup>15</sup> It appears that Dyirbal treats agent single argument verbs as unergative verbs, i.e. as verbs with d-subjects. The deviation from semantic role to d-structure grammatical relation correspondence observed for agent single argument verbs in Dyirbal involves instances of verbs expected to be unaccusative verbs given their semantics that turn out to be unergative verbs. This is the form that any deviation would be expected to take in an ergative language (see Section 2.3). The same type of deviation has been observed in accusative languages. Whether agent single argument verbs are unaccusative or unergative verbs at d-structure, their argument will bear the s-subject relation at s-structure, just as the argument of a patient single argument verb does. From the point of view of s-structure, all the one-argument verbs form a single intransitive class with their argument bearing the s-subject relation.

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15. The tests for ergativity involving agent and patient verbs as unaccusative and unergative verbs (for example the inherent reflexive test or genitive of negation test) are inapplicable to Dyirbal. Their inapplicability is itself a sign of the absence of a syntactic distinction between an unergative and an unaccusative class. Dyirbal does allow unaccusative verbs; the lexical reflexive and *-ngay* verb forms are necessarily unaccusative since they are associated with the feature [-T] (see the previous section and the discussion below). The apparent absence of unaccusative agent single argument verbs, therefore, cannot be attributed to a lack of unaccusative verbs, as it might be, for example, in Warlpiri. The question of why Dyirbal does not have such verbs will be left unresolved.

The description of the Dyrbal system of case marking must also be revised. The system of case marking has been described as a split system which is ergative for nouns and accusative for pronouns. But, this description is inaccurate, since in an ergative language what superficially appear to be ergative and accusative case systems are actually accusative and ergative case systems respectively. This means that although Dyrbal does in fact show a case system with a split for person and number, the nature of the split is not what it first appears to be: pronouns will be marked on an ergative basis and nouns on an accusative basis. The table below presents the facts of the Dyrbal case system taking into account Dyrbal's ergativity:

Case Marking of Nouns

<u>Verb Class</u>	<u>S-structure Relation</u>	<u>Semantic Role</u>	<u>Traditional Case Name</u>	<u>Actual Case Name</u>
Transitive	s-subject	patient	absolutive	Nominative
	s-object	agent	ergative	Accusative
Intransitive	s-subject	agent or patient	absolutive	Nominative

Case Marking of Pronouns

<u>Verb Class</u>	<u>S-structure Relation</u>	<u>Semantic Role</u>	<u>Traditional Case Name</u>	<u>Actual Case Name</u>
Transitive	s-subject	patient	accusative	Ergative
	s-object	agent	nominative	Absolutive
Intransitive	s-subject	agent or patient	nominative	Absolutive

To avoid confusion, when mentioning morphological case, I will capitalize the name used to refer to the actual case given the framework of the Ergativity Hypothesis and usually follow this name by the traditional name in parentheses. I will also give both case names in the glosses; the name based on the analysis presented here will be given first, followed by the traditional name, as follows: Nom/A for Nominative/ABSOLUTIVE and Acc/E for Accusative/ERGATIVE for nouns and Abs/N for Absolutive/NOMINATIVE and Erg/AC for Ergative/ACCUSATIVE for pronouns.

The split case system seems to involve only Dyrbal's morphology. It does not appear to reflect any difference in grammatical relations, as discussed in Section 5.2. No account will be proposed for the split system of case marking.

The false reflexive was shown to actually be a passive construction, suggesting that the *-ngay* construction is a passive construction as well. The affixes *-riiy* and *-ngay*, then, are both associated with the feature [-T] and attach to transitive verbs to create [-T] verbs. Because of Burzio's generalization, these verbs should also be associated with the feature [-A], so that the d-object of a transitive verb will be the s-subject of the corresponding *-riiy* or *-ngay* verb. As a consequence, the observed case correlations between active and passive (*-ngay/-riiy*) sentences follow. The d-object, if a noun, as an s-object in an active sentence, receives the Accusative (ergative) case, but, as a s-subject, in a passive (i.e. *-ngay* or *-riiy* sentence), receives the Nominative (absolutive) case.<sup>16</sup> Syntactically, the *-ngay* and false reflexive constructions are no different than passive constructions in accusative languages. They appear different because Dyirbal is an ergative language. The s-subject of the passive in Dyirbal is the A-argument of the verb, unlike the s-subject of a passive in an accusative language which is the argument bearing the patient role.

In the *-ngay* and false reflexive constructions, a noun phrase marked for dative case may optionally occur. This noun phrase is understood to bear the same semantic role as the s-subject (= d-subject) of the corresponding active sentence, the patient role. The use of oblique case marking would be expected since Dyirbal is ergative. If the *-ngay* and false reflexive constructions are indeed passive constructions, the presence of the feature [-T] prevents the verb from assigning a semantic role to its d-subject, which in Dyirbal would be the argument assigned the patient role. Therefore, this argument must be assigned its semantic role in some other way. In Dyirbal, this is done by the dative case marking (or, optionally with nouns, ergative case marking). The dative case would have the same function

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16. The *-ngay* and lexical reflexive constructions provide evidence that, as expected, case is clearly assigned at s-structure since noun phrases in these constructions are marked for the case appropriate to their s-structure relation and not their d-structure relation.

in Dyirbal passives as the preposition *by* has in English passives.<sup>17</sup>

In the false reflexive and *-ngay* constructions, the argument bearing the patient role, if a noun and not a pronoun, may be marked for the Accusative (ergative) case rather than the dative case, as illustrated in (5.34) and (5.35):

- (5.34) a. *payi*                      *parrkan*                      *pangkul*                      *yaranku*                      *jurrkanyu*  
          THERE-Nom/A wallaby-Nom/A THERE-Acc/E man-Acc/E spear-NFUT  
          man is spearing wallaby [64]
- b. *payi*                      *yara*                      *pangkul*                      *parrkandu*                      *jurrkananyu*  
          THERE-Nom/A man-Nom/A THERE-Acc/E wallaby-Acc/E spear-NGAY-NFUT  
          man is spearing wallaby [66]
- (5.35) a. *palapawal*                      *yuku*                      *pangkul*                      *nutin*  
          THERE-Nom/A-LONG WAY tree-Nom/A THERE-Acc/E cut-NFUT  
          he's cutting trees out there [229]

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17. The dative case in Dyirbal appears to have few verb-selected uses. Dixon's grammar mentions the use of the dative case to mark the goal with a verb of giving. Even this use is one of several ways of expressing the goal with a verb of giving due to the existence of several alternative arrays associated with these verbs. In Dixon [1980], the existence of other verbs selecting the dative case to indicate a goal is noted, but verbs themselves are not explicitly identified. The only example cited is the use of the dative case with the verb *puti-l* "to carry", a verb of transfer. Dixon writes that verbs of transfer do not allow the same alternatives as verbs of giving, since these alternatives are associated with change of possession. The use of the dative as goal with some verbs of transfer might have been subsumed under the "implicated" noun phrase use of the dative mentioned in the Dyirbal grammar. Examples of "implicated" noun phrases that Dixon provides in the grammar involve sentences with verbs of this semantic type.

In this respect, Dyirbal contrasts with other Australian languages. The dative case is often the case of the complements to intransitive verbs in Australian languages (see Blake [1977]). Dixon does not discuss the complements of intransitive verbs in Dyirbal systematically. He does mention [p. 237-9] that the locative case, besides its use to indicate location, is used to mark complements of adjectives, the language spoken with verbs of speaking, and causes of actions (in the sense of an object to be avoided - "for fear of LOC"). The paucity of verb selected uses of the dative may be attributable to Dyirbal's ergativity.

The use of the dative as an assigner of the role typically assigned to the d-subject is not limited to passive constructions, but also appears to be found with the comitative/instrumental construction that Dixon discusses. This use may preclude its use with the complements of intransitive verbs or adjectives where it could be a syntactic case assigner or a semantic role assigner depending on the analysis of the complements. If intransitive verbs and adjectives select an argument, then they would not be able to assign a case to this argument, requiring a syntactic case assigner. Or, if these complements are not considered to have their semantic role assigned by the verb, then a semantic role assigner would be necessary.



- b. payi                    nutiyirrinu            yukungku pangkupawal  
THERE-Nom/A cut-RRYIY-NFUT tree-DAT THERE-DAT-LONG WAY  
he's cutting trees out there [230]

There is a difference in meaning between the two sentences according to Dixon. When the Accusative (ergative) is used, "the actor, goal [patient - BL] and action make up an event" [p.66] while when the dative is used "the actor is positively implicating the goal [patient - BL] in the event" [p.66]. The use of the Accusative in *-ngay* constructions appears to be restricted to finite sentences unlike the comparable use of the dative (see footnote 30). This difference suggests that the dative and Accusative case in this construction are not assigned in the same way. Still the use of the Accusative case in *-ngay* constructions suggests that the Accusative case seems to function as a semantic role assigner, as well as a structural case assigned by a verb to its s-object.

A final use of the Accusative (ergative) case is as the case that marks noun phrases bearing the instrumental semantic role to either transitive or intransitive verbs.<sup>18</sup>

- (5.36) palan                    jukumpil            pangkul            yarangku  
THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E  
pangku                    yukungku            palkan  
THERE-Acc/E stick-Acc/E hit-NFUT  
man is hitting woman with stick [242]

- (5.37) payi                    jaban            pangkul            yarangku  
THERE-Nom/A eel-Nom/A THERE-Acc/E man-Acc/E  
pangkul                    jirrkangku            jurrkanyu  
THERE-Acc/E spear-Acc/E spear-NFUT  
man is spearing eel with a multi-prong spear [243]

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18. The Accusative case seems to be used as a semantic role assigner with some other noun phrases that do not clearly bear the instrumental role. It may be used with verbs of giving as the case of the patient when the following array is selected:

agent-Accusative patient-Accusative goal-Nominative

Dixon also notes that the Accusative (ergative) case marks the complement of the intransitive verb *rupi-y* "to eat meat", i.e. what is eaten.

- (i) payi                    yara            pangku            jalkuru            rupinyu  
THERE-Nom/A man-Nom/A THERE-Acc/E meat-Acc/E cut-NFUT  
man ate meat [250]

Dixon identifies the complement of this verb as an instrumental noun phrase, although it does not seem an appropriate characterization of its semantic role.

(5.38) payi                    yara        nyumpul        parrmpangku kipanyu  
          THERE-Nom/A man-Nom/A beard-Nom/A stone-Acc/E scrape-NFUT  
          man shaved his beard with a sharp stone [251]

This use of the Accusative (ergative) differs from the use of the Accusative as with the A-argument of a transitive verb. The instrumental use is found with both transitive and intransitive verbs. The assignment of the Accusative case to a noun phrase which is the A-argument of a two-argument verb is contingent on the verb being an active transitive verb, that is to sentences where the A-argument bears the s-object relation. In contrast, instrumental noun phrases are possible in *-ngay* and false reflexive sentences. Sentence (5.39) and sentence (5.40) are the *-ngay* counterparts of (5.36) and (5.37), respectively. They differ in that one, (5.39), has the P-argument marked for Accusative (ergative) case, and the other, (5.40), for dative case (5.40).

(5.39) payi                    yara            pangkun        jukumpiru  
          THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E  
          pangku            yukungku        palkalnganyu  
          THERE-Acc/E stick-Acc/E hit-NGAY-NFUT  
          man is hitting woman with stick [248]

(5.40) payi                    yara            pakul            japanku  
          THERE-Nom/A man-Nom/A THERE-DAT eel-DAT  
          pangkul            jirrkangku        jurrkananyu  
          THERE-Acc/E spear-Acc/E spear-NGAY-NFUT  
          man is spearing eel with a multi-prong spear [246]

Sentence (5.41) is the false reflexive counterpart of (5.37).

(5.41) payi                    yara            pakul            japanku  
          THERE-Nom/A man-Nom/A THERE-DAT eel-DAT  
          pangkul            jirrkangku        jurrkaymarrinyu  
          THERE-Acc/E spear-Acc/E spear-RRIY-NFUT  
          man is (trying to) spear eels with a multi-prong spear [249]

The assignment of Accusative case to the instrumental noun phrases is independent of whether the verb is passive or active, transitive or intransitive. This suggests that the Accusative case functions as a semantic case when assigned to instrumental noun phrases, but it is a structural case when assigned to the A-argument of a two-argument verb.

Three uses of the Accusative (ergative) case in Dyirbal have been presented. The Accusative is the structural case assigned by the verb to its s-object, when a noun, in active transitive sentences. This case may be used instead of the dative case in finite *-ngay* sentences. Finally, it is the case used as the semantic case that marks noun phrases bearing the instrumental role. It is possible that the Accusative case can be used generally to mark

certain noun phrases in the verb phrase in Dyrbal, not just the s-object, rather like the use of the accusative to mark s-objects or expressions of duration in Russian or s-objects and second objects in double object constructions in Georgian (see Sections 3.1.2 and 3.1.3).

## 5.6 Further Evidence for Dyrbal as an Ergative Language

Further investigation of the syntax of Dyrbal will reveal substantial evidence for the claim that Dyrbal is ergative. The reflexive-passive ambiguity evidence of Section 5.4, which was presented by Marantz, will be supplemented by evidence bearing on other predictions introduced in Chapter 3 which has not been discussed previously in the framework of the Ergativity Hypothesis. A survey of Dyrbal syntax with respect to these predictions demonstrates that a number of these predictions are relevant to Dyrbal. An examination of those phenomena whose behavior is predicted shows that the phenomena conform to the predictions for ergative languages.

In addition, when considered from the standpoint of Dyrbal's ergativity, several other observations Dixon makes about Dyrbal's grammar turn out to be particularly significant. Several syntactic processes clearly take a form expected given Dyrbal's ergativity, and, therefore, point to additional properties characteristic of ergative languages. These include word order, pro drop, and the comitative/instrumental construction.

The evidence presented in this section strongly supports both the claim that Dyrbal is ergative and the Ergativity Hypothesis itself. Furthermore, a more complete picture of the syntax of Dyrbal should emerge from the various syntactic phenomena introduced in this section.

### 5.6.1 Further Evidence Involving Reflexive Morphology

What other properties could the lexical reflexive verb form show that would be consistent with the claim that Dyrbal is an ergative language? Because of the many uses of reflexive verbal morphology, there are several other predictions involving this morphology that can be investigated, besides the prediction concerning reflexive-passive ambiguity introduced by Marantz. This section will consider evidence in Dyrbal bearing on these predictions, which concern the anti-causative alternation, inherent reflexives, and middle sentences.

As an ergative language, Dyirbal would not be expected to use non-reflexive and reflexive sentence pairs to express the anti-causative alternation since the anti-causative alternation in an ergative language has syntactically the same status as the indefinite object deletion alternation in an accusative language (see Section 3.4.3). And, it appears that Dyirbal does not express the anti-causative alternation by means of reflexive/non-reflexive verb pairs.<sup>19</sup> When an instance of this alternation is expressed by two morphologically related verbs,<sup>20</sup> neither of the verbs is morphologically derived from the other. Instead, both are derived from adjectives or nouns. Dyirbal has two affixes used to derive verbs from nouns or adjectives. One affix, the affix *-pil* derives an intransitive verb stem, while the second affix, the affix *-mal/-mpal*, derives a transitive verb stem. Both affixes form verbs indicating a change of state. The intransitive affix forms inchoative verbs and the transitive affix forms causal verbs. The use of these affixes with the nominal *kuyi* "dead" is illustrated below.<sup>21</sup>

(5.42) *payi yara kuyipin*  
THERE-Nom/A man-Nom/A die-IN VBLSR-NFUT  
man is dead/man died [194]

(5.43) *ngaja payi yara kuyiman*  
I-Abs/N THERE-Nom/A man-Nom/A die-TR VBLSR-NFUT  
I killed man (i.e. caused him to be dead) [195]

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19. In Dyalnguy, the "mother-in-law" language, a language spoken only in the presence of certain relatives, the reflexive affix can be used to express pairs related by the anti-causative alternation as well as pairs related by an indefinite object deletion alternation. According to Dixon, Dyalnguy has the same syntax as Dyirbal, so I will assume that it is also an ergative language. But, Dyalnguy uses a distinct and much more restricted class of lexical items than Dyirbal, taking advantage of semantic relations between lexical items as much as possible to reduce the number of distinct lexical items. The use of the reflexive affix in Dyalnguy, when considered in light of the limited number of lexical items in this language, suggests that the affix has been re-analyzed as an intransitive marker and should not be considered evidence against the ergativity of Dyirbal or the prediction concerning anti-causatives.

Accusative languages can also express the anti-causative alternation without resorting to reflexive morphology. The failure to use a lexical reflexive verb form to express the anti-causative alternation is not sufficient alone to determine Dyirbal's ergativity, but it is consistent with the claim that Dyirbal is ergative.

20. There are many predicates in Dyirbal that are semantically related by the anti-causative alternation but that are expressed by morphologically unrelated verbs.

21. The causative affix *-mal* is homophonous with the comitative/instrumental affix discussed by Dixon. In this use, this affix forms a derived transitive verb from either transitive or intransitive verbs. When this affix is used to derive a transitive verb from an intransitive verb, the semantic relation between the transitive and intransitive pair does not involve causativization but rather the adjunction of a comitative argument.

Another prediction involving reflexive morphology concerns the nature of inherent reflexive verbs in ergative languages (see Section 3.4.2). Inherent reflexive verbs in an ergative language should be drawn from the agent single argument class in contrast to inherent reflexive in an accusative language which would be drawn from the patient single argument class. I have found no mention in Dixon's grammar that Dyirbal has any inherent reflexive verbs. But, there do appear to be inherent reflexive verbs from the appropriate semantic class, the agent single argument class, in another apparently ergative language, Yidiny, a language closely related to Dyirbal, as discussed in Section 3.4.3. The absence of such verbs in Dyirbal is at least consistent with the claim that Dyirbal is ergative, and may be related to the apparent lack of simple unaccusative verbs in Dyirbal.

Reflexive morphology could be used to express the indefinite object deletion alternation in an ergative language even though it cannot be used to express the anti-causative alternation. It is difficult to assess whether there is any evidence for this in Dyirbal. Dixon is not explicit about whether a false reflexive sentence without a dative or ergative noun phrase corresponding to the P-argument receives an indefinite argument interpretation or whether a patient argument is necessarily implied. Furthermore, it may be difficult to distinguish between these two possibilities. The indefinite object deletion interpretation might otherwise be associated with the *-ngay* form of the verb, but there is no clear evidence of this. It is at least clear that indefinite object deletion in Dyirbal cannot simply involve the omission of the noun phrase bearing the patient role from a sentence without any change in verb transitivity. Dixon notes that transitive sentences must have an overt argument bearing the patient role to be acceptable, except in topic chain constructions.<sup>22</sup>

Another prediction is that the reflexive form of an agent-patient verb in Dyirbal should not permit a "middle" reading, a reading where the verb describes the patient's ability or propensity to undergo the event denoted by the verb. This prediction appears to be satisfied in Dyirbal. But, there is a difference in meaning between the *ngay* passive and the reflexive passive which at a more abstract level resembles the difference in meaning between the middle (or reflexive passive) and verbal passives in Romance. Dixon notes that the reflexive passive in Dyirbal cannot refer to an actual event that is being performed by an agent, but to

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22. See Section 5.6.4 for a discussion of this constraint and its implications for Dyirbal's syntax.

the potentiality of the event being performed. In contrast, the *-ngay* passive may refer to an actual event. Compare this to the difference between the verbal passive and reflexive passive in Romance languages. The reflexive or middle form refers to the patient's ability to undergo an action, but does not refer to a specific instance of the action. But, the verbal passive does refer to an actual event. The similarity in the semantic relation between the reflexive/verbal passive pairs in Dyirbal and Romance suggests that the notion of non-eventiveness is a property associated with the reflexive passive. But this notion would have different manifestations in ergative and accusative languages because of the difference in the semantic role associated with the s-subject of a passive. The fact that the so-called middle interpretation is associated with a patient in Romance languages would then turn out to follow from the fact that Romance languages are accusative.

### 5.6.2 Lexical Properties

Two properties predicted for ergative languages stem from assumptions about the semantic composition of a predicate and its arguments. An asymmetry in the semantic composition should be reflected as a constraint on the structure of idioms and range of meaning of predicates in ergative and accusative languages.<sup>23</sup> The predictions are that in ergative languages, with an agent-patient verb, the patient argument, as the d-subject, should enter either into verbal idioms or into determining the range of meanings of a predicate only if the agent argument, the d-object of the verb, does. In particular, with transitive verbs, the restriction against a "subject" idiom of this type can be considered a restriction against agent-patient verb plus patient argument idioms in an ergative language.

Although these predictions should be relevant to any language, the material in Dixon's grammar does not reveal much about either idiom structure or range of meanings in Dyirbal. Certainly, the data available is not enough to determine definitively whether the predictions hold up. Dixon does provide a vocabulary of the words used in the texts and examples, but it is not intended to provide a detailed definition of each word. As a consequence, it is not useful in resolving either question.

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23. There are two other predictions which are related to a verb's ability to impose selectional restriction on its object but not on its subject. A verb's ability to select objects can be used to account for the distribution of quirky case and the forms of verbal suppletion. Dyirbal shows no evidence of either phenomenon, so it is not possible to obtain any evidence bearing on these predictions from Dyirbal.

It is interesting to note that the set of verbs listed in the vocabulary does not appear to differ significantly from the set of verbs in an accusative language. In fact, Dixon's brief discussion of verb semantics also suggests this. Since the difference identified by the Ergativity Hypothesis is in the association of semantic roles with d-structure grammatical relations, an ergative language would not be expected to differ in this respect. The same general types of predicates with the same arguments should be found in ergative and accusative languages. Obviously, any single predicate may not be found in a particular language, but, overall, overlap in the class of predicates is expected.

Idioms are not explicitly discussed in Dixon's grammar of Dyirbal, but an examination of the texts included at the end of Dixon's grammar reveals some data bearing on the question of the structure of verbal idioms in Dyirbal. Dixon notes two idioms in his discussion of the texts, one involving a transitive verb and one involving an intransitive verb. The noun in both idioms is a body part noun, inalienably possessed by one of the arguments.

In order to present the two idioms, the syntax of inalienable possession must be sketched. Sentence (5.44) illustrates how Dyirbal expresses inalienable possession of a body part.

(5.44) palan                    jukumpil                    mampu pangkul                    yarangku palkan  
          THERE-Nom/A-clII woman-Nom/A-clII back-clIV THERE-Acc/E man-Acc/E hit-NFUT  
          man is hitting woman's back [39]

In this sentence, both the possessor and the possessed body part noun occur marked for the same case, the case appropriate to the syntactic relation of the noun phrase. In (5.44), this is the Nominative (absolute) case since the noun phrase bears the patient role to a transitive verb. In this construction, the noun referring to the possessor usually occurs with a noun marker while the possessed noun never does. In (5.44), the noun marker is a class II marker; class II is the class of the possessor and not that of the possessed object. The possessed body part is in class IV and would require a class IV marker as in (5.45), a sentence which involves a body part without any indication of its possessor.

(5.45) pala                    mampu                    pangkul                    yarangku palkan  
          THERE-Nom/A-clIV back-Nom/A-clIV THERE-Acc/E man-Acc/E hit-NFUT  
          man is hitting a back [38]

In a body part noun phrase, it is the possessor that is the head noun of the construction, the noun that bears a syntactic relation to the verb. For example, in a topic chain construction, the topic of a non-initial clause may be the possessor of a body part (see (5.46) below). The

body part noun appears to be predicated of the possessor.

The two idioms that Dixon points out involve a verb and a body part that is inalienably possessed by the s-subject. The first idiom involves an intransitive verb. It is the phrase *walngka mayi-l* "breath-Nom/A come out" meaning "Nom/ABS be fed up" (lit. Nom/ABS's breath comes out). A use of the idiom is given in (5.46).

- (5.46) palakarra            anyja            pingkunpin            /  
two people-Nom/A PARTICLE tired-INTR VBLSR-NFUT /  
walngka            mayin            ...  
breath-Nom/A come out-NFUT ...  
[After awhile] the two of them became tired, fed up ... [p.380, 66]

The absence of a noun marker together with the Nominative case marking on the noun *walngka* "breath" shows that it is inalienably possessed by the subject of the verb; that it is predicated of the s-subject. The s-subject itself is not overt since it is the topic of a non-initial clause in a topic chain.

The second idiom involves a transitive verb. It is the idiom *manka paka-l* "ear-Nom/ABS pierce" means "Acc/ERG whispers to Nom/ABS" (lit. Acc/ERG pierce Nom/ABS's ear). In this idiom, the referent of the d-object of the verb is understood to be the one who whispers to the referent of the d-subject, who is also the possessor of the ear. There are two examples of this idiom in the texts.

- (5.47) putin            punyjan            / nyurpayman            /  
carry-NFUT yellow walnut-Nom/A / return-COMIT-NFUT /  
kupali            puningka /manga pakapakan /  
cover-PURP fire-LOC / ear-Abs/N pierce-pierce-NFUT /  
[They] carried the yellow walnut home, and covered it over in the fire [i.e. covered with ashes]; [they] whispered [to it]: [p.381, 72]

- (5.48) palakarra            pan            / manka            pakapaka/parrinyu  
two people-Nom/A THERE-Nom/A / ear-Nom/A pierce-pierce-RECIP-NFUT  
The two women whispered to each other: [p.388,10]

In the first example, (5.47), the arguments are not overt because the sentence is part of a topic chain. In the second example, (5.48), the verb is in the reciprocal form, an intransitive form which is syntactically similar to the reflexive form (see Section 5.6.3.1), so there is only one overt argument bearing the s-subject relation to the derived verb.

Without a better developed theory of semantic composition, it is difficult to assess whether the form of these idioms is consistent with the Ergativity Hypothesis. The first idiom, *walngka mayi-l*, involves an intransitive verb, so it does not provide evidence relevant to the



prediction. The second idiom, *manka pakal*, is problematic. It involves a transitive verb and a noun predicated of the subject of this verb, but both the subject and object are "open" positions. The verb is selecting a noun phrase in an inalienable relation to the subject, but it is not selecting the subject or the object. It is not clear whether this should be considered a subject idiom.<sup>24</sup> I will leave this question open.

There is a third candidate for an idiom in the texts, which, furthermore, has the form expected in an ergative language, although Dixon does not explicitly identify it as an idiom. It is illustrated in (5.49).<sup>25</sup>

(5.49) *purupayju payi ngaka pakanmi /*  
boil-Acc/E THERE-Nom/A-cl leg-Nom/A-clV pierce-III-Nom/A  
A boil had formed on his leg [p.369, 3]

In (5.49), it appears that the sequence *purupayju pakal* "boil-Acc/E pierce" could be taken as an idiom. This idiom involves the verb plus an argument bearing the grammatical relation of the agent argument, the d-object relation. It is predicated of an argument bearing the grammatical relation of the patient argument, the d-subject relation. Therefore, this idiom would be an instance of the predicted type: an idiom involving a transitive verb and its d-object that is predicated of its d-subject.

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24. The use of predication to express inalienable possession is found in many Australian languages. Warlpiri, for example, expresses body parts in the same way as Dyirbal. See Hale [1981b] for a discussion of inalienable possession in Warlpiri. Interestingly, Warlpiri also shows idioms involving body parts where the body part is predicated of the subject, which in Warlpiri will be assigned the agent role. Consider the idiom *miyalu-rlu nya-nyi* "xERG stomach/feelings-ERG perceive yABS" meaning "ERG like ABS", as in (i).

(i) *Nyuntu ka-rna-ngku miyalu-rlu nya-nyi maju.*  
you PRES-1sM1-2sM2 stomach-ERG see-NPST bad  
I don't like you. [miyalu]

The existence of comparable body part idioms in an accusative language, Warlpiri, and in an ergative language, Dyirbal, suggests that even if these are subject idioms they will not provide evidence bearing on the question of a language's ergativity.

25. Note that the noun marker *payi* is a class I marker while the noun *ngaka* "leg" is a class IV noun indicating that this sentence involves an instance of the inalienable possession construction. It is interesting that exactly this expression is found in Warlpiri: *kurra-ngku panti-rni* "pus-ERG pierce". See Section 4.6.2.3.

But this example raises a number of questions. Warlpiri uses exactly the same construction to express physiological states or experiences. Yet, in Warlpiri, the example was problematic because it would be a subject idiom since Warlpiri is accusative. Furthermore, a number of expressions of this type are found in Warlpiri, suggesting that if more evidence were available Dyirbal too would turn out to have other instances of this construction used to express physiological states. That these constructions are found in more than one language suggests that this way of expressing physiological states is an option available to languages that is independent of ergativity. The existence of such constructions would have implications for a theory of semantic composition.

Obviously, it is impossible to come to any conclusions about the structure of idioms from the few isolated examples presented. A better developed theory of semantic composition is necessary to assess the significance of the two body part idioms. The one idiom which has the form predicted, the idiom , raises further questions for a theory of idioms since similar expressions are found in the accusative language Warlpiri. Further investigation of Dyirbal should provide more evidence bearing on these issues.

### 5.6.3 The Binding Theory

Other predictions concerning the nature of ergative languages follow from the interaction of the Binding Theory and the Ergativity Hypothesis. Two predictions were discussed, one involving the distribution of PRO and the other the distribution of anaphors. In this section, these predictions will be considered with respect to Dyirbal. First, the absence of data bearing on the prediction concerning anaphors will be discussed briefly. Then, the purposive and *-ngurra* constructions will be examined to show that the prediction concerning the distribution of PRO in ergative languages is satisfied.

#### 5.6.3.1 Reflexive and Reciprocal Anaphor Evidence

There is no evidence in Dyirbal bearing on the prediction for anaphor distribution proposed in Section 3.5.3. Dyirbal does not have an overt reflexive anaphor, nor does it have a reciprocal anaphor. Instead, the reflexive and reciprocal are both expressed by morphologically derived forms of the verb.

The reciprocal construction in Dyirbal, like the reflexive construction introduced in Section 5.4 involves a morphologically derived form of the verb. The reciprocal form of the verb involves the addition of the suffix *-(n)parriy* (or an allomorph) to any transitive verb.<sup>26</sup> This affix, like the reflexive affix *-riiy*, forms a derived intransitive verb. This is clear from the case marking on the noun bearing a grammatical relation to the reciprocal verb, as illustrated by (5.50).

(5.50) palakarra            payi            yara            jurrkayjurrkayparrinyu  
two people-Nom/A THERE-Nom/A man-Nom/A spear-spear-*RRIY*-*NFUT*  
the two men are spearing each other [236]

Sentence (5.51) receives a reciprocal interpretation. For the sentence to be well-formed, its subject must have more than one referent.

The fact that Dyirbal expresses the reflexive and reciprocal by means of a derived verb form is consistent with its being an ergative language. But, it does not provide evidence bearing on the prediction concerning anaphor distribution itself. The existence of an anaphor that did not show predicted pattern of behavior would argue against this prediction. It would also raise questions about Dyirbal's status as an ergative language. Such an anaphor does not appear to exist either.

### 5.6.3.2 Control in Purposive Constructions

Control phenomena in Dyirbal provide support for the claim that Dyirbal is an ergative language. The distribution of PRO in "purposive" constructions in Dyirbal will be shown to have the properties predicted in Section 3.5.1. These predictions which have already been substantiated by evidence from Yup'ik Eskimo, will receive further confirmation in Dyirbal.

As discussed in Section 3.5.1, the constraint on distribution of PRO is the same in all languages: PRO only occurs bearing the s-subject relation in non-finite clauses. But, the interaction of the Binding Theory with the Ergativity Hypothesis leads to a prediction that the distribution of PRO will have a different manifestation in ergative and accusative languages in sentences involving agent-patient transitive verbs. This prediction is repeated here.

(I): When the controlled clause involves an active agent-patient verb, the

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26. See Dixon [p.248] for a discussion of whether there is any relation between the reflexive and reciprocal affixes, as well as a discussion of some possible false reciprocal uses of verbs.

controlled noun phrase should be the argument assigned the agent role in an accusative language and the argument assigned the patient role in an ergative language.

(II): When the controlled clause involves an agent-patient transitive verb in the passive form, the controlled noun phrase should be the argument assigned the patient role in an accusative language and the argument assigned the agent role in an ergative language.

In contrast, the behavior of control structures with intransitive verbs is less interesting from the point of view of the Ergativity Hypothesis. No differences are predicted in controlled clauses involving single argument verbs. In languages of either type, the single argument of the verb should be the controlled argument.

Dyirbal purposive complement clauses are non-finite clauses as indicated by the purposive complementizer (*-ku* for *-y* stems, *-i* for *-l* stems) on the verb instead of the tense inflection found in finite sentences.<sup>27</sup> A purposive complement construction consists of a matrix sentence and a purposive complement clause. An example of such a construction involving intransitive verbs in both clauses is given below in (5.52); the two clauses are in (5.51).

(5.51) a. *payi*                      *yara*                      *walmanyu*  
          THERE-Nom/A    man-Nom/A    get up-NFUT  
          man got up [72]

          b. *payi*                      *yara*                      *waynyjin*  
          THERE-Nom/A    man-Nom/A    go uphill-NFUT  
          man went uphill [73]

(5.52) *payi*                      *yara*                      *walmanyu*    *waynyjili*  
          THERE-Nom/A    man-Nom/A    get up-NFUT    go uphill-PURP  
          man got up in order to go uphill [75]

The purposive clauses are structures of obligatory control. The noun phrase *payi yara* "man" in (5.52) is the subject of the matrix clause, while there is no overt subject for the purposive

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27. Purposive complement constructions are referred to as implicated verb complexes in Dixon's grammar. The purposive complementizer *-ku* is homophonous with the dative case affix *-ku*. The use of the single affix *-ku* for these two functions is common in Australian languages. In Warlpiri, for example, the purposive complementizer and the dative case affix are also both *-ku*, see Hale [1982a]. For more discussion of this affix in Australian languages see the papers on this affix in Dixon [1976].

clause.<sup>28</sup> In the example, the-subject of the purposive clause is interpreted as having the same referent as the subject of the main clause.

There is a constraint on the controller of a purposive clause: the controller must be the d-subject. In the example in (5.52), the controller is the subject of the intransitive verb. When the matrix clause involves a transitive verb, the controller is the subject of the verb, that is the argument bearing the patient role. This is illustrated by (5.55), formed from the transitive matrix sentence (5.53) and the intransitive purposive clause with finite counterpart (5.54).

(5.53) palan           jukumpil           pangkul           yarangku   palkan  
          THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E hit-NFUT  
          man hits woman [79]

(5.54) palan           jukumpil           pajinyu  
          THERE-Nom/A woman-Nom/A fall-NFUT  
          woman falls down [80]

(5.55) palan           jukumpil           pangkul           yarangku   palkan   pajiku  
          THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E hit-NFUT fall-PURP  
          man hits woman, causing her to fall down [81]

In (5.55), the noun phrase bearing the patient role is the only possible controller, the noun phrase bearing the agent role is not a possible controller. The existence of this constraint on the controllers supports the definition of subject in Dyirbal. In fact, it shows some similarity to the constraint on the controller of purposive clauses in English: subjects are interpreted as the controllers of purposives even though the notion of subject has a different realization in

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28. Although in this example it may not be clear whether the noun bears a syntactic relation to the matrix or purposive verb there is evidence that it bears a syntactic relation to the matrix verb. The comparable sentence with a pronoun instead of a noun would provide evidence for this if the matrix clause involved an intransitive verb and the embedded clause a transitive verb (or vice versa). The controller would be the subject of the matrix intransitive verb and the controlled argument will be the subject of the embedded transitive verb, but as pronouns they would be marked for different cases so that the case of the noun phrase will show which verb it bears a syntactic relation to. Unfortunately, Dixon does not give an example of this type, but the same point is made by a more complex example involving several iterated applications of the purposive construction.

terms of associated semantic role.<sup>29</sup>

Form the point of view of the Ergativity Hypothesis, it is the nature of the controlled noun phrase in sentences where the verb in the complement clause is transitive that is particularly interesting. In controlled clauses with agent-patient transitive verbs, the Ergativity Hypothesis makes different predications about controlled noun phrases in ergative and accusative languages as set out in (I) and (II). The examples given so far have involved intransitive verbs which reveal nothing pertinent to the question of ergativity. As shown by (5.55), in Dyirbal the controlled noun phrase in an intransitive clause is the single argument of these verbs in Dyirbal, that is, the subject of the verb. One of the crucial examples involves purposive constructions with an agent-patient transitive verb in the embedded clause. Such an example is given in (5.58) which is formed from the matrix sentence (5.56) and the purposive clause corresponding to the finite sentence (5.57).

(5.56) payi            yara            waynyjin        yalu  
      THERE-Nom/A    man-Nom/A    go uphill-NFUT    to here  
      man went uphill towards here [82]

(5.57) payi            yara            pangkun        tuntungku    manjan  
      THERE-Nom/A    man-Nom/A    THERE-Acc/E    bird-Acc/E    point out-NFUT  
      bird points out man's presence [83]

(5.58) payi            yara            waynyjin        yalu  
      THERE-Nom/A    man-Nom/A    go uphill-NFUT    to here  
      pangkun        tuntungku    manjali  
      THERE-Acc/E    bird-Acc/E    point out-PURP  
      man came uphill towards here, resulting in bird's pointing out his presence [84]

The controlled noun phrase in this example is the argument bearing the patient role. As this sentence involves an active use of the agent-patient verb, the first prediction receives

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29. Actually the situation in Dyirbal is more complicated since purposives may be embedded inside each other, as in (i).

(i) palan            jugumpil        pangkul        yarangku    wawun  
      THERE-Nom/A    woman-Nom/A    THERE-Acc/E    man-Acc/E    fetch-NFUT  
      nayinpaku    walmpilngayku    pakum        wujuku    purpilngayku  
      girl-PL-DAT    get up-NGAY-PURP    THERE-DAT    fruit-DAT    pick-NGAY-PURP  
      man fetched woman to get the girls up to pick fruit [133]

Notice that this example shows that it is d-structure that determines the controller: it is the d-subject of the second clause (a surface dative noun phrase) which is the controller of the third clause in this example.

confirmation in Dyirbal. In order for the argument bearing the agent role to be understood as the controlled argument the verb must be put in the *-ngay* form. <sup>30</sup> Sentence (5.61) illustrates a purposive construction of this type; again, the matrix clause and purposive clause (in both active and *-ngay* form) are given in isolation first in (5.59) and (5.60).

(5.59) palan                jukumpil                pangkul                yaranku                muntan  
          THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E take-NFUT  
          man took woman [61]

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30. Dixon notes that in purposive clauses with transitive verbs in the *-ngay* form, the patient argument can only be marked for dative case and not for Accusative (ergative) case. The constraint cannot simply be a constraint on Accusative case, since it is found in active sentences with two-argument verbs, as in (5.58). It is unclear whether the case marking in *-ngay* purposive clauses reflects the semantics of the construction or a syntactic property of the construction, possibly its non-finite character. In order to understand the nature of this constraint, it might be useful to explore what happens when a purposive clause involves a sentence with the instrumental use of the Accusative case. Instrumental noun phrases can retain Accusative case in matrix *-ngay* sentences, as shown in Section 5.5. It would be interesting to see if *-ngay* sentences with instrumental noun phrases could be purposive clauses.

The restriction against Accusative case seems to only apply to instances of the Accusative case that would be assigned to the patient argument in *-ngay* purposives. The verb *wuka-l* "to give" selects three case arrays including two showing the following semantic role/morphological case correspondences:

- (i) agent-Acc(erg) patient-Acc(inst) goal-Nom(abs)
- (ii) agent-Acc(erg) patient-Nom(abs) goal-dat

In one of the texts, there is an example of a purposive construction involving the *-ngay* form of the verb *wuka-l* "to give" which Dixon identifies as an instance of the array in (i) [p.370]. This demonstrates that some instances of the Accusative case that do not mark the d-object of a transitive verb are possible.

(iii) ... pangkum        payi                        ngurpanyu/  
          ... THERE-ABL THERE-Nom/A return-NFUT/  
          yuringku        rulkungku        wukalngayku        / pakul        nyalngkaku  
          kangaroo-Acc/E heart-Acc/E give-NGAY-PURP / THERE-DAT child-DAT  
          ... then he returned home to give a kangaroo's heart to the child. [p.369, 5]

Note that the *-ngay* form of the array in (ii) would look identical to the *-ngay* form of the array in (i) if the patient were marked for Accusative (ergative) case. But, I assume that Dixon is correct in stating that it is the *-ngay* form of the array in (i) that is involved in (iii) rather than the *-ngay* form of the array in (ii), since the *-ngay* form of (ii) would involve an instance of the type of Accusative that is not possible in purposives. Note that if this is the *-ngay* form of (i), then this example provides evidence against Marantz's analysis of the verb *wuka-l*. A crucial prediction of his analysis is that (i) does not have a *-ngay* form.

- (5.60) a. palam            mirany            pangkun            jukumpiru            papin  
          THERE-Nom/A bean-Nom/A THERE-Acc/E woman-Acc/E scrape-NFUT  
          woman scraped beans [120]
- b. palan            jukumpil            pakum            miranyku            papilnganyu  
          THERE-Nom/A woman-Nom/A THERE-DAT bean-DAT scrape-NGAY-NFUT  
          woman scraped beans [121]
- (5.61) palan            jukumpil            pangkul            yarangku            muntan  
          THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E take-NFUT  
          pakum            miranyku            papilngayku  
          THERE-DAT bean-DAT scrape-NGAY-PURP  
          man took woman to scrape beans [125]

The *-ngay* construction is the Dyirbal passive construction, therefore, the second prediction concerning the controlled noun phrase in passive clauses is also confirmed.

Examples have been given of the three possible types of purposive clauses: an intransitive clause in (5.55), a clause with an active transitive verb in (5.58), and a clause with a passive (*-ngay*) transitive verb in (5.61). The controlled argument in each clause is the s-subject, that is, the single argument of an intransitive verb, the patient argument of an active transitive verb, and the agent argument of a passive transitive verb. The pattern of distribution of the controlled noun phrase may look different from that in an accusative language when considered in terms of semantic roles, as set out in the predictions. Despite this apparent difference, when the distribution is described at the level of representation at which the Binding Theory applies the same generalization turns out to describe the distribution in both Dyirbal and English: the controlled noun phrase must be the s-subject.<sup>31</sup>

To describe these clauses as "purposives" is not completely accurate. The semantic relation holding between a purposive clause and a matrix clause encompasses a slightly broader range of interpretations than the word "purposive" suggests. The possibilities are summarized by Dixon.

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31. Purposive clauses may occur simply as complements to a noun, as in (i).

- (i) payi            yara            yanuli  
          THERE-Nom/A man-Nom/A go-PURP  
          man has to go out (for some reason) [89]

In this use, a purposive clause is associated with a notion of necessity: the s-subject has to accomplish the action in the purposive clause. As expected, the controlled noun phrase is again the s-subject.



The action referred to by an implicated VC [verb complex - BL] is only possible by virtue of an event, referred to by a previous sentence of the discourse, having taken place: EITHER the event has been performed as a necessary preliminary to the intended 'implicated' action; OR the implicated action is a natural (but perhaps unplanned) consequence of the event. [p. 68]

In fact, Dixon calls these clauses implicated clauses in his grammar. The wide variety of interpretations may be attributed in part to Dyirbal's ergativity which results in the patient argument of a transitive verb frequently being the controller or controlled argument.

The same pattern of controlled noun phrases is found in purposive complements to the verb *kika-l* "to tell to do," a transitive verb which selects a sentential complement. The sentential complement may be either a finite complement with the verb in the imperative form or a non-finite purposive complement. Since this section is concerned with control only, the purposive complements to the verb *kika-l* will be discussed.

As an example of a control structure with the verb *kika-l*, consider sentence (5.63) with purposive complement corresponding to (5.62).<sup>32</sup>

(5.62) yapu                      panakanyu  
mother-Nom/A return-NFUT  
mother returned [Dixon 1979a, 3]

(5.63) ngana      yapu              kikan              panakayku  
we-Abs/N mother-Nom/A tell to do-NFUT return-PURP  
we told mother to return. [Dixon 1979a, 47]

In (5.63), the controller is the patient argument of the verb *kika-l*, the argument which bears the subject relation to the verb. The semantic relation that the controller bears to the verb *kika-l* is the same relation that the controller would bear to the counterpart of the verb *kika-l* in an accusative language, for example, the English verb *tell*. The difference is that in Dyirbal the controller bears the d-subject relation to the verb *kika-l*, while in English the controller bears the d-object relation to the verb *tell*. Dyirbal resembles Yup'ik in that the absolutive argument, or d-subject, of Yup'ik control verbs was shown to be the controller in Section 3.5.2. As discussed in that section, the behavior of each of these languages is consistent with the Ergativity Hypothesis.

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32. The next few sentences involving the verb *kika-l* are taken from Dixon [1979a]. For simplicity, Dixon has omitted the noun markers in the examples in this paper.

Purposive complements to the verb *kika-l* are structures of obligatory control, just as other purposive complements are. As expected, the controlled noun phrase in purposive complements to the verb *kika-l* is the s-subject of the purposive clause. When the complement clause involves an intransitive verb, the controlled argument is the single argument of the verb, that is, the argument bearing the s-subject relation to the verb, as shown in (5.63). When the controlled clause involves a transitive verb, the choice of controlled argument depends on whether the verb of the clause is in the active or passive form. In an active controlled clause such as (5.64), the controlled argument is the patient argument, the argument that bears the s-subject relation to an active transitive verb.<sup>33</sup>

(5.64) Ngaja payi yara kikan kupingku mawali.  
I-Abs/N THERE-Nom/A man-Nom/A tell-NFUT doctor-Acc/E examine-PURP  
I told the man to be examined by the doctor. [Comrie 1981, 35]

Instead, in a controlled clause with a passive verb, as in (5.65), the agent argument is understood to be the controlled argument.

(5.65) ngana yapu kikan ngumaku puralngayku  
we-Abs/N mother-Nom/A tell to do-NFUT father-DAT see-NGAY-PURP  
We told mother to watch father. [Dixon 1979a, 46]

The controlled argument in (5.65) is the argument that bears the s-subject relation to a passive transitive verb. An examination of the pattern of control in verb-selected purposive clauses with agent-patient verbs shows that it conforms to the pattern associated with ergative languages and not that associated with accusative languages: the patient argument is the controlled argument in active clauses and the agent argument is the controlled argument in passive clauses.

Instances of the verb *kika-l* with transitive verbs in the complement clause almost always involve the passive form of the verb and the agent argument as the controlled argument, as in (5.65). Examples such as (5.64) where the verb is in the active form and the patient argument is the controlled argument are rarely found. Dixon does not present any examples of this kind either in his grammar or in the discussion of purposive complements to the verb *kika-l* in his paper "Ergativity" [1979a]. The only example available is the example in

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33. This example, which illustrates a controlled patient argument in a purposive complement with an agent-patient verb, is cited by Comrie [1981] in a discussion of subjects. Comrie writes that this example was obtained for him by Dixon.

(5.64), obtained for Comrie by Dixon.<sup>34</sup> The predominance of passive transitive complements to the verb *kika-l* in Dyirbal contrasts with the situation found with the English counterpart to this verb, the verb *tell*. Transitive verbs in the complement clause of the verb *tell* are found much more often in the active form than in the passive form.

The almost exclusive use of the passive form of the verb in transitive complements to the verb *kika-l* can be attributed to the interaction of semantic and syntactic constraints on the controlled argument in the complement clause. The verb *kika-l* imposes a semantic constraint on the controlled argument: the referent of the controlled argument, as the person carrying out an order must have control over the performance of the action expressed by the complement clause. This property is associated with the single argument of most single argument verbs and the agent argument of agent-patient verbs. But, the patient argument of an agent-patient verb rarely has the control over its actions necessary to satisfy this constraint. As a result, the patient argument of an agent-patient verb, unlike the agent argument will rarely be the controlled argument.

In addition to the semantic constraint, there is the syntactic constraint which follows from the Binding Theory: the controlled argument must be the s-subject. In an ergative language, when the patient argument is the controlled argument, this constraint will be met if the verb is in the active form in the controlled clause. When the agent argument is the controlled argument, the constraint will require the verb to be in the passive form. Therefore, in Dyirbal, the greater frequency of controlled agent arguments will be manifested in a greater occurrence of transitive verbs in the passive form in controlled clauses.

### 5.6.3.3 -*ngurra* Clauses

The pattern of control characteristic of an ergative language is also found in a second

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34. Dixon [1979a] states that there is a semantic restriction on the complements of jussive verbs such as *tell* which forces the controlled argument to be either the agent argument of a transitive verb or the single argument of an intransitive verb but not the patient argument of a transitive verb. It is clear from example (5.64) that an absolute restriction is not involved. As Comrie [1981] notes, this will force Dixon to alter his account of purposive clauses somewhat. This constraint will be discussed further below.

type of non-finite clause, non-finite clauses marked by the complementizer *-ngurra*.<sup>35</sup> These clauses are a type of subordinate clause whose tense reference is dependent on the tense reference of the matrix clause. The event described in the *-ngurra* clause is understood to occur immediately after the event described in the matrix clause. Unlike purposive clauses, which are always controlled by the matrix d-subject, *-ngurra* clauses are controlled by the object of a transitive verb, that is, by the noun phrase bearing the patient role to the matrix verb.<sup>36</sup> An example of a *-ngurra* construction formed from the two clauses in (5.66) and (5.67) is given in (5.68).

(5.66) pala            yuku            pangkul            yaranku    matan  
      THERE-Nom/A stick-Nom/A THERE-Acc/E man-Acc/E throw-NFUT  
      man threw stick [145]

(5.67) pala            yara            waynyjin  
      THERE-Nom/A man-Nom/A go uphill-NFUT  
      man went uphill [146]

(5.68) pala            yuku            pangkul            yaranku    matan  
      THERE-Nom/A stick-Nom/A THERE-Acc/E man-Acc/E throw-NFUT  
      waynyjingurra  
      go uphill-NGURRA  
      man threw stick and then he [immediatedly] went uphill [147]

The *-ngurra* construction also differs from the purposive construction in being a structure of optional control.<sup>37</sup> Sentence (5.69) illustrates the non-controlled counterpart of (5.68).

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35. The affix *-ngurra* is the same as the inflection found on relative clauses in the locative case. The relative clause affix is *-ngu* and the locative case affix is *-rra*. See Dixon [p. 187] for discussion of this similarity.

36. It is the grammatical relation and not the case of the controller that is relevant. Dixon notes that in a *-ngay* sentence the noun phrase bearing the patient role to the verb when marked for ergative case is not a possible controller of a *-ngurra* clause. I have found no examples that indicate whether it is the d-object or s-object relation which is crucial for controlling *-ngurra* clauses. At least d-objects that are s-objects are possible controllers. In order to determine if any d-object is a possible controller, it would be necessary to check whether the s-subject of a *-ngay* sentence, which is a d-object, is a possible controller of a *-ngurra* clause.

37. I am assuming that in clauses such as (0), control is involved because of the non-finite inflection on the verb despite the optionality of control. Topic chains show the same pattern of optional omission of an argument in the non-initial clause under coreference, but I assume that these are not control structures because they are finite clauses. See Section 5.3 and Section 5.7.1.

- (5.69) pala yuku - pangkul yarangku matan  
THERE-Nom/A stick-Nom/A THERE-Acc/E man-Acc/E throw-NFUT  
payi yara waynyjingurra  
THERE-Nom/A man-Nom/A go uphill-NGURRA  
man threw stick and then he [immediatedly] went uphill [146]

Dixon notes that the controlled use of *-ngurra* is found more frequently.

This section will be concerned only with the distribution of controlled noun phrases in controlled *-ngurra* clauses to show that it is consistent with Dyirbal's ergativity. I will not attempt to provide an account of why these are structures of optional control.<sup>38</sup> In particular, controlled *-ngurra* clauses should show the same pattern of distribution of controlled noun phrases as purposives. Dixon notes that there are three possibilities for the choice of controlled noun phrase. The controlled noun phrase may be the single argument of an intransitive verb, as in (5.69). Second, it may be the patient argument of a transitive verb as in sentence (5.70).

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38. A full analysis of *-ngurra* clauses will require an account of the clauses with overt subjects which will require further study of this construction. Dixon does make an observation which will certainly be of importance in arriving at an analysis: "It should be noticed that, when an ergative NP [= s-object] in one sentence is identical with a nominative NP [= s-subject] in the next sentence, then the *-ngurra* construction is normally obligatory." [p.78]. To illustrate this he cites the unacceptable sentence (i), commenting that if this sentence did occur "it would have to refer to two quite different men" [p.78].

- (i) \*pala yuku pangkul yarangku matan  
THERE-Nom/A stick-Nom/A THERE-Acc/E man-Acc/E throw-NFUT  
(payi yara waynyjin  
(THERE-Nom/A man-Nom/A) go uphill-NFUT  
man threw stick and (man) went uphill [151]

Further examination of the coreference in (5.69) as opposed to the disjoint reference in (ii) may reveal something about the nature of non-control *-ngurra*. Dixon does not make clear whether an overt subject of a non-controlled *-ngurra* clause must be coreferent with the object of the previous sentence, although this is implied. Dixon does note that a *-ngurra* clause may be found as the first sentence in a discourse, although they are of marginal acceptability.

- (ii) ngaja yanungurra  
I-Abs/N go-NGURRA  
I'll go before I do anything else. [157]

- (5.70) palan            jukumpil            pangkul            yarangku    palkan /  
THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E hit-NFUT  
(payi            yara)            pangkul            kamparu    pijingurra.  
(THERE-Nom/A man-Nom/A) THERE-Acc/E rain-Acc/E punch-NGURRA  
man hit woman until rain started falling on him (i.e. until it started to rain) [152]

Finally, the controlled noun phrase may be the agent argument of a transitive verb in the passive (i.e., *-ngay*) form. This is illustrated by sentence (5.74) which has matrix clause (5.71) and a non-finite clause derived from (5.73), the *ngay* clause formed from (5.72).

- (5.71) pala            yuku            pangkul            yarangku    nutin  
THERE-Nom/A tree-Nom/A THERE-Acc/E man-Acc/E cut-NFUT  
man cut tree [154]

- (5.72) payi            nyalngka    pangkul            yarangku    punjun  
THERE-Nom/A boy-Nom/A THERE-Acc/E man-Acc/E spank-NFUT  
man spanked boy [155]

- (5.73) payi            yara            pakul            nyalngkaku    punjulnganyu  
THERE-Nom/A man-Nom/A THERE-DAT boy-DAT spank-NGAY-NFUT  
man spanked boy [156]

- (5.74) pala            yuku            pangkul            yarangku    nutin /  
THERE-Nom/A tree-Nom/A THERE-Acc/E THERE-Acc/E man-Acc/E cut-NFUT /  
(payi            yara)            pakul            nyalngkaku    punjulngangurra  
(THERE-Nom/A man-Nom/A) THERE-DAT child-DAT spank-NGAY-NGURRA  
man cut tree [until he stopped to] spank boy [153]

The distribution of controlled noun phrases noted by Dixon in *-ngurra* clauses corresponds to the distribution predicted for ergative languages. The examples show that the argument receiving the controlled interpretation in each clause is the argument bearing the s-subject relation in that clause. Therefore, the distribution of controlled noun phrase in *-ngurra* clauses satisfies the principles of the Binding Theory.

#### 5.6.4 The Pro Drop Parameter

When considered in light of Dyirbal's ergativity, a constraint on the well-formedness of Dyirbal sentences noted by Dixon suggests that Dyirbal is not a "pro drop" language. Dixon notes that in order for a Dyirbal sentence to be well-formed, it must always have an explicit noun phrase bearing the S-relation if it involves a one argument verb or the P-relation if it involves a two argument verb. To omit the P-argument of a two-argument verb, the verb can be put in the passive, as illustrated by the pair of sentences (5.75) and (5.76).

(5.75) palan            jukumpil            pangkul            yarangku    palkan  
         THERE-Nom/A woman-Nom/A THERE-Acc/E man-Acc/E hit-NFUT  
         man is hitting woman [26]

(5.76) payi            yara            palkalnganyu  
         THERE-Nom/A man-Nom/A hit-NGAY-NFUT  
         man is hitting [someone] [97]

There is no similar restriction on the argument bearing the A-relation to a two argument verb. Thus, the argument bearing the A-relation may be freely omitted, as seen by comparing (5.77) with (5.75).

(5.77) palan            jukumpil            palkan  
         THERE-Nom/A woman-Nom/A hit-NFUT  
         woman is being hit [by someone] [95]

Dixon writes that the omitted argument in (5.76) and (5.77) is "left unspecified" [p.70], glossing it as "someone". This suggests that this argument receives an indefinite interpretation (rather like the interpretation of the omitted argument in indefinite object deletion sentences), although Dixon does not explicitly state that a definite interpretation is precluded.

Given that Dyirbal is ergative, the constraint on well-formedness may be simply stated: Dyirbal sentences must have an s-subject but need not have an overt s-object. Interpreted in the context of the GB framework, this constraint takes on a special significance on the assumption that the omitted argument does receive an indefinite interpretation. The existence of this constraint means that Dyirbal, like English, is not a free pro drop language: sentences must have a s-subject. This observation is consistent with the absence of person-number agreement in the verb. Free pro drop is associated with languages with "rich" inflection.<sup>39</sup>

Dyirbal contrasts in this respect with Yup'ik Eskimo, also an ergative language. In Yup'ik, either argument of a transitive verb as well as the single argument of an intransitive verb may be omitted, but will still receive a definite interpretation, as illustrated by the

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39. These constraints apply only in simple finite sentences. When a finite sentence is the non-initial sentence in a topic chain the subject may optionally be omitted. Depending on the ultimate analysis of this construction, it is possible that Dyirbal does in fact allow pro drop, but because of the lack of person marking it is governed by discourse conditions. See Section 5.7.1 for a discussion of the topic chain construction.

intransitive sentence pair (5.78) and the transitive sentence (5.79).

(5.78) a. Mikelnguut      aqui-ng-ut.  
child-Nom/Apl play-start-INDIC-3p  
The children begin to play. [Reed et al. 1977, p.53]

b. Aqui-ng-ut.  
play-start-INDIC-3p  
They begin to play. [Reed et al. 1977, p.53]

(5.79) Tangrra-it.  
see-INDIC-3pl/3pl  
They see them. [Reed et al. 1977, p.60]

Yup'ik, therefore, appears to allow free pro drop. Yup'ik also differs from Dyirbal in showing verb agreement with both arguments of a transitive verb and the single argument of an intransitive verb. That is, it is a candidate for a language with "rich" inflection.

The observed properties provide further support for the Ergativity Hypothesis. Dyirbal and Yup'ik together illustrate that the pro drop parameter is relevant to ergative languages, and that it appears to involve richness of inflection in ergative languages as in accusative languages. This common property would be expected given the Ergativity Hypothesis since ergative and accusative languages should not differ in their syntax.

### 5.6.5 Word Order and Configurationality

This section will investigate the issues of configurationality and word order in Dyirbal. It will provide some evidence bearing on the word order predictions discussed in Section 3.1.4.

Dixon discusses the question of word order in Dyirbal briefly, noting that "word order is exceptionally free in Dyirbal" [p.291]. There are two exceptions involving restrictions on the placement of certain adverbial particles and on the position of the verb in passive controlled clauses and non-initial clauses in topic chains (the verb must be final). Dixon also finds that some word orders are more likely in Dyirbal. Some of the preferences involve the order of elements in a noun phrase, others involve the order of elements in a sentence. Preferences involving the order of noun phrases with respect to the verb will be discussed below. Apart from the tendency to use the preferences to avoid potential ambiguity, word order need not conform to these preferences.



The word order preferences Dixon notes do not involve any instances of discontinuous expressions, suggesting that there might be a tendency to avoid them in Dyrbal. Dixon does not explicitly mention whether or not discontinuous expressions are found in Dyrbal, although the statement that word order is quite free certainly does not preclude this possibility. In fact, Ken Hale informs me that he has found examples of discontinuous expressions in his field notes on Dyrbal.

Ergative languages like accusative languages might be expected to be either configurational or non-configurational. If, as Hale [1983] suggests, configurationality involves whether or not the lexical structure is projected into the syntax, there is no reason to suppose that ergative languages would differ from accusative languages in not allowing this option to be language-specific.

There is not enough evidence in Dixon's grammar to resolve the question of Dyrbal's configurationality. In the absence of any definitive tests for non-configurationality, it is only possible to assess to what extent Dyrbal shows properties commonly associated with non-configurational language. A number of properties of this type are set out in Hale [1982b, 1983]; as Hale notes none of these properties is sufficient to identify a language as non-configurational. Dyrbal shows some of the properties listed by Hale [1982b].

- (1) "Free" word order.
- (2) Lack of pleonastic noun phrases.
- (3) Use of a rich case system.
- (4) The use of discontinuous expression.

The status of two other properties associated with non-configurational languages in Dyrbal is not clear:

- (1) Free or frequent "pronoun drop"
- (2) Lack of the NP movement transformation.

As noted, an examination of isolated sentences in Dyrbal suggests that it does not allow free pronoun drop, but, to determine whether this is so will require an analysis of the topic chain construction (see footnote 39). The *-ngay* construction and the *-rriy* construction clearly involve some type of "movement," but it is not clear whether a lexical rule or a syntactic rule is involved. Non-configurational languages would allow lexical "movement" rules. There is only one property associated with non-configurational languages that Dyrbal does not show; Dyrbal has neither a complex verb nor a verb and auxiliary system.

On the basis of the evidence available Dyirbal's status is unclear. Dyirbal does not unambiguously show all of the properties of non-configurational languages, contrasting with Warlpiri which does. But, since it is difficult to evaluate the respective importance of any particular property, the question of Dyirbal's configurationality will be left open.

Even though it is unclear how much significance should be attached to the word order preferences, several preferences concerning the order of noun phrases in a sentence deserve further attention. For the purposes of the discussion, I will accept the word order preferences and examine them in view of Dyirbal's ergativity, putting aside the possibility that Dyirbal might be non-configurational. The unmarked word order these preferences suggest appears rather different from word order preferences found in accusative languages. But, when the word order preferences in Dyirbal are considered from the standpoint of the Ergativity Hypothesis, this difference is predicted. The preferred word order in Dyirbal will be shown to follow from the interaction of the Ergativity Hypothesis and the Theory of Case in the GB framework.

Among the preferences Dixon lists are several concerning the order of the verb and the noun phrases that bear a syntactic relation to the verb. These preferences include:<sup>40</sup>

- "[4] nominative NPs [i.e. absolutive - BL] precede ergative and dative NPs;
- [5] ergative NPs precede the verb;
- [6] dative NPs follow the verb; ..." [p.291]

In sentences with an agent-patient verb, the agent argument is marked for "ergative" case, i.e. Accusative case, and the patient argument for "absolutive" case, i.e. Nominative case. Ignoring the Ergativity Hypothesis and considering the preferences only in terms of the semantic roles associated with noun phrases marked for a particular case, these preferences suggest that in a sentence with an agent-patient verb the unmarked word order will be

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40. There is a special preference concerning the placement of pronouns in nominative case. Dixon notes that "[3] a [+ actor] pronominal NP will precede any other NP" [p.291]. This preference refers to pronouns marked for nominative case (which Dixon associates with the feature [+ actor]), i.e. to pronouns which bear the subject relation to an intransitive verb or the object relation to a transitive verb. This preference is formulated in terms of a case category, cutting across grammatical relations, unlike the noun preferences [4]-[6]. The existence of a distinct preference for pronouns and nouns could be attributed to the different systems of case marking they show. Or, the preference might follow from discourse related properties. The preference cited here involves the first and second person pronouns, the pronouns referring to the speaker and hearer, when they bear the grammatical relations associated with performers of an action.

"patient argument - agent argument - verb". This order contrasts with that common in accusative verb-final languages. Such languages are almost always SOV, or when the order is recast in terms of semantic roles " agent argument - patient argument - verb" in sentences with agent-patient verbs. This order is found in Japanese and Turkish, for example. Dyirbal differs from such languages in showing the reverse relative order of agent and patient arguments.<sup>41</sup> Once again, this difference between an ergative language and accusative languages is superficial, hiding a more essential similarity. If Dyirbal's ergativity is taken into account, preference [4] means that the s-subject precedes the s-object while preference [5] means that the s-object precedes the verb in Dyirbal. Taken together these preferences imply that the preferred word order in a transitive sentence with nouns is SOV. That is, when described in terms of grammatical relations, Dyirbal shows the same order that has been noted to be most frequent in verb-final accusative languages.

A preferred word order of the type found in Dyirbal is not a surprising choice for a verb-final language that is ergative in the sense of the Ergativity Hypothesis. Stowell's Adjacency Requirement on Case Assignment [1981], discussed in Section 3.1.4, requires a noun to be adjacent to its case assigner. If applied to Dyirbal, this requirement can be used to account for the Dyirbal preferred word order. The requirement would demand that the verb and the object be adjacent. Assuming in addition that Dyirbal is verb final then the word order expected would be SOV. This order would translate into the order "patient argument - agent argument - verb", the order Dixon notes. No matter what the status of word order preferences turns out to be, the Dyirbal preference would at least be consistent with the form that the Adjacency Requirement should take in an ergative language.

The word order preferences in Dyirbal acquire particular significance when viewed from the standpoint of the Ergativity Hypothesis since they turn out to be consistent with the Adjacency Requirement on Case Assignment. In particular, if Dyirbal is verb-final, the preferred word order takes a form predicted for ergative languages by the interaction of the Adjacency Requirement and the Ergativity Hypothesis. This fact suggests that these

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41. The order of the arguments in Dyirbal has been considered evidence for ergative syntax. Blake [1976a] notes that there are certain particles that must occur after the P-argument of a two argument verb but before the A-argument and that the same particle must follow the S-argument of a one argument verb. Therefore, he concludes that the P-argument and the S-argument must both be sentence-initial, unlike the A-argument. For general discussion of word order and ergativity see Dixon's survey [1979a].

preferences are not accidental and should not be dismissed. Yet, this analysis will not account for the freedom of word order in Dyirbal that Dixon observes. Therefore, it is possible that in Dyirbal, these preferences have no connection to the Adjacency Requirement, even though it could provide an account for the preferred order.

## 5.7 Other So-called "Ergative" Phenomena

This section is intended to cover several additional topics in Dyirbal grammar that have been considered particularly relevant to the question of Dyirbal's ergativity. Dyirbal shows a number of other syntactic phenomena that have been referred to as "ergative" by Dixon and others, but which do not necessarily provide direct evidence for the claim that Dyirbal is ergative in the sense of the Ergativity Hypothesis. A number of diverse phenomena, which include topic chains, relativization, and imperatives, will be examined in the context of Dyirbal as an ergative language.<sup>42</sup>

The generalizations describing each of these phenomena, with the exception of imperatives, will involve either a notion of d-subject or s-subject as defined for Dyirbal given its ergativity. Without a better developed theory of certain syntactic processes, it is not clear that all of these phenomena necessarily need to refer to a notion of subject. For this reason, these phenomena, in isolation, cannot be used as proof that Dyirbal is ergative. But, given that there is independent evidence that Dyirbal is ergative, the existence of phenomena that involve the notion of subject as motivated by Dyirbal's ergativity provide further support for recognizing such a notion of subject.

### 5.7.1 The Topic Chain Construction

One of the most widely discussed constructions in Dyirbal is the topic chain construction, which is offered as evidence for Dyirbal's "syntactic" ergativity by Dixon [1972], Comrie [1978], Mel'chuk [1979], and others. This construction was introduced in the

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42. Other phenomena that have been used to argue for Dyirbal's "ergativity" but which will not be discussed here include: the nominalizer *-munga*, the distribution of the demonstrative *kiyi*, the interpretation of the adverbial particle *warra*, and the interpretation of the aspectual affix *-jay*. These phenomena cannot be used to argue for Dyirbal's status for the same reason that the phenomena that will be discussed in this section cannot be used. Although these phenomena would turn out to involve a notion of "subject" given the analysis presented here, there is not independent evidence that they necessarily involve a notion of subject.

discussion of Dyirbal as a "syntactically" ergative language in Section 5.3. This section will look more closely at this construction in order to show how it fits into the analysis of Dyirbal set out here. I will not look at all of the subtleties of this construction, which are discussed extensively in Dixon's grammar and from a very different perspective by Heath [1979].<sup>43</sup>

The topic chain construction is a way of conjoining a series of clauses sharing a common "topic". As described in Section 5.3, the topic of a non-initial clause in a topic chain may be omitted under coreference with the topic of the initial clause. The notion of "topic" was defined as the S-argument of one-argument verb, the P-argument of a simple two-argument verb, or the A-argument of a two-argument verb in the *-ngay* form. This definition applies to both initial and non-initial clauses in a topic chain. Examples from Section 5.3 illustrating these possibilities are repeated below. The examples of topic chains are in (5.81), and the sentences used to form the topic chains are given in (5.80).

- (5.80) a. payi            yara            paninyu  
          THERE-Nom/A man-Nom/A come-NFUT  
          man came here [416]
- b. payi            yara            pangkun        jukumpiru        palkan  
          THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E hit-NFUT  
          woman hit man [417]
- c. payi            yara            pakun            jukumpilku        palkalnganyu  
          THERE-Nom/A man-Nom/A THERE-DAT woman-DAT hit-NGAY-NFUT
- (5.81) a. payi            yara            paninyu        pangkun        jukumpiru        palkan  
          THERE-Nom/A man-Nom/A come-NFUT THERE-Acc/E woman-Acc/E hit-NFUT  
          man came here and was hit by woman [418]
- b. payi            yara            pangkun        jukumpiru        palkan        paninyu  
          THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E hit-NFUT come-NFUT  
          man was hit by woman and came here [419]
- c. payi            yara            paninyu  
          THERE-Nom/A man-Nom/A come-NFUT  
          pakun            jukumpilku        palkalnganyu  
          THERE-DAT woman-DAT hit-NGAY-NFUT  
          man came here and hit woman [421]

The only possibility that has not been illustrated is the use of an A-argument of a

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43. Heath [1979] takes a functional approach to the topic chain construction, arguing that the notion of ergative or accusative language is irrelevant to an account of this construction. Heath's account, therefore, fails to explain why Dyirbal should appear so different from other languages. See Dixon [1979b] for some comments on Heath's paper.

two-argument verb in the *-ngay* form as the topic in the initial clause of a topic chain. Dixon gives (5.84), formed from (5.82) and (5.83) as an example of such a construction.<sup>44</sup>

(5.82) a. pala            yuku            pangkul            yarangku    nutin  
 THERE-Nom/A tree-Nom/A THERE-Acc/E man-Acc/E cut-NFUT  
 man cut tree [154]

b. payi            yara            paku            yukuku    nutilnganyu  
 THERE-Nom/A man-Nom/A THERE-DAT tree-DAT cut-NGAY-NFUT  
 man cut tree

(5.83) a. payi            nyalngka    pangkul            yarangku    punjun  
 THERE-Nom/A boy-Nom/A THERE-Acc/E man-Acc/E spank-NFUT  
 man spanked boy [155]

b. payi            yara            pakul            nyalngkaku    punjulnganyu  
 THERE-Nom/A man-Nom/A THERE-DAT boy-DAT spank-NGAY-NFUT  
 man spanked boy [156]

(5.84) payi            yara            paku            yukuku    nutilnganyu  
 THERE-Nom/A man-Nom/A THERE-DAT tree-DAT cut-NGAY-NFUT  
 pangum            pakul            nyalngkaku    punjulnganyu  
 THERE-Nom/A man-Nom/A THERE-DAT boy-DAT spank-NGAY-NFUT  
 man cut tree, and spanked boy [160]

Given that Dyirbal is an ergative language in the sense of the Ergativity Hypothesis, the notion of "topic" in both initial and non-initial clauses in a topic chain corresponds to the notion of *s*-subject as defined for Dyirbal.

Although the topic chain construction shows some similarity to the purposive construction, the two constructions should not be confused. There are several essential differences between the two constructions which, if recognized, will help formulate an analysis of the topic chain construction. The comparison of topic chain and purposive constructions will suggest that the topic chain construction is not a control structure like the

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44. But, Dixon observes that a sentence such as (i) can be avoided through the use of a *-ngurra* clause. The *-ngurra* clause corresponding to (5.84) is given in (i), repeated from Section 5.6.3.3.

(i) pala            yuku            pangkul            yarangku    nutin    /  
 THERE-Nom/A tree-Nom/A THERE-Acc/E man-Acc/E hit-NFUT /  
 (payi            yara)            pakul            nyalngkaku    punjulngangurra  
 (THERE-Nom/A man-Nom/A) THERE-DAT child-DAT spank-NGAY-NGURRA  
 man cut tree [until he stopped to] spank boy [153]

But (ii) differs from (5.84) in implying that the second action immediately follows the first.

purposive construction, but instead involves some form of sentential conjunction.

Dixon notes that "all or part of all occurrences of the topic NP after the first can be deleted" [p.154], as illustrated in (5.87), formed from (5.85) and (5.86).

(5.85) payi                    yara                    pangkul                    kupingku                    muntan  
THERE-Nom/A man-Nom/A THERE-Acc/E gubi-Acc/E bring-NFUT  
the gubi brought man [466]

(5.86) payi                    yara                    pangkun                    jukumpiru                    palkan  
THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E hit-NFUT  
woman hit man [467]

(5.87) payi                    yara                    pangkul                    kupingku                    muntan  
THERE-Nom/A man-Nom/A THERE-Acc/E gubi-Acc/E bring-NFUT  
(payi)                    (yara)                    pangkun                    jukumpiru  
(THERE-Nom/A) (man-Nom/A) THERE-Acc/E woman-Acc/E hit-NFUT  
man was brought here by the gubi and (he) was hit by woman [468]

Purposive clauses in contrast are structures of obligatory control, and their s-subject, as a controlled noun phrase, is obligatorily missing. This difference suggests that topic chains are at least not structures of obligatory control. Each clause in a topic chain is a finite clause, and, therefore, inflected for tense, contrasting with purposive clauses which are non-finite clauses marked by a complementizer. In fact, there is no complementizer, or special affixes, on any clauses in a topic chain. The presence of tense inflection and absence of any complementizer suggests that there is no evidence for considering non-initial clauses in topic chains control structures. The controller of a purposive clause is the d-subject of the verb, while the "topic" of the initial clause in a topic chain is the s-subject. The fact that one is defined in terms of s-structure relations and the other in terms of d-structure relations also points to a difference in the two constructions. In particular, it suggests that the purposive construction involves an embedded clause while the topic chain construction involves conjunction.

The semantic relation between successive clauses in the purposive and topic chain construction are also quite different. The unmarked interpretation of a topic chain is that each clause in a topic chain is understood to occur after the event in the preceding clause. The semantic relation between the matrix clause and a purposive complement is much tighter. Dixon describes this relation as an "implicative" relation: the purposive complement describes a purpose which implies the performance of the action in the matrix clause.

If topic chains are an instance of sentential conjunction, then they cannot be used in the same way as the purposive construction to argue for Dyirbal's ergativity. But, as a syntactic phenomenon involving the notion of s-subject defined for Dyirbal as a consequence of the claim that it is an ergative language, they provide support for this notion of subject. Topic chains in Dyirbal will resemble conjoined clauses in English in using a notion of s-subject. On the surface, these two phenomena do not look the same because of the different semantic roles associated with the notion of s-subject in ergative and accusative languages.

### 5.7.2 Relative Clauses

The Dyirbal relative clause construction, which has been used to argue for Dyirbal's "syntactic" ergativity, turns out to provide evidence for the claim that Dyirbal is ergative in the sense of the Ergativity Hypothesis. Relative clauses in Dyirbal appear to be non-finite controlled clauses predicated of a noun phrase in the sentence, the head of the relative clause. The relative noun phrase is the controlled noun phrase, and the distribution of potential relative noun phrases corresponds to the expected distribution of controlled noun phrases in an ergative language.

Relative clauses in Dyirbal are non-finite clauses indicated by the presence of the suffix *-ngu*<sup>45</sup> on the verb instead of tense inflection. The relative clause suffix is followed by a case suffix identifying which noun phrase in the matrix sentence is the head of the relative clause. That is, the relative clause and the noun phrase in the matrix sentence that is the head of the relative clause agree in case. The head of the relative clause is understood to be the referent of a noun phrase in the relative clause "omitted" because it has the same referent as the head of the relative clause, the relative noun phrase.

An example of a relative construction is given in (5.90); it is formed from the matrix sentence (5.88) and the relative clause corresponding to the finite sentence (5.89).

(5.88) *payi yara pangkun jukumpiru puran*  
THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E see-NFUT  
woman saw man [287]

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45. The relative suffix *-ngu* is homophonous with the simple genitive inflection. A comparison of relative clauses and possessive noun phrases may be found in Dixon [p.180].



(5.89) *palan jukumpil waynyjin*  
THERE-Nom/A woman-Nom/A go uphill-NFUT  
woman went uphill [288]

(5.90) *payi yara pangkun jukumpiru waynyjingurru*  
THERE-Nom/A man-Nom/A THERE-Acc/E woman-Acc/E go uphill-NGU-Acc/E  
*puran*  
see-NFUT  
as woman was going uphill she saw man [289]

In this example the head of the relative clause is the noun phrase marked for Accusative (ergative) case, and the relative suffix *-ngu* is followed by Accusative (ergative) case inflection. In (5.90), the omitted noun phrase in the relative clause, the relative noun phrase, is understood to be the S-argument of the verb in the relative clause, the s-subject of the verb, and it is interpreted as coreferent with the head of the relative clause *palan jukumpil* "woman". As illustrated in this example, relative clauses usually follow the noun phrase they modify.

The head of the relative clause may be a noun phrase marked for Nominative (absolutive), Accusative (ergative), dative, or locative case. Dixon discusses the range of possibilities, including those involving the different uses of the dative and ergative case. I will not enumerate them since the question of interest here is not the head of the relative clause but the possible relative noun phrases.

Dixon notes that there are constraints on the possible relative noun phrases.

The 'common NP' of a constituent sentence must be in nominative case [= absolutive/Nominative - BL] for the sentence to be embedded on to the 'common NP' of the matrix sentence. Thus the *-ngay* transformation has to be applied to a simple sentence, in which the common NP is in ergative [= Accusative - BL] case, ahead of the embedding transformation. [p.100]

The S-argument of a one-argument verb may be the relative noun phrase as in (5.90). The P-argument of a two-argument verb may also be the relative noun phrase, as in (5.92), with matrix sentence (5.91a) and sentence (5.91b) underlying the relative clause.

(5.91) a. *palan jukumpil nyinanyu*  
THERE-Nom/A woman-Nom/A sit-NFUT  
woman is sitting down [278]

b. *ngaja palan jukumpil puran*  
I-Abs/N THERE-Nom/A woman-Nom/A see-NFUT  
I am watching woman [277]

(5.92) palan           jukumpil           ngaja    purangu           nyinanyu  
THERE-Nom/A woman-Nom/A I-Abs/N see-NGU-Nom/A sit-NFUT  
the woman whom I am watching is sitting down [279]

But, the A-argument of a two-argument verb may only be the relative noun phrase if the verb is in the *-ngay* form, as in (5.95), formed from matrix sentence (5.93) and the relative clause corresponding to (5.94b), the *-ngay* form of (5.94a).

(5.93) payi            yara            panakanyu  
THERE-Nom/A man-Nom/A return-NFUT  
man is returning [283]

(5.94) a. payi            yuri            pangkul            yarangku    pakan  
THERE-Nom/A kangaroo-Nom/A THERE-Acc/E man-Acc/E spear-NFUT  
man speared kangaroo [284]

b. payi            yara            pakalnganyu        pakul        yuriku  
THERE-Nom/A man-Nom/A spear-NGAY-NFUT THERE-DAT kangaroo-DAT  
man speared kangaroo [285]

(5.95) payi            yara            pakalngangu  
THERE-Nom/A man-Nom/A spear-NGAY-NGU-Nom/A  
pakul        yuriku        panakanyu  
THERE-DAT kangaroo-DAT return-NFUT  
man who speared kangaroo is returning [286]

The three possibilities identified are precisely the three potential manifestations of the s-subject in Dyirbal. That is, the relative noun phrase must be an s-subject.

This pattern of distribution of relative noun phrase has suggested that the relative clause construction provides evidence for "ergative" syntax. Although, as Keenan and Comrie [1977] point out, it is usually the subject of a sentence that will relativize if any noun phrase does, the ability to relativize a noun phrase is not sufficient evidence for considering it to be a subject. Languages vary as to the constraints on what noun phrases may be the relative noun phrase; some languages may relativize only subjects, other subjects and objects, and so on. Therefore, in general, it is difficult to use evidence from relativization to determine a language's ergativity.

In fact, in Dyirbal it is actually possible to use the relative clause construction as evidence for Dyirbal's ergativity in the context of the Ergativity Hypothesis and the GB framework. The non-finite character of Dyirbal relative clauses suggests that they should be considered control constructions controlled by the head of the relative clause. The relative noun phrase would then be a controlled noun phrase, and as a controlled noun phrase would have to meet the conditions of the Binding Theory. The relative noun phrase would be

expected to be the s-subject to meet the conditions of the Binding Theory. And, as described above, it is the s-subject. In particular, the distribution of the relative noun phrase is consistent with the prediction concerning the distribution of controlled noun phrases in control structures for ergative languages. The relative clause construction in Dyirbal, therefore, provides evidence for the claim that Dyirbal is ergative.

One of the three dialects of Dyirbal, Mamu, has two kinds of relative clauses: the non-finite relative clause marked by the affix *-ngu* just described, and a finite relative clause marked by the affix *-mi*. The finite relative clause is formed by adding the suffix *-mi* to a verb in the present/past (unmarked) tense. The *-mi* relative clauses also show case agreement with the head of the relative clause, and according to Dixon show the same syntax as the *-ngu* relatives. The only difference between the two is in aspect: *ngu* relatives refer to on-going action and *-mi* relatives to completed action.<sup>46</sup>

In contrast to the *-ngu* relative clauses, the *-mi* relative clauses cannot be used to argue for Dyirbal's ergativity. The argument for ergativity based on *-ngu* relative clauses depends on the relative clause being a control structure, and the presence of inflection suggests that the *-mi* relative clause is not a control structure. At most, the *-mi* relative clause can be taken as support for the notion of s-subject that follows from the claim that Dyirbal is ergative.

### 5.7.3 The Imperative Construction

The imperative construction in an ergative language such as Dyirbal will be interesting to examine because, it is not clear whether imperative formation is a syntactically-defined process or a semantically-defined process. For example, Dixon [1979a] considers it to be a semantically-defined process. In English, imperative formation appears to refer to the notion of s-subject, yet there are also semantic constraints determining the acceptability of imperatives. What happens in an ergative language, where the notion of agent role is dissociated from the notion of subject, at least with two-argument verbs, should provide insight into the nature of imperatives.

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46. The affix *-mi* is homophonous with the general genitive case affix. It is interesting that the difference in aspect with the two types of relative clauses in Mamu reflects a semantic difference in the two genitives: *-mi* is used for past possession and *-ngu* for present possession.

Verbs in Dyirbal have an imperative form<sup>47</sup> derived by deleting the final *-l* or *-y* from the verb stem. In an imperative construction, the addressee of the imperative may be specified by a pronoun or left unspecified. The addressee of the imperative is usually understood to be the second person but need not be. Examples of imperative constructions involving a one-argument verb are given in (5.96)-(5.98).

(5.96) nginta      pani  
you-Abs/N come-IMPER  
you come! [332]

(5.97) pani  
come-IMPER  
[you] come [335]

(5.98) ngali      yana  
we-Abs/N go-IMPER  
let's you and I go! [334]

The choice of possible addressees in Dyirbal imperative constructions has implications for the nature of the imperative construction. The addressee of an imperative may be the S-argument of a one-argument verb, that is the s-subject of an intransitive verb, as shown by (5.96)-(5.98) above. It may also be the A-argument of a transitive verb, whether it is the s-object in an active sentence, as in (5.99), or the s-subject of a passive sentence, as in (5.100).

(5.99) (nyinta)    payi yara                    palka  
(you-NOM) hit    THERE-Nom/A man-Nom/A hit-IMPER  
(you) hit the man! [512]

(5.100) a. (nyinta)    (pakul            yaraku)    palkalnga  
(you-NOM) (THERE-DAT man-DAT) hit-NGAY-IMPER  
(you) hit (the man)! 513]

b. (nyinta)    (pangkul            yarangku)    palkalnga  
(you-NOM) (THERE-Acc/E man-Acc/E) hit-NGAY-IMPER  
(you) hit (the man)! 513]

The s-subject of a reflexive verb, as in (5.101), or a reciprocal verb, as in (5.102), may also be the addressee of an imperative.

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47. Dyirbal has both positive and negative imperative verb forms. The form discussed in this section is the positive imperative. The negative imperative form is dialect-specific and involves a special verb ending together with a particle that must precede the verb; it will not be discussed further.

(5.101) puypayirri -  
hide-REFL-IMPER  
[you] hide yourself [339]

(5.102) nyupalaji wukalwukalnpari  
you two-Abs/N give-give-RECIP-IMPER  
you two share it! (lit. give to each other) [340]

The generalization identifying the addressee of an imperative clearly does not involve a syntactic notion of subject. Evidence for this is presented by (5.99) and (5.100). These examples show that the A-argument is a possible addressee independent of its s-structure grammatical relation. Furthermore, the imperative construction does not involve any change in grammatical relations. Dixon notes that imperative clauses may participate in topic chains in the same way as non-imperative clauses, for example. Also, as in non-imperative sentences, the P-argument in a sentence such as (5.103) involving an active transitive imperative cannot be deleted, suggesting that with such verbs the constraint on having an s-subject still holds.

The evidence presented suggests that the possible addressees of imperatives in Dyrbal are determined by the a semantic constraint. Sentences (5.99)-(5.100) suggest that it is the semantic role and not the syntactic relation of a noun phrase that determines whether it may be the addressee of an imperative with a two argument verb. In particular, the addressee of an imperative construction may be the A-argument of a two-argument verb or the S-argument of a one-argument verb.<sup>48</sup>

In an accusative language such as English, the same semantic constraints should apply to imperative constructions. Since English is accusative, the notion of s-subject encompasses the noun phrases that meet the semantic constraints. The addressee of an imperative in English is usually described in terms of the notion s-subject. It is possible that in English because the arguments that meet the constraint are all s-subjects, the imperative

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48. Dixon does not consider imperative clauses evidence for "accusative" syntax even though the addressee is identified as the A-argument of a two-argument verb and the S-argument of a one-argument verb. He notes that it is already necessary to refer to this category for case marking. The two arguments that may be the addressee of an imperative are the same arguments that receive "accusative" (Ergative given the analysis here) case when pronouns. Note that imperatives also involve pronouns. The A-argument and S-argument are only treated in the same way when their referents are first or second person pronouns. Dixon proposes a feature [ + / - actor ] to handle these processes.

construction has become a syntactically-defined construction. In fact, imperatives that do not meet the semantic constraints are possible although they are often awkward semantically. For example, the s-subject of a passive sentence may be the addressee of an imperative if its referent has some control over the action described, even though the s-subject is the argument bearing the patient role.

Dyirbal, as an ergative language, contrasts with English. In Dyirbal active sentences, the A-argument of a two-argument verb and the S-argument of a one-argument verb bear different s-structure grammatical relations, so that there is no potential for confusing the semantic generalization with a syntactic generalization, as there is in English. In fact, the generalization describing the distribution of Dyirbal imperatives is semantic.

It is possible that an ergative language could also show the syntactic constraint that was observed in English, that the addressee of the imperative must be an s-subject. This would require the ergative language to impose an additional syntactic constraint on imperative constructions as well as the semantic constraint. The syntactic constraint would have the effect of forcing transitive verbs in imperative sentences to obligatorily occur in the passive form. Such a syntactic constraint is not observed in Dyirbal imperatives. Yet, the same constraint is found in controlled complements to the verb *kika-I* "to tell to do", which could be considered indirect imperatives, since they also describe actions to be carried out. And, as noted in Section 5.6.3.2, the controlled argument, the addressee of the indirect imperative, is usually the S-argument of a one argument verb or the A-argument of a two argument verb. When, the controlled argument is the A-argument, the controlled clause had to obligatorily be in the passive form. In these complements, this syntactic constraint on the controlled clause can be attributed to the Binding Theory. The absence of such a constraint in Dyirbal imperative constructions may be due to the absence of some independently principle that imposes the constraint.

A consideration of the imperative construction in Dyirbal suggests that the choice of addressee for an imperative is semantically defined. This is compatible with the claim that Dyirbal is an ergative language.

## 5.8 Conclusion

The examination of Dyirbal syntax in this chapter provides considerable evidence for the proposal that Dyirbal is an ergative language in the sense of the Ergativity Hypothesis. Many of the phenomena took the form predicted by the Ergativity Hypothesis. Other properties associated with particular syntactic phenomena in Dyirbal were found to be consistent with the Ergativity Hypothesis. An examination of still other phenomena revealed further support for considering Dyirbal ergative while providing new insight into the nature of ergative languages. The study of Dyirbal argues strongly not only for the claim that Dyirbal is ergative but also for the hypothesis that leads to this claim, Marantz's Ergativity Hypothesis.

How is the claim that Dyirbal is ergative in the sense of the Ergativity Hypothesis related to the proposals that Dyirbal is a so-called "syntactically" ergative language? Dyirbal has been referred to as a "syntactically" ergative language because of the existence of syntactic processes that treat the single argument of an intransitive verb and the "patient" argument of a transitive verb in the same way. Within the framework of the Ergativity Hypothesis, there is a type of language that correspond to this kind of language: a language which is ergative in the sense of the Ergativity Hypothesis. The so-called "syntactic" ergativity of Dyirbal turns out to be due to the superficial manifestation of the particular association of semantic roles and syntactic relations that characterizes ergative languages, distinguishing them from accusative languages. In fact, when viewed at the appropriate level of abstraction, the syntactic processes in an ergative language are no different than those in an accusative language. The survey of Dyirbal in this chapter illustrates this point clearly.

## 5.9 Appendix: Verbs of Giving

Marantz also presents a second argument for the claim that Dyirbal is ergative based on evidence involving the verb *wuka-l* "to give". Dixon notes that this verb shows three alternative ways of expressing its arguments:

	<u>Agent</u>	<u>Patient</u>	<u>Goal</u>
(A)	Acc(ERG)	Acc(INST)	Nom(ABS)
(B)	Acc(ERG)	Nom(ABS)	DAT
(C)	Acc(ERG)	Nom(ABS)	GEN

The alternatives are given in terms of semantic role/morphological case correlations. The problem is to determine the grammatical relations associated with the arguments in each of the three possibilities. In array (C) the goal is expressed as a genitive noun phrase modifying

the noun phrase in absolutive case. According to Dixon, possibility (C) is the most common while possibility (B) is the rarest.

Marantz's account of verbs of giving in ergative languages appears to me to have some problems, especially with respect to Dyirbal. I will comment on his analysis without repeating his argument in full. See Marantz for details. Marantz's analysis depends on very specific assumptions about the relation between two of the case arrays that the verbs of giving allow. He describes the relation between the two constructions as involving the double object alternation, defining a double object construction as a construction in which some argument is expressed as the patient/theme argument is usually expressed. Although the Dyirbal construction (A) could be characterized in this way, it does not seem to me that this is a necessary characterization of this construction in particular or of double object constructions in general. I will address these two points separately.

First, I will discuss some general questions concerning the analysis Marantz proposes with respect to Dyirbal. Marantz only discusses two of the three possibilities for case arrays found with the verb *wuka-l* "to give". He does not consider (C), the most frequently occurring possibility. Also, the possibility which would be unmarked under Marantz's analysis, (B), is the most rarely found. Furthermore, the relation between the two possibilities (A) and (B) resembles that between a sentence with an instrumental noun phrase and the corresponding instrumental construction (see Dixon for a discussion of this construction). This correspondence should not be ignored in formulating an account of this construction. But, Marantz's analysis does not take this similarity into account, and the analysis he proposes for verbs of giving will not extend to the instrumental construction. The instrumental construction involves a transitive verb derived from a transitive verb. The pattern of case marking in the derived construction resembles that in (B), and it has as a counterpart, a sentence with an unaffixed form of the verb, showing the pattern of case marking in (A). With this construction, pattern (A) is found with a simple verb and pattern (B) with a derived verb. For verbs of giving, Marantz treats pattern (B) as the simple construction. It may not be desirable to give the same analysis to instrumental constructions and verbs of giving since one alternation involves affixation and the other does not, but the similarities should at least be considered.



In fact, there is evidence against the analysis he proposes for Dyirbal. Marantz does not have evidence available concerning one of the predictions that he notes would be crucial for verifying whether his analysis of verbs of giving applies to Dyirbal. Marantz predicts that (A) should not have a (anti)-passive form. Yet, Dixon points out an example of such a sentence in a text [p.269-70] (see footnote 30 for this example and some discussion). That Marantz's prediction is not met suggests that his analysis must be rejected at least for Dyirbal. Marantz does present evidence that the prediction holds for the comparable construction involving verbs of giving in Central Arctic Eskimo, but an alternative analysis of the Eskimo example cannot be ruled out either. I will not propose an alternative analysis of this construction here.

Second, Marantz considers possibility (A) as an example of a double object construction in an ergative language. His definition of a double object construction as a construction where some argument is expressed as the patient/theme argument is usually expressed does not seem to be a necessary definition of the construction. This definition mentions the syntactic expression of a particular semantic role, raising the question that in an ergative language the double object construction might be defined as a construction where some argument is expressed as the agent argument is usually expressed. The definition, a construction where some argument is expressed by the object relation instead of the argument typically associated with the object relation, would equally describe the facts in English, but would not carry over to the constructions involving the verb ? in Dyirbal. Marantz's discussion of this construction overlooks the dissociation of syntactic relations and semantic roles associated with the Ergativity Hypothesis.

The construction that is called the double object construction in English involves a particular coincidence of semantic and syntactic properties which need not fall together in every language. The same coincidence would not be expected in an ergative language which differs from an accusative language in its association of semantic roles with grammatical relations. In an ergative language, a construction involving the same syntactic properties as an English double object construction would not be expected to involve the same semantic class of verbs. The verbs of giving will be three argument verbs in all languages. The existence of multiple diatheses for verbs like "to give" in many languages suggests that three argument verbs may have several alternative syntactic means of expressing their arguments. But, this does not mean that the same syntactic devices will be used in all languages, particularly in ergative and accusative languages.

## 6. Basque

Basque is the third and final language whose ergativity will be reassessed in view of Marantz's Ergativity Hypothesis. Basque has been considered an ergative language on the basis of an ergative system of nominal case marking as well as an ergative system of verb/auxiliary agreement.<sup>1</sup> But, since these two phenomena are not sufficient for determining a language's status with respect to the Ergativity Hypothesis (see Section 3.1.1), the question of Basque's ergativity must be reassessed. Evidence will be presented arguing that Basque is accusative.

The traditional description of Basque turns out to be inappropriate since the so-called "intransitive" verb class in Basque includes only those intransitive verbs whose argument is a d-object, i.e. the unaccusative verbs. As a consequence, a re-examination of the system of case is necessary. Basque turns out to be unusual in having a system of morphological case that reflects d-structure grammatical relations rather than s-structure grammatical relations as accusative and ergative case systems do. Yet, the notion of s-structure subject is still required in Basque to account for control phenomena. An account of the Basque case system within the Government-Binding framework that allows for these properties will be proposed.

### 6.1 Simple Verbal Sentences

First, some facts about the syntax of Basque simple sentences will be set out. The dialect of Basque that will be considered here is Euskara Batua, Unified Basque. Basque simple tensed sentences usually consist of a verb in a participial form and an inflected auxiliary<sup>2</sup> together with the noun phrases bearing argument relations to the verb. Word order is relatively free in Basque simple sentences, although there is a fixed focus position, the preverbal position.<sup>3</sup> The relative order of the auxiliary with respect to the verb and focus

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1. There are some deviations from the ergative system of verb agreement in the past. These will be mentioned below in footnote 12.

2. All verbs in Basque can appear in one of three participial forms together with an auxiliary inflected for person and number. Only a small number of Basque verbs can be inflected directly without the use of the auxiliary. The verbs that can be inflected directly show the same pattern of agreement as the auxiliaries.

3. This aspect of Basque syntax is not relevant to this paper, but see Azkarate et al. [1981] for some discussion.

position is also fixed. In Basque, unmarked word order in a simple affirmative sentence is generally assumed to be "SOV", as illustrated in (6.1) with the verb *ikusi* "to see".<sup>4</sup>

(6.1) Mirenek ni ikusi nau.  
Miren-NORK I-NOR see 1sNOR-UKAN-3sNORK  
Miren saw me.

But other word orders are acceptable. The constraints on word order are not well understood. I will leave the larger issue of whether or not Basque is a configurational language aside since it is not directly relevant to the question of Basque's ergativity.

Basque has a wide range of nominal cases but no prepositions or postpositions. Four cases only will be of interest: the NOR case, the NORK case, the ZERIK case, and to a lesser extent the NORI case. I will refer to the cases by their Basque names to avoid preconceptions concerning their functions. Each case<sup>5</sup> has three forms, a non-definite form and singular and plural definite form.<sup>6</sup> The forms of the NOR, NORi, and NORK cases are given below:

<u>Case</u>	<u>Non-definite</u>	<u>Singular Definite</u>	<u>Plural Definite</u>
nor	—	-a	-ak
nork	-(e)k	-ak	-ek
nori	-(r)i	-ari	-ei

The ZERIK case only has a non-definite form, marked by the affix *-(r)ik*. Usually, noun phrases are used in the definite form<sup>7</sup> with the exception of proper nouns which are always in the non-definite form. In the examples, for simplicity, definiteness will not be noted in the glosses: noun phrases will always be given in the definite form and proper nouns in the non-definite form unless explicitly noted.

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4. The citation form for Basque verbs is the perfect participle form. In the examples, verbs are in the perfect participle form, auxiliaries in the present form, proper nouns in the non-definite form, and other noun phrases in the definite form, unless otherwise specified in the gloss. I have usually translated the perfect participle verb form with the English simple past, although it does not correspond exactly to the Basque, which is closer to the English present perfect. Thus, (6.1) is more accurately translated "Miren has seen me." The examples are from Euskara Batua (Unified Basque).

5. With the exception of two cases which only have the non-definite form, the ZERIK (partitive) case and the *zertzat* case, which is used for the noun phrase corresponding to the "as" noun phrase found with verbs like "consider".

6. In fact, there is a fourth form, the definite plural proximate form. This form will be ignored here. The use of the terms "definite" and "non-definite" here corresponds to the notions of "determined" and "undetermined".

7. There are some exceptions; for example, noun phrases containing certain quantifiers such as *zenbat gizon* "how many men".

Basque verbs are usually divided into two major classes according to their case arrays, the set of arguments that the verb requires identified by case. These are the NOR verbs and the NOR-NORK verbs.<sup>8</sup> The NOR verbs, which require a single argument marked for the NOR case, have been called intransitive, while the NOR-NORK verbs, which take two arguments, one in the NOR case and one in the NORK case, are considered to be transitive verbs. The members of the NOR-NORK and NOR verb classes have counterparts among the transitive and intransitive classes, respectively, in other languages.

NOR Verbs: *etorri* "to come", *joan* "to go", *egon* "to stay/be", *agertu* "to happen", *maitemindu* "to fall in love", *hasi* "to begin" ...

NOR-NORK Verbs: *ikusi* "to see", *jo* "to hit", *egin* "to do/make", *ekarri* "to bring", *jan* "to eat", *ipini* "to put", *erosi* "to buy", *idatzi* "to write", ...

Most verbs in Basque only take one of the two case arrays, but some verbs may take either, see Section 6.3.1. There also appear to be a few verbs that select the NORK case array only.

Verbs in Basque also fall into two classes according to whether they can or cannot be conjugated directly. There is a small class of verbs, the synthetic verbs, which may be conjugated. This class includes the auxiliary verbs, IZAN "to be" and UKAN "to have", and commonly used verbs such as the verbs listed below.

(A) *etorri* "to come", *ibili* "to walk", *joan* "to go"  
(B) *ekarri* "to bring", *erabili* "to use", *jakin* "to know"

This property is independent of the choice of arguments selected. The verbs listed in (A) are NOR verbs and those in (B) are NOR-NORK verbs.

Most verbs cannot be conjugated directly. Instead they can only occur in a periphrastic construction. In this construction, a verb occurs in one of three participial forms (present, perfect, or future) together with an auxiliary which shows the necessary agreement. The synthetic verbs may also appear in this construction. Therefore, all verbs in Basque can occur in a participial form together with an auxiliary, although only synthetic verbs may be conjugated directly. In this chapter, only the use of verbs with an auxiliary will be discussed.

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8. I will be ignoring the NORI (dative) case in setting out verb classes, although verbs do select this case, treating the NOR-NORI and NOR-NORI-NORK verbs as subclasses of NOR and NOR-NORK verbs, respectively.

Basque has two auxiliary verbs, IZAN "to be" and UKAN "to have", which differ in what cases they must agree with. The auxiliary verbs in Basque, and synthetic verbs as well, may agree with NOR, NORK, and NORI arguments in both person and number. They never agree with noun phrases marked for other cases.<sup>9</sup> The auxiliary IZAN "to be" agrees obligatorily with the NOR argument and optionally with the NORI argument. Sentence (6.2) illustrates agreement with a NOR noun phrase and sentence (6.3) agreement with both a NOR and a NORI noun phrase.

(6.2) Ni etorri naiz.  
I-NOR come 1sNOR-IZAN  
I came.

(6.3) Ni Mireni etorri natzaio.  
I-NOR Miren-NORI come 1sNOR-IZAN-3sNORI  
I came to Miren.

The auxiliary UKAN "to have" agrees obligatorily with both a NOR and a NORK argument<sup>10</sup> and optionally with a NORI argument. The two agreement possibilities for UKAN are shown below:

(6.4) Nik liburua ekarri dut.  
I-NORK book-NOR bring 3sNOR-UKAN-1sNORK  
I brought a book.

(6.5) Nik Mireni liburua ekarri diot.  
I-NORK Miren-NORI book-NOR bring 3sNOR-UKAN-3sNORI-1sNORK  
I brought Miren a book.

To summarize, the agreement possibilities shown by each auxiliary are set out below:

<u>Auxiliary</u>	<u>Case Array</u>
IZAN	NOR-(NORI)
UKAN	NOR-(NORI)-NORK

Both auxiliaries, then, agree with a NOR argument. The two auxiliaries differ in that UKAN can agree with both a NOR and NORK argument while IZAN never can agree with a NORK

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9. There is some disagreement over the possibility of agreement with noun phrases in the ZERIK (partitive) case. Arguments that would usually appear in the NOR case may appear in the partitive in certain types of sentences, including negative sentences (see Section 6.4.1). In such sentences, the verb always shows third person singular NOR agreement, the form of agreement usually found with third person non-definite or singular definite noun phrases. The question is whether this is agreement with the ZERIK noun phrase, which is always in the non-definite form, or whether this is an example of "impersonal" verb agreement.

10. But, see footnote 23 for an alternative approach to the agreement facts for UKAN.

argument. Agreement with a NQRI argument is optional for both auxiliaries.

The choice of auxiliary in a sentence is determined by the verb's case array. In particular, the auxiliary is predictable from the verb's case array.<sup>11</sup> Verbs which require the NOR array must take the auxiliary IZAN. Verbs which require the NOR-NORK array must take the auxiliary UKAN. NOR verbs cannot take the auxiliary UKAN, although NOR-NORK verbs can take the auxiliary IZAN in the impersonal construction (see Section 6.4.3). Therefore, the ability of a verb to take the auxiliary UKAN indicates that the verb is not a NOR verb.

Basque allows "pronoun drop" with arguments in the three cases marked in the auxiliary. This is illustrated in (6.6)-(6.7):

(6.6) *Nik liburua ikusi dut.*  
I-NORK book-NOR see 3sNOR-UKAN-1sNORK  
I saw the book.

(6.7) *Liburua ikusi dut.*  
book-NOR see 3sNOR-UKAN-1sNORK  
I saw the book.

The pronoun *nik* "I" is missing in (6.8), but it will be understood from the form of the auxiliary. When a verb agrees with a third person argument, but no corresponding noun phrase is overt in the sentence, it usually receives a definite interpretation, consistent with the occurrence of "pronoun drop".

(6.8) *Ikusi dut.*  
see 3sNOR-UKAN-1sNORK  
I saw it/him/her

## 6.2 The System of Case Marking and Agreement

In this section, I will review the reasons that Basque has traditionally been considered a language with an ergative system of case marking and verb/auxiliary agreement.

An ergative system of case marking is one in which the object (or patient) of a transitive verb and the single argument of an intransitive verb share the same case, the absolutive case, while the subject (or agent) of a transitive verb shows a different case, the ergative case.

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11. Although the auxiliary agrees with noun phrases in the NOR, NORI, and NORK cases, the NOR and NORK cases alone are sufficient to determine auxiliary distribution, in the manner set out here. The presence or absence of the NORI case in the case array has no effect on the choice.

Furthermore, in an ergative system of case marking, the absolutive case is typically the morphologically unmarked case and the ergative case is the morphologically marked case. This system contrasts with an accusative system of case marking where the subject of a transitive verb and the single argument of an intransitive verb share the same case, the nominative case, while the object of a transitive verb receives a distinct case, the accusative case.

The system of case marking in Basque conforms to the ergative pattern. This will be demonstrated using the terms "subject" and "object" in a pretheoretic fashion. Consider sentence (6.9) with the verb *etorri* "to come".

(6.9) Ni etorri naiz.  
I-NOR come 1sNOR-IZAN  
I came.

The "subject" (single argument) to the verb in (6.9) is in the morphologically unmarked case in Basque. This case is referred to as the NOR case. Compare sentence (6.9) to sentence (6.10) with the two argument NOR-NORK verb *ikusi* "to see".

(6.10) Mirenek ni ikusi nau.  
Miren-NORK I-NOR see 1sNOR-UKAN-3sNORK  
Miren saw me.

In (6.10), the NOR argument corresponds to the "object" of the English counterpart of the sentence while the "subject" is in a distinct, morphologically marked, case, referred to as the NORK case. Sentence (6.11) contrasts with (6.10) in having the first person singular pronoun in the NORK case form, *nik*.

(6.11) Nik liburua ikusi dut  
I-NORK book-NOR see 3sNOR-UKAN-1sNORK  
I saw the book.

But in sentence (6.11), the pronoun corresponds to the "subject" of the English counterpart. Sentence (6.11) contrasts with (6.10) in having the first person singular pronoun in the NORK case form, *nik*. Given the pattern illustrated in (6.9)-(6.11), Basque is considered to have an ergative system of case marking. Accordingly, the NOR case is traditionally termed the "absolutive" case and the NORK case the "ergative" case.

The system of agreement in Basque is also described as ergative.<sup>12</sup> There is a set of prefixal agreement markers that are construed with the NOR argument of both NOR and NOR-NORK verbs and a second distinct set of suffixes that are construed with the NORK arguments of NOR-NORK verbs.<sup>13</sup> Consider (6.9)-(6.11) again. In (6.9), the verb shows the prefix *n-* indicating agreement with a first person singular NOR argument. In (6.10), the auxiliary again shows the prefix *n-*, in agreement with a first person singular NOR argument. The agreement marker for a first person singular NORK argument is the suffix *-t*, as in (6.11). In what follows, I will focus on case marking since the agreement system reflects the same pattern.

### 6.3 The Composition of the NOR Class

Having presented an overview of the relevant aspects of the structure of simple Basque sentences, this section will provide a first step towards establishing the status of Basque through a characterization of the NOR verb class, the so-called "intransitive" class. This question will turn out to have particular relevance to the Ergativity Hypothesis because the characterization involves the relation between semantic verb classes and the surface expression of their arguments. The purpose of this section will be to review the composition of the NOR class with the intention of providing an improved descriptive account. A pretheoretic characterization of the NOR class in terms of a semantic property shared by the members of this class will be proposed. After Basque's status has been clarified, the characterization will be reformulated in terms of a syntactic property. This section will avoid making any commitment to Basque's status with respect to the Ergativity Hypothesis or to the grammatical relations associated with each case array.

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12. This statement must be qualified. Verb agreement on an ergative basis is found throughout the present tense and in the past tense when the NOR argument is not in the third person. When the NOR argument is in the third person in the past, prefixed agreement markers, resembling the NOR agreement markers, are used for NORK agreement. The description here is intended as a sketch of the verb agreement facts relevant to ergativity. There are additional details that have been omitted, for example, markers indicating plural NOR agreement.

13. The auxiliaries have a separate position for dative agreement, so it is independent of the agreement with NOR and NORK arguments discussed here.



As a starting point, I will review the traditional account of the characterization of the NOR verb class in terms of transitivity. Then I will present an alternative semantic characterization of this class. This generalization will receive support from an examination of the members and non-members of the NOR class, particularly the typical members of the intransitive class. This survey will suggest that the traditional characterization in terms of transitivity, although plausible as a first approximation, is inappropriate. In particular, it does not account for the observation that the class of NOR verbs in Basque is much more limited than the typical class of intransitive verbs in other languages.

The notion of transitive and intransitive verb have been carried over to Basque on the basis of similarities between Basque and European languages. Intuitively, the notion of transitivity is supposed to capture whether a verb is a one or two-place predicate. Intransitive verbs are defined to be predicates requiring a single argument, the subject, while transitive verbs are defined to be predicates requiring two arguments, a subject and an object. In English and many other languages, the notions of subject and object and transitivity are defined in terms of configurational properties.

In Basque, transitivity is defined in terms of case array requirements rather than configurational requirements. A verb requiring the NOR case array can be considered a single argument verb, while a verb requiring the NOR-NORK array can be considered a two argument verb. Therefore, transitivity can be defined as follows: a verb which selects the NOR array is an intransitive verb and a verb which selects a NOR-NORK array is a transitive verb. Because of the relation between case arrays and auxiliary distribution, the distribution of auxiliaries has also been linked to the notion of transitivity. The auxiliary UKAN, as the auxiliary found with NOR-NORK verbs, is considered the transitive auxiliary and the auxiliary IZAN, as the auxiliary found with NOR verbs, is considered the intransitive auxiliary.

Apparent support for defining transitivity in Basque in relation to case arrays comes from comparing the Basque verbs said to be transitive or intransitive by virtue of their case arrays with verbs that are typically considered transitive or intransitive in other languages. The NOR verbs listed below are members of the intransitive class and the NOR-NORK verbs are members of the transitive class.

NOR Verbs: *etorri* "to come", *joan* "to go", *egon* "to stay/be", *agertu* "to happen", *hasi* "to begin" ...

NOR-NORK Verbs: *ikusi* "to see", *jo* "to hit", *egin* "to do/make", *ekarri* "to

bring", *jan* "to eat", *ipiniL* "to put", *erosi* "to buy", *idatzi* "to write", ...

Although the NOR verbs certainly correspond to intransitive verb in other languages, in this section, a proposal that the NOR verbs are only a subset of the intransitive verbs will be examined. The hypothesis that will be considered is that the NOR verbs are a semantically homogeneous class, as stated below:

The NOR Verb Hypothesis

Only verbs with a patient single argument are NOR verbs.<sup>14</sup>

Other verbs will not be NOR verbs. (They might be NOR-NORK verbs or NORK verbs.)<sup>15</sup>

This hypothesis makes a claim about which single argument verbs are possible NOR verbs. I will argue for this generalization below drawing on the characterizations of the agent and patient single argument verb classes presented in Section 1.3.

There is no question that the agent-patient verbs in Basque are not NOR verbs, consistent with the hypothesis. The agent-patient verbs are NOR-NORK verbs. In this sense, the NOR-NORK verbs seem to include most of the members of the typical transitive class in a language since the transitive class usually includes at least the set of agent-patient verbs. Members of the various subgroups of agent-patient verbs can be identified among the NOR-NORK verbs, including verbs of affect, verbs of change of state and position, and verbs of transfer. Furthermore, when a NOR-NORK verb is an agent-patient verb, the NOR argument is the patient argument and the NORK argument is the agent argument. If the NOR class generalization holds, this will mean that in general the NOR case will be associated with the patient role and the NORK case with the agent role.

A closer examination of NOR verbs is required to confirm the hypothesis concerning the composition of the NOR class. The NOR verbs must be compared to the agent and patient verbs to check if this hypothesis holds. If the proposed generalization holds, the class of NOR verbs should include members of the different subclasses of patient single argument verbs, but not members of the subclasses of agent single argument verbs. But if the description of the NOR class in terms of transitivity were appropriate, the NOR verbs as intransitive verbs should belong to both the agent and patient classes.

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14. Possibly, this should be stated in an alternative form: no verb with only an agent argument can be a NOR verb.

15. Except in the impersonal construction, see Section 6.4.3.

Consider the make up of the NOR verb class. There are certain distinct semantic generalizations associated with the agent and the patient classes, even if a precise semantic characterization of either class is impossible. Patient verbs are generally predicates whose argument bears the patient or theme thematic role, that is predicates describing states and changes of state and position. In contrast, agent verbs are typically predicates describing activities with their argument assigned the agent role. The examples of NOR verbs, divided into semantically defined classes, below show that the NOR verbs meet the characterization of patient verbs.

Verbs of Motion: *joan* "to go", *etorri* "to come", *ibili* "to walk", *itzuli* "to return", *atera* "to exit", *irten* "to exit", ...

Verbs of Change of State or Position: *ireki* "to open", *apurtu* "to break", *bero* "to heat", *erre* "to burn", *hil* "to die", *hertsi* "to close", ...

Verbs of Emotional Reaction: *harritu* "to be surprised", *izutu* "to be frightened", *nahasi* "to be confused", *haserretu* "to be angry", ...

Verbs of Existence and Occurrence: *gertatu* "to happen", *egon* "to stay/be", *agertu* "to appear", *sortu* "to arise", ...

Aspectual Verbs: *amaitu* "to end", *hasi* "to begin", *bukatu* "to end", ...

Other: *ezkondu* "to be married", *maitemindu* "to fall in love", *baliatu* "to make use of", ...

Members of the major subclasses of the patient single argument class are represented. Assuming that the NOR verbs listed are representative, the set of NOR verbs seems to be quite limited semantically. The NOR verbs seem to be members of the class of patient single argument verbs consistent with the proposed generalization. Even the verbs that do not fall readily into one of these subclasses do not seem to be agent single argument verbs.

The verb classes omitted from this list are equally revealing. According to the hypothesis, all verbs that do not meet the semantic characterization of the NOR verbs cannot be NOR verbs and must be expressed in some other way. Since it is extremely difficult to examine all members of the NOR verb class exhaustively, additional confirmation that the NOR verbs do indeed meet this characterization can be derived either (1) from examining classes of non-NOR verbs to show they include typically agentive verbs or (2) from examining classes of verbs that are typically agent verbs and showing they are not expressed as NOR verbs. Instances of both should be found in Basque if the NOR verbs are the patient verbs.

The behavior of representative subsets of verbs will be shown to be consistent with the generalization, suggesting that in general NOR verbs are patient verbs. Section 6.3.1 will consider the use of the NOR array in two semantic alternations that involve patient verbs. Section 6.3.2 will examine a construction used to express the Basque counterparts of many agentive verbs to show that these verbs are not NOR verbs. Section 6.3.3 will consider a set of verbs that are not patient verbs, the verbs of communication, to show that they are not NOR verbs. Verbs that participate in an alternation that does not involve patient verbs, the indefinite object deletion alternation, will be shown not to involve the NOR array in Section 6.3.4.

### 6.3.1 Verbs Taking Two Case Arrays

Although most verbs in Basque can only take either the NOR or the NOR-NORK array, there are verbs which may take either of the two case arrays. The uses of each case array supports the characterization of the NOR class as a patient verb class. These verbs use the two arrays to express particular semantic alternations. Each of these semantic alternations involves pairs of semantically related verbs expressed by a single lexical item. In both alternations, the use of the NOR array is associated with the member of the alternation that belongs to the patient single argument class.

The verbs that allow both case arrays differ from the verbs taking a single array in also taking both auxiliaries. The verbs taking both arrays do not differ from verbs taking a single array in one respect: they show the same correspondences between auxiliaries and case arrays as the single array verbs. These verbs take the auxiliary IZAN with the NOR array and the auxiliary UKAN with the NOR-NORK array, consistent with the generalization stated above concerning the prediction of auxiliaries from case arrays.

The meaning of a sentence with a verb that takes two case arrays is determined by the case array selected. In Basque, pairs of sentences with the same verb but different case arrays (and corresponding auxiliaries) are related by particular semantic alternations. These alternations are the anti-causative alternation and the emotional reaction alternation. They will be discussed in turn below. Neither of these alternations are peculiar to Basque. Each of them are found in other languages, although the means used to express them may differ from language to language. They do not necessarily have to be expressed in the same way. Russian is like Basque in this respect, but English is not.

In Basque, the anti-causative alternation is expressed by a verb that can occur with both case arrays, taking the auxiliary appropriate to the array.

- (6.12) a. Mirenek atea ireki du.  
Miren-NORK door-NOR open 3sNOR-UKAN-3sNORK  
Miren opened the door.
- b. Atea ireki da.  
door-NOR open 3sNOR-IZAN  
The door opened.

This alternation, illustrated below in English, involves pairs of sentences which are related by the semantic notion of causation.

- (6.13) a. Mary opened the door.  
b. The door opened.

In English, this alternation involves a verb that is used both transitively and intransitively. In Basque, the alternation involves a change in case array, and, therefore, in auxiliary. The causative member of the alternation takes the NOR-NORK array together with the auxiliary UKAN. The anti-causative member of the alternation takes the NOR case array and the auxiliary IZAN.

The anti-causative alternation is found with many verbs involving change of state and position, among them:

*ireki* "to open", *apurtu* "to break", *berotu* "to heat", *erre* "to burn", *hil* "to die",  
*hertsi* "to close", ...

The anti-causative verbs are considered members of the patient class while the causative verbs are considered agent-patient verbs. The use of the NOR array to express the anti-causative member of the alternation is consistent with the hypothesis that the NOR verbs are patient verbs. Furthermore, the use of the NOR case for the argument bearing the patient role for both the causative and anti-causative verb suggest that there is a general relation between the NOR case and the patient role and also between the NORK case and agent role.

A second alternation is found with verbs of emotional reaction, as illustrated below:

- (6.14) a. Jonek Miren haserretu du.  
Jon-NORK Miren-NOR make angry 3sNOR-UKAN-3sNORK.  
Jon made Miren angry.

- b. Miren haserretu da.  
Miren-NOR become angry 3sNOR-IZAN  
Miren got angry.

The semantic relation between the pairs of sentences once again involves causation,<sup>16</sup> but the verbs involved describe the emotional reaction of an animate entity. Verbs participating in this alternation include:

*harritu* "to be surprised", *izutu* "to be frightened", *nahasi* "to be confused",  
*haserretu* "to be angry", ...

When the verb is used in a sentence with a NOR-NORK array and the auxiliary UKAN, as in (6.14a), the sentence describes how the emotional reaction came about. Although these sentences are causative, they do not necessarily attribute intentionality to the causer. When the sentence contains the NOR array and the auxiliary IZAN, as in (6.14b), the focus is on the emotional reaction itself. Once again, this use of the NOR array is consistent with the claim that NOR verbs are patient verb. Again, the NOR case is used for the argument whose referent undergoes the reaction in both members of the alternation.

### 6.3.2 The N EGIN Construction

In this section I will examine a construction which is used to express the Basque counterparts of a number of verbs that are frequently members of the class of intransitive verbs in other languages. These verbs are not expressed as simple verbs in Basque. Instead, a compound verb-noun construction is used. This construction will be referred to as the N EGIN construction since it consists of the verb *egin* "to do/make" and a non-definite noun in the NOR case. To illustrate the N EGIN construction, a typical instance of this construction, *lan egin* "to work" (from the noun *lan* "work"), is given in the sentence below.

- (6.15) Nik lan egin dut.  
I-NORK work-NDEF/NOR do 3sNOR-UKAN-1sNORK  
I worked.

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16. Although this alternation may be considered a special case of the anti-causative alternation, it will be considered a distinct alternation. The set of verbs involved is semantically coherent. The requirements on arguments to the verb are different from those in the anti-causative alternation. The cause of the emotional reaction need not be animate, although the reaction itself must be undergone by an animate entity. Furthermore, the emotional reaction alternation is not always expressed in the same way as the anti-causative alternation. In English, this alternation is never expressed in the same way as the causative alternation, while in French or Russian it may or may not be.

The N EGIN construction requires the transitive auxiliary UKAN. This is not surprising since sentences with the N EGIN construction have both a NOR noun phrase which is part of the N EGIN construction and a NORK argument, which the construction is predicated of, just as in a typical sentence with the auxiliary UKAN. In fact, the N EGIN construction uses the same case array as the regular use of the verb *egin*, a NOR-NORK case array, as shown below:

(6.16) Nik        etxea        egin    dut.  
I-NORK house-NOR make 3sNOR-UKAN-1sNORK  
I built a house.

Furthermore, the NORK argument has the same semantic role, the agent, in both the N EGIN sentence and the regular *egin* sentence.

One other important property of the N EGIN construction must be mentioned. The noun in the N EGIN construction always occurs in the non-definite NOR form rather than the definite NOR form. Thus, in *lan egin*, *lan* is the non-definite NOR form of the noun "work". The definite NOR form of this noun is *lana*. Compare this to the sentence (6.17) with the regular use of *egin* where the NOR noun phrase "house" is in the definite form *etxea* rather than the non-definite form *etxe*. As mentioned above, the non-definite form is usually only used with proper nouns (and qualified nouns).

The N EGIN construction might seem to be an example of object incorporation. But this construction is not a syntactically frozen form. In negative sentences, the noun of the N EGIN construction behaves like other NOR noun phrases: it can appear in the ZERIK (partitive) case as in (6.17).

(6.17) Ez    du                                    hitzik        egin.  
NEG 3sNOR-UKAN-3sNORK word-ZERIK make  
I didn't say a word.

But it may also appear in the NOR case, as in (6.18).

(6.18) Ez    du                                    hitz            egin.  
NEG 3sNOR-UKAN-3sNORK word-NOR make  
I didn't speak.

Sentences (6.17) and (6.18) differ in meaning. This difference is attributable to the use of the

ZERIK case.<sup>17</sup> And the order of the noun and the verb *egin* is not fixed. The noun need not precede the verb *egin* in interrogative sentences as in (6.19) and (6.20).

(6.19) Nork egin behar du hitz?  
Who-NORK make need 3sNOR-UKAN-3sNORK word-NDEF/NOR  
Who needs to speak?

(6.20) Egin duzu hitz?  
make 3sNOR-UKAN-2sNORK word-NDEF/NOR  
Did you speak?

The order can also change to indicate a change in focus. The focused constituent must appear in preverbal position in affirmative sentences. Sentence (6.21) illustrates unmarked word order, while sentence (6.22) focuses on *oso ondo*.

(6.21) Oso ondo hitz egin duzu  
very good word-NDEF/NOR make 3sNOR-UKAN-2sNORK  
You spoke very well.

(6.22) Oso ondo egin duzu hitz.  
very good make 3sNOR-UKAN-2sNORK work-NDEF/NOR  
You spoke very well.

From the semantic point of view, the situation is more complex. The meaning of a sentence with the N EGIN construction depends on the choice of noun.<sup>18</sup> The verb *egin* serves as a semantically empty verb. The combination of the verb *egin* and the NOR noun phrase determine the meaning of the construction. Some representative examples of the N EGIN construction are given below to illustrate the range of verbs expressed with this construction:<sup>19</sup>

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17. See Section 6.4.1 for more discussion of the ZERIK case.

18. The N EGIN combination can even take on an idiomatic meaning. For example, *piper egin*, from the noun *piper* "pepper", may be translated as "to play hookey".

19. The N EGIN construction is also used to express weather expressions when the noun of the N EGIN construction is a weather related noun.

(i) Euria egin du.  
Rain-NOR make 3sNOR-UKAN-3sNORK.  
It rained.

In this use, there is no overt NORK argument, but the auxiliary UKAN is still used. Other examples include *elurra egin* "to snow", *hotz egin* "to be cold".



<u>N EGIN</u>	<u>N</u>	<u>Verb</u>
<i>agur egin</i>	greet	to greet
<i>barre egin</i>	laugh	to laugh
<i>dehadar egin</i>	shout	to shout
<i>eztul egin</i>	cough	to cough
<i>hitz egin</i>	word	to speak
<i>ihes egin</i>	escape	to escape
<i>irri egin</i>	laugh	to laugh
<i>keinu egin</i>	wink	to wink
<i>lan egin</i>	work	to work
<i>lo egin</i>	sleep	to sleep
<i>negar egin</i>	tear	to cry
<i>oihu egin</i>	shout	to shout
<i>so egin</i>	?	to look at
<i>zin egin</i>	oath	to swear

This construction is used to express verbal notions which are typically expressed by intransitive verbs in English and other languages. A survey of these examples shows that the verbs expressed by the N EGIN construction include some of the most commonly cited examples of intransitive verbs: *work*, *sleep*, *laugh*, *cry*. Members of several semantically coherent classes of verbs are represented among the N EGIN verbs. The N EGIN verbs listed include several examples each from the following verb classes: verbs of gesture and sign, verbs of communication, and verbs of bodily process. Not all N EGIN verbs belong to these classes. For example, the verb *lan egin* "to work" does not.

Furthermore, the N EGIN construction is used to express verbs with a common property: they correspond to intransitive verbs in English<sup>20</sup> whose argument bears the agent semantic role. The use of this construction to express such verbal notions is consistent with the proposed characterization of the NOR class, and the use of the auxiliary UKAN means that the verbs expressed by this construction are not NOR verbs. As agent verbs these verbs would be predicted not to be among the NOR verbs.

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20. Although these verbs correspond to verbs that are considered intransitive in English, even their English counterparts are not exclusively intransitive. Many of the verbs that occur in the N EGIN construction are verbs that allow a cognate or an extent object in English. For example, consider *to sleep a good sleep*, *to wink an eye*, *to cry bitter tears*. Although English has simple verbs as counterparts to the N EGIN construction, these same verbs in English can be expressed in a construction that resembles the N EGIN construction: *give/have a laugh*, *take a look*, *give a smile*, etc. But in English there is an emphasis on a single occurrence of the action in these constructions. It is interesting that such similarities exist.

### 6.3.3 Verbs of Communication

To confirm that the proposed generalization really holds, it is equally important to check that verbs that are not patient verbs are not NOR verbs, and, in particular, that they can take the auxiliary UKAN unlike NOR verbs. Verbs of communication are a class of verbs that are rarely expressed as patient verbs are expressed in a language. Languages vary as to whether these verbs are expressed as one argument or two argument verbs, but if not two argument verbs, they should pattern with the agent single argument verbs. These verbs in Basque would be expected not to be NOR verbs, and indeed are not, consistent with the generalization about NOR class membership.

Some verbs of communication are expressed with the N EGIN construction which takes the auxiliary UKAN.

*hitz egin* "to speak", *oihu egin* "to shout", *zin egin* "to swear", *galde egin* "to ask"

In fact, even verbs of communication which do not use this construction, but are morphologically simple verbs, such as those listed below, are UKAN verbs in Basque.

*esan* "to say", *galde* "to ask", *erantzun* "to answer", *aipatu* "to mention", *erausi* "to murmur/chatter"

Sentence (6.23) illustrates the use of one of these verbs:

(6.23) Mirenek niri erantzun dit.  
Miren-NORK I-NORI answer 3sNOR-UKAN-1sNORI-3sNORK  
Miren answered me.

This verb shows third person singular NOR agreement although there is no overt NOR noun phrase. The actor is expressed in the NORK case. The goal of the communication may be optionally expressed as a NORI argument. This results in NOR-(NORI)-NORK agreement in the auxiliary UKAN. With some of these verbs, the subject matter of the communication can be expressed as a subordinate clause.

(6.24) Mirenek esan du Jon etorri dela.  
Miren-NORK say 3sNORK-UKAN-3sNOR Jon-NOR come 3sNOR-IZAN-LA  
Miren said that Jon came.

Other verbs, such as *hitzegin* "to speak", take an argument in the instrumental case.

The examples show that verbs of communication take the auxiliary UKAN.<sup>21</sup> The selection of the auxiliary UKAN "to have" by verbs of communication indicates that these verbs are not NOR verbs since NOR verbs only select the auxiliary IZAN "to be". This choice is consistent with the proposed characterization of the NOR class. As non-patient single argument verbs, verbs of communication are not expected to be NOR verbs in Basque. If these verbs only took the auxiliary IZAN, then the hypothesis would be violated. But, the fact that they select UKAN supports the hypothesis.<sup>22</sup>

### 6.3.4 Indefinite Object Deletion

Further support for considering that NOR verbs have a single patient argument comes from an examination of the indefinite object alternation in Basque. The expression of this alternation does not involve an alternation between the NOR and NOR-NORK array like the other alternations, the anti-causative and emotional reaction alternations. This turns out to be consistent with the characterization of the NOR class. At the same time, the expression of this alternation raises further doubts about the appropriateness of transitivity as the notion differentiating the NOR and NOR-NORK classes.

The indefinite object deletion alternation is exemplified below with an example from English:

- (6.25) a. John ate the apple.  
b. John ate.

This alternation is a semantic alternation involving verbs from a particular semantic class. Verbs that participate in this alternation may be used to describe the action of an agent on a patient, as in (6.25a), or they may be used to describe the activity of the agent without

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21. In other languages with ergative case marking and transitive and intransitive conjugations, members of this class may be found in both conjugations; certainly they do not exclusively take the transitive conjugation (for ex, Chukchee, Eskimo). Basque differs from these languages in its treatment of verbs of communication just as it differs in its treatment of the indefinite object deletion alternation (see Section 6.3.4). This suggests there is an essential difference between transitive and intransitive conjugations in these languages and auxiliary selection in Basque.

22. I know of only one exception, the verb *mintzatu* "to speak" is an NOR verb. This appears to be the only verb of communication that is a NOR verb. In fact this is the only counter-example I am aware of to the generalization concerning NOR class membership. And, it appears that there is dialectal variation as to what auxiliary it requires. For example, Lafitte [1979, p.422] cites it as a NOR-NORK verb in the Navarro-Labourdin dialect.

focusing on a particular patient, as in (6.25b). In the agent-patient use, the patient argument must have a referent, but in the activity use, although the action is understood as having a patient, there is no particular entity referred to.

The expression of the indefinite object deletion alternation is illustrated in (6.26) with the Basque counterparts of the English example in (6.25):

- (6.26) a. Jonek      sagarra    jaten      du.  
Jon-NORK apple-NOR eat-PRES 3sNOR-UKAN-3sNORK  
Jon eats an apple.
- b. Jonek      jaten      du.  
Jon-NORK eat-PRES 3sNOR-UKAN-3sNORK  
Jon eats.

Sentence (6.26a) is the agent-patient sentence and sentence (6.26b) is the activity sentence, the sentence that receives the indefinite object deletion interpretation. Notice, that superficially the two sentences appear to be identical except for the absence of a NOR argument, the argument which expresses the patient, in the indefinite object sentence. The auxiliary UKAN, the transitive auxiliary is used in both sentences in the alternation. The sentences appear to involve an alternation between the NOR-NORK array and a NORK array.<sup>23</sup> The agent argument is the NORK argument in both sentences. This association between the agent role and the NORK case supports the hypothesis that the NOR case is associated with the patient role.

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23. The existence of a NORK array in Basque is controversial. Very few verbs in Basque require only this array. Lafitte [1979] gives a small list of such verbs in the Navarro-Labourdin dialect, while Salaburu's grammar [1981] does not mention this array. The two NORK array verbs that I know of in Euskara Batua are *korritu* "to run" and *iraki* "to boil". The verb *iraki* "to boil" can only be used in the sense of "water boils" and not in the sense of "someone boils water". These verbs seem like patient single argument verbs, but they do not violate the NOR Verb Hypothesis since, as stated, it does not require patient verbs to be NOR verbs, even though patient verbs tend to be NOR verbs.

The question is whether the verbs with the NORK array are actually NOR-NORK verbs, an analysis suggested by the auxiliary agreement facts. The NORK array requires the auxiliary UKAN "to have", the auxiliary which is considered to show agreement with both NOR and NORK arguments. With the NORK array, the auxiliary must be in the form found when it is construed with a third person singular NOR argument. It is possible that there is in fact no third person NOR marker and that what is considered to be the third person marker (the *d* in the present form of the auxiliary, for example) is a tense/aspect marker. On this analysis, Basque would allow the NORK array. Furthermore, the use of the same verb form with NORK verbs and NOR-NORK verbs with third person singular NOR will be explained. See footnote 25 for further evidence bearing on this analysis.

The indefinite object alternation is found with verbs from particular semantic classes. These include verbs of ingesting, verbs of mental processes, and verbs of occupation. By verbs of occupation, I am referring to verbs that describe habitual occupations, including domestic, agricultural, and professional tasks. Basque verbs that show this alternation are given below, grouped by semantic classes.

Verbs of Ingesting:<sup>24</sup>

*jan* "to eat", *edan* "to drink", *afaldu* "to have dinner", *bazkaldu* "to have lunch", *gosaldu* "to have breakfast", *merendatu* "to have a snack", ...

Verbs of Mental Processes:

*ikasi* "to learn/study", *irakurri* "to read", ...

Verbs of Occupation:

*irakatsi* "to teach", *josi* "to sew", *landatu* "to plant", *jokastu* "to play", *plantxatu* "to iron", ...

The expression of the indefinite object deletion alternation in Basque seems to be associated with a special rule of interpretation. Verbs which do not participate in this alternation only allow a referential interpretation of a non-overt NOR argument when a verb shows third person NOR agreement, as in (6.27).

(6.27) *Nik hartu dut.*  
I-ERG take 3sNOR-UKAN-1sNORK  
I took it/\*I took.

In contrast, verbs participating in this alternation do not force the referential interpretation usually associated with a non-overt NOR argument when the auxiliary is in the form used with third person singular NOR arguments, as shown by the ambiguity of (6.28).

(6.28) a. *Nik jan dut.*  
I-NORK eat 3sNOR-UKAN-1sNORK  
I ate./I ate it.

b. *Gizonek jan dute.*  
man-pNORK eat 3sNOR-UKAN-3pNORK  
The men ate/The men ate it.

The referential interpretation is possible with *jan* "to eat", but not necessary. A sentence only

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24. The Basque verbs *afaldu* "to dine", *bazkaldu* "to lunch", *gosaldu* "to breakfast", *merendatu* "to snack" are transitive verbs unlike their English counterparts. The NOR argument is the food eaten and the NORK argument is the eater. In English, these verbs are intransitive. Some of them can use a prepositional phrase with the preposition *on* to indicate the food eaten; for example: *to lunch on fruit*.

receives an indefinite object interpretation when the auxiliary agrees with a third person singular NOR argument, independent of the person and number of the agent. The sentences in (6.28) can all receive indefinite object interpretations. But third person singular NOR agreement is a prerequisite for the non-referential interpretation. For example, it is not found with third person plural NOR agreement:

(6.29) Jonek jaten ditu.  
Jon-ERG eat 3pNOR-UKAN-3sNORK  
Jon ate them/\*Jon ate.

The ability to receive a non-referential interpretation characterizes this class of verbs.<sup>25</sup>

In contrast to Basque, the indefinite object sense in English is possible only in the absence of an overt object. Even a pronominal object such as "it" receives a referential interpretation:

(6.30) John ate it.

The indefinite object deletion sense is expressed with the intransitive use of the verb. In English, the indefinite object alternation is described as involving an alternation between a transitive and an intransitive use of a verb. Basque, therefore, differs from English in this respect.

The expression of an indefinite object sentence in Basque appears to be unusual when compared to other languages besides English. There are other languages which appear superficially to resemble Basque more closely than English and yet resemble English in their treatment of the indefinite object alternation. These are languages such as Chukchee or the Eskimo languages that have a system of ergative case marking like Basque and also distinguish transitive and intransitive conjugations. The presence of the two conjugations might appear to be comparable to the existence of two auxiliaries in Basque, especially if the distribution of Basque auxiliaries is considered to be related to transitivity.

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25. Whether there is an underlying null NOR argument inducing agreement or not is a question I will not address. This depends on the analysis of the third person NOR form of the auxiliary; does it show an overt agreement marker with third person singular NOR argument or not? The non-referential interpretation found in indefinite object deletion sentences would be consistent with an analysis of the auxiliary UKAN in which there is no third person singular NOR marker, as suggested in footnote 23.

In spite of the existence of two conjugations, the indefinite object alternation in these languages involves the use of a single verb that can occur in both conjugations without additional derivational morphology. Consider the following example from Yup'ik Eskimo.

- (6.31) a. Ner'uq.  
eat-INDIC-3s  
He eats. [Reed et al. 1977, p.231]
- b. Neraa  
eat-INDIC-3s/3s  
He eats it. [Reed et al. 1977, p.231]

This phenomenon is widespread enough among the non-Slavic languages of the USSR, that verbs that can appear in either a transitive or intransitive conjugation have been given a special name in the Soviet linguistics literature: "labile verbs" (*labil'nye glagoly*). Many of the verbs showing this property participate in the indefinite object deletion alternation and have been recognized as belonging to the semantic classes described above.<sup>26</sup>

Generally, in other languages the indefinite object alternation is accompanied by a change of transitivity. The indefinite object use of the verb is clearly included among the intransitive verbs in these languages. The indefinite object alternation in Basque does not involve a change in auxiliary, nor a change in the case of the agent argument. The agent arguments is still in the NOR case, the case associated with the agent argument with other UKAN verbs. This alternation does not appear to involve a change in transitivity as it does in some of the other languages discussed. The indefinite object verbs present yet another example of a set of verbs that might have been expected to be NOR verbs if the NOR class were an intransitive class but are not. The expression of the indefinite object alternation in Basque weakens the hypothesis that the NOR class is an intransitive class.

If the claim about the NOR class is accepted, then the Basque expression of the indefinite object alternation is not problematic. Given this hypothesis, only patient single argument verbs are NOR verbs. The indefinite object alternation always expresses an agent argument, so that this alternation could not involve an alternation between a NOR array and a

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26. Verbs that appear in both conjugations may participate in other semantic alternations. In Chukchee [Inenlikej and Nedjalkov 1967], for example, over a third of the verbs that can appear in both conjugations participate in the indefinite object deletion alternation. This is more verbs than participate in any of the various other alternations including the anti-causative alternation in Chukchee.

NOR-NORK array. The fact that it does not involve such a change is consistent with the hypothesis. The revised hypothesis will, therefore, account for why these verbs are not NOR verbs. The behavior of these verbs once again emphasizes the existence of restrictions on the class of NOR verbs.

### 6.3.5 Summary

Although an exhaustive survey of Basque verbs is impossible, it is clear from the classes considered that the traditional intransitive class does not correspond to the class of NOR verbs. To call the NOR verbs intransitive is misleading: although the NOR verbs are among the intransitive verbs, many intransitive verbs are not NOR verbs. Yet, membership in this class appears to be far from random. The NOR verbs are drawn from a narrow semantic class: all the NOR verbs cited are patient single argument verbs. The only example I have found of an NOR verb that would be considered an agent single argument verb is *mintzatu* "to speak". Since a substantial part of the intransitive class consists of agent single argument verbs, their absence from the set of NOR verbs emphasizes that the NOR class is not an intransitive class in the traditional sense. What is significant is that the distribution seems to follow semantic lines.

## 6.4 Evidence that Basque is Accusative

This section will reassess the question of Basque's ergativity from the point of view of the Ergativity Hypothesis. Basque has been considered an ergative language on the basis of its system of case marking and verb agreement, but these phenomena are not sufficient criteria for establishing the ergativity of a language. Several of the diagnostics for ergativity that follow from the Ergativity Hypothesis will be applied to Basque in order to resolve this question. The outcome of these tests suggests that Basque is an accusative language in the sense of the Ergativity Hypothesis.

As a prerequisite for determining the ergativity of Basque, it is necessary to identify which argument is the d-object and which the d-subject with each type of verb. Once this has been determined, it is possible to determine Basque's status by examining the semantic roles typically assigned to the d-subject and d-object. If the d-subject and d-object are typically assigned the agent and patient roles respectively, then the language is accusative. If the d-subject is assigned the patient role and the d-object the agent role, then the language is ergative.



So far, generalizations concerning the correlations of semantic role and arguments identified by surface case have been determined. In particular, it has been shown that an argument in the NOR case is typically assigned the patient role whether selected by a NOR or a NOR-NORK verb, while an argument in the NORK case is assigned the agent role. Since by the Ergativity Hypothesis, a particular semantic role is consistently assigned to each d-structure relation, all NOR arguments, as arguments bearing the patient role, should share one of the d-structure relations, d-object or d-subject, while all NORK arguments, as arguments bearing the agent role, should share the other. It is not obvious a priori that all NOR arguments with both NOR and NOR-NORK verbs would all have the same d-structure relation, but given the observations concerning auxiliary distribution and the Ergativity Hypothesis this appears to be so. Additional syntactic evidence will be presented in this section.

For Basque, the question of ergativity can be reduced to which d-structure relation is associated with the agent/NORK argument and which with the patient/NOR argument. Once this has been decided, it is trivial to determine whether Basque is ergative or accusative. No commitment has been made so far as to whether the NOR argument is the d-object and the NORK argument the d-subject, or vice versa. Several phenomena provide evidence that Basque is accusative by identifying the NOR argument as the d-object. These phenomena are the distribution of the ZERIK (partitive) case, the structure of verbal idioms and the N EGIN construction, and the uses of the auxiliary IZAN.

#### 6.4.1 ZERIK Distribution

The distribution of the ZERIK, or partitive, case is a phenomenon that bears on the question of Basque's ergativity. This phenomenon is especially interesting because it distinguishes between NOR and NORK arguments. There is a constraint on the distribution of the ZERIK case. Basque grammars note that the distribution of the ZERIK case parallels that of the NOR case [deRijk 1972, Goenaga 1980, Lafitte 1979, Salaburu 1981]. The ZERIK case appears to be the Basque counterpart to the Russian genitive of negation. Due to this similarity the test described in Section can be used to determine Basque's status with respect to the Ergativity Hypothesis.

Verbs with the NOR-NORK case array require a NOR argument and a NORK argument and take the auxiliary UKAN, which shows agreement for both the NOR and NORK arguments. Under the appropriate semantic conditions, a NOR-NORK verb may take an argument in the ZERIK case instead of a NOR argument. This is illustrated below in (6.32) with the NOR-NORK verb *ikusi* "to see".

(6.32) Ez dut ikusi ikaslerik.  
NEG 3sNOR-UKAN-1sNORK see student-ZERIK  
I didn't see any students/a (single) student.

The sentence with the ZERIK case, (6.32), corresponds to the sentence with the NOR case, (6.33).

(6.33) Ez dut ikusi ikaslea.  
NEG 3sNOR-UKAN-1sNORK see student-NOR  
I didn't see a/the student.

Sentence (6.33) illustrates sentential negation in Basque, which is indicated by the presence of the negative particle EZ preceding the auxiliary.<sup>27</sup> Sentence (6.32) is the counterpart of (6.33) with the NOR noun phrase "replaced" by a noun phrase in the ZERIK case. The noun phrase in the ZERIK case is interpreted as bearing the same semantic role to the verb in (6.32) as the noun phrase in the NOR case bears to the verb in (6.33). The sentence with ZERIK differs slightly in meaning from (6.33). It no longer expresses only simple sentential negation; instead, a quantifier-variable interpretation is associated with the ZERIK noun phrase.

The noun phrase in the ZERIK case always receives a non-definite interpretation. In

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27. In negative sentences, the auxiliary appears in pre-focus position, rather than directly following the participle as in affirmative sentences. The focus position always precedes the participle.

fact, unlike most cases in Basque, the ZERIK case has only a non-definite form,<sup>28</sup> marked by the suffix *-(r)ik*. Sentences (6.32), with ZERIK, and (6.33), without ZERIK, contrast precisely with respect to definiteness. In sentence (6.32), no particular student is being referred to, while, in (6.33), a particular student is being referred to. In (6.33), it is only the act of seeing that is being negated, but, in (6.32), it is the existence of the students that is being negated, and not the act of seeing. Sentence (6.32) would be an appropriate response to "Did you see any students today?", but (6.33) would not be an appropriate reply. The contrast in interpretation is brought out in the N EGIN construction.

(6.34) Ez du hitzik egin.  
NEG 3sNOR-UKAN-3sNORK word-ZERIK make  
He didn't say a word.

(6.35) Ez du hitz egin.  
NEG 3sNOR-UKAN-3sNORK word-NDEF/NOR make  
He didn't speak.

The ZERIK case is found in several types of sentences:<sup>29</sup> negative clauses, interrogative clauses, exclamations, and conditional clauses. These uses are illustrated in the sentences below:

(6.36) Nik ez dut irakaslerik ikusi.  
I-NORK NEG 3sNOR-UKAN-1sNORK teacher-ZERIK see  
I didn't see a teacher. [Salaburu 1981, p.59]

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28. The ZERIK case is one of two cases in Basque to have only a non-definite form. The other case is the ZERTZAT, or prolativ (*prolatiboa*), case, which is used to indicate a predicative noun phrase. For example, this case is used with the verb *hartu* "to take" when it is used in the sense of "to take X for Y" or "to consider".

(i) Jonek bere burua erotzat hartzen du.  
Jon-NORK he-POSS head-NOR full-ZERTZAT take-PRES 3sNOR-UKAN-3sNORK  
Jon considers himself full.

(ii) Jonek txakurra gizontzat hartzen du.  
Jon-NORK dog-NOR man-ZERTZAT take-PRES 3sNOR-UKAN-3sNORK  
Jon took the dog for a man.

Lafitte [1979] also gives examples of this case with the verbs "choose" and "leave".

29. This list of uses is taken from Salaburu [1981, pp.58-61], as are the examples of these uses in (6.36) -(6.39). The ZERIK case is also found in superlatives and in expressions such as *bakarrik* "alone". See deRijk [1972] for a more extensive discussion of the ZERIK case and additional examples of its use.

- (6.37) Ba dute - Ameriketan Presedenterik?  
AFF 3sNOR-UKAN-3pNORK America-LOC president-ZERIK  
Do they have a president in America? [Salaburu 1981, p.60]
- (6.38) Ba dago gizonik enparantza honetan!  
AFF 3sNOR-stay man-ZERIK square-NDEF/NOR this-LOC  
There is a man in this square! [Salaburu 1981, p.60]
- (6.39) Lotsarik baduzu, ez zara berriz ere Irunera joango.  
shame-ZERIK AFF-3sNOR-UKAN-2sNORK, ...  
If you were ashamed, you would not go to Iruna again. [Salaburu 1981, p.61]

Example (6.37) illustrates a direct question involving ZERIK, but ZERIK is also found in indirect questions. In sentences of each type, the noun phrases in the ZERIK case share a common property: they receive a non-definite interpretation.

Consider again the pair of sentences with the NOR-NORK verb *ikusi* "to see", repeated as (6.40)-(6.41).

- (6.40) Ez dut ikusi ikaslerik.  
NEG 3sNOR-UKAN-1sNORK see student-ZERIK  
I didn't see any students/a (single) student.
- (6.41) Ez dut ikusi ikaslea.  
NEG 3sNOR-UKAN-1sNORK see student-NOR  
I didn't see a/the student.

The ZERIK argument bears the same semantic role as the NOR argument. The verb still takes an argument in the NORK case and it still requires the auxiliary UKAN. There is no effect on NORK agreement in the auxiliary. But, the auxiliary is always in the form used with a third person singular NOR argument, as illustrated in (6.40). This is the form of the auxiliary found in sentences which lack an overt NOR argument, such as the indefinite object deletion sentences discussed in Section and sentences with the few NORK verbs.

The ZERIK case is found in sentences with NOR verbs, as well as in sentences with NOR-NORK verbs. For example, the verb *etorri* which takes a NOR array, as shown in (6.42), may occur in a sentence with a ZERIK argument instead of a NOR argument, as in (6.43)>. Once again, the argument in the ZERIK case bears the same semantic role as the argument in the NOR case.

- (6.42) Etorri da gizona?  
come 3s-IZAN man-NOR  
Did the man come?

- (6.43) Etorri da gizonik?-.  
come 3s-IZAN man-ZERIK  
Did any men come?

The verb still selects the same auxiliary, the auxiliary IZAN, which is associated with the NOR case array. Sentences with a NOR verb and a ZERIK argument show third person singular NOR agreement, just as sentences with NOR-NORK verbs and a ZERIK argument do. An additional example is given below.

- (6.44) Ez da txoririk pasatzen.  
NEG 3s-IZAN bird-ZERIK pass-PRES  
Not a bird goes by.

Arguments in the ZERIK case may not occur in place of arguments in cases other than the NOR case, whether or not there is agreement with them. There is agreement with NORI and NORK arguments, as well as NOR arguments, yet only the latter can be replaced by the ZERIK case. For example, a ZERIK argument cannot occur instead of a NORK argument with a NOR-NORK verb:

- (6.45) \* Ez du gizonik ikusi liburua.  
NEG 3sNOR-UKAN-3sNORK man-ZERIK see book-NOR  
Not a man saw the book.

The verb *eman* "to give" takes the NOR-(NORI)-NORK case array, as illustrated in (6.46), but this verb cannot take a ZERIK argument instead of a NORI argument.

- (6.46) Mirenek irakasleari sagarra eman dio.  
Miren-NORK teacher-NORI apple-NOR give 3sNOR-UKAN-3sNORI-3sNORK  
Miren gave the teacher an apple.

- (6.47) \* Mirenek sagarra ez dio eman irakaslerik.  
Miren-NORK apple-NOR NEG 3sNOR-UKAN-3sNORI-3sNORK give teacher-ZERIK  
Miren didn't give a/any teacher an apple.

But a ZERIK argument may replace the NOR argument with the same verb.

- (6.48) Mirenek ez dio sagarrarik  
Miren-NORK NEG 3sNOR-UKAN-3sNORI-3sNORK apple-ZERIK  
eman irakasleari.  
give teacher-NORI  
Miren didn't give the teacher an apple.

Nor can an argument in the ZERIK case occur instead of an argument in a case which does not trigger agreement. For example, the NOR verb *fidatu* "to trust" takes an argument in the ZEREZ (instrumental) case, as in (6.49), but this argument cannot be replaced by a argument in the ZERIK case, as in (6.50).

(6.49) Ni ez naiz - gizonaz fidatu.  
I-NOR NEG 1sNOR-IZAN man-ZEREZ trust  
I didn't trust the man.

(6.50) \* Ni ez naiz gizonik fidatu.  
I-NOR NEG 1sNOR-IZAN man-ZERIK trust  
I didn't trust a/any man.

Arguments in the ZERIK case are only found where arguments in the NOR case are expected. As noted above, the NOR argument is typically assigned the patient role. Even with the NOR verb *mintzatu* "to speak", whose argument appears to bear the agent role rather than the patient role, the ZERIK case is possible.

(6.51) Ez da gizonik mintzatu.  
NEG 3sNOR-IZAN man-ZERIK speak  
Not a man spoke.

With the NORK verb *iraki* "to boil", the ZERIK case is not possible although the NORK argument seems to bear the patient role.<sup>30</sup>

(6.52) \*Ez du urik irakiten.  
NEG 3sNOR-UKAN-3sNORK water-ZERIK boil-PRES  
No water boils.

To summarize, two important properties of the ZERIK case have been presented. First, the ZERIK case occurs only where arguments in the NOR case are found. It cannot occur instead of arguments in any other case.<sup>31</sup> Second, the argument in the ZERIK case obligatorily receives a non-definite interpretation. In this respect, the function of the ZERIK case is comparable to the function of the genitive of negation in Russian.<sup>32</sup> The Russian genitive of negation also obligatorily attributes a non-definite interpretation to an argument.

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30. But the NORK verb *korritu* "to run" exceptionally allows the ZERIK case, although it is possible that the argument in the ZERIK case is replacing a NOR argument here.

(i) Ez du gizonik korritu.  
NEG 3sNOR-UKAN-3sNORK man-ZERIK run  
Not a man ran.

31. With the exception of the verb *korritu* "to run". See footnote 30.

32. The particular uses in the two languages differ. The Russian genitive of negation is found only in negative sentences, unlike the ZERIK case which is not limited to overtly negative sentences. It is found in various types of existential sentences.

Assuming that Basque- ZERIK and Russian genitive of negation are analogous phenomena, then, as discussed in Section, this phenomena can be used to identify the d-object in Basque, and, therefore, to determine ergativity. In particular, Pesetsky's analysis of Russian genitive of negation should extend to Basque ZERIK. As a consequence, the distribution of the ZERIK case should be subject to the same restrictions as the Russian genitive of negation: it should occur only where a d-object occurs, since this is the only position where such quantifier phrases are allowed. Therefore, the ability of arguments in the NOR case to be replaced by the ZERIK case indicates that these arguments are d-objects in Basque.

The fact that ZERIK distribution coincides with NOR distribution suggests that the NOR argument is the d-object both with NOR-NORK verbs and NOR verbs. The NOR argument is assigned the patient role and never the agent role in Basque. Therefore, the d-object, as the NOR argument, is assigned the patient role, an assignment that characterizes an accusative language according to the Ergativity Hypothesis. In accusative languages, the argument assigned the agent role is the d-subject, so the NORK argument must be the d-subject. This means that the NOR-NORK verbs will be transitive verbs while the NOR verbs will be unaccusative verbs.

#### 6.4.2 Evidence from Idioms and Range of Meanings

One source of evidence that Basque is accusative derives from phenomena involving the compositional semantic properties of verbs: verbal idioms and the N EGIN construction. Marantz points out that the compositional properties of the verb manifest a subject-object asymmetry reflected in the form of possible idioms and the range of meanings that a verb can take on. Therefore, an examination of such phenomena in Basque can be used to identify the d-subject and d-object. Once identified, the semantic role/d-structure relation correlations may be used to determine ergativity.

The form of Basque verbal idioms suggests that Basque is an accusative language. Some idioms are listed below:

<i>burua berotu</i>	head-DEF heat	to think hard
<i>piper ulertu</i>	pepper-NDEF understand	to understand nothing
<i>piper egin</i>	pepper-NDEF make	to play hookey

These idioms are composed of a NOR-NORK verb together with a NOR noun phrase.<sup>33</sup> Each idiom combines with a NORK argument to form a sentence. Sentences (6.53)-(6.55) illustrate the use of the idioms listed above.

(6.53) MITeko ikasleek burua berotzen dute.  
MIT student-NORKp head-NOR heat-PRES 3sNOR-UKAN-3pNORK  
MIT students think hard.

(6.54) Hasieran, ez dugu piperrik ulertuko.  
beginning-LOC, NEG 3sNOR-UKAN-1pNORK pepper-ZERIK understand-FUT  
In the beginning, we will not understand anything.

(6.55) Haurrak piper egin du.  
child-NORK pepper-NDEF/NOR make 3sNOR-UKAN-3sNORK  
The child played hookey.

As discussed, verbal idioms formed from two-argument verbs can never involve a d-subject without involving the d-object. The Basque idioms listed above involve a NOR-NORK verb and the noun phrase in the NOR case. The fact that NOR noun phrases enter into the formation of Basque idioms suggests that the NOR noun phrase is the d-object. The NOR case is the case usually associated with the argument bearing the patient role, so the patient role is assigned to the d-object. If so, Basque would be an accusative language, as this assignment is characteristic of an accusative language. In accusative languages such as English, idioms involve an argument bearing the d-structure relation associated with the patient role, because, the argument bearing the d-object relation is the argument which is assigned the patient role.

As discussed in Section intransitive verb idioms are expected. Furthermore, there appears to be a tendency for them to involve unaccusative verbs; i.e. to be formed from unaccusative verbs plus the d-object. According to the survey of auxiliary distribution, the single argument of a NOR verb bears the patient role. If Basque is accusative, then, by the

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33. The second idiom, *piper ulertu*, is used only in negative sentences, see the example in (6.54). When this idiom is used in a sentence, the noun phrase *piper* occurs in the ZERIK case.

The idioms vary as to whether the NOR noun phrase is in the definite or non-definite form. Above, only the first idiom involves a definite noun phrase. In the second idiom, which always occurs in negative sentences, the noun *piper* is in the ZERIK case, which only has a non-definite form. The third is an example of the N EGIN construction, a construction which takes a non-definite NOR noun phrase.



Ergativity Hypothesis, patient verbs should be unaccusative verbs. At d-structure, patient verbs should have a d-object to which they assign the patient role. Since idioms are formed by verbs together with their d-objects, there should be idioms involving NOR verbs and the NOR noun phrase.<sup>34</sup> In fact, such idioms are found. As an example, consider the idiom *burua joan* "head-NOR go" illustrated in sentence (6.56).

(6.56) Niri burua joan zait.  
I-NORI head-NOR go 3sNOR-IZAN-1sNORI  
I have lost my mind.

This idiom consists of a NOR noun phrase, *burua* "head", together with the verb *joan* "go", a NOR verb. In this idiomatic use of the verb *joan*, a NORI argument is used to express the person affected. But the NORI argument does not affect the auxiliary choice. The use of the open position here raises the same questions as it does in English or other languages.

The existence of the N EGIN construction also provides evidence that Basque is an accusative language. The N EGIN construction uses the combination of the NOR-NORK verb *egin* and a non-definite NOR noun phrase to express predicates that are expressed by simple verbs in English. The meaning of an instance of the N EGIN construction depends on the choice of noun in the NOR case, as shown by an examination of the examples of the N EGIN construction below.

<u>N EGIN</u>	<u>N</u>	<u>Verb</u>
<i>hitz egin</i>	word	to speak
<i>lan egin</i>	work	to work
<i>lo egin</i>	sleep	to sleep
<i>negar egin</i>	tear	to cry

Altering the NORK argument with a particular instance of the N EGIN construction does not have a similar effect on the meaning, as illustrated in (6.57).

- (6.57) a. Jonek lo egin du.  
Jon-NORK sleep-NDEF/NOR make 3sNOR-UKAN-3sNORK  
Jon slept.
- b. Mirenek lo egin du.  
Miren-NORK sleep-NDEF/NOR make 3sNOR-IJKAN-3sNORK  
Miren slept.

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34. Such idioms might appear to be subject idioms under an analysis where the NOR argument with an IZAN verb is considered a d-subject. But under the analysis here, this idiom is in fact not a subject idiom, but an object idiom.

c. Haurrak lo - egin du.  
child-NORK sleep-NDEF/NOR make 3sNOR-UKAN-3sNORK  
The child slept.

d. Txakurrak lo egin du.  
dog-NORK sleep-NDEF/NOR make 3sNOR-UKAN-3sNORK  
The dog slept.

Each of these sentences describes an animate entity sleeping. These sentences differ only in the identity of the performer of the action but not in the action performed.

As Marantz points out, it is the d-object that determines the range of meaning of the predicate. With a transitive verb, the choice of d-object (for a constant d-subject) will affect the range of meanings of a verb while the choice of d-subject (for a constant d-object) should not. Given these compositional properties of verbs, the NOR noun phrase in an N EGIN construction should be the d-object of the verb since it is the noun phrase which determines the meaning of a particular instance of the N EGIN construction. This construction, therefore, provides additional evidence that the NOR argument is the d-object.

Also consistent with the subject-object asymmetry is the existence of instances of the N EGIN construction that do not take an overt NORK argument, as in the example below.

(6.58) Euria egin du.  
rain-NDEF/NOR make 3sNOR-UKAN-3sNORK  
It rained.

This use of the N EGIN construction shows third person singular NORK agreement in the auxiliary, even though an overt NORK argument is not possible. Such N EGIN constructions are used for weather expressions. Other examples are given in (6.59):

(6.59) a. Elurra egin du.  
snow-NDEF/NOR make 3sNOR-UKAN-3sNORK  
It snowed.  
b. Hotz egin du.  
cold-NDEF/NOR make 3sNOR-UKAN-3sNORK  
It was cold.

These instances of the N EGIN construction, like the examples above, have their meaning determined by the NOR noun phrase. This is consistent with the analysis of the NOR argument as the d-object. There does not seem to be a parallel construction involving the verb *egin* and a NORK noun phrase.

### 6.4.3 Reflexive Tests

Several properties that distinguish ergative and accusative languages depend on the existence of an explicit reflexive verbal form which also may have non-reflexive uses. The uses of this reflexive form found in a given language will provide diagnostics for ergativity since different uses are characteristic of accusative and ergative languages.

The assumption underlying these tests is that an intransitive reflexive form of the verb will always have the same syntactic characterization independent of the ergativity of the language. In particular, the reflexive form of the verb is characterized by the feature [-T], indicating that the verb cannot assign a semantic role to its d-subject. The reflexive form, therefore, serves to signal the presence of a d-object since an argument bearing a grammatical relation to a [-T] verb form is assumed to be its d-object. To obtain evidence relevant to the question of ergativity, the semantic role associated with the d-object must be determined. The semantic role cannot be determined from the reflexive form alone since there is no way of knowing if the d-object of the reflexive bears the agent or patient role. For this reason, other uses of this form must be considered.

Basque does not have explicit reflexive verbal derivational morphology. With a limited class of NOR-NORK verbs, consisting primarily of verbs of bodily care, the use of the auxiliary IZAN, rather than the auxiliary UKAN, can convey a reflexive sense. Verbs entering into this alternation can be used to describe an action directed at another person or object (the non-reflexive use), as in (6.60) or to indicate an action directed at the actor himself (the reflexive use), as in (6.61).

(6.60) Jonék      léihoá      garbitu du.  
Jon-NORK window-NOR clean 3sNOR-UKAN-3sNORK  
Jon washed the window.

(6.61) Jon      garbitu da.  
Jon-NOR clean 3sNOR-IZAN  
Jon washed (himself).

The reflexive sentence (6.61) is understood as describing not only a reflexive but also a ritualized activity. In particular, it means that the actor washed his hands and possibly his face. Sentence (6.61) would not be used if the actor were washing some other part of his body such as a finger. In the non-reflexive sentence (6.60), the auxiliary UKAN is used with the NOR-NORK case array, while in the reflexive sentence (6.61), the auxiliary IZAN is used with the NOR case array.

The reflexive alternation in Basque is found with a limited set of verbs, primarily verbs describing bodily care. Among these verbs are:

*garbitu* "to wash", *dutxatu* "to shower", *jantzi* "to dress", *orraztu* "to comb",  
*aldatu* "to change", *zikindu* "to get dirty", ...

With other verbs, the reflexive is expressed through the use of a possessive noun phrase consisting of the possessive pronoun<sup>35</sup> together with the noun *burua* "head". This combination functions like the reflexive anaphor in English. For example, *nire burua* "I-POSS head-DEF" corresponds to "myself". An example of such a reflexive sentence is given below:

(6.62) *Nik nire burua jo dut.*  
I-NORK I-POSS head-NOR hit 3sNOR-UKAN-1sNORK  
I-hit myself.

This sentence does not involve any change in transitivity or case array. The verb *jo* "to hit" usually takes a NOR-NORK case array and the auxiliary UKAN, just as it does in the reflexive sentence (6.63).

The question is whether this limited use of IZAN with NOR-NORK verbs to express the reflexive is sufficient to allow the application of the set of tests based on the reflexive verb form to Basque. I will assume that the existence of the reflexive use of a NOR-NORK verb, even with a restricted set of verbs, is sufficient for assuming that verbs can have the analysis associated with the reflexive verb form. What is more important for applying the tests is whether the reflexive use of the verb can be considered a reflexive verb form. The reflexive verb form analysis seems appropriate to the Basque construction rather than the transitive analysis associated with overt reflexive anaphors. The Basque reflexive verb form is "intransitive" given that it takes the auxiliary IZAN; compare sentence (6.61) with this verb form to sentence (6.62) which has an overt anaphor. In (6.61), the verb still takes the auxiliary UKAN. As a reflexive verb form, then the reflexive use of the verb will be associated with the feature [-T]. This means that the NOR argument with the reflexive verb form is a d-object.

Given this assumption, the ergativity tests based on the auxiliary will be valid in

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35. Except for the third person, which uses the third person emphatic possessive pronoun *bere*.

Basque.<sup>36</sup> Two tests involving the reflexive use of IZAN are pertinent to Basque. Both suggest that Basque is accusative. These tests involve the anti-causative alternation, discussed in Section, and the impersonal use of a NOR-NORK verb, to be discussed below.

The impersonal use of a NOR-NORK verb could be called a grammatical use in that it is not determined by lexical properties of the verb as the anti-causative use is, but occurs with any verb that usually takes the NOR-NORK case array.<sup>37</sup> For example, the verb *irakurri* "to read" is a NOR-NORK verb taking UKAN, as in (6.63), but it may be used in an impersonal construction, taking the auxiliary IZAN, as in (6.64).

(6.63) *Ikasleak liburua irakurri du.*  
student-NORK book-NOR read 3sNOR-UKAN-3sNORK  
The student read the book.

(6.64) *Liburua irakurri da.*  
book-NOR read 3sNOR-IZAN  
The book is read.

The resulting sentence has an impersonal reading, comparable to that found with impersonal *si* in Italian or *se* in Spanish.<sup>38</sup>

NOR-NORK verbs usually take the auxiliary UKAN which agrees with both NOR and NORK arguments. In the impersonal use, the NOR-NORK verb occurs with the auxiliary IZAN, and as expected takes the NOR case array, with the auxiliary agreeing with the NOR argument in the impersonal sentence. The semantic role of the NOR argument in the impersonal use of the verb corresponds to the semantic role of the NOR argument in the NOR-NORK use, as is clear in both (6.63) and (6.64).

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36. The use of these tests is not intended to imply that the auxiliary in Basque is used to convey the reflexive in general. Rather the availability of this interpretation with some verbs is taken as an indication that the NOR argument with an IZAN verb is a d-object. The tests take advantage of this syntactic characterization.

37. The reason for recognizing an anti-causative and an impersonal construction in Basque is semantic. Some sentences are open to either an impersonal or an anti-causative interpretation. Furthermore, only impersonal sentences, and not anti-causative sentences, may be modified by "in order to" clauses. See footnote 49.

38. Some uses of IZAN with NOR-NORK verbs have a "middle" interpretation. Since it is not clear whether or not this should be considered a use distinct from the impersonal use, I will not distinguish the two.

More examples of the usual use of NOR-NORK verbs, sentences (6.65) and (6.66), and the corresponding impersonal use, sentences (6.67) and (6.68), are given below.

(6.65) Gizonak etxea egiten du.  
man-NORK house-NOR make-PRES 3sNOR-UKAN-3sNORK  
The man builds the house.

(6.66) Mirenek liburua saltzen du.  
Miren-NORK book-NOR sell-PRES 3sNOR-UKAN-3sNORK  
Miren sells the book.

(6.67) Etxea egiten da.  
house-NOR make-PRES 3sNOR-IZAN  
The house is being built.

(6.68) Liburua saltzen da.  
book-NOR sell-PRES 3sNOR-IZAN  
The book is sold.

It is clear that the use of IZAN with NOR-NORK verbs is best described as impersonal rather than passive. It does not allow an agent argument to be specified. In the impersonal use of a verb, an explicit argument whose semantic role corresponds to that of the NORK argument found when the verb is used with UKAN is not possible. The presence of a NORK noun phrase renders the sentence ungrammatical, as shown in (6.69).

(6.69) \*Nik etxea egin da.  
I-NORK house-NOR make 3sNOR-IZAN  
I built a house.

Although no overt counterpart to a NORK argument is possible in impersonal sentences, an impersonal agent is understood in these sentences.

With an appropriate verb, a use of IZAN that is ambiguous between the reflexive and impersonal interpretation can be found. For example, the sentence with the verb *jantzi* "to dress" in (6.70) is ambiguous between the reflexive interpretation in (6.71a) and the impersonal interpretation in (6.71b).

(6.70) Denda honetan, haurrak jantzen dira.  
store-NOR/NDEF this-LOC, children-NORp dress-PRES 3pNOR-IZAN

(6.71) a. In this store, children dress themselves.  
b. In this store, children are dressed (by someone).

The referent of the NOR argument in (6.71) may be understood as the participant in the action in the reflexive use or as the patient argument in the impersonal use. This type of ambiguity is characteristic of accusative languages, and is not possible in ergative languages. The

reflexive interpretation associated with this verb form provides evidence that the NOR argument is the d-object of the sentence. Since in the impersonal interpretation, this argument is assigned the patient role, the d-object bears the patient role. Therefore, the language must be accusative.

Assuming that Basque is accusative, an analysis of the impersonal construction can be proposed. Since the use of IZAN is associated with the feature [-T], and impersonals use the auxiliary IZAN, the feature [-T] will be assumed to characterize the Basque impersonal construction. The feature [-T] indicates that the verb no longer assigns a semantic role to its d-subject. The NOR argument as d-subject would not be assigned a semantic role in an impersonal construction. The impossibility of NOR arguments in these constructions would follow on the assumption that Basque does not allow an independent semantic role assignment. The similarity noted between the Basque impersonal construction and that in other accusative languages will follow be expected given this analysis. The impersonal construction in Romance languages is associated with the feature [-T], the loss of ability to assign a semantic role to the d-subject.<sup>39</sup>

The anti-causative use of IZAN, discussed in Section, also provides evidence that Basque is accusative. The use of the same verbal form for reflexive and anti-causatives is also a property of accusative languages. In an accusative language, the anti-causative alternation involves an alternation in the ability of a verb to assign a semantic role to a d-subject just as the reflexive alternation does (see Section). So, if the use of the auxiliary IZAN is associated with the feature [-T], then it might be expected to occur with the anti-causative member of the anti-causative alternation. An ergative language could never use the same verbal form for both alternations since the anti-causative alternation does not involve the feature [T] in an ergative language, although the reflexive still does.

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39. The impersonal construction in Romance languages is also assigned the feature [-A]. Together, the features [-T] and [-A] will account for the occurrence of NP movement with impersonal constructions in Romance languages. Evidence for NP movement is provided by the presence of nominative case on the d-object and verb agreement with this argument. Basque does not show a change of case assignment to the d-object in the impersonal construction even though other accusative languages do. But, this is not surprising given that the d-object always takes the NOR case. It is unclear whether noun phrase movement occurs in Basque, as will be discussed in Section on case marking in Basque.

Ambiguities between a reflexive and an anti-causative interpretation of a sentence should also be found, if there is a verb which can participate in both alternations. In fact, the verb *aldatu* "to change" can be used in a sentence such as (6.72) that is ambiguous between the reflexive reading (6.73a) and the anti-causative reading (6.73b).<sup>40</sup>

(6.72) Gela honetan, haurrak aldatzen dira.  
room-NOR/NDEF this-LOC, children-NORp change-PRES 3pNOR-IZAN

(6.73) a. In this room, children change (themselves = their clothes).  
b. In this room, children change.

Note that the reflexive alternation involves "change" in the sense of "change clothes" while the anti-causative alternation involves "change" in the sense of "change of state" illustrated in (6.74).

(6.74) Ikaslearen adibideak ikasleak aldatzen ditu.  
teacher-POSS exercise-NORK student-NORp change-PRES 3pNOR-UKAN-3sNORK  
The teacher's exercises change the students.

## 6.5 A Reassessment of Case Marking and Auxiliary Distribution

On the basis of the evidence presented in Section 6.4, Basque will be considered an accusative language in the sense of the Ergativity Hypothesis.<sup>41</sup> Having established this, it is time to consider an analysis of the systems of agreement<sup>42</sup> and case marking in Basque, which have both been described as ergative. The remaining question is whether Basque is an accusative language with an ergative system of case marking and verb agreement. In this section, I will show that there is no evidence that Basque has an ergative system of case marking.

So far, the question of auxiliary distribution and case marking has been discussed from a purely descriptive point of view. In Section 6.3, a survey of the verbs selecting each auxiliary revealed correlations between a verb's semantic class and the auxiliary chosen.

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40. This sentence also can have a third interpretation: "In this room, children are changed (= exchanged)."

41. Some further evidence for this claim from control will be presented in Section 6.6.

42. I will not discuss agreement explicitly since it mirrors case marking except in the past tense with a third person NOR argument, see footnote 12. The only other problem is posed by NORK verbs which appear to require third person singular NOR agreement even though they do not take a NOR argument, but see footnote 23 for one possible solution to this problem.



Auxiliary Distribution -

A patient verb requires the auxiliary IZAN.  
All other verbs may take the auxiliary UKAN.

The survey also brought out a generalization concerning semantic roles and surface case.

Case Marking

Arguments in the NOR case are assigned the patient role.  
Arguments in the NORK case are assigned the agent role.

The following pairings of semantic verb type with case array have been observed:<sup>43</sup>

<u>Semantic Class</u>	<u>Case Array</u>
patient	NOR
agent	(NOR)-NORK
agent-patient	NOR-NORK

The pretheoretical generalizations concerning case marking and auxiliary distribution, repeated here, will provide the starting point for an analysis of these phenomena in the context of Basque as an accusative language.

If Basque is indeed accusative, then according to the Ergativity Hypothesis, the agent role is assigned to the d-subject and the patient role to the d-object. In particular, the following associations of semantic verb classes with d-structure verb classes are expected in an accusative language.

Accusative Languages

<u>Semantic Class</u>	<u>Assignments</u>	<u>D-structure Class</u>
Agent-Patient	agt -> d-subject pat -> d-object	d-subj, d-obj (transitive)
Agent only	agt -> d-subject	d-subj only (unergative)
Patient only	pat -> d-object	d-obj only (unaccusative)

The associations above provide the basis for a reconsideration of simple sentence syntax in terms of grammatical relations. The tests for determining Basque's status identified the NOR argument with both NOR and NOR-NORK verbs as the d-object. Similarly, the NORK argument is identified as the d-subj with NORK and NOR-NORK verbs. The observation describing the surface case marking of d-structure relations is:

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43. I have included NOR in parentheses in the case array of agent verbs because many of these verbs are expressed as NOR-NORK verbs with a constant object, as in the N EGIN construction.

Case Marking

The NOR case is the surface case of the d-object.

The NORK case is the surface case of the d-subject.

The observation above concerning semantic role/surface case association will now follow as a consequence of the Ergativity Hypothesis and the revised generalizations. Since Basque is an accusative language, the patient role is assigned to the d-object, the d-structure relation which receives the NOR surface case. Therefore, arguments in the patient role will show the NOR case. By a parallel argument, arguments in the agent role will show the NORK case.

Two tables will be presented to summarize the account of the relation between the different levels of representation for Basque. The first table shows the d-structure relation and surface case associated with the arguments of verbs of each semantic class.

<u>Verb Class</u>	<u>Semantic Role</u>	<u>D-structure Relation</u>	<u>Surface Case</u>
Agt-pat	agt	d-subject	NORK
	pat	d-object	NOR
Agt	agt	d-subject	NORK
Pat	pat	d-object	NOR

In the table above the assignment of semantic roles to the d-structure relations is determined by the Ergativity Hypothesis, given the assumption that Basque is accusative. The surface cases are associated with the d-structure relations according to the generalization above. These associations were determined by the tests described in Section. In Basque, there not only seems to be close to a one-to-one correspondence between surface case and d-structure grammatical relations, but also between surface case and semantic roles. Basque maintains the distinction in its surface case marking. The next table presents the mapping of semantic verb classes to d-structure verb classes, together with the case array and auxiliary selected by each d-structure verb class.

<u>Semantic Class</u>	<u>D-structure Class</u>	<u>Case Array</u>	<u>Auxiliary Selected</u>
Agt-pat	transitive	NOR-NORK	UKAN
Agt	unergative	NORK	UKAN
Pat	unaccusative	NOR	IZAN

Note, consistent with the evidence presented, the class of NOR verbs in Basque is an unaccusative class within an accusative language.

On the basis of the evidence presented, it appears that the NOR verbs in Basque are unaccusative verbs and the NOR argument is the d-object of a NOR verb. As discussed above, this analysis will account for thematic role assignment in the impersonal and anti-causative construction, the distribution of ZERIK case, and the membership of the NOR class. Although the NOR verbs have been called "intransitive", this term turns out to be inappropriate in that while the NOR verbs are intransitive in having a single argument, the NOR verbs include only the unaccusative verbs, one of the two subclasses of verbs that make up the class typically termed "intransitive" in other languages.

Revised generalizations concerning auxiliary distribution and case marking in Basque will be presented in the next two sections. The case marking generalization will be examined with respect to the question of whether Basque shows ergative or accusative case marking.

### 6.5.1 Auxiliary Distribution

Consider first the question of auxiliary distribution. The auxiliary IZAN is found only with patient verbs and not with verbs from the agent and agent-patient classes. In accusative languages, the patient verbs are unaccusative verbs at d-structure. Once the NOR verbs are recognized as unaccusative verbs, an alternative statement of auxiliary distribution in Basque is possible. Auxiliary distribution may depend not on whether a verb is a patient verb, but on whether it is an unaccusative verb. Within the GB framework, the feature [-T] sets the unaccusative class apart, suggesting that this feature determines the choice of auxiliary. The auxiliary distribution generalization can be restated in terms of this feature.

#### Auxiliary Distribution

If a verb is [-T], it selects the auxiliary IZAN.

Otherwise, it selects the auxiliary UKAN.

Support for stating the auxiliary distribution generalization in terms of the feature [T] comes from the impersonal use of NOR-NORK verbs. This use of IZAN is found with verbs that generally take the auxiliary UKAN but that may take the auxiliary IZAN when receiving an impersonal interpretation. The feature proposed to distinguish the impersonal use of NOR-NORK verbs is the feature [-T]. Therefore, the fact that the impersonal use of these verbs requires the auxiliary IZAN is consistent with the generalization proposed above. Additional support comes from the anti-causative alternation which, as an alternation involving pairs of verbs related by the feature [T] in accusative languages, would be expected to be linked to an alternation in the auxiliary.

The analysis in terms of the feature [T] is probably the simplest one that captures the pretheoretical generalization.<sup>44</sup> Whether an alternative analysis is preferable depends on its interaction with other aspects of Basque syntax.

### 6.5.2 The System of Case Marking

Consider, now, the distribution of surface case in Basque, given that Basque is an accusative language. In particular, the NOR argument of both NOR and NOR-NORK verbs has been shown to be d-objects while the NORK argument of a NOR-NORK verb (and of NORK verbs) are d-subjects. As a result, generalizations describing case marking may be reformulated:

Case Assignment Generalization

The NOR case is assigned to the d-object.

The NORK case is assigned to the d-subject.

The system of case marking that emerges for Basque is unusual since the generalization is stated in terms of d-structure grammatical relations and not s-structure grammatical relations.

The system of surface case marking found in Basque differs from the system of surface case marking usually found in accusative languages with ergative case marking. Marantz proposes that in accusative languages with ergative case marking, the s-subject of a transitive verb receives the ergative case while the s-object of a transitive verb and the s-subject of an intransitive verb receive absolutive case. In these languages, the intransitive verb class at s-structure includes both the unergative and unaccusative d-structure classes. Therefore, the s-subject of an intransitive verb may correspond to either a d-subject of an unergative verb or d-object of an unaccusative verb. As a consequence, the association of a d-structure relation with a particular surface case is not possible. The intransitive class collapses the distinction and surface case is assigned with respect to this class. Similarly, since the unergative and unaccusative classes correspond to the agent and patient verbs, respectively, the intransitive

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44. Given this analysis, it seems that auxiliary distribution in Basque resembles that in Italian. Italian, like Basque, has two auxiliaries, *essere* "to be" and *avere* "to have". Unaccusative verbs in both languages select the auxiliary "to be". The difference is that in Italian the auxiliary *essere* "to be" is also found in sentences with the clitic *si*, which has no counterpart in Basque. See Burzio [1981] for an extensive discussion and analysis of Italian auxiliary distribution. Zubizarreta [1982] suggests that selection of the auxiliary *essere* by unaccusative verbs is the core rule of *essere* selection and that the appearance of *essere* with the clitic *si* is a parasitic extension.

verb class will include both agent and patient verbs. A distinction between agent roles and patient roles is not reflected in the surface case marking in these languages.<sup>45</sup>

Basque also differs from accusative languages with accusative case marking in reflecting d-structure relations in its surface case marking. In these languages, the distinction between unergative and unaccusative verbs is not reflected in case marking because the unergative and unaccusative verb classes are subsumed in the intransitive verb class, and, once again, surface case is assigned with respect to the transitive class. In these languages, the s-subject of transitive and intransitive verbs is assigned the nominative case and the s-object of transitive verbs the accusative case.

Basque's system of case marking cannot readily be described as accusative or ergative. Both ergative and accusative systems lose the distinction between unergative and unaccusative verbs, a distinction that Basque maintains. But, this system of case marking may not be unique. Basque's system of case marking resembles the system of case marking found in Georgian in the series II (aorist) tenses, according to Harris's analysis [1981]. Harris considers this system an instance of what has been termed an "active" system of case marking. But, the analysis that will be proposed here for Basque will not carry over to Georgian because the facts concerning anaphor-antecedent pairs are different in the two languages.

The system of morphological case in Basque reflects the d-structure grammatical relations. In particular, it preserves the distinction between agent and patient arguments found in the d-structure. It is neither an accusative or ergative system of case marking. In both these systems, case correlates with s-structure grammatical relations. Both these systems are based on an opposition between a transitive and intransitive class of verbs, and the intransitive class includes all single argument verbs, whether unaccusative or unergative. The traditional description of the Basque system of case marking as ergative is based on the

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45. It is possible to consider Basque a degenerate instance of an accusative language with ergative case marking resulting from considering the agent verbs to all be transitive verbs at d-structure. Under this analysis, only the patient verbs would be intransitive verbs at s-structure. This would explain why the NOR arguments are all d-objects. This account does not explain why the system of surface case differs from the accusative system of abstract case proposed in Chomsky [1981], but this is a general problem for accusative languages with ergative case marking. It also introduces a new question: why are agent verbs given transitive d-structure configurations?

implicit, but mistaken, assumption that the NOR class is an intransitive class in the broad sense.

Although an account of Basque's system of case marking is still necessary, the observations so far have allowed the question of ergativity to be addressed. Basque has been shown not to possess ergativity of any type. Predictions following from the Ergativity Hypothesis were used to show that Basque is accusative. An examination of the system of case marking reveals that Basque is not even "superficially" ergative.

## 6.6 Does Basque Have a Notion of S-subject?

All of the phenomena in Basque discussed so far that refer to the notions of subject and object involve the notions of d-subject and d-object. In particular, the NOR and NORK arguments were identified, respectively, as d-subject and d-object. Basque is unusual in having a system of case marking that mirrors the d-structure relations directly, rather than incorporating a distinct notion of s-subject and s-object. Since, case marking is not the only phenomenon that makes use of s-structure grammatical relations, a question that must be raised is whether s-structure grammatical relations are at all relevant to Basque.

In languages with an accusative system of case marking, the same notion of subject, s-subject, is relevant to both case assignment and to certain other phenomena, including control. In particular, both the single argument of an unaccusative verb and the d-subject (= s-subject) of a transitive verb will be the arguments which receive nominative case as well as the controlled arguments of a control construction. In this, they differ from the d-object (= s-object) of a transitive verb which receives accusative case and cannot be controlled.

Not all phenomena in Basque involve d-structure grammatical relations. The NOR arguments of NOR and NOR-NORK verbs do not pattern together with respect to all phenomena. Although in Basque the NOR argument of a NOR (unaccusative) verb receives a different case from a NORK argument of a NOR-NORK (transitive) verb, the NOR argument of a NOR verb behaves like the NORK argument of a NOR-NORK verb with respect to control phenomena.

Basque shows a number of different types of control constructions. All share the property that the controlled argument in the embedded clause may be the NORK argument of a NOR-NORK verb or the NOR argument of a NOR verb, but it may never be the NOR

argument of a NOR-NORK verb. This property will be illustrated through an examination of two types of verb-selected non-finite complement clauses, non-finite clauses with the verb in the perfect participle form and non-finite clauses with verbs in the *-tze*ko form. The focus will be on the nature of the controlled argument in these clauses; the discussion is not intended as a complete analysis of the constructions.

Non-finite complements in Basque are actually nominalized sentences.<sup>46</sup> Every verb in Basque has two nominalized forms, a perfective and an imperfective form. Each of these forms may be inflected for any of the nominal cases, either in the definite or non-definite form. This results in a wide range of nominalized forms, each with its own use. The verb *etorri* "to come", which has the root *etor*; has the perfective nominal form *etorri* and the imperfective nominal form *etortze*. These forms are cited here in the non-definite NOR case, but each can occur in other case forms.<sup>47</sup> For example, the definite NOR form of the imperfective nominal is *etortzea*, and the definite NORI form *etortzeari*.

### 6.6.1 Control Structures with the Verb *Agindu*

This section will look at control with a class of verbs selecting non-finite complements

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46. This description of the nominalized forms of verbs is based on chapter 5 of Goenaga [1980] which provides an extensive survey of the various types of non-finite clausal complements and their uses.

47. The participial forms of verbs found with the auxiliaries UKAN and IZAN are in fact nominal forms. The perfect participle is the perfective nominal form in the non-definite NOR case. This form rather than the verb root is the citation form of the verb. The present participle is the imperfective nominal form in the non-definite NON (locative) case. The future participle is the perfective nominal form in the non-definite NONGO case.

in the *-tzeko* form<sup>48</sup> which includes *agindu* "to order", *esan* "to say/tell", and *eskatu* "to ask". These verbs may take finite complements in the subjunctive, as well as non-finite complements in the *-tzeko* form.

(6.75) *Ordurako sartzeko agindu du.*  
on-time enter-TZEKO order 3sNOR-UKAN-3sNORK  
He ordered <ARB> to enter on time. [Salaburu 1981, p.165]

(6.76) *Ordurako sar zaitetzen agindu du.*  
on-time enter-RT 2sNOR-IZAN-SBJCTV order 3sNOR-UKAN-3sNORK  
He ordered that you enter immediately. [Salaburu 1981, p.164]

Example (6.75) illustrates a *-tzeko* complement to the verb *agindu* "to order" while (6.76) illustrates a subjunctive complement. This section will only be concerned with the non-finite complements. These complements are called *-tzeko* complements because the suffix forming the nominal is composed of *-tze*, which forms the imperfective nominal, and *-ko*, the NONGO case suffix. The *-tzeko* nominalized form of the verb is the non-definite NONGO case of the imperfective nominal form.

The *agindu* type verbs are NOR-NORI-NORK verbs, taking an optional NORI argument.

(6.77) *Berehala etortzeko esan du.*  
immediately come-TZEKO say 3sNOR-UKAN-3sNORK  
He said to come immediately. [Salaburu 1981, p.165]

(6.78) *Berehala etortzeko esan dio.*  
immediately come-TZEKO say 3sNOR-UKAN-3sNORI-3sNORK  
He said to him to come immediately.

Sentence (6.77) illustrates the verb *esan* "to say" without a NORI argument, and sentence

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48. The *-tzeko* complements are also used for the Basque counterpart of English "in order to" constructions.

(i) *Irakurtzeko idatzi dut hau.*  
read-TZEKO write 3sNOR-UKAN-1sNORK this-NOR.  
I wrote this to read it. [Salaburu 1981, p. 165]

A third use of *-tzeko* complements is as non-finite complements to noun phrases, similar to English infinitival relatives, as in (ii).

(ii) *Karta bat idazteko ordua da.*  
letter one-NOR write-TZEKO time-NOR 3sNOR-IZAN  
It is time to write the letter. [Goenaga 1980, p.370]

These uses of *-tzeko* will not be discussed here.



(6.78) shows the verb with a NORI argument. In both uses, the verb takes a NORK argument which denotes the person who gives the order. There is no NOR argument present.

The NORI argument must be in the matrix clause since the matrix clause auxiliary shows agreement for this argument, as in (6.78). When there is an overt NORI argument, it is understood as denoting the person receiving the order. In the absence of a NORI argument, as in (6.77), the recipient of the order is understood as being arbitrary in reference. This is true both when the embedded verb is a NOR verb as in (6.77) and (6.78), or when it is a NOR-NORK verb. Sentences (6.79) and (6.80) are the examples corresponding to (6.77) and (6.78) with an embedded NOR-NORK verb.

(6.79) Fruitu hau       erosteko    esan du.  
fruit this-NOR buy-TZEKO say 3sNOR-UKAN-3sNORK  
He said to buy this fruit.

(6.80) Fruitu hau       erosteko    esan dio.  
fruit this-NOR buy-TZEKO say 3sNOR-UKAN-3sNORI-3sNORK  
He said to him to buy this fruit.

In such sentences the missing argument in the *-tzeke* clause is never coreferent with the

NORK argument of the matrix clause.<sup>49</sup>

The matrix NORI argument when present may be interpreted as coreferential with a missing argument in the embedded clause. Coreference is possible between the NORI argument and the NOR argument of an embedded NOR verb as in (6.81) or between the NORI argument and the NORK argument of an embedded NOR-NORK verb as in (6.82).

(6.81) Etortzeko agindu dio.  
come-TZEKO order 3sNOR-UKAN-3sNORI-3sNORK  
He ordered him to come.

(6.82) Miren ikusteko agindu dio.  
Miren-NOR see-TZEKO order 3sNOR-UKAN-3sNORI-3sNORK  
He ordered him to see Miren.

But the missing argument in the embedded clause cannot be the NOR argument of a NOR-NORK verb.

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49. Note that this property is only true of *-tzeko* clauses selected by a verb. The possible controller of a missing argument of *-tzeko* clauses in the "in order to" or nominal complement uses can be a NORK argument. See the examples in footnote 48. With "in order to" *-tzeko* clauses, an agentive controller is necessary, although it need not be overt. This is brought out by contrasting the active/impersonal pair in (i)-(ii) with the causative/anti-causative pair in (iii)-(iv).

(i) Liburuak kotxea erosteko saltzen zituzten.  
book-pNOR car-NOR buy-TZEKO sell-PRES 3pNOR-UKAN-3pNORK-PST  
They sold the books to buy the car.

(ii) Liburuak kotxea erosteko saltzen ziren.  
book-pNOR car-NOR buy-TZEKO sell-PRES 3pNOR-IZAN-PST  
The books were sold to buy the car.

(iii) Etxeak erre zituzten aseguroko dirua lortzeko.  
house-pNOR burn 3pNOR-UKAN-3pNORK-PST insurance money-NOR collect-TZEKO  
They burned the houses to collect the insurance money.

(iv) \*Etxeak erre ziren aseguroko dirua lortzeko.  
house-pNOR burn 3pNOR-IZAN-PST insurance money-NOR collect-TZEKO  
The houses burned to collect the insurance money.

The different behavior of anti-causative and impersonal sentences may be attributed to whether the verb's argument structure does include an agent as in impersonals or does not as in anti-causatives. These examples are the Basque counterparts to examples first pointed out by Manzini discussed in Chomsky [1981] and Keyser and Roeper [1983].

- (6.83) \*Nik ikusteko agindu dio.  
I-NORK see-TZEKO order 3sNOR-UKAN-3sNORI-3sNORK  
He ordered him to be seen by me.

Similarly, when no NORI argument is present, and the controller is arbitrary in reference, the controlled argument is understood as the the NOR argument of a NOR verb or the NORK argument of a NOR-NORK verb, but not the NOR argument of a NOR-NORK verb.

- (6.84) Etortzeko agindu du.  
come-TZEKO order 3sNOR-UKAN-3sNORK  
He ordered <ARB> to come.

- (6.85) Miren ikusteko agindu du.  
Miren-NOR see-TZEKO order 3sNOR-UKAN-3sNORK  
He ordered <ARB> to see Miren.

- (6.86) \*Nik ikusteko agindu du.  
I-NORK see-TZEKO order 3sNOR-UKAN-3sNORK  
He ordered <ARB> to be seen by me.

This phenomenon, therefore, appears to identify the NOR argument of a NOR verb with the NORK argument of a NOR-NORK verb. Both may be the controlled argument in a *-tzeke* clause. But, the NOR argument of a NOR-NORK verb may not be the controlled argument. Control in *-tzeke* clauses demonstrates that not all phenomena can be described in terms of

d-structure relations.<sup>50</sup>

## 6.6.2 Control Structures with *Nahi Ukan*

The verbal expression *nahi ukan* "to want" may select non-finite complements with the verb in the perfect participle form.

- (6.87) Zuk berehala etorri nahi duzu.  
you-NORK immediately come want 3sNOR-UKAN-2sNORK  
You want to come immediately.

The verbal expression *nahi ukan* also takes a second type of non-finite complements with the verb in the *-tzea* form, as in (6.88).

- (6.88) Zu berehala etortzea nahi du.  
you-NOR immediately come-TZEA want 3sNOR-UKAN-3sNORK  
He wants you to come immediately.

The verbal expression *nahi ukan* may also take finite complements in the subjunctive, as shown in (6.89).

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50. The *-tzeko* complements are not structures of obligatory control, as illustrated in (i) and (ii) which involve embedded NOR and NOR-NORK verbs in the complement clause together with overt noun phrases corresponding to the arguments in their case arrays.

- (i) Miren etortzeko agindu dio.  
Miren-NOR come-TZEKO order 3sNOR-UKAN-3sNORI-3sNORK  
He ordered him to have Miren come.
- (ii) Nik Miren ikusteko agindu dio.  
I-NORK Miren-NOR see-TZEKO order 3sNOR-UKAN-3sNORI-3sNORK  
He ordered him that I should see Mary.

The embedded verb in the *-tzeko* clause may occur with overt noun phrase complements whether the matrix verb takes a NORI argument as in (i)-(ii) or does not as in (iii).

- (iii) Jon berehala etortzeko esan du.  
Jon-NOR immediately come-TZEKO say 3sNOR-UKAN-3sNORK  
He said that John should come immediately.

How should the behavior of *-tzeko* complements selected by a verb be explained if these are not structures of obligatory control? Ken Hale has suggested that what is involved in the *-tzeko* clauses is a principle of obviation. If verb-selected *-tzeko* clauses were obviative, then the NORK argument of the matrix verb and the s-subject of the embedded verb would be disjoint in reference. This is consistent with the pattern of data observed. The embedded subject of the *-tzeko* clause is never coreferent with the matrix NORK argument. Either it is overt, and, therefore, different from the matrix NORK argument, or when it is missing it is coreferent with the NORI argument if it is present and otherwise it is arbitrary.

(6.89) Berehala etor zaitezen nahi du.  
immediately come-RT 2sNOR-IZAN-SBJCTV want 3sNOR-UKAN-3sNORK  
He wants you to come immediately. [Salaburu 1981, p.164]

This section will look only at non-finite complements with the verb in the perfect participle form with the verbal expression *nahi ukan* since only these complements are relevant to the question of whether Basque makes use of a notion of s-subject. In particular, the perfect participle complements are control structures while the *-tzea* complements appear not to be control structures at all.

The verbal expression *nahi ukan* can select noun phrases as well as clauses to fill the semantic role of the object desired.

(6.90) Nik sagarra nahi dut.  
I-NORK apple-NOR want 3sNOR-UKAN-1sNORK  
I want an apple.

In (6.91), the referent of the NORK argument is the desirer, the person who desires something, while the NOR argument denotes the object desired. As (6.91) shows, the verbal expression *nahi ukan* is a NOR-NORK verb, and, like all NOR-NORK verbs it takes the auxiliary UKAN. The verbal expression *nahi ukan* takes the auxiliary UKAN even with sentential complements. And the NORK argument is always the desirer, whether the complement is a noun phrase or a

clause.<sup>51</sup>

The verbal expression *nahi ukan* may take non-finite clausal complements with the verb in the perfect participial form. The perfect participial form of the verb is the non-definite NOR case of the perfective nominal form of the verb. Sentence (6.91) illustrates an embedded NOR verb.

- (6.91) Nik etxera etorri nahi dut.  
I-NORK house-ALL come want 3sNOR-UKAN-1sNORK  
I want to come home.

The embedded clause has the verb in the perfect participle form but lacks an auxiliary. The auxiliary must be in the matrix clause since the verb in the embedded clause in (6.91) is a

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51. The *-tzea* form of the verb found in some non-finite complements to *nahi ukan* is the definite NOR case of the imperfective nominal form. Like a finite complement clause, a *-tzea* complement clause may contain overt noun phrases corresponding to all the arguments in the embedded verb's case array. This is illustrated in (i) and (ii) where the verb in the *-tzea* clause is a NOR and a NOR-NORK verb, respectively.

- (i) Miren etxera etortzea nahi dut.  
Miren-NOR house-ALL come-TZEA want 3sNOR-UKAN-3sNORK  
I want Miren to come home.
- (ii) Mirenek liburua ikustea nahi dut.  
Miren-NORK book-NOR see-TZEA want 3sNOR-UKAN-1sNORK  
I want Miren to see the book.

A *-tzea* clause need not have all the arguments in a verb's case array overt. In sentence (iii), the verb in the *-tzea* clause is a NOR verb, but there is no explicit NOR argument.

- (iii) Etxera etortzea nahi dut.  
house-ALL come-TZEA want 3sNOR-UKAN-1sNORK  
I want him to come home.

In this example, the matrix NORK argument, the desirer, and the NOR argument of the embedded verb must be disjoint in reference. Sentence (iii) cannot mean "I want to come home." Sentence (iv) illustrates a *-tzea* clause with an embedded NOR-NORK verb, but no explicit NORK noun phrase.

- (iv) Liburua ikustea nahi dut.  
book-NOR see-TZEA want 3sNOR-UKAN-1sNORK  
I want him to see the book.

In (iv), as in (iii), the referent of the missing argument must be understood as disjoint in reference with the matrix NORK argument. The principles governing the interpretation of the non-overt arguments require further study.

NOR verb that could not select the auxiliary UKAN. The NORK argument in this sentence is in the matrix clause, as indicated by the agreement on the auxiliary and its semantic role, the role of desirer, assigned by the matrix verbal expression *nahi ukan*.

In sentence (6.91), the NORK argument is understood as the controller of the missing NOR argument of the embedded clause. In sentence (6.92), with an embedded NOR-NORK verb, there are both a NOR noun phrase and a NORK noun phrase. The NORK noun phrase is in the matrix clause, as shown by the agreement on the auxiliary and by its semantic role.<sup>52</sup>

(6.92) Nik Miren ikusi nahi dut.  
I-NORK Miren-NOR see want 3sNOR-UKAN-1sNORK  
I want to see Miren.

The matrix NORK argument in (6.92) controls the missing NORK argument of the embedded clause.

Sentences (6.91) and (6.92) show that when the verbal expression *nahi ukan* selects a non-finite perfective complement, the matrix NORK argument, the desirer, is the controller of a missing argument in the embedded clause. If the embedded verb is a NOR verb, the NOR

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52. When the verbal expression *nahi ukan* takes perfect participle complements, a form of "clause union" takes place. The auxiliary may show NOR agreement with the NOR argument of a NOR-NORK verb. Contrast (i) and (ii).

(i) Nik liburua ikusi nahi dut.  
I-NORK book-NOR see want 3sNOR-UKAN-1sNORK  
I want to see the book.

(ii) Nik liburuaꞤ ikusi nahi ditut.  
I-NORK book-pNOR see want 3pNOR-UKAN-1sNORK  
I want to see the books.

The auxiliary may not show agreement with the NOR argument of a NOR verb; this is the controlled argument. The auxiliary may also show agreement with the NORI argument of an embedded clause.

(iii) Nik Mireni liburua eman nahi diot.  
I-NORK Miren-NORI book-NOR give want 3sNOR-UKAN-3sNORI-1sNORK  
I want to give Miren the book.

The perfective participial complements differ from the *-izea* complements in this respect, since *nahi ukan* never shows agreement with any argument in a *-izea* clause. These agreement possibilities resemble clitic climbing with the verb *want* in Romance languages. I will not provide an account of these facts but will focus on the question of control with past participial complements.

argument of the embedded clause is controlled, as in (6.91), while in an embedded clause with a NOR-NORK verb, the NORK argument of the embedded verb is controlled, as in (6.92). The NOR argument of an embedded NOR-NORK verb cannot be controlled, as shown by the unacceptability of (6.93).

- (6.93) \*Mirenek ikusi nahi dut.  
Miren-NORK see want 3sNOR-UKAN-1sNORK  
I want to be seen by Miren.

The inability of a NOR argument to be controlled is brought out clearly in (6.94).

- (6.94) Ikusi nahi dut.  
see want 3sNOR-UKAN-1sNORK  
I want to see (him/her)./\*I want to be seen (by him/her).

Although there are no overt noun phrases in the embedded clause, (6.94) is unambiguous with the NORK argument of the embedded clause receiving the controlled interpretation. The interpretation on which the embedded NOR argument is controlled is impossible.<sup>53</sup>

The control possibilities with perfect participial complements to *nahi ukan* distinguish the NOR argument of a NOR verb from the NOR argument of a NOR-NORK verb. The NOR argument of a NOR verb, like the NORK argument of a NOR-NORK verb, may be controlled. The NOR argument of a NOR-NORK verb may not. The controlled argument of these complements must be coreferent with the NORK argument of the matrix verb.

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53. The perfective participial complements to *nahi ukan* differ from the *-tzea* complements in being structures of obligatory control. They do not allow a full range of complements to the verb, whether it is a NOR verb or a NOR-NORK verb.

- (i) \*Nik Miren etorri nahi dut.  
I-NORK Miren-NOR come want 3sNOR-UKAN-1sNORK  
I want Miren to come.
- (ii) \*Mirenek liburua ikusi nahi dut.  
Miren-NORK book see want 3sNOR-UKAN-1sNORK  
I want Miren to see the book.



### 6.6.3 The Significance of the Control Phenomena

Control evidence has implications for the question posed at the outset of this section: is the notion of s-subject relevant to Basque? It is clear that this notion is relevant because the controlled argument must be the s-subject. In the two types of control construction examined, the controlled argument was the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb. In order to account for control phenomena in Basque in the Government-Binding framework, the NOR argument of a NOR verb, as the controlled argument of a control construction, must be a subject, in particular a s-subject, so that the principles of the Binding Theory are satisfied. For the same reason, the NORK argument of a NOR-NORK verb must also be a s-subject.

The notion of s-subject identified by control is that expected in Basque. Consider how the notions of s-subject and s-object would be identified in Basque. The notion of s-subject includes the d-subject of transitive and unergative verbs as well as the d-object of unaccusative verbs, while the d-object of a transitive verb will be the s-object. Therefore, in Basque, given the d-structure/surface case correlations, the NOR argument of a NOR verb will be a s-subject as will the NORK argument of NOR-NORK verbs, while the NOR argument of a NOR-NORK verb will be a s-object. This is shown in the table below.

<u>Verb Class</u>	<u>Case Array</u>	<u>D-structure Relation</u>	<u>S-structure Relation</u>	<u>Surface Case</u>
Transitive	NOR-NORK	d-subject d-object	s-subject s-object	NORK NOR
Unergative	NORK	d-subject	s-subject	NORK
Unaccusative	NOR	d-object	s-subject	NOR

The s-structure relations, unlike the d-structure relations, are not identified with particular cases. In Basque, a phenomenon involves the notion of s-subject, as distinct from d-subject, if it treats the NOR argument of a NOR verb and the NORK argument of NORK and NOR-NORK verbs in the same way, and treats the NOR argument of a NOR-NORK verb differently.

The pattern of control observed in Basque also supports the claim that Basque is an accusative language in the sense of the Ergativity Hypothesis. The choice of controlled argument in Basque is that expected in an accusative language. In particular, by the Ergativity Hypothesis, when a controlled clause involves an agent-patient verb, the agent argument should be the controlled argument in an accusative language, but the patient

argument should be the controlled argument in an ergative language. In Basque, agent-patient verbs are NOR-NORK verbs, and, the agent argument is the NORK argument. Since, the NORK argument of a NOR-NORK verb is the controlled argument, the agent argument of an agent-patient verb will be the controlled argument.

## 6.7 S-structure and Case Assignment in Basque

The control phenomena examined in the previous sections show that the notion of s-subject is pertinent to Basque. This suggests the existence of a level of s-structure distinct from d-structure. Yet, the notion of s-subject relevant to Basque for the Binding Theory is not relevant for case assignment, although case assignment usually involves s-structure relations. The d-structure grammatical relations in Basque that are relevant to a number of phenomena, including ZERIK distribution and the impersonal construction, appear to be relevant to case assignment as well. Is there some way to reconcile this discrepancy while maintaining the assumption that case is assigned at s-structure? An approach to case assignment in Basque that resolves this apparent conflict will be proposed.

### 6.7.1 A Proposal for Case Assignment

The Theory of Case in the Government-Binding framework must be able to accommodate a system of case such as that in Basque, where case appears to be assigned on the basis of d-structure grammatical relations, as well as an accusative or ergative system, where case is assigned at s-structure. The system of case in Basque differs from an accusative system in its treatment of unaccusative verbs. In Basque, the same case marks the d-object of an unaccusative verb and the d-object (= s-object) of a transitive verb. But, the d-object of an unaccusative verb (i.e. NOR verb) in Basque does not share the same case as the s-subject (= d-subject) of a transitive verb (i.e. NOR-NORK verb). In contrast, in an accusative system of case the d-object of an unaccusative verb is typically assigned the same case as the subject of a transitive verb, the nominative case, rather than the case of the object of a transitive verb, the accusative case.

In an accusative language, unaccusativity has been tied to a verb's inability to assign accusative case. Burzio [1981] has proposed an account of properties of unaccusative verbs in the Government-Binding framework based on the generalization:

$$[-T] \langle \cdot \cdot \rangle [-A]$$

(recall that the feature [-T] indicates the verb's inability to assign a thematic role to a subject; the feature [-A] the verb's inability to assign accusative case to an object.) Given this generalization, an unaccusative verb cannot assign case to an s-object resulting in a violation of the Case Filter (the requirement that lexical noun phrases receive case). In order to receive case, the d-object can become a s-object by "movement", a possibility that is allowed since unaccusative verbs are [-T]. Nominative case assignment and other subject properties of the d-object of an unaccusative verb will be explained in this analysis.

The observation that the d-object of both unaccusative and transitive verbs in Basque receive the same case suggests that unaccusative verbs in Basque can assign case directly,<sup>54</sup> just as transitive verbs do. The ability of an unaccusative verb to assign case to its object would distinguish the Basque system of case from an accusative system. Unaccusativity in Basque, then, would not be tied to a verb's inability to assign case. As a consequence, the motivation for the "movement" of a lexical noun phrase d-object no longer exists in Basque. If an unaccusative verb can assign case directly to a s-object, the d-object will not be required to become a s-subject in order to receive case. A lexical noun phrase d-object of an unaccusative verb in Basque can be an s-object. And the fact that lexical noun phrases d-objects only appear in the NOR case suggests that "movement" is precluded with lexical noun phrases.

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54. An alternative approach to the Basque case system, the proposal that the case of the d-object of Basque unaccusative verbs is an instance of "quirky" case, does not seem promising. This proposal may look attractive since the quirky case would be associated with the d-object in Basque and quirky case is generally associated with d-objects. See L. Levin (1981) for arguments to this effect for Icelandic, and for an introduction to the properties of quirky case. But, Pesetsky (1982) points out that in Russian quirky case objects are not candidates for the genitive of negation, attributing this to a requirement that quirky case be present for thematic role assignment. Yet, in Basque, the d-objects of unaccusative verbs occur in the ZERIK case, suggesting that structural case is involved rather than quirky case.

A second alternative would be to reject the assumption that case is assigned at s-structure and to propose that Basque assigns case at d-structure. That is, to assume that languages differ as to the level at which they assign case. This would allow the observed pattern of case marking in Basque. But, this account rests on the assumption that all verbs would assign case to their d-objects, i.e., that there is no counterpart to Burzio's Generalization at d-structure. This analysis would allow d-subjects to be s-subjects or s-objects.

The fact that a notion of s-subject is necessary in Basque to account for the shared properties of the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb with respect to control, does not, as it might appear, pose a problem. The subject properties of the NOR argument of a NOR verb (i.e. the d-object of an unaccusative verb) can be explained with a movement analysis. Although the Basque case system obviates "movement" of lexical noun phrases in finite clauses, the movement of PRO in a non-finite clause required for control of the NOR argument of a NOR verb is still possible.

The motivation for "movement" depends on the nature of the clause/argument pair. In particular, movement of PRO in non-finite clauses with unaccusative verbs follows from the requirement that PRO be ungoverned (Chomsky 1981), unlike movement of lexical noun phrases in finite clauses which follows from the requirement that lexical noun phrases receive case. Since the Binding Theory requires that PRO be ungoverned, a PRO d-object is only possible when PRO can move from object position, which is necessarily governed by the verb, to an ungoverned position such as the subject position of a non-finite clause. This movement is possible with an unaccusative verb since unaccusative verbs do not assign a thematic role to their subject.

Movement of a PRO d-object of an unaccusative verb in a non-finite clause would be expected in Basque even in the absence of movement of lexical noun phrases since the movement follows from the property that PRO be ungoverned and not from considerations of case assignment. Control phenomena in Basque confirm this expectation. Furthermore, the distinction made in the Government-Binding framework between the account of movement of noun phrases in finite and non-finite clauses may appear artificial in a language like English which shows movement of both lexical noun phrases in finite clauses and PRO in non-finite clauses. But, Basque provides support for a theory which distinguishes between the two types of movement.

### 6.7.2 Evidence from Antecedent-Anaphor Pairs

A prediction follows from this analysis: a d-object of an unaccusative verb must only show subject properties if it is PRO. A lexical noun phrase d-object of an unaccusative verb would not be expected to behave as a s-subject if Basque does not allow movement of lexical noun phrases. This prediction is supported by the fact that the d-object of unaccusative verbs show subject properties in control structures. Further investigation of other phenomena will

be necessary to determine if this prediction holds in general. Any evidence against this prediction will require adopting an alternative analysis.

Assuming that the usual account of why lexical noun phrase d-objects of unaccusative verbs behave as s-subjects is not available in Basque, any properties of the argument to an unaccusative verb that have typically been explained by such an account should not be observed in Basque. As an example, consider the choice of possible antecedents for anaphors. In some languages (for instance, Georgian [Harris 1981] and Warlpiri (see Chapter 4)), only s-subjects may be antecedents for anaphors. Although the d-subject (= s-subject) of a transitive verb may be an antecedent of a s-object (d-object) or oblique anaphor, the s-object may never be an antecedent. In such a language, the fact that the d-object of an unaccusative verb patterns with the d-subject of a transitive verb in being a possible antecedent for an anaphor could be accounted for by assuming that both are s-subjects. In particular, the d-object of an unaccusative verb becomes a s-subject through NP movement. Only in a language with NP movement of lexical noun phrases would it be possible for the antecedent to be limited to s-subject. Therefore, the presence of such a restriction in a language would argue for NP movement if it extends to the argument of unaccusative verbs.

In this section, I will examine the choice of antecedent for anaphors in Basque to show that this phenomenon does not involve a notion of s-subject although it does in many other languages. This is consistent with the proposed analysis, and, therefore, indirectly supports it. First, the relevant facts on anaphors will be reviewed. Then, the possible anaphor-antecedent pairs will be examined to show that Basque does not restrict antecedents to "s-subjects". The discussion will focus on the reciprocal anaphor rather than the reflexive anaphor<sup>55</sup> since comparable examples with the reflexive anaphor are more difficult to find because of the semantics.

The reciprocal anaphor in Basque is the noun phrase *elkar* "each other". The following pair of sentences illustrates the use of *elkar* and shows that the reciprocal relation expressed depends on the semantic roles of the anaphor and antecedent.

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55. The use of a reflexive anaphor is one of two ways of expressing a reflexive construction in Basque. In Basque, reflexives are usually expressed by using an antecedent-anaphor pair. The second alternative is to use the auxiliary IZAN with a small lexically-defined group of NOR-NORK verbs to express the reflexive, as discussed in Section, which also includes a brief discussion of the reflexive anaphor.

(6.95) Elkar jango - dugu.  
each-other-NOR eat-FUT 3sNOR-UKAN-1pNORK  
We will eat each other. [Goenaga 1980, p.55]

(6.96) Elkarrekin jango dugu.  
each-other-COM eat-FUT 3sNOR-UKAN-1pNORK  
We will eat with each other. [Goenaga 1980, p.55]

In reciprocal sentences, using the overt reciprocal anaphor, there is no change in the verb's case array. The reciprocal anaphor and its antecedent must both bear grammatical relations to the verb. The reflexive anaphor shows the same behavior.

What are the possible antecedents of *elkar*? The NOR argument of a NOR verb is a possible antecedent of *elkar*.

(6.97) Elkarrekin maitemindu dira.  
each-other-COM fall-in-love 3pNOR-IZAN  
They fell in love with each other.

(6.98) Gizonak elkarrekin koleratu dira.  
man-pNOR each-other-COM be-angry 3pNOR-IZAN  
The men were angry at each other.

The NORK argument of a NOR-NORK verb is also a possible antecedent.

(6.99) Elkar maite dute.  
each-other-NOR love 3sNOR-UKAN-3pNORK  
They love each other.

(6.100) Elkarrekin egingo dute.  
each-other-COM make-FUT 3sNOR-UKAN-3pNORK  
They will do it with each other.

Sentence (6.99) illustrates the NORK argument as the antecedent for an anaphor in the NOR case, while sentence (6.100) shows the NORK argument as an antecedent for an anaphor in the comitative case. The NORK argument of a NORK verb is also a possible antecedent, as illustrated in (6.96).

The reciprocal anaphor *elkar* has no NORK form [Lafitte 1979]. Therefore, an antecedent-anaphor pair with the anaphor in the NORK form is impossible. Whenever the reciprocal relation involves the NORK argument, it must be the antecedent. The fact that the NORK argument in Basque can never be an anaphor is consistent with the principles of the Binding Theory since the NORK argument is the s-subject. This property of the NORK argument supports the proposal that Basque is an accusative language in the sense of the Ergativity Hypothesis.

But, the NORK argument is not obligatorily the antecedent. In sentences with NOR-NORK verbs, the NOR argument is a possible antecedent for the reflexive and reciprocal anaphor, as in (6.101).<sup>56</sup>

(6.101) *Nik elkarri erakusi dituet.*  
I-NORK each-other-NORI show 3pNOR-UKAN-3pNORI-1sNORK  
I showed them to each other.

In sentence (6.101) with the NOR-NORI-NORK verb *erakusi* "to show", the antecedent is the NOR argument and the anaphor the NORI argument, while the NORK argument *nik* "I" does not participate in the reciprocal relation. This sentence shows that d-objects as well as d-subjects can be antecedents in Basque. That is, Basque is not a language like Georgian or Warlpiri. Obviously, the NOR argument could not be the antecedent for a NORK argument with a NOR-NORK verb, since this would violate the Binding Theory.

With a NOR verb, the NOR argument cannot be the anaphor, as in (6.102), but must be the antecedent, as in (6.103).

(6.102) \**Elkar joango da gizonekin.*  
each-other-NOR go-FUT 3sNOR-IZAN man-pCOM  
Each other will go with the men.

(6.103) *Gizonak elkarrekin joango dira.*  
man-pNOR each-other-COM go-FUT 3pNOR-IZAN  
The men will go with each other.

The ability of a NOR argument to be an antecedent in a sentence such as (6.103), therefore, could be attributed to its being a d-object and not necessarily to its being a s-subject. This would be consistent with the proposed analysis. If the NORK argument (and never the NOR argument) of a NOR-NORK verb was the only possible antecedent both options would not be possible.

The behavior of anaphor-antecedent pairs in Basque is consistent with the proposed analysis of Basque. Given this analysis, phenomena involving lexical noun phrases would not be expected to appeal to a notion of s-subject, and, in fact, there is no evidence from antecedent-anaphor pairs for this. It appears that in Basque both d-subjects and d-objects may be antecedents for lexical anaphors. That the only evidence for considering the NOR

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56. I am grateful to Maria Louisa Zubizarreta for pointing out the significance of sentences such as (6.101).

argument a s-subject derives from control suggests that NP movement is limited to PRO.<sup>57</sup>

## 6.8 Conclusion

To summarize, Basque, a language traditionally considered to have an ergative case system, turns out to be an accusative language in the sense of the Ergativity Hypothesis. Furthermore, morphological case in Basque appears to be assigned on the basis of d-structure grammatical relations, rather than s-structure grammatical relations as in a language with an accusative or ergative case system. This property of the Basque case system follows once the NOR verbs, the so-called "intransitive" verbs of Basque, are recognized as unaccusative verbs. One account of this system of case marking within the GB framework is to allow unaccusative verbs in Basque to assign case to their s-objects, obviating the need for movement of lexical noun phrases. As a consequence of this analysis, a d-object of an unaccusative verb in Basque would not be expected to show subject properties if it is a lexical noun phrase but only if it is PRO, a prediction directly supported by control phenomena in Basque and indirectly supported by possible anaphor-antecedent pairs.

## 6.9 Appendix: Other Phenomena Involving a Notion of "S-subject"

In this appendix, short descriptions are given of three other phenomena that appear to treat the NOR argument of a NOR verb like the NORK argument of a NOR-NORK verb. The phenomena include the *arizán* construction, the causative construction with the verb *erazi*, and the imperative construction.<sup>58</sup> It is not clear that what is involved in each of these phenomena is a notion of s-subject, especially given that the limited data available make it impossible to provide an analysis of these constructions.

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57. Relativization in many languages is another candidate for a phenomenon that treats s-subjects differently from arguments bearing other s-structure relations. In Basque, all NOR and NORK arguments behave in the same way with respect to relativization. This fact again indirectly supports the analysis proposed here. See Baker [1982] and Archangeli [1982] for more discussion.

58. One final phenomenon that should be studied is coordination. Although the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb may be conjoined, a notion of "s-subject" may not be involved. The NORI argument of NOR-NORI verbs like *gustatu* "to please" also enters into coordination.



It is possible that the imperative construction involves a semantic notion of "s-subject", as in Dyrbal. The causative construction may also. The *ari izan* and causative constructions both involve non-finite clausal complements, therefore, they may possibly involve control, although this is not obvious. Also, it would be useful to consider the causative construction in light of the different analyses proposed by Burzio [1981] for Italian causative constructions that do and do not involve unaccusative verbs.

### 6.9.1 *Ari izan* Clauses

Another type of construction involving a non-finite clausal complement is the *ari izan* construction. This construction is found with the verbs *ari* (used to express the progressive), *hasi* "to begin", *jardun* "to be occupied with". These verbs select non-finite clausal complements which have the verb in the *-tzen* form.

(6.104) Noiz hasiko gara euskara ikasten?  
when begin-FUT 1pNOR-IZAN Basque-NOR study-TZEN  
When will we begin to study Basque?

(6.105) Haurra eskolara joaten ari da.  
child-NOR class-ALL go-TZEN ARI 3sNOR-IZAN  
The child is going to class.

The *-tzen* form of the verb is the non-definite NON (locative) case of the imperfective nominal form.<sup>59</sup>

This construction always requires the auxiliary IZAN indicating that the matrix verbs occurring in the *ari izan* construction take a NOR case array. Sentence (6.106) illustrates the use of this construction when the embedded verb takes a NOR case array.

(6.106) Ni etortzen ari naiz.  
I-NOR come-PRES ARI 1sNOR-IZAN  
I am coming.

The NOR argument in (6.106), *ni*, is understood as having the semantic role of the NOR argument selected by the embedded verb. Compare (6.106), where the verb *etorri* "to come" is embedded in the *ari izan* construction, to (6.107), where *etorri* occurs as a matrix verb.

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59. The suffix *-tzen* is composed of *-tze*, the imperfective verbal nominal suffix and *-n*, the non-definite locative case suffix. The *-tzen* form is also the nominal form used for the present participle with the auxiliaries.

(6.107) Ni etorri naiz.  
I-NOR come 3sNOR-IZAN  
I came.

The NOR argument in (6.107) must be in the matrix clause since the auxiliary shows agreement with this argument.

What happens when the embedded verb takes the NOR-NORK case array? An example of an *arizán* construction with a NOR-NORK verb in the embedded clause is presented in (6.108).

(6.108) Ni Miren ikusten ari naiz.  
I-NOR Miren-NOR see-PRES ARI 1sNOR-IZAN  
I am seeing Miren.

Contrast sentence (6.108) with sentence (6.109) where the verb *ikusi* is a matrix verb.

(6.109) Nik Miren ikusi dut.  
I-NORK Miren-NOR see 3sNOR-UKAN-1sNORK  
I saw Miren.

The *arizán* sentence, (6.108), has two NOR arguments. One corresponds to the NOR argument in (6.109) and the other to the NORK argument. There is no NORK argument in the *arizán* sentence, even though the embedded verb is a NOR-NORK verb.

Which NOR argument is the NOR argument of the matrix sentence? This can be determined from the agreement in the auxiliary. The auxiliary IZAN can only show agreement for one NOR argument, and this will be the argument which is in the matrix sentence. In (6.108), the auxiliary agrees with the NOR argument whose semantic role corresponds to that of the NORK argument of the embedded verb. Therefore, this argument must be the NOR argument in the matrix sentence. This is confirmed by the presence of NOR case on this argument. If the argument were in the embedded clause, it should have shown NORK rather than NOR case since the NORK argument of a NOR-NORK verb receives the NORK case. The use of the auxiliary IZAN in this construction shows that the auxiliary is selected by the verb *ari* and not by the embedded verb, since a NOR-NORK verb always selects the auxiliary UKAN.

The NOR argument of the *arizán* construction cannot be interpreted as the NOR argument of a NOR-NORK verb. This is shown by the inability of the auxiliary IZAN to show agreement with the NOR argument which corresponds in semantic role to a NOR argument of a NOR-NORK verb.

(6.110) \* Nik liburua irakurtzen ari da.  
I-NORK book-NOR read-PRES ARI 3sNOR-IZAN  
The book is being read by me.

(6.111) \* Ni liburua irakurtzen ari da.  
I-NOR book-NOR read-PRES ARI 3sNOR-IZAN  
The book is being read by me.

Agreement is impossible whether the argument corresponding to the NORK argument of the NOR-NORK verb is in the NORK case as in (6.110) or the NOR case as in (6.111). In fact, the NOR argument in *ari izan* constructions with NOR-NORK verbs does not seem to have any relation to the matrix verb *ari*. The auxiliary shows no agreement with this argument. Sentences (6.112) and (6.113) show that a change from a singular to plural NOR argument has no effect on the auxiliary, although a change in the matrix NOR argument corresponding to the embedded NORK argument does, as in (6.114) and (6.115).

(6.112) Ni liburua irakurtzen ari naiz.  
I-NOR book-NOR read-PRES ARI 1sNOR-IZAN  
I am reading the book.

(6.113) Ni liburuak irakurtzen ari naiz.  
I-NOR book-pNOR read-PRES ARI 1sNOR-IZAN  
I am reading the books.

(6.114) Ni etortzen ari naiz.  
I-NOR come-PRES ARI 1sNOR-IZAN  
I am coming.

(6.115) Gu etortzen ari gara.  
we-NOR come-PRES ARI 1pNOR-IZAN  
We are coming.

The auxiliary IZAN, therefore, never shows agreement with the NOR noun phrase corresponding to the NOR argument of the NOR-NORK verb, neither instead of or in addition to agreement with the other NOR noun phrase.

The NOR argument of the *ari izan* construction is understood to be coreferent with the NOR argument of an embedded NOR verb and the NORK argument of an embedded NOR-NORK verb. The *ari izan* construction, therefore, distinguishes the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb from the NOR argument of a NOR-NORK verb. That is, a notion of "s-subject" appears to be involved in the *ari izan* construction. But, whether this is the case, and if so how it bears on the hypothesis

concerning case assignment, will depend on the analysis of this construction.<sup>60</sup>

## 6.9.2 Causatives

The causative construction in Basque also appears to involve a notion of "s-subject". The productive causative construction in Basque is formed using the verb *erazi* "to effect, realize, cause".<sup>61</sup> The causative verb *erazi* requires that the embedded verb of its complement clause be in the root form, the form of the verb also found in subjunctives and imperatives.

The causative verb *erazi* takes a NOR-NORI-NORK case array, and the corresponding auxiliary UKAN.

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60. Some additional data that might be relevant to an analysis of this construction concerns the distribution of the ZERIK case in *ari izan* sentences. The NOR argument of the *ari izan* construction may be ZERIK if the embedded verb is a NOR verb, as in (i), but not if it is a NOR-NORK verb, as in (ii).

(i) Ez da gizonik etortzen ari.  
NEG 3sNOR-IZAN man-ZERIK come-PRES ARI  
Not a man was coming.

(ii) \* Ez da gizonik liburua irakurtzen ari.  
NEG 3sNOR-IZAN man-ZERIK read-PRES ARI  
Not a man was reading the book.

Yet, when the embedded verb is a NOR-NORK verb, a ZERIK argument may replace the NOR argument of the embedded verb.

(iii) Ez naiz libururik irakurtzen ari.  
NEG 1sNOR-IZAN book-ZERIK read-PRES ARI  
I didn't read a book.

61. As discussed in Section, Basque uses an alternation in case array and auxiliary to express the anti-causative alternation. Also, Basque once had a verbal prefix *era-/ira-* used for forming causative verbs, but this is no longer a productive way of forming causatives. Several verbs in Basque do have causative counterparts formed with *-era-*:

*ikusi* "to see" - *irakusi* "to show"  
*ikasi* "to study/learn" - *irakasi* "to teach"

But the *era-* forms of some verbs have drifted away from the causative meaning, as in the pair *ibili* "to walk" and *erabili* "to use" or the pair *eman* "to give" and *eraman* "to bring".

(6.116) Nik Mireni joan erazi diot.  
I-NORK Miren-NORI go-RT make 3sNOR-UKAN-3sNORI-1sNORK  
I made Miren go.

The NORK argument is the causer of the action, the one who brings about the action, but does not bear an argument relation in this action. The NORI argument is the causee, the person caused to carry out an action by the causer. The causee, therefore, will also be an argument of the embedded verb.

What role in the embedded verb's case array does the causee fill? Consider first the formation of a causative construction involving a NOR verb. Sentence (6.117) illustrates a typical use of the NOR verb *etorri* "to come," and (6.118) gives the corresponding causative sentence.

(6.117) Etorri da.  
come 3sNOR-IZAN  
He came.

(6.118) Etor erazi diot.  
come-RT make 3sNOR-UKAN-3sNORI-1sNORK  
I made him come.

In the causative sentence (6.119), the NORK argument is the causer and the NORI argument is the causee. This is reflected in the form of the auxiliary UKAN; the auxiliary shows first person singular NOR agreement and third person singular NORI agreement. When the embedded verb in the causative construction is a NOR verb, the causee is understood as having the same semantic role to the embedded verb as the NOR argument in the simple sentence. There is no overt NOR argument in this sentence, and the form of the auxiliary is that associated with the absence of a NOR argument.

The embedded verb in the causative construction may also be a NOR-NORK verb. Compare the pair of sentences below involving a NOR-NORK verb.

(6.119) Liburua irakurri du.  
book-NOR read 3sNOR-UKAN-3sNORK  
He read the book.

(6.120) Liburua irakur erazi diot.  
book-NOR read-RT make 3sNOR-UKAN-3sNORI-1sNORK  
I made him read the book.

Sentence (6.119) is a typical use of the NOR-NORK verb *irakurri* "to read," while (6.120) shows the use of this verb in the causative construction. In (6.120), the causative of a NOR-NORK verb, as in the causative of a NOR verb, the NORK argument is the causer and the

NORI argument is the causee. The auxiliary shows agreement with these two arguments. But when the embedded verb in the causative construction is a NOR-NORK verb, the causee is understood as filling the semantic role associated with the NORK argument of the NOR-NORK verb. The causee cannot be understood as bearing the role of the NOR argument of the NOR-NORK verb. If this were possible, then (6.121) should be ambiguous between the interpretations given in (6.122).

(6.121) *Ikus erazi dizut.*  
see-RT make 3sNOR-UKAN-2sNORI-1sNORK

(6.122) a. I made you see (him).  
b. \*I made you be seen (by someone).

But, only the first interpretation, (6.122a), where the causee is interpreted as the NORK argument of the embedded verb is possible.

In (6.122), the causative of a NOR-NORK verb, the NOR argument is understood as having the semantic role of the NOR argument of the embedded verb and as having no argument relation to the causative verb *erazi*. Yet, this NOR argument behaves as if it were in the matrix sentence in that it determines NOR agreement in the auxiliary.<sup>62</sup> Compare (6.123) and (6.124).

(6.123) *Liburua irakur erazi diot.*  
book-NOR read-RT make 3sNOR-UKAN-3sNORI-1sNORK  
I made him read the book.

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62. The existence of agreement on the matrix auxiliary for the embedded NOR argument suggests that some form of "clause union" has taken place. This phenomenon is comparable to clitic climbing in the Romance causative construction. The Romance causatives differ from the Basque causatives in that the case of the causee depends on the transitivity of the embedded verb. Obviously, more data is necessary before an analysis of the Basque causative is possible. The following sentence, for example, may provide insight into the underlying structure of the construction.

(i) *Senarrak emazteari bere burua hil*  
husband-NORK wife-NORI s/he-POSS head-NOR kill-RT  
*erazi dio.*  
make 3sNOR-UKAN-3sNORI-3sNORK

(ii) a. The husband made the wife kill herself.  
b. \*The husband made the wife kill himself.

(6.124) *Liburuak irakur ehazi dizkiot.*  
book-pNOR read-RT make 3pNOR-UKAN-3sNORI-1sNORK  
I made him read the books.

In a negative sentence, a ZERIK noun phrase is possible instead of a NOR noun phrase, and as expected the auxiliary shows third person singular NOR agreement.

(6.125) *Ez diot libururik irakur erazi.*  
NEG 3sNOR-UKAN-3sNORI-1sNORK book-ZERIK read-RT make.  
I didn't make him read any books.

The causee of a causative sentence is understood as the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb. It cannot be the NOR argument of a NOR-NORK verb. That is, this phenomenon does not treat all NOR arguments in the same way. It is possible that what is involved here is control of an s-subject. If so, this construction would support the proposed analysis of case assignment in Basque.

### 6.9.3 Imperatives

The imperative in Basque is formed from the root form of the verb together with the imperative form of the appropriate auxiliary. That is, the auxiliary IZAN is used with a NOR verb and the auxiliary UKAN with a NOR-NORK verb. Basque has both second and third person imperative forms.

The addressee of a second person imperative command in Basque is the NOR argument of a NOR verb and the NORK argument of a NORK verb. This is illustrated by the imperative sentences in (6.126) and (6.127).

(6.126) *Etor zaitel*  
come-RT 2sNOR-IZAN-IMPER  
Come!

(6.127) *Eraman ezazu!*  
bring-RT 3sNOR-UKAN-IMPER-2sNORK  
Bring it!

Sentence (6.126) uses the NOR verb *etorri* "to come". Sentence (6.127) uses the NOR-NORK verb *eraman* "to bring". The NOR argument of a NOR-NORK verb is not a possible addressee of a second person imperative.

As well as second person imperatives, Basque has third person imperatives. In the third person imperatives, the referent of the imperative is once again the NOR argument with a NOR verb and the NORK argument with a NOR-NORK verb.

(6.128) Etor       bedil  
          come-RT B-3sNOR-IZAN  
          That he comes.

(6.129) Eraman bezal  
          bring-RT B-3sNOR-UKAN-3sNORK  
          That he brings it.

The referent of third person imperatives is never the NOR argument with NOR-NORK verbs.

There is a special prefix, *b-*, associated with imperatives with a third person addressee. This prefix is found when the NOR argument of a NOR verb is third person or when the NORK argument of a NOR-NORK verb is third person, as seen in (6.128) and (6.129). This prefix is not associated with a third person NOR argument of a NOR-NORK verb in the imperative form, as is evident from examples (6.130) and (6.131) where the NOR argument is in the third person and the NORK argument is in the second person.

(6.130) Irakur    itzazu!  
          read-RT 3pNOR-UKAN-IMPER-2sNORK  
          Read them!

(6.131) Eraman ezazu!  
          bring-RT 3sNOR-UKAN-IMPER-2sNORK  
          Bring it!

It is difficult to assess how much evidence the imperative provides for a notion of *s*-subject that encompasses the NOR argument of a NOR verb and the NORK argument of a NOR-NORK verb. As discussed in Section, even in ergative languages like Dyirbal, the imperative involves the Nominative (absolutive) argument of an intransitive verb and the Accusative (ergative) argument of a transitive verb, cutting across not only case categories but also *d*-structure grammatical relations. Yet, the Nominative (absolutive) arguments of both transitive and intransitive verbs have been identified as *d*-subjects. The behavior of the imperative in Dyirbal lessens the value of the imperative as a test for subject.



## 7. Conclusion

The Ergativity Hypothesis allows a new perspective on phenomena that have come under the label "ergative". This conclusion will review how the range of properties that have come under this term have been accounted for in the context of the Ergativity Hypothesis, permitting the resolution of some questions that ergative languages have posed. That so-called ergative phenomena follow from the difference identified by the Ergativity Hypothesis provides support for this hypothesis.

The essence of the Ergativity Hypothesis is the establishment of a link between a language's ergativity and the semantic role assignment generalization in that language. The Ergativity Hypothesis is proposed by Marantz as a claim about the nature of observed regularities in the expression of arguments bearing the agent and patient semantic roles to a verb. The Ergativity Hypothesis asserts that every language is characterized by one of the two possible assignments of the semantic roles agent and patient to the d-structure relations d-subject and d-object. But, the Ergativity Hypothesis goes beyond this claim by tying the choice of assignment to the language's status as an ergative or accusative language, as follows:

### The Ergativity Hypothesis

(A): Accusative  
agent - subject  
patient - object

(E): Ergative  
agent - object  
patient - subject

The term "ergative" was first used to describe a system of case marking contrasting with the accusative system. On closer examination, the languages showing the "ergative" system of case marking are found to differ. In some languages, the "morphologically" ergative languages, the notion of "ergativity" appears to be pertinent only to case marking or agreement, while in other languages, the "syntactically" ergative languages, the notion of "ergativity" appears to be relevant to syntactic processes. Yet, languages of both types may show a construction referred to as the "anti-passive" construction, which contrasts with the "passive" construction of "accusative" languages. But, a further complication is that ergative case marking does not always preclude a "passive" construction, as shown by Eskimo languages.

An examination of the phenomena that have been considered hallmarks of "ergative" languages such as "ergative case marking" or "anti-passive constructions", as well as phenomena that have been considered typical of "accusative" languages such as "accusative case marking" or "passive constructions," reveals that they are not sufficient criteria in isolation for determining whether a language is ergative or accusative in the sense of the Ergativity Hypothesis. This is because in the traditional approach to ergativity each of these terms has been used to refer not to a single phenomenon but to pairs of distinct phenomena in ergative and accusative languages that have the same superficial manifestation. This creates the impression that a single phenomenon is involved in each instance. Therefore, there is a potential for confusing these two types of languages, especially if only simple sentences are considered. The table below identifies what the actual phenomena are in ergative and accusative languages in the sense of the Ergativity Hypothesis that have been referred to by these terms.

<u>Traditional Term for Phenomenon</u>	<u>Actual Term if Found in Accusative Language</u>	<u>Actual Term if Found in Ergative Language</u>
'Ergative case marking'	Ergative case marking	Accusative case marking
'Accusative case marking'	Accusative case marking	Ergative case marking
'Anti-passive construction'	Anti-passive construction	Passive construction
'Passive construction'	Passive construction	Anti-passive construction

Note that the same phenomena are found in ergative and accusative languages.

As the table shows, languages that have been traditionally labeled "ergative" due to their pattern of case marking may be either ergative languages with accusative case marking or accusative languages with ergative case marking in the sense of the Ergativity Hypothesis. These two types of languages provide a counterpart within the framework of the Ergativity Hypothesis for the traditional division of languages with "ergative" case marking into "morphologically" or "syntactically" ergative languages, as the case studies of Warlpiri and Dyirbal showed.

Accusative languages with ergative case marking correspond to "morphologically" ergative languages such as Warlpiri.

Ergative languages with accusative case marking correspond to "syntactically" ergative languages such as Dyirbal.

The "morphological" vs. "syntactic" ergativity dichotomy was introduced because languages that showed "ergative" case systems seemed to differ in whether their syntax, as well as their morphology, was "ergative" rather than "accusative". The Ergativity Hypothesis offers an account for the intuition that, morphology aside, "morphologically" ergative languages

resemble accusative languages: they are accusative languages in the sense of the Ergativity Hypothesis.<sup>63</sup> It also predicts the superficial similarity observed between these two types of languages.

Although so-called "syntactically" ergative languages have an analogue within the framework of the Ergativity Hypothesis, the property that characterizes these languages is not "ergative" syntax, that is syntactic processes that make distinctions different from those in accusative languages. The Ergativity Hypothesis predicts that ergative languages should only differ from accusative languages in terms of the association of semantic roles to d-structure grammatical relations. In particular, the syntax of accusative and ergative languages should be the same. In fact, the syntax is the same when viewed at the appropriate level of abstraction, as discussed in Chapter 3 and in the case study of Dyirbal. Phenomena that have been referred to as "ergative" are no different from corresponding phenomena in accusative languages; only the surface manifestation differs. It becomes unnecessary to introduce notions such as "topic" or "pivot" in addition to subject and object in order to handle the existence of "ergative" phenomena (for example, see Reed et al. [1977], Dixon [1972, 1979a]) since the notion referred to by these terms corresponds to the s-subject of ergative languages.

Even if properties typically associated with "ergative" languages cannot be relied on for determining a language's status with respect to the Ergativity Hypothesis, there are other diagnostics available. The interaction of the Ergativity Hypothesis with the GB framework suggests a number of differences that should be found between ergative languages and accusative languages (including accusative languages with ergative case marking). Some of the predictions presented in Chapter 3 are repeated here.<sup>64</sup>

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63. Note that "syntactically" ergative languages will be like accusative languages with accusative case marking in their morphology rather than like accusative languages with ergative case marking in spite of the superficial similarity.

64. The predictions concerning the reflexive verb form hold on the assumption that these verb forms are associated with the feature [-T].

<u>Property</u>	<u>Accusative language</u>	<u>Ergative language</u>
Passive/reflexive ambiguity:	'He sees himself' / 'He is seen'	'He sees himself' / 'He sees'
Reflexive verb form may express:	anti-causative	indefinite object
Reflexive verb form may not express:	indefinite object	anti-causative
Inherent reflexive verbs drawn from:	pat verbs	agt verbs
Controlled argument:	agt of agt-pat verb	pat of agt-pat verb
Reflexive/reciprocal anaphor cannot be:	agt of agt-pat verb	pat of agt-pat verb
Argument adjacent to verb:	pat of agt-pat verb	agt of agt-pat verb
Lexical requirements imposed on:	pat of agt-pat verb	agt of agt-pat verb
Genitive of negation found with:	pat argument	agt argument

Many of the properties listed above would not a priori have been considered to differentiate the two language types.

For completeness, one other use of the term "ergative" deserves to be mentioned, although it has been ignored so far since it refers to certain phenomena observed in languages considered to be accusative. For example, Moravcsik [1978] applies the term "ergative" to phenomena such as the genitive of negation which may treat the intransitive subject in the same way as the transitive object but never like the transitive subject. Burzio's [1981] use of the term "ergative" to refer to unaccusative verbs reflects the same extended use of the term. Often, such phenomena are used to argue that even accusative languages have some form of ergativity (see Moravcsik [1978]). Yet, these phenomena differ from the traditional ergative phenomena in not involving all intransitive verbs, but only the unaccusative verbs.<sup>65</sup> Given this limitation, it is clear that the generalization concerns the notion of d-object and not the notion "ergative": both the s-subject of an unaccusative verb and the s-object of a transitive verb are d-objects. The shared properties follow from the common d-structure relation.

The term "ergative" has been applied freely to numerous phenomena that appear to treat the "object" (patient) of a transitive verb like the "subject" (single argument) of an intransitive verb. This use is by analogy with the traditional use of the term "ergative" to

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65. In arguing for this use of the term "ergative", Moravcsik, unlike Burzio, does not recognize that at least several of the phenomena she cites have been shown to apply to only some intransitive verbs: the unaccusative verbs but not the unergative verbs. For example, Pesetsky [1981, 1982] presents evidence that the genitive of negation and other quantifier phenomena that Moravcsik notes involve unaccusative verbs, while Harris [1982] presents evidence that verbal suppletion, a second phenomenon Moravcsik mentions, involves unaccusative verbs. This suggests that the other phenomena she cites should be reconsidered to see whether unaccusative verbs are pertinent to them.

characterize a case system which makes such a distinction. When the uses of the term "ergative" are considered from the standpoint of the Ergativity Hypothesis, it is clear that the term has in fact been applied to three disparate types of phenomena.

Phenomena where the s-subject of a transitive verb is distinguished from the s-object of a transitive verb or the s-subject of an intransitive verb (as in an ergative system of case marking or agreement) -- The traditional use of the term.

Phenomena referring to a notion of s-subject in an ergative language in the sense of the Ergativity Hypothesis (as in control) -- these phenomena exemplify "ergative" syntax.

Phenomena referring to a notion of d-object in an accusative language in the sense of the Ergativity Hypothesis (such as genitive of negation) -- Moravcsik [1978] and Burzio [1981] use the term "ergative" in this way.

Outside of a theory of ergativity, it is tempting to apply the term "ergative" to all of these phenomena because of their superficial similarity. But, when these phenomena are examined more closely, it is clear that this would obscure more fundamental differences among the phenomena. Therefore, it is inappropriate to use the term "ergative" for all of them.

The Ergativity Hypothesis permits significant insights into phenomena that have been considered "ergative", as the predictions and case studies presented in this dissertation show. The predictions allow the status of so-called ergative languages to be reassessed, as the case studies demonstrate. That each language examined shows a set of properties predicted to be consistent with its status provides support for the Ergativity Hypothesis. The case study of Dyirbal, in particular, argues for this hypothesis. Not only does Dyirbal show the properties predicted of an ergative language, but, on the assumption that it is ergative, the observed properties of the language can be accounted for as in accusative languages without additional stipulations. As a consequence, this case study also provides support for the GB framework since the analysis follows from the interaction of the Ergativity Hypothesis with this framework.

The survey of "ergative" phenomena presented here is only a beginning. Many topics should be explored further including those listed below:

Additional properties of ergative languages need to be considered in light of the Ergativity Hypothesis in order to arrive at a more complete characterization of the properties of an ergative language.

The status of other languages said to be "ergative", particularly languages that are typologically different from those considered here such as Polynesian, Caucasian, or Mayan languages, should be reassessed.

A more detailed account of the ergative system of case marking in accusative languages within the GB framework is necessary.

The ramifications of the Ergativity Hypothesis for the question of language change, specifically, for the development of ergative and accusative languages, should be studied. Much has been written on this topic, often taking a reinterpretation of the passive construction as instrumental in this process.<sup>66</sup> This work should be reconsidered in light of the analysis of so-called ergative phenomena that emerges in the context of the Ergativity Hypothesis, particularly the superficial similarity between ergative and accusative languages and passive and anti-passive constructions.

Such investigation will provide further evidence bearing on the Ergativity Hypothesis, as well as further insight into the nature of ergativity.

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66. For example, see Anderson [1977], Chung [1978], Dixon [1977b], Hale [1970], Klimov [1973] (reviewed in Comrie [1976]).

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