

ASPECTS OF LAKHOTA SYNTAX

A study of Lakhota (Teton Dakota) syntax and its  
implications for universal grammar

by

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Comments invited

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Remember - don't forget me on the  
headlines of the RBS!

A stylized handwritten signature, possibly reading 'J. G.', written in dark ink.

Aspects of Lakhota Syntax

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ABSTRACT

ASPECTS OF LAKHOTA SYNTAX

ROBERT D. VAN VALIN, JR.

This dissertation is a study of Lakhota (Teton Dakota) syntax and its implications for universal grammar. The theoretical framework within which the investigation is carried out is role and reference grammar.

The first chapter deals with the coding of semantic roles in the Lakhota verb. After an overview of the system of bound pronominal affixes, various valence-changing processes are investigated. There are processes which transitive intransitive and stative verbs and others which detransitivize transitive verbs. The pronominal system is reanalyzed in terms of three basic semantic domains: Actor, Undergoer and Site. Finally the various relations holding between NPs are examined, and these are differentiated from the semantic relations which NPs may bear to a verb.

The second chapter deals with the Lakhota noun phrase; most of the discussion is concerned with relativization. It is argued that Lakhota relative clauses are postnominal and that they lack an internal NP coreferential with the head noun. This eliminates the need for an elaborate transformational apparatus to handle such constructions. Relativization in Tunica is compared with that in Lakhota, and it is shown that the analysis posited for Lakhota handles the Tunica facts as well. With respect to certain universal claims about relativization, four languages which relativize by deletion are surveyed; the unrestricted strategies in Lakhota and Tunica are contrasted with the more restricted strategies in Dyirbal and Tagalog. The notion of clause-level referential structure is introduced and therewith a distinction between reference-dominated and role-dominated languages; the former are languages which have a clause-level referential structure, e.g. English, Tagalog and Dyirbal, and the latter are those which lack one, e.g. Lakhota and Tunica.

In chapter III complementation in Lakhota is examined. Various types of complements are examined, and the resulting picture is as complex as that in English. It is argued that elaborate transformational mechanisms to handle Lakhota complementation are necessitated by an assumption of the primacy of the noun in clause-level syntax. When the verb is assumed to be primary, as in role and reference grammar, then the motivation for the rules of a transformational analysis disappears.

The final chapter is concerned primarily with claims about universal grammar, in particular, universals of passivization. Several recent proposals concerning passive are discussed, and it is shown that they cannot account for



Lakhota not having an English-style passive. Further data from Tunica and Choctaw are also shown to be problematic for the universal claims discussed earlier. A role and reference analysis of passive is proposed, namely, that reference-dominated but not role-dominated languages have passives in the sense discussed. This leads to a discussion of antipassivization and ergativity. The distinction between reference- and role-dominated languages is extended to ergative languages, and data from Enga and Basque are analyzed with reference to it. Recent claims that most ergative languages are in fact accusative syntactically are shown to be incorrect; the morphologically ergative but syntactically "accusative" languages are all shown to be role-dominated. A number of typological generalizations are proposed on the basis of the distinction between role- and reference-dominated languages; in particular, it is argued that the most fundamental typological fact about a language is whether it has a clause-level referential structure or not.

To my parents

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My greatest debt is to William Foley; my collaboration with him over the past few years has been extremely rewarding. The theory of role and reference grammar, as presented in the text, is to a large extent a result of our work together.

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This dissertation was typed on the UNIX computer system at U.C. Berkeley. This accounts for the right-justified format and the occasional unfortunate page breaks. It also makes possible a new variation of the traditional disclaimer, to wit: none of the people acknowledged above necessarily agrees with anything said herein, and any mistakes, misinterpretations, etc. are the computer's fault.

# ABBREVIATIONS

A	Actor	lig	ligature
A	transitive subject (Dixon)	LP	Locative prefix
ABS	absolutive	masc	masculine
ACC	accusative	NEG	negative
AF	Actor focus	NP	noun phrase
ANTI	antipassive	O	transitive object (Dixon)
ART	article	OBL	oblique
ASP	aspect	P	Patient
AUX	auxiliary verb	PASS	passive
B	Beneficiary	PAST	past tense
B&D	Boas & Deloria (1939)	PERF	perfective
Bl	Buechel (1939)	PF	Patient focus
CAUSE	causative	pl	plural
CMPL	complementizer	POT	potential aspect
CONJ	conjunction	PP	postposition
d	dual	PRED	predicate
d-pl	dual-plural	PrP	pragmatic peak
D/DAT	dative case	PrP1	primary pragmatic peak
DEF	definite	PrP2	secondary pragmatic peak
DET	determiner	Q	question
DIFF	different subject	REL	relative clause marker
E	Experincer	S	Source
ERG	ergative	S	intransitive subject (Dixon)
fem	feminine	SAME	same subject
G	Goal	sg	singular
GEN	genitive case	T	Time
IMP	imperative	TNS	tense
IN	Instrument	TR/trans	transitive
IND	indicative	V	verb
INF	infinitive	1	first person
INS	instrumental case	2	second person
intrans	intransitive	3	second person
IP	Instrumental prefix		
L	Locative		
LF	Locative focus		

NB. Footnote numbers appear in the text in square brackets, e.g. [1].

# CONVERSION TABLE FOR VARIOUS LAKHOTA ORTHOGRAPHIES

Symbol (see Ch.I,fn.1)	p ph p?	t th t?	k kh k?	?
Boas & Deloria 1939	p p <sup>c</sup> p <sup>h</sup>	t t <sup>c</sup> t <sup>h</sup>	k k <sup>c</sup> k <sup>h</sup>	'
Beuchel 1939	p p <sup>c</sup> p'	t t <sup>c</sup> t'	k k <sup>c</sup> k'	'
	b		g(/_C)	
	b		g	
	b		g	
	s ʒ z ʒ	c ch c?	g(/V_V)	x h
	s ʒ z ʒ	c c <sup>c</sup> c <sup>h</sup>	g	h h
	s ʒ z j	c c <sup>c</sup> c'	g	h h
	m n l w y			
	m n l w y			
	m n l w y			
	i I e a ā	o u ū		
	i i e a a	o u u		
	i in e a an	o u un,on		

# TABLE OF CONTENTS

Introduction.....	1
Chapter I: The Lakhota Verb and the Coding of Semantic Roles.....	3
1.0. Introduction.....	3
1.1. The bound pronominal system.....	3
1.2. Semantic roles.....	4
1.3.0. Nuclear roles and arguments in Lakhota.....	5
1.3.1. Transitive active verbs.....	6
1.3.2. Intransitive active verbs.....	8
1.3.3. Stative verbs.....	9
1.4.0. Valence-changing processes.....	10
1.4.1.0. Valence-increasing processes (transitivization).....	10
1.4.1.1. Locative prefixes.....	10
1.4.1.2. Instrumental prefixes.....	11
1.4.1.3. Causative -ya.....	12
1.4.1.4. Prefixes for verbs of motion.....	13
1.4.2. The indefinite "object" prefix wa-.....	14
1.5.0. Coding of semantic roles other than Actor and Patient.....	15
1.5.1. ki-.....	15
1.5.2. <u>kici-</u> .....	18
1.5.3. Locative prefixes.....	19
1.5.4. Locative postpositions.....	20
1.5.5. Instrumental prefixes.....	21
1.6. Pronouns reconsidered.....	25
1.7. Word order.....	27
1.8.0. Relations between NPs in a clause.....	28
1.8.1. Possession.....	28
1.8.2. Coreference.....	30
1.8.3. Reciprocity.....	31
1.9. Summary.....	32
Footnotes to Chapter I.....	33
Chapter II: The Lakhota Noun Phrase.....	36
2.0. The Structure of the NP.....	36
2.0.1. The noun.....	36
2.0.2. The article.....	37
2.0.2.1. ki.....	37
2.0.2.2. <u>kʔu</u> .....	38
2.0.2.3. <u>wā</u> , <u>wāʔi</u> .....	38
2.0.2.4. <u>cha</u> .....	38
2.0.3. Demonstratives.....	40
2.0.4. Adjectives.....	41
2.0.5. Quantifiers.....	41
2.1. Possession.....	43
2.1.1. Inalienable possession.....	43
2.1.2. Alienable possession.....	44
2.2. Independent pronouns.....	45

2.3.0. Relative clauses.....	46
2.3.1.0. The structure of the Lakhota relative clause.....	49
2.3.1.1. Relative clauses without an internal coreferential NP.....	49
2.3.1.2. Theoretical implications.....	51
2.3.2.0. Some universals of relativization.....	57
2.3.2.1. The recoverability problem.....	60
2.3.2.2. The notion of referential structure.....	63
Footnotes to Chapter II.....	68
 Chapter III: Complementation.....	71
3.0. Introduction.....	71
3.1. Complementation.....	71
3.1.1. Complement + verb.....	72
3.1.2. Verb + verb.....	80
3.2. The conjunction cha.....	91
Footnotes to Chapter III.....	98
 Chapter IV: The Lakhota "Passive" and Universal Grammar.....	100
4.0. Introduction.....	100
4.1. Universal claims about passivization.....	100
4.1.1. Perlmutter & Postal.....	100
4.1.2. Keenan.....	101
4.1.3. Dixon.....	102
4.2. The Lakhota Facts.....	106
4.2.1. Lakhota equivalent of the "passive".....	106
4.2.2. Discussion of proposed universals.....	109
4.2.3. Other languages without a passive.....	111
4.2.3.1. Tunica.....	111
4.2.3.2. Choctaw.....	112
4.3. Role-and-reference analysis of passive.....	118
4.4. Ergative languages and antipassivization.....	122
4.4.1. Enga.....	124
4.4.2. Basque.....	128
4.4.3. Summary of claims about passive and antipassive.....	132
4.5. Recent discussions of ergativity.....	132
4.6. A theory of language typology.....	139
4.7. Concluding remarks.....	144
Footnotes to Chapter IV.....	146
References.....	150

## Introduction

This study is concerned with the major syntactic processes in Lakhota (Teton Dakota), a Siouan language, and their implications for universal grammar. Traditional grammars, i.e. Riggs 1893 and Boas & Deloria 1939, devote most of their analyses to morphology and deal with what are now considered to be primarily syntactic phenomena only peripherally. Buechel 1939, on the other hand, devotes a significant portion of his grammar to a discussion of Lakhota syntax, although his aim is primarily pedagogical. Consequently, while many of the phenomena to be analyzed here have not been discussed in any depth by either Buechel or Boas, their analyses provide an excellent foundation for this investigation; in many areas their analyses are sound, and instead of recapitulating them unnecessarily, I will simply refer the reader to them.

Given the amount of work that has been done on Lakhota and Santee Dakota, one might question the value of another grammatical investigation such as this one. The obvious answer to this is that many of the syntactic phenomena which are of interest to contemporary linguists are not discussed in traditional treatments, as noted above. Such an analysis of Lakhota syntax is potentially significant for the study of language typology and universal grammar, because Lakhota is the best known representative of what are often called "stative-active languages", i.e. languages which make a major distinction between verbs expressing states, e.g. being dry or sick, and those which express actions, e.g. running or hitting. This is explicitly expressed in the coding of "subjects" and "objects": the "subjects" of stative verbs have the same pronominal forms as the "objects" of transitive active verbs, while the "subjects" of intransitive active verbs have the same form as those of transitive active verbs. Although a great deal of attention is currently being paid to ergative languages, stative-active languages, which are neither accusative nor ergative, are for the most part being overlooked. (Russian linguists, however, have been concerned with what they call "active" languages; see Klimov 1974 and references cited therein.) I hope to show that the investigation of such languages can contribute important insights to the study of language typology and universal grammar.

The theoretical framework in which this analysis is to be carried out is role and reference grammar, which has been explicated briefly in Foley & Van Valin 1977 and Van Valin 1977a. It is not my intention to present the theory in detail here; rather, the analysis itself will serve as a detailed exposition of the theory. Several points need to be made in advance, however. First, the theory is non-transformational and non-derivational; consequently, no deep structures of any kind, syntactic or semantic, are posited,



from which the "surface" structures are derived by the application of transformational rules. Second, instead of conceiving of syntax as an autonomous formal apparatus consisting of context-free rules for mapping one abstract structure onto another, role and reference grammar assumes clause-level grammar to consist primarily of the interaction between semantics and pragmatics; that is, the grammatical structure of the clause is shaped primarily (but not exclusively) by the interplay between the referential-semantic content of grammatical elements and the demands of the communicative situation. Grammatical rules are consequently conceived as constraints on grammatical structure, rather than transformational rules (see Van Valin 1977b for further discussion). It should be obvious from this cursory account that this theory tries to deal with language in relation to human communication rather than as bearing no necessary relation to it, as generative grammar does (see Chomsky 1975:56-7; also Van Valin 1977b). These premises and their ramifications will become clearer in the course of the analysis of Lakota; see also Foley & Van Valin 1977 and Van Valin 1977a for sketches of analyses of Tagalog, Navajo, and Dyirbal in this framework.

## Chapter I

## The Lakhota Verb and the Coding of Semantic Roles

1.0. Introduction. In the Lakhota clause the verb is the terminal constituent, usually followed only by suffixes and particles indicating, among other things, aspect, negation and illocutionary force. Pronouns occur as affixes in the verbal complex, and when there are full NPs in a transitive clause, the normal word order is "subject" (Actor), "object" (Patient), and verb (see 1.7). Lakhota verbs are divided into two basic classes, stative and non-stative (active), with the latter being further subdivided into transitive and intransitive verbs. Since the verb determines the possible semantic roles of the NP(s) in a clause, the class of the verb is the starting point of any analysis of the role structure of a clause. Semantic roles are expressed by two interacting systems: the verb and certain verbal affixes which signal which roles are present in the clause, and the noun phrases and pronominal affixes on the verb which embody the roles. It is impossible to talk about one without the other, but to try to describe both simultaneously would be hopelessly confusing. As a compromise, I will give a brief sketch of the pronominal system in traditional terms, thereby allowing us to delve directly into the question of the verbal complex. Full NPs can be overlooked for the moment, since they are unmarked for case for the most part.

1.1. There are two basic sets of pronominal affixes, one encoding "subjects" and the other "objects". There are two sets of "subject" affixes, the occurrence of a particular form depending upon the initial consonant of the verb root. The "subject" pronouns are given below in (1), the "object" forms in (2). [1]

## (1) "Subject" Pronouns

	Singular	Dual	Plural
1st	wa-, bl-	0(k)-	0(k)....-pi
2nd	ya-, l-		ya-,l,...-pi
3rd	0 0		0.....-pi

## (2) "Object" Pronouns

	Singular	Dual	Plural
1st	ma-	0(k)-	0(k)....-pi
2nd	ni-		ni-.....-pi
3rd	0		wicha- (animate only)

The bl- and l- forms of the "subject" pronouns occur only on verbs with an initial y in the stem, e.g. yatkā 'drink',

blatkā 'I drink it'. The wa- and ya- forms occur with all other verbs, e.g. kte 'kill', wakte 'I kill it'. The first person dual pronoun ū- (I and you) has the form ūk- when it occurs on a verb stem beginning with a vowel. The third person plural "object" pronoun wicha- is only used with animate objects. Likewise, the plural marker -pi occurs only with animate "subjects" and "objects".

Transitive active verbs take the first set of pronouns to mark their "subjects", and the second set to mark their "objects". Intransitive active verbs also employ the first set to signal their sole argument. Stative verbs, however, use the "object" pronouns to express their "subjects", with the exception of wicha-, which only marks third person plural "object" in transitive clauses; the third person plural "subject" of stative verbs has the same zero form as that of active verbs. [2] When both "subject" and "object" pronouns occur in a transitive verbal complex, the usual order is "object" preceding "subject", except in the case of 'we-you', which is Dni-(pi). There is a suppletive form for 'I-you', chi, which is unanalyzable (see Boas & Deloria [B&D] 1939:76-87; Buechel [B] 1939:19-27). I will examine the pronominal system more completely in 1.6 after discussing the coding of semantic roles in the verb.

1.2. In this section the coding of semantic roles in the verb will be investigated. A necessary preparatory step to such an undertaking is the defining of the semantic roles used in the investigation. The notion of semantic role which I will make use of here was introduced into contemporary linguistic theory by Fillmore 1968, and these preliminary definitions of the roles to be discussed in this section are taken from Foley 1976:

- (3) Actor (A): The typically animate entity to whom the action is attributed.
- Experiencer (E): The typically animate experiencer of a mental state or psychological event.
- Instrument (IN): The inanimate force or object accessory involved in performing the action of the verb.
- Patient (P): The entity affected by the action or state identified by the verb.
- Goal (G): The entity toward which the action is directed.
- Source (S): The point of origin or non-Actor cause of the action or state.
- Location (L): The entity which identifies the location of the state or action identified by the verb.
- Beneficiary (B): The typically animate benefactor of the action or state identified by the verb.
- Time (T): The temporal orientation of the action or state identified by the verb.

Associated with a given verb in any language is a set of basic semantic roles which represent the parts which the participants in the event, action, activity or state named by the verb may play. For example, the verb hit in English has three basic roles: an Actor, the person doing the hitting, a Patient, the entity getting hit, and an Instrument, the implement with which the Actor hits the Patient. All three must be involved in an act of hitting. When the Instrument is not overtly specified, as in (4)

(4) John hit Bill/the wall.

it is understood as meaning that the Instrument was part of the Actor's body, e.g. his fist if he hit Bill or perhaps his shoulder if he hit the wall. These three necessary roles of the verb hit will be called its nuclear roles (Foley 1976, A. Hale 1973). These nuclear roles are not the only ones which may occur in a clause containing hit.

(5) John hit Bill for Mary at school yesterday.

Here there are three extra roles, Benefactive, Locative, and Time. These non-nuclear roles will be called peripheral roles (Foley 1976). A particular language may or may not require all of the nuclear roles of a verb to be expressed in a clause. English, for example, does not appear to require overt expression of all nuclear roles, as (4) illustrates. Foley 1976 argues that the nuclear roles of buy in English are Actor, Patient, Benefactive, Source and Instrument, even though only an Actor and a Patient plus the verb may constitute a grammatical sentence.

(6) John bought a book (for Mary from Bill with a five dollar bill).

It would seem, then, that a sharp distinction must be drawn between the (semantic) nuclear roles and the (syntactic) arguments of a verb; the English verb buy, for example, has five nuclear roles but only two arguments, as (6) illustrates. The same appears to be true of hit, which requires two arguments, an Actor ("subject") and a Patient ("object"). Nuclear roles relate to the participants in an event, activity, action or state specified by a verb, whereas arguments are the obligatory syntactic manifestations of certain nuclear roles.

1.3.0. Having established working definitions of the relevant semantic roles and the notions of nuclear and peripheral roles, we are at last ready to look at Lakhota. In the English examples above involving buy, the number of roles overtly present in the clause could be varied without affecting the verb or the grammaticality of the utterance. The same situation does not obtain in Lakhota, however.



wakte'	'I kill it'	Okte'pi	'we(>2) kill it'
yakte'	'you kill it'	yakte'pi	'you(pl) kill it'
kte'	'he kills it'	kte'pi	'they kill it'
makte'	'she kills me'	Oni'ktepi	'we(>2) kill you'
nikte'	'he kills you'	Oni'ktepi	'we(2) kill you(pl)'
chikte'	'I kill you'	wicha'ktepi	'they kill them'
mayak'te	'you kill me'		
wichak'te	'he kills them'		

b. yawa	'read'	Oya'wa	'we(2) read it'
blawa'	'I read it'	Oya'wapi	'we(>2) read it'
law'a'	'you read it'	law'a'pi	'you(pl) read it'
yawa'	'he reads it'	yawa'pi	'they read it'

c. k?u	'give'
wak?u'	'I give it to him'
yak?u'	'you give it to him'
k?u'	'he gives it to him'
mak?u'	'he gives it to me'
nic?u'[4]	'he gives it to you'
chic?u'	'I give it to you'
mayak?u'	'you give it to me'
Ok?u'	'we (2) give it to him'
Ok?u'pi	'we (>2) give it to him'
yak?u'pi	'you (pl) give it to him'
k?u'pi	'they give it to him'
wichak?u'pi	'they give it to them'
mak?u'pi	'they give it to me'
wichawak?u'	'I give it to them'
niwi'chawak?u	'I give you to them.'

In all of these examples the third person singular Patient or Goal has a zero form. Furthermore, there is no gender distinction in Lakhota, and so a form like kte could be rendered in English as 'he kills him/her/it', 'she kills him/her/it', or 'it kills him/her/it'. Note that in these first examples the pronominal affixes wa-/bi- and ya-/li- express the semantic role of Actor, while ma-, ni- and wicha- express both Patients and Goals, depending on the verb. The last example of k?u 'give' is interesting in that it has all three roles overtly specified. Note that when the second person singular participant is Patient rather than Goal, chi- is not used; with k?u, chi- can only mean first person singular Actor-second person singular Goal.

Chafe 1970 argues that verbs such as English see, know, want, hear, and be hot take Experiencers rather than Actor NPs as their "subjects", since the "subject" is not performing any action but is rather experiencing some mental state or psychological activity. While the "subjects" of all these verbs in English have the same form as those of verbs like hit and break, which take Actors, in Lakhota transitive experiential verbs use the "subject" pronoun to mark Experiencers but intransitive verbs mark them with the

"object" forms. These will be discussed in 1.3.2. and 1.3.3. The following are examples of transitive experiential verbs.

- (9) a. wāyā'ka 'see'  
 wābla'ke[5] 'I see it' wāū'yāke 'we(2) see it'  
 wāla'ke 'you see it' wāū'yākapi 'we(>2) see it'  
 wāyā'ke 'he sees it' wāla'kapi 'you(pl) see it'  
 wāchi'yāke 'I see you' wāyā'kapi 'they see it'  
 wāma'yalake 'you see me' wāwi'chablake 'I see them'  
 wāma'yāke 'he sees me' wāwi'chayākapi 'they see them'
- b. slolya 'know'  
 slolwa'ye 'I know it' slolū'ye 'we(2) know it'  
 slolya'ye 'you know it' slolū'yapi 'we(>2) know it'  
 slolye' 'he knows it' slolya'yapi 'you(pl) know it'  
 slolchi'ye 'I know you' slolya'pi 'they know it'
- c. wašte'laka 'like'  
 wašte'walake 'I like it'  
 wašte'yalake 'you like it'  
 wašte'lake 'he likes it'  
 wašte'chilake 'I like you'  
 wašte'ūlake 'we(2) like it'  
 wašte'ūlakapi 'we(>2) like it'  
 wašte'yalakapi 'you(pl) like it'  
 wašte'lakapi 'they like it'

Note that in the 'you-me' form of the *y*-stem verb wāyā'ka 'see', the second person Actor pronoun occurs twice, once in the *ya*-form and once in the *l*-form. This seems to be a peculiarity of this class of verbs. These examples necessitate a slight revision of the definition of transitive verbs given above: transitive verbs are those verbs which minimally require an Actor/Experiencer and Patient in the clause.

1.3.2. Intransitive active verbs take the same "subject" pronouns as transitive verbs. The most prominent intransitive active verbs are the verbs of motion, of which there are four basic forms (see B1, 165-74; B&D, 92-6; also 1.4.1.4).

- (10) a. hi 'arrive (coming)' ūhi' 'we(2) arrive'  
 wahi' 'I arrive' ūhi'pi 'we(>2) arrive'  
 yahi' 'you arrive' yahi'pi 'you(pl) arrive'  
 hi' 'he arrives' hi'pi 'they arrive'
- b. iyo'taka 'sit down' ūki'yotake 'we(2) sit down'  
 iblo'take 'I sit down' ūki'yotakapi 'we(>2) sit down'  
 ilo'take 'you sit down' ilo'takapi 'you(pl) sit down'  
 iyo'take 'he sits down' iyo'takapi 'they sit down'

1.3.3. The reason for the quotation marks around the terms "subject" and "object" becomes clear when we look at stative verbs, the "subjects" of which are marked by the "object" pronouns. While the single argument of an intransitive active verb is an Actor, that of a stative verb is a Patient or an Experiencer. Examples of verbs which take Patients or Experiencers are given in (11).

- (11) a. kha'ta 'be hot'  
 makha'ta 'I am hot'      ōkha'ta 'we(2) are hot'  
 nikha'ta 'you are hot'      ōha'tapi 'we(>2) are hot'  
 kha'ta 'he is hot'      khata'pi 'they(animate) are hot.'
- b. hā'ska 'be tall'  
 mahā'ske 'I am tall'  
 nihā'ske 'you are tall'  
 hā'ske 'he is tall'  
 ōhā'ske 'we(2) are tall'  
 ōhā'skapi 'we(>2) are tall'  
 yahā'skapi 'you(pl) are tall'  
 hā'skapi 'they (animate) are tall'  
 hā'skaska 'they (inanimate) are tall'

There are two ways of forming the third person plural of stative verbs: if the Patient is animate, then the zero prefix plus the plural marker *-pi* are used; if it is inanimate, then plurality is signalled by reduplication. Experiencers are by definition animate, and so the plural of stative verbs with Experiencers will always be formed with *-pi*. Thus active Experiencers are coded with the *wa-/bi-* series, while stative Experiencers are signalled by *ma-*, *ni-*, etc.

There is a class of otherwise active verbs which take apparently "object" pronouns to code their "subjects". Examples of such verbs are given in (12).

- (12) a. echI 'think'      echa'mI 'I think it.'
- b. ō 'use'      mō 'I use it.'
- c. ō'pa 'smoke(a pipe)'      nō'pa 'You smoke (a pipe).'
- d. echō 'do'      echa'mō 'I do it.'

These verbs are clearly not stative, and so their use of these pronouns cannot be attributed to verbal semantics. All of them begin with nasalized vowels, or have one immediately following the position of the pronominal affix. Nasalized vowels do affect pronouns in Lakhota, e.g. *bla* 'I go' becomes *mnikta* 'I will go' with the addition of the potential aspect suffix *-kta* which changes variable stem final *-a* to *i*. The most reasonable hypothesis about these examples is thus that their aberrant "subject" markers are



phonologically conditioned rather than being a semantically motivated use of the "object" set.

Not all intransitive verbs which take a Patient for their argument connote states or conditions. A verb which refers to a change of state or action which a participant does not undergo or perform intentionally or volitionally may take Patient rather than Actor pronouns. The best example of this is hiłpa'ya 'fall down'.

- (13) mahI'xpaye 'I fall down' etc.  
 nihI'xpaye 'you fall down'  
 hiłpa'ye 'he falls down'

Another frequently non-volitional action is coughing, but the Lakhota verb hoxpa, takes the wa- Actor set of pronouns. However, when one is talking about convulsive coughing which is non-volitional, the verb is hoxpa'iglatʔa, with which the Patient set of pronouns is used, e.g. hoxpa'miglatʔa 'I cough convulsively'. This does not hold for the verb pša 'sneeze', which only has the wapša, yapša, etc., forms. Nouns take the Patient pronouns when used predicatively, e.g. wicha'ša 'man', wima'chaša 'I am a man'.

1.4.0. There are a number of morphological processes in Lakhota which affect the valence of a verb. Some of them transitive intransitive and stative verbs, and others detransitivize transitive verbs. There are thus processes which both increase and decrease the valence of a verb. I will begin with valence-increasing processes.

1.4.1.0. There are four basic valence-increasing processes in Lakhota: the addition of a locative prefix, the addition of an instrumental prefix, the formation of a causative, and the addition of certain prefixes to verbs of motion.

1.4.1.1. There are three locative prefixes in Lakhota with the following general semantic values: a- 'on', o- 'in, within', and i- 'against, by means of' (see B&D, 39-45; B1, 115-6). When added to an intransitive active or stative verb, a locative prefix signals a second syntactic argument.

- (14) a. thašo'ša 'spit'                      atha'šoša 'spit on'  
          thawa'šoše 'I spit'                      atha'wašoše 'I spit on it'
- b. slohā 'crawl'                      aslo'hā 'crawl on, to'  
          waslo'he 'I crawl'                      awa'slohe 'I crawl on it'
- (15) a. ile 'burn'                      oi'le 'burn in'  
          thi'pi ki ile 'The house is burning'  
          thi'pi ki oi'le 'There is fire (burning) in the house'
- b. kha'ta 'be hot'                      okha'ta 'be hot in'  
          li'la kha'ta 'It is very hot'

thi'ma li'la okha'ta 'It is very hot in the house'

- |                |        |          |                   |
|----------------|--------|----------|-------------------|
| (16) a. psi'ca | 'jump' | ipsi'ca  | 'jump to a place' |
| b. chopha      | 'wade' | icho'pha | 'wade across'     |

In each of these cases the semantic function of the argument coded by the locative prefix is a nuclear role of the verb which is conceptually present but syntactically unexpressed in the unaffixed forms. For example, *psi'ca* means 'jump', and when one jumps, one always lands somewhere; this verb merely refers to the act of jumping, leaving this other parameter, the "goal" of the jump, unexpressed. When the locative prefix is added, the verb (*ipsi'ca*) now makes explicit reference to this aspect of the action of jumping. It appears, then, that the nuclear role which is "syntacticized" by a locative prefix is a nuclear role of the unaffixed verb. This is similar to the situation with *ophe'th0* 'buy' noted in 1.2; while *ophe'th0*, *aophe'th0* 'buy from' and *ophe'kicath0* 'buy for', all have different arguments, they all share the same nuclear roles.

While these prefixes encode an additional argument on the verb, they do not transitivity the verb in every case. In all of the examples except (14a), it is clear that the semantic role being coded is locative, as one would expect, and since there is no Patient, these verbs are still intransitive, at least in terms of the definition of transitivity put forward in 1.3.1. Example (15a) raises an interesting problem, however: how to characterize the "object" of *atha'3o3a* semantically. The same question arises with respect to English verbs such as 'spit on' or 'work on', namely, are their "objects" Patients or Locatives? One bit of evidence which perhaps points to its being a Patient rather than a Locative is that the verb can be reflexivized, i.e., *atha'ic?i3o3e* 'he spit on himself'. Normally only Patients, Goals and Benefactives are involved in reflexivization (see 1.8.2). Since *atha'3o3a* can be reflexivized, it must be transitive, and so in terms of the definition of transitivity given in 1.3.1., the second argument would have to be a Patient. If the "object" of this verb were taken to be a Locative, however, then the definition of transitivity would have to be expanded to include verbs which have Agent/Experiencer and Patient/Locations, thereby including such intransitive verbs as *ipsi'ca* 'jump to a place' and *icho'pha* 'wade across' in the class of transitive verbs. This renders the notion of transitivity in Lakota nearly vacuous. In order to avoid this, one must conclude that the arguments of *atha'3o3a* are Actor and Patient (see 1.6).

1.4.1.2. One of the distinguishing features of Siouan languages is the set of instrumental prefixes which signal the involvement of some kind of instrument in the action of the verb. There are eight such prefixes in common use in

Lakhota: ya- 'with the mouth', wa- 'by a sawing action, with a knife', wo- 'action from a distance', yu- 'with the hands', pa- 'by pushing', ka- 'by sudden impact', na- 'with the foot', and na- 'by inner force' (see B&D, 45-52; also 1.5.5). The best example of their transitivity function can be seen in their use with the stative verb tʔa 'die, be dead'; various verbs relating to different means of killing are formed.

- (17) a. yatʔa 'bite to death'  
 b. watʔa 'kill with a knife'  
 c. wotʔa 'kill by punching or shooting; strike so as to endanger life, to stun' (Bl 1970:611)  
 d. yutʔa 'choke to death'  
 e. patʔa 'kill by pressure, as by lying on' (Bl 1970:436)  
 f. katʔa 'kill by striking'  
 g. natʔa 'kick to death'

The verb kte 'kill' does not specify any manner in which the action takes place, and so if one wanted to specify the way a killing took place, the forms in (17) could be used; instrumental prefixes may not be used with kte.

These instrumental prefixes have an implicit causative meaning which is best illustrated in the following examples: yuche'ya 'make cry' (che'ya 'cry'), yuwa'3te 'make good' (wa3te 'good'), and yu3i'ca 'spoil' (3i'ca 'bad') (B&D, 46). Thus the verbs in (17) might be less opaquely translated as 'cause to die by biting', 'cause to die by stabbing', 'cause to die by choking', etc. The prefixes yu- and ka- have special uses involving the expression of indefinite instruments and agents, respectively. If one wished to express the involvement of some instrument without specifying the manner of actor or type of instrument, then yu- is used; in addition to the causative examples given above, there is also yuho'mni 'turn like a screw' and yuʔa'ʔa 'wash'. On the other hand, ka- is used to imply an indefinite agent or indeterminate outer force. Examples of this use of ka- are: suta 'hard', maka'sute 'he made me hard (callous) by striking', or '(circumstances) have hardened me'; i3ti'ma 'sleep', maka'i3time 'he puts me to sleep' or 'I have fallen asleep'; che'ya 'cry', maka'cheye 'he made me cry by striking' or 'I am crying (on account of cold, etc.)' (B&D, 47).

1.4.1.3. A valence-increasing process which always results in transitivity involves the causative verb -ya (see 3.1.2). When added to a stative verb such as pu'za 'be dry', it forms the action-process transitive verb pusya 'to dry'.

- (18) a. hiya'pi ki puswa'ye.

clothes the dry-I cause  
'I dry the clothes.'

- b. sabwa'ye. (sa'pa 'black')  
black-I cause  
'I blacken it.'

When an inanimate Instrument rather than an animate Actor is involved in such a process, no causative is possible.

- (19) a. hiya'pi ki mašte' ki ū' puzi'kte.  
clothes the sun the IN dry-POT  
'The clothes will dry by the sun.'

- b. \*mašte' ki ū' pusi'kte.  
sun the IN dry-cause-POT  
'\*The sun will dry [the clothes].'

1.4.1.4. The four basic verbs of motion in Lakshota are ya 'go, be on the way going', i 'arrive (going)', u 'come, be on the way coming', and hi 'arrive (coming)' (see Bl, 165-74; B&D, 92-97; also Taylor 1976). They are intransitive active verbs and accordingly take the Actor set of pronouns to express their "subjects". These verbs become transitive with the addition of the prefixes a- 'carry' (not the locative prefix a-) and hiyo- 'purposive, i.e. to come or go for something'. Representative forms are given in (20).

- (20) a. aya 'go taking (carrying) something'  
hiyo'ya 'go after or for something'  
able 'I take it.'  
hiyo'ble 'I go after it.'
- b. a?i 'arrive there carrying something,  
have taken over'  
hiyo'?i 'have gone after something'  
awa'?i 'I took it over.'  
hiyo'chi?i 'I went after you.'
- c. a?u 'bring, come carrying'  
hiyo'?u 'come after or for'  
awa'?u 'I am bringing it.'  
hiyo'maya?u 'You are coming after me.'
- d. ahi 'bring, arrive bringing'  
hiyo'hi 'have come after or for something'  
aya'hi 'You brought it.'  
hiyo'chihi 'I came after you.'

Through the addition of the prefix a- the intransitive verbs of motion become transitive verbs of transportation, while hiyo- signals that there is a specific goal or purpose of

the motion (travel), i.e. to get someone, or something.

1.4.2. Valence reduction, i.e. detransitivization, is accomplished in Lakshota through the use of the indefinite Patient prefix wa- (see B&D, 52-4). It indicates that something is affected by the action of the verb but leaves it unspecified. In many cases it results in an idiomatic meaning, as in yawa 'read', waya'wa 'read something, "go to school"'. Several examples are given below.

- (21)      nax'u                      'hear'
- a. nawa'x?u                'I hear it.'
- b. wana'wax?u            'I hear something.'
- (22)      yu'ta                      'eat'
- a. ʒu'ka ki thalo' yu'te.  
          dog    the    meat  
          'The dog eats meat.'
- b. \*ʒu'ka ki thalo' wo'te. (<\*wa+yuta)
- c. ʒu'ka ki li'la wo'te.  
          dog    the    much    eat  
          'The dog eats a lot.'
- (23)      kte                      'kill'
- a. wakte'                    'I kill it.'
- b. wawa'kte                'I kill something.'

As (22b) illustrates, verbs with wa- cannot have an additional specific Patient. Boas & Deloria point out that when wa- is prefixed to a stative or intransitive active verb, the result is usually a noun, e.g. tho 'green', watho 'something green, i.e. green leaves, grass'; xpa'ya 'lie (down)', waxpa'ya 'things lying about, i.e. household goods'. They also give examples in which wa- may mark an indefinite Patient (Goal?) with the stative verb iʒte'ca 'be ashamed of': wi'ʒteca 'be bashful, ashamed of things'. [6] Furthermore, it is possible to have two wa's with some transitive verbs, one marking indefinite Patient and the other indefinite Goal or Benefactive, e.g. ignu 'he mentions it to him', wi'gnu 'he mentions (unkind) things to him', and wawi'gnu 'he mentions (unkind) things to people'; and ihā'kya 'destroy', wai'hākya 'destroy something', and wawi'hākya 'destroy things for people' (B&D, 54). These last few examples indicate that wa- does not mark Patients only; it may mark other roles as well, depending on the verb. wa- may not be used to detransitivize verbs which

have been transitivized.

1.5. Thus far I have concerned myself primarily with the question of transitivity and therefore with the coding of the roles of Actor and Patient. In this section I will examine the coding of other roles, e.g. Goal and Benefactive. As shown in 1.3.0, these roles are marked on verbs by specific morphemes. There are five different morphemes or morpheme types: ki-, kici-, locative prefixes, instrumental prefixes and locative postpositions.

1.5.1. In traditional grammars, the affixes ki- and kici- are said to mark the "indirect object" of a verb (see B&D, 86), where "indirect object" is taken to mean the participant to which, for which, on behalf of which, instead of which, or in place of which the action is performed. Their use is extremely complicated, as we shall see, as each affix expresses a large domain of semantic space and appears to overlap considerably with the other. I begin the analysis with ki-.

The best way to illustrate the semantic import of ki- is to compare verb forms with it to the corresponding unaffixed forms, as in (24).

- (24) a. pazo 'show' wapa'zo 'I show it.'  
kipa'zo 'show to' waki'pazo 'I show it to him.'
- b. eya 'say' ephe 'I say it.' (irregular)  
eci'ya 'say to' ewa'kiye 'I say to him.'  
(<\*ekiya)

The unaffixed verb in (24a,b) involves only an Actor and a Patient; no "indirect object" is involved. One might perhaps argue that whenever something is said or shown it is always to someone or something, but these unaffixed Lakota verbs make no reference to any "indirect object". In other words, while pazo and eya may have Actor, Patient and Goal as their nuclear roles, their arguments are only Actor and Patient. With the addition of ki-, however, such reference is made explicit. In terms of the semantic roles defined in 1.2.0., we may tentatively characterize ki- as coding a semantic Goal. In clear-cut cases such as (24), this is its unambiguous function, and so as a working hypothesis we will take this to be its basic use.

Things are not always this clear-cut, however. Consider example (7b), repeated here as (25)

- (25) John Mary wo'wapi wā ophe'kicathū. [7]  
book a buy+ki  
'John bought a book for Mary.'

Here ki- appears to mark not a Goal but a Benefactive role. The same thing seems to be happening with verbs such as kte

'kill' and yuwɪ'ʔa 'bend (with the hands)'.

(26) a. waki'kte 'I kill it for him.'

b. maya'kiluwɪʔe 'You bend it for me.'  
me(B)-you(A)-ki-bend

In these three examples ki- codes a Benefactive rather than Goal role in the verb, whereas in the examples in (24) it unambiguously marks a semantic Goal. The difference in interpretation is related to the semantics of the verb to which ki- is affixed. In the case of verbs like pazo 'show' and eya 'say', there is a possibility of their action being directed at someone; as noted earlier, one normally thinks of showing something to someone and saying something to someone, and so the nuclear roles of these verbs are Actor, Patient and Goal. With these verbs a dative or Goal reading is very natural, as ki- expresses the third nuclear role. However, if we take ki- to mean 'to', as it does with these verbs, and translate (25) and (26) literally, the result is 'John bought the book to Mary', 'I kill it to him', and 'you bent it to me'. The semantics of these verbs do not permit a felicitous literal interpretation of ki-, as it is not possible to buy, kill or bend something to someone. In other words, none of them has a Goal as a nuclear role. Consequently, the most reasonable way to interpret these forms is to give them a Benefactive interpretation; that is, they are interpreted as meaning that the action is performed for the benefit of or on behalf of someone. This is in line with the earlier analysis of buy as having a Benefactive nuclear role. The implication in a sentence like (25) is that the book is a present for Mary. The semantics of Benefactive ki- will become clearer after we have discussed kici- in the next section.

The problems with ki- have not been exhausted, however. A lucid example of how the semantic value of ki- is determined by the construction in which it occurs can be seen in (27).

(27) a. oma'kilotayo. 'Borrow it for me!' [8]  
me-ki-borrow-IMP

b. oma'kilote. 'He borrowed it from me.'  
me-ki-borrow

The verb in these examples is olo'ta 'borrow'. The first sentence is a command, and ki- codes a Benefactive role, as it does in (25) and (26). In the second example, on the other hand, it signals the semantic role of Source, and the only difference between the two sentences is illocutionary force: the first is a command and the second a statement. Other examples with olo'ta show that it is the Source meaning which is basic in this case.







There is a further complication which has greatly confused earlier analysts of Lakhota, namely that benefaction strongly implies possession, e.g., *we'cikte* (<\*wakicikte) 'I kill it for him' also means 'I kill his.' [9] The Beneficiary is thus taken to be the possessor of the Patient. This also holds when *ki-* marks the presence of a Beneficiary but not when it marks a Goal. This is illustrated in the following examples.

(33) a. *wo'wapi mitha'wa ki waka'hi.* (<\*wa-ki-a-hi)  
book me-belong-to the I-ki-brought-it  
'I brought my book to him.'

b. *\*igmu' nitha'wa ki waki'kte.*  
cat you-belong-to the I-ki-kill-it  
'I killed your cat for him.'

(34) a. *\*wo'wapi mitha'wa ki chi'cicaukte.*  
(<\*chi-kici-a-u-cta)  
book me-belong-to the I-you-kici-bring-it-POT  
'I'll bring my book for you.'

b. *wo'wapi (nitha'wa) ki chi'cicaukte.*  
book (you-belong-to) the I-you-kici-bring-it-POT  
'I'll bring your book (for you).'

In the first example *ki-* signifies a Goal, and so no possession is implied; consequently there is no conflict between the overt expression of possession of the Patient by the Actor and *ki-*. In (33b), however, *ki-* codes a Benefactive role which does entail possession, and so the Patient cannot be possessed by anyone other than the Beneficiary; hence the ungrammaticality of the sentence. The same conflict occurs in (34a) where the Patient is overtly specified as belonging to the Actor while the *kici-* in the verb indicates that it is possessed by the Beneficiary. The presence of *nitha'wa* 'yours' in (34b) is somewhat redundant, but if present it emphasizes the Benefactive meaning of *kici-*, since it overtly signals possession.

With respect to *kici-* we may conclude that it only codes the semantic role Benefactive, the exact meaning of which depends on the semantics of the verb it is affixed to. There is, however, an additional implication of possession of the Patient by the Beneficiary which both *ki-* (when it means Benefactive) and *kici-* have.

1.5.3. I discussed the locative prefixes *i-*, *a-* and *o-* in 1.4.1.1. with respect to their use with stative and intransitive active verbs. When used with transitive verbs, they also signal an additional semantic role, which in many cases is not Locative. The semantic import of *a-* is illustrated in (35) and (36).



d. el mahi' 'He came to me.'

e. thi'pi el wa?i' 'I went to the house.'

The locative postposition is used in this way with verbs of motion, and it always marks the Goal of the motion, as can be seen in (37a,b). (37c) is ungrammatical because ma- 'me' must refer to the Goal of the motion but no such semantic role is signalled in the clause. The last example shows that el is truly a locative postposition rather than a "preverbal" particle of some kind. We saw earlier that with non-motion verbs ki- is used to mark Goals, but it cannot do so with motion verbs.

(38) a. \*chici'?i (<\*chi-ki-i) \*'I went to you.'

b. el chi'?i 'I went to you.'

c. \*waki'?i \*'I went to him.'

It would seem, then, that ki- signals non-locative Goal while el signals locative Goal. It is interesting to note that kici- can be used with verbs of motion.

(39) a. mi'ci?u 'He comes in my place,' or  
'Mine comes.'

b. we'ci?i 'I went in his place.'  
(<\*wa-kici-i)

c. ki'ci?i 'He went in her place,' or 'Hers went.'

Note that in the first and third examples a possessive reading is possible. Thus in the case of verbs of motion a locative postposition, often el 'to', is used to mark the presence of a locative Goal in the clause which cannot be signalled by ki-. With the postposition etā (hā) 'from', such constructions signal a locative Source as in etā nihi 'It came from you'. Other intransitive verbs dealing with location may also take an "object" pronoun plus a locative postposition, as in akā'l nama'ya?i 'you stand on me' (na?i 'stand') (B&D, 77).

1.5.5. It was shown earlier (see 1.4.1.2.) that instrumental prefixes could be added to a stative or intransitive active verb to make it transitive. With certain types of transitive verbs they signal that the action was performed in a certain way, e.g. ka- 'by striking', or with a particular instrument, e.g. ya- 'with the teeth.' Buechel 1970:673-4 gives twenty eight different verb roots relating to the action of breaking, each of which must take some or all of these prefixes and in some cases locative prefixes as well. The effect a prefix has in terms

of semantic role coding is largely a function of whether it relates to the manner or to the actual instrument of an action; those relating to manner allow the overt expression of a number of different Instrument NPs, while those indicating a particular instrument do not allow this. The prefixes may be ordered on a continuum from specific instrument to general manner: ya- 'with mouth or teeth', na- 'with foot', yu- 'with hands', wa- 'sawing motion', wo- 'action from a distance', na- 'by inner force', pa- 'by pushing' and ka- 'by striking'.

The most specific prefix appears to be ya- which only allows the overt expression of the instrument 'teeth' or 'mouth'.

- (40) a. hi'    ü   yable'che.  
           teeth IN he-crushes-it-with-teeth  
           'He crushed it with his teeth.'

- b. \*chä'   ü   yable'che.  
           stick IN he-crushes-it-with-teeth

Overt Instruments are expressed in Lakhota by a postpositional phrase with the postposition ü 'with, by means of, on account of', which is probably derived from the verb ü 'use'. (40a) is somewhat redundant, in that the prefix ya- (which becomes bla- in the first person singular) already signals that there is an instrument involved in the action and that it is the Actor's teeth. (40b) is ungrammatical because the overtly expressed Instrument chä 'stick' is not compatible with the instrumental prefix on the verb.

The prefix indicating 'with the foot or leg', na-, is slightly less restrictive than ya- in that it allows at least three different overt Instruments, all of which relate to one's foot or leg.

- (41) a. si'   ü   nawa'bleche.   'I break it with my foot.'  
       b. hu'   ü   nawa'bleche.   'I break it with my leg.'  
       c. hä'pa ü   nawa'bleche. 'I break it with my shoe.'  
       d. \*chä' ü   nawa'bleche. 'I break it with a stick.'

The interesting example is (c) in which hä'pa 'moccasin, shoe' is the Instrument; it is a natural extension of the concept of 'foot' or 'leg', and so it is compatible with na-. Even less restrictive are yu- and wa-.

- (42) a. iyu'sla   ü   yukse'.  
           scissors IN he-cuts-it-with hands  
           'He cut it with scissors.'

- b. chă' ū ma'za yuw'žē.  
stick IN wire he-bends-it-with hands  
'He bent the wire with a stick.'

- (43) a. mi'la ū wawa'ksaksa.  
knife IN I-cut-it-up  
'I cut it up with a knife.'

- b. chăi'wakse ū wawa'ksaksa.  
saw IN I-cut-it-up  
'I cut up the wood with a saw.'

The prefix yu- allows a number of different Instruments as long as they are manipulated by hand and involve a pulling rather than a striking or probing motion. The Instruments which can occur in wa- must be such that their use requires a sawing motion; they are thus limited to things like knives and saws.

The next two prefixes, na- and wo-, express indefinite instruments, the former referring to some internal force which triggers the action and the latter to some force acting at a distance, e.g. wind and water.

- (44) a. phe'ta ū žăžă' ki nable'che.  
fire IN glass the break-by-inner force  
'The fire broke the glass.'

- b. mni' kha'ta ū žăžă' ki nable'che.  
water hot IN glass the break-by inner force  
'The hot water broke the glass.'

An interesting fact about these sentences is that they can contain no Actor NPs, "because the inner force never acts upon one" (B&D, 46). Thus in order to say 'I broke the glass with hot water' in Lakshota, one cannot add an Actor pronoun to (44b), as in (45a), but rather must use a conjoined construction as in (45b).

- (45) a. \*mni' kha'ta ū žăžă' ki nawa'bleche.  
water hot IN glass the I-break-it-by inner force

- b. mni' kha'ta el owa'gnăka cha nable'che  
water hot into I-put and-so it-breaks  
'I put it in hot water, and so it broke.'

Sentences with wo- prefixed verbs often involve inanimate agents capable of independent motion, and in some such cases the overt Instrumental marking with ū is optional and in others is not acceptable.

- (46) a. iye'chikŷăke ū thi'pi ki wožu'žu.  
automobile IN house the it-smashes-it  
'The car smashed the house', or

'He smashed the house with the (his) car.'

- b. iye'chIkIyāke ki thi'pi ki wožu'žu.  
 automobile the house the it-smashes-it  
 'The car smashed the house.'  
 ('He smashed the house with the car.')

- (47) a. mni'hiyaya thā'ka ki thi'pi ki wožu'žu.  
 flood big the house the it-smashes-it  
 'The big flood destroyed (smashed) the house.'

- b. \*mni'hiyaya thā'ka ū thi'pi ki wožu'žu.  
 flood big IN house the it-smashes-it

In (46), iye'chIkIyāke 'automobile, car' is explicitly marked as an Instrument in the first example and is unmarked in the second; consequently (46a) is ambiguous in a way (46b) is not, because it can be interpreted as having an Actor, whereas (46b) cannot. Instrument marking in (47) is not acceptable because there is no possible Actor which could employ a flood as an Instrument. A possible explanation for the fact that in (44) ū is obligatorily present and in (47) obligatorily absent, even though no Actors are possible in either case, is that floods are inanimate forces capable of independent motion like animate beings, whereas the sun and heat are not. In Navajo, for example, inanimate agents such as wind and water are treated in a special class which ranks lower than animates but higher than inanimates on the hierarchy of inherent topic-worthiness (see K.Hale, 1972). It would appear that in Lakota, instrumental entities with some of the characteristics of animate beings, e.g. capable of independent motion, may be treated as Actors rather than Instruments.

The last two prefixes, ka- 'by striking' and pa- 'by pushing', allow a wide variety of Instrument NPs to occur with verbs to which they are affixed, since one can strike or push something with many different things.

- (48) a. ix?e' ū chā' ki waka'wege.  
 rock IN stick the I-break-it-by striking  
 'I broke the stick with the rock.'
- b. ma'za ū chā' ki waka'wege.  
 crowbar IN stick the I-break-it-by striking  
 'I broke the stick with the crowbar.'
- c. nāpe' ū žāžā' ki waka'bleche.  
 hand IN glass the I-break-it-by striking  
 'I broke the glass with my hand.'
- d. chā' ū žāžā' ki waka'bleche.  
 stick IN glass the I-break-it-by striking  
 'I broke the glass with a stick.'

- (49) a. ixʔe' Ǿ wapa'tita.  
           rock IN I-push-it  
           'I push it with a rock.'
- b. ma'za Ǿ wapa'tita  
           'I push it with a crowbar.'
- c. nāpe' Ǿ wapa'tita.  
           'I push it with my hand.'
- d. chǎ' Ǿ wapa'tita.  
           'I push it with a stick.'

Note that the different roots of 'break' in (48) relate to the nature of the Patient: -wega means 'break something long (like a stick or pencil)', while -blecha means 'shatter something brittle (like glass)'. With -tita 'apply pressure to', we see another meaning of yu- in the following contrast.

- (50) a. nāpe' Ǿ pati'tā.  
           hands IN he-apply pressure to it-by pushing  
           'He pushed it with his hands.'
- b. nāpe' Ǿ yuti'tǎ.  
           hands IN he-apply pressure to it-by pulling  
           'He pulls it with his hands.'

Thus yu- can be taken to mean both a manner of action ('by pulling') and an instrument ('with the hands').

The effect of instrumental prefixes in terms of semantic role coding is complex, because of the variation in meaning among them. At rock bottom, however, one may say that they overtly signal the presence of an Instrument as a nuclear role but not as an argument in the clause. Two of them, ya- 'with mouth or teeth' and na- 'with foot or leg' also directly specify the Instrument, whereas the others merely define the semantic range with which the specific Instrument must be compatible. When no specific Instrument is given, some part of the human body is assumed to be involved, usually the hands and arms.

1.6. In 1.1. I introduced the Lakhota "subject" and "object" pronouns briefly. Since then they have been examined in more detail in their interaction with the various morphemes coding semantic roles in the verbal complex, and it should be clear that "subject" and "object" are woefully inadequate labels. In this section I will characterize the semantic roles expressed by the different pronouns.

The pronouns wa and ya (or bl- and l- with a y- stem verb) express two semantic roles: with perception verbs and



verbs referring to psychological processes or mental states, they represent the Experiencer, and with all other active verbs, transitive and intransitive, they express the Actor. The situation is much more complex with *ma-* and *ni-*. With transitive verbs, e.g. *apha* 'hit', *wāyā'ka* 'see', *kʔu* 'give', and *yutʔa* 'choke to death', they can express a number of different roles: Patient, Goal, Source and Beneficiary. They express an equally wide range of roles with stative verbs: Experiencer, Patient, Goal and Beneficiary. We have seen examples of the first two roles in 1.3.3. An example of a stative verb which takes a Patient and a Goal is *i'tā* 'be proud of'; 'I am proud of you' can be rendered either *i'chitā* or *i'nimatā*. [10] Stative verbs with Benefactives are rare, but one example is *ki'citʔa* 'die for (in place of)', *mi'citʔe* 'he dies for me, in my place.' With verbs of motion and position or location these pronouns express Location, locative Source, and locative Goal when accompanied by a location postposition. The pronoun *ū(k)-* 'I and you' expresses all of these roles, as it has only one form. *wicha-* 'them' is used to express the plural animate Patients, Goals, Sources or Beneficiaries of transitive verbs; it is not used with third person plural stative verbs. Finally, the indefinite "object" prefix *wa-* may mark Patients, Goals or Beneficiaries, depending on the verb.

This complex situation may be summarized as follows:

(51) PRONOUN	<i>wa,ya</i> (bl,l)	<i>ma,ni/wa</i>	<i>ma,ni+Loc.post.</i>
ROLES	Actor	Experiencer	Location
EXPRESSED		(not with <i>wa</i> or <i>wicha</i> )	
	Experiencer	Patient	Loc. Goal
		Goal	Loc. Source
		Source	
		Beneficiary	

There seems to be a natural three-way division in the distribution of pronouns and the roles they code into those relating to the effecting entity in an action or event, to the affected entity and to the spatial parameters thereof. Ignoring the Experiencer role for the moment, we see that the Actor role is that of the effecting entity, that of the affected entity may be a Patient, Goal, Source or Beneficiary, and that the spatial parameters may be expressed by a Location, Locative Goal, or Locative Source. For these three sets of semantic roles I will use the terms *Actor*, *Undergoer* and *Site*. [11] In universal terms, each of these terms labels a particular semantic continuum which a given language may then divide up. The Actor continuum ranges from Agent, the instigator of events and actions, through the less agentive Actor, to Instrument (see 1.2). Languages typically distinguish between Agent or Actor and Instrument but not between all three. The Undergoer continuum includes various kinds of Patients ranging from

those which are only superficially affected, usually in terms of location, by the action of verbs such as give, send, teach and buy, to those which are thoroughly affected by the action of verbs like kill, hit, eat and cut; it also contains indirectly affected entities; i.e. Sources, Goals and Beneficiaries. The final continuum, Site, includes roles relating to the spatio-temporal dimensions of an event or action; we have already seen examples involving locative postpositions and temporal postpositions, which rarely occur with personal pronouns (see Bl, 117-8). [12] The Lakshota Pronoun system may be recast as follows:

(52)	ROLES	;	ACTOR	;	UNDERGOER	;	SITE
	PRONOUNS	;	wa, ya (bl, l)	;	ma, ni/wa	;	ma, ni+Loc.post.

This organization of semantic roles and the pronouns which express them affords a more accurate definition of transitivity in Lakshota: a verb is transitive if it has two arguments, one of which must be an Actor and the other an Undergoer. This eliminates the problem discussed in 1.4.1.1 about including verbs with locative arguments, e.g. icho'pa 'wade across', in the class of transitive verbs; they cannot have an Undergoer argument.

As we noted in 1.3.1 and 1.3.5, Experiencers are marked by two different sets of pronouns, depending on the nature of the experiential verb. Verbs expressing volitional, active experiences such as wāyā'ka 'see', chī 'want', and sloya 'know', take the Actor pronouns, whereas those relating to involuntary, passive experiences, e.g. khu'ža 'be sick' and kha'ta 'be hot', take the Undergoer set.

The semantic complexities of ki- and kici- can be captured in a similar manner, since each has a range of semantic values. These are given in (53).

- (53) ki- : Source, Goal, Benefactive-A  
kici- : Benefactive-A, Benefactive-B

The terms "Benefactive-A" and "B" refer to the meanings "for the benefit of" and "in place of", respectively. Just as the semantic value of an Undergoer pronoun depends upon the verb in which it occurs, so that of ki- likewise depends upon the semantics of the verb to which it is affixed, as we saw in 1.5.1. The value of kici- with a particular verb, on the other hand, depends on that of ki- with the same verb (see 1.5.2). This relationship can be expressed as follows: with a given verb, if ki- marks Benefactive-A, then the value of kici- will be Benefactive-B; otherwise, kici- can have either meaning.

1.7. Throughout the discussion of role coding I have also employed example sentences involving full NPs which are only overtly marked for semantic role when they are Instruments or Locatives. I mentioned briefly at the outset that the

word order in transitive clauses is "subject" - "object" - verb, but this says nothing about clauses involving Goal or Benefactive NPs. The constraints on word order with respect to semantic role interpretation can be illustrated with the following examples.

- (54) a. John Mary wo'wapi wā k?u'.  
           book       a he-gives-it-to her  
       b. wo'wapi wā John Mary k?u'.  
       c. John wo'wapi wā Mary k?u'.  
           'John gave Mary a book.'  
       d. wo'wapi wā Mary John k?u'.  
       e. Mary wo'wapi wā John k?u'.  
       f. Mary John wo'wapi wā k?u'.  
           'Mary gave John a book.'
- (55) a. John Mary Bill ki'cipazo.  
                                   he-points-it-out-for him/her  
           'John pointed Bill out for Mary (Mary for Bill).'
- b. John Bill Mary ki'cipazo.  
           'John pointed Mary out for Bill (Bill for Mary).'

In all of these examples, the first potential Actor NP in a clause is interpreted as the Actor. When the Patient is inanimate as in (54), it may occur either before or after the Actor, since it cannot be interpreted as an Actor. When there is a human Goal NP present, as in the first example, and therefore two potential Actor NPs in a clause, then the first potential Actor NP is the Actor, and the second human or animate NP is the Goal. When there are three human or animate NPs in a clause as in (55), then the order is Actor-Undergoer(s). As the glosses indicate, only the choice of the Actor is fixed; the two non-Actor human NPs may be either Patient or Goal, depending on context.

1.8. I have described the coding of semantic roles in the Lakhota verb. There are additional processes, however, which code relations holding between the NPs bearing certain semantic roles. These relations are possession, referential identity, and reciprocity of action.

1.8.1. In 1.5.2. it was shown that when ki- or kici- signals the presence of a Beneficiary NP in a clause, there is a further implication that the Beneficiary possesses the Patient. There is a special form of Lakhota transitive verbs which overtly indicates that the Actor possesses the Patient. Such a form is analogous to the "middle voice"

forms in some Indo-European languages (see Benveniste 1971: 149). An example is given in (56) (see B&D, 87).

- (56) a. ʒu'ka ki yuʒa'ʒa.  
           dog the he-washes-it  
           'He washes the dog.'
- b. ʒu'ka ki gluʒa'ʒa.  
           dog the he-washes-his own  
           'He washes his (own) dog.'

The only difference between these two sentences is the initial consonants of the verb stem; in the first it is the y of the instrumental prefix yu-, whereas in the second it has been changed to gl, which signals the possessive (middle voice) form of verbs beginning either with y or the instrumental prefix ka-, e.g. kable'cha 'shatter, break', glable'cha 'shatter, break one's own'. Complete paradigms for gluʒa'ʒa 'wash one's own' and glable'cha 'break one's own' are given in (57).

- |                  |                 |             |
|------------------|-----------------|-------------|
| (57) a. gluʒa'ʒa | b. glable'cha   |             |
| waglu'ʒaʒa       | wagla'bleche    | I-mine      |
| yaglu'ʒaʒa       | yagla'bleche    | you-yours   |
| gluʒa'ʒa         | glable'che      | he-his      |
| ʒglu'ʒaʒa(pi)    | ʒgla'bleche/api | we-ours     |
| gluʒa'ʒapi       | glable'chapi    | they-theirs |

Transitive verbs beginning with p have a third way of forming the possessive, and all others use the forms given in (58b).

- |                        |                    |             |
|------------------------|--------------------|-------------|
| (58) a. pati'tā 'push' | b. kte 'kill'      |             |
| wakpa'titā             | we'kte (<*wakikte) | I-mine      |
| yakpa'titā             | ye'kte (<*yakikte) | you-yours   |
| kpati'tā               | kikte'             | he-his      |
| ʒkpa'tita(pi)          | ʒki'kte(pi)        | we-ours     |
| kpati'tāpi             | kikte'pi           | they-theirs |

There are also middle voice forms of the verbs of motion: gla 'go home, be on the way home', khi 'arrive home (going)', ku 'come home, be on the way home', and gli 'arrive home (coming)' (see B1, 166; B&D, 92ff).

Notice that the possessive marker in the third person singular of 'kill' is ki-, which is identical in form with the Goal/Benefactive marker ki-. In fact, kikte is ambiguous, as it could mean either 'he killed it for her' or 'he killed his own'. Note further that \*waki has contracted to we', as it does in forms with kici-. Their formal identity is probably a historical accident in Lakhota, since the morphemes marking possession of the Patient by the Actor and the presence of a Goal or Beneficiary are distinct in some of the other Siouan languages, e.g. Winnebago (see

Lipkind 1945:28-9). Thus *ki-* can be seen to mark two kinds of possession: Beneficiary-Patient when it is the Beneficiary marker with certain verbs and Actor-Patient when it is the verbal possessive marker. Given this intricate interplay between semantic roles and possession, it is not surprising that many scholars trying to describe this aspect of Lakhota grammar found these forms extremely problematic. For example, Boas commented, "the use of these forms is very irregular" (1939:87). The separation of semantic role functions from the marking of relations between NPs bearing certain semantic roles clarifies the workings of these important processes in Lakhota grammar.

1.8.2. The second relation between NPs in a clause is referential identity or coreference; when the Actor NP is coreferential with another NP in a clause, the result is usually a reflexive construction. In Lakhota, reflexives may be used to express the identity of Actor-Patient, Actor-Goal, or Actor-Beneficiary, i.e. Actor-Undergoer (see B&D, 103-4).

- (59) a. *wicha'ʒa ki nai'c?ixtake.*  
           man           the self-kick  
           'The man kicked himself.' (Actor-Patient)
- b. *hemi'c?iye.*  
           that-myself-say  
           'I said that to myself.' (Actor-Goal)
- c. *oni'c?ilote*  
           yourself-borrow  
           'You borrowed it for yourself.' (Actor-Beneficiary)

Note that in (59b,c) neither *ki-* nor *kici-* are used in the reflexive forms, even though the roles they normally signal are present; it would seem that these roles are inferred from the semantics of the verb, e.g., one cannot borrow oneself, and so the most likely interpretation is to have borrowed it for oneself. With most verbs the reflexive pronoun is *ic?i-*, which takes *ma-*, *ni-*, zero and *ʔk-* to indicate person. Verbs beginning with *y* or the prefix *ka-* have the reflexive forms *migl-*, *nigl-*, *igl-*, and *ʔkigl-*, which are clearly related to the possessive forms for these verbs (see 1.8.1).

Because the reflexive pronoun can occur only in the verbal complex, there can be no reflexivization of oblique NPs as there is in English and many other languages, e.g. Navajo (see Foley & Van Valin 1977). One can, however, translate certain oblique reflexives into Lakhota using reflexives with a certain class of verbs, e.g. 'I told the girl about myself,' can be rendered as in (60) using *iwɔ'yaka* 'talk about'.

- (60) wichI'cala ki iwo'mic?iglake.  
 girl the I-talk-about-myself  
 'I told the girl about myself.'

The verb wo'ic?iglaka is the reflexive form of wo'glaka 'talk about one's own', which is in turn the possessive form of wo'yaka 'talk about'. "Picture reflexives" are impossible in Lakota as reflexives and are rendered in the following way.

- (61) Mary ito'mawapi wā waki'pazo  
 they-took-a-picture-of-me a I-show it-to him/her.  
 'I showed Mary a picture of myself.'

The phrase 'a picture of myself' is expressed through the nominalization of the verb form meaning 'they took a picture of me', ito'mawapi (< ite 'face' + owa 'draw, sketch').

1.8.3. The final relation holding between NPs with different semantic roles is reciprocity. The affix kichi- indicates that the Actor and Patient, Goal or Beneficiary are acting in a reciprocal manner, i.e., whatever the Actor is doing to the Undergoer is also being done to him by the Undergoer.

- (62) a. wicha'ša ki kichi'ktepi.  
 man the each other-they kill  
 'The men killed each other.' (Actor-Patient)
- b. wo'wapi ki ūki'chic?upi. (<\*u-kichi-k'u-pi)  
 book the we-each other-give-pl  
 'We gave each other books.' (Actor-Goal)
- c. hā'pa ki ophe'yechithūpi. (<\*ophe-ya-kichi-thū-pi)  
 shoe the you-each other-buy-pl  
 'You (pl) bought shoes for each other.' (Actor-Beneficiary)

Although Boas & Deloria give first and second person singular reciprocal forms we'chi- and ye'chi- (1939:103), these should be impossible on semantic grounds and are in fact not used. There is a second type of reciprocal marker i'chi-, which always appears as the first element of a verb. "It expresses fundamentally the idea that a third person handles objects in reference to each other, or that several persons handle each other in reference to something else" (B&D, 103), e.g. kichi'caškapi 'they tie each other up' vs. i'chicaške 'he ties them (inanimate) together', and ana'kichiŋāpi 'they rush at each other or at one another', vs. i'chinatāpi 'they rush (competing with each other) at something' (ibid.).

## 1.9. Summary

## I. Role combinations with verbal codings and pronoun types:

1. A-V: Actor
2. P-V: Undergoer
3. E-V: Undergoer
4. A-P-V: Actor-Undergoer
5. E-P-V: Actor-Undergoer
6. A-G-V: Actor-Undergoer+ki
7. P-G-V: Undergoer-Undergoer(+ki)
8. A-B-V: Actor-Undergoer+kici
9. P-B-V: Undergoer-Undergoer+kici
10. A-S-V: Actor-Site+PP
11. A-G-V: Actor-Site+PP
12. A-L-V: Actor-Site+PP
13. A-P-G-V: Actor-Undergoer-Undergoer+ki
14. A-P-B-V: Actor-Undergoer-Undergoer+ki
15. A-P-B-V: Actor-Undergoer-Undergoer+kici
16. A-P-S-V: Actor-Undergoer-Undergoer+ki
17. A-P-S-V+a-: Actor-Undergoer-Undergoer
18. A-P-IN-V+IP: Actor-Undergoer
19. A-P-L-V+LP: Actor-Undergoer-Undergoer

## II. Relations between NPs:

Coreference: =  
 Possession: -->  
 Reciprocity: <-->

1. A=P-V: Undergoer+ic?i
2. A=G-P-V: Undergoer-Undergoer+ic?i
3. A=B-P-V: Undergoer-Undergoer+ic?i
4. A-->P-V: Actor-Undergoer+ki [middle voice]
5. A-B-->P-V: Actor-Undergoer-Undergoer+ki
6. A-B-->P-V: Actor-Undergoer-Undergoer+kici
7. A-S-->P-V: Actor-Undergoer-Undergoer+ki
8. G-->P-V: Undergoer-Undergoer+ki
9. A<-->P-V: Actor-Undergoer+kichi
10. A<-->G-P-V: Actor-Undergoer-Undergoer+kichi
11. A<-->B-P-V: Actor-Undergoer-Undergoer+kichi
12. A-P<-->P-V: Actor-Undergoer+ichi

## Footnotes to Chapter I

1. The orthographic symbols represent the following Lakota sounds.

	bilabial	alveolar	palatal	velar	glottal
stop-unasp.	p	t		k	ʔ
asp.	ph	th		kh	
glottal	pʔ	tʔ		kʔ	
voiced	b			g (/ _C)	
affricate-unasp.			c		
asp.			ch		
glottal			cʔ		
fricative-voiceless		s	ʃ	x	h
voiced		z	ʒ	g (/V _V)	
nasals	m	n			
liquids		l			
glides	w		y		
VOWELS:	Front	Central	Back		
High	i ɪ		u ʊ		
Mid	e		o		
Low		a ǣ			

Aspiration after stops is always fricated before a, ǣ, o, ʊ and optionally before e and u. Stress is marked by a single quotation mark following the stressed vowel, e.g. wáyá'ka 'see', with the stress on the second syllable. Stress will not be marked in the citation forms of monosyllabic words, or disyllabic words with stress on the second syllable.

2. Wicha- is sometimes used as a collective "subject" marker, as in wicha'cheya 'people are crying' (che'ya 'cry') and wicha'puza 'people are thirsty' (pu'za 'be thirsty').

3. However, many postverbal prepositions have been reanalyzed in English as verb plus particle combinations such that an NP which appears to be an object of a preposition can in fact be interpreted as an argument of the verb, e.g. John decided on the boat (in the sense of 'he decided to take the boat'). Thus in English the difference between decide and decide on could be interpreted as analogous to that between ophe'thŋ 'buy' and ophe'kicathŋ 'buy for'.



4. There is a phonological rule of  $k \rightarrow c / \_i$  in Lakhota. The output of this rule retains the aspiration or glottalization of the input. An exception is (12c) nikha'ta 'you are hot', which does not change to \*nicha'ta.

5. Most Lakhota verbs end in -a in their citation forms, and with most of these verbs this final vowel undergoes certain alternations, depending on the following segment, e.g.,  $a \rightarrow i / \_ -kta$  (potential aspect marker) or  $/ \_ na$  (conjunction), or  $a \rightarrow e / \text{sentence-finally}$  or  $/ \_ ki$  (definite article). See B&D, 29-34; B1, 142-9.

6. Before i the a in wa- is often lost (but cf. wai'hākya below), and the initial syllable wi- takes the word stress. See B1, 175-6; B&D, 52-4.

7. Certain verbs insert -ca along with ki-; it is irrelevant to the point under consideration. See B&D, 101-2.

8. Imperatives are formed by the addition of the suffix -yo/wo (depending upon the final vowel of the verb stem) for male speakers or -ye/we for female speakers. See B&D, 111-2.

9. Boas and Deloria thoroughly confuse the role coding and possessive properties of ki- and kici-. They characterize them as follows.

The form ki- (1st dative) implies action referring to an object belonging to a person different from the subject but without sanction or permission of the owner, for instance, "I take his own without his permission," in other words, an action that reflects in some way upon his interest but performed on the initiative of the subject. The form kici- (2nd dative) expresses an action done with the permission of the owner of an object, an action done on his initiative or in his place. (86)

The central distinction between ki- and kici- in this analysis is sanction of the action by the owner of the affected object; ki- relates to actions done without the owner's sanction and kici- to those done with it. While this distinction is probably valid to some extent, it does not reflect the crucial difference between the two affixes. The notion of 'action with permission' is readily derivable from the Benefactive meaning of 'in place of' or 'instead of'; doing something in someone else's place usually entails the beneficiary's knowledge and consent. Given this interpretation of kici- the analysis of ki- as involving a lack of sanction follows, since when one does something for

the benefit of someone else, e.g. buy them something, it is often without their knowledge.

There is a further complication which muddles the picture even more. As we will see in 1.8.1, there is another morpheme *ki-* which marks the "middle voice", i.e. the possession of the Patient by the Actor. Thus *ki-* marks two different kinds of possession in addition to its semantic roles.

10. This is the only combination which allows two "object" pronouns; 'you are proud of me' can only be rendered *i'mayatā* and not \**i'manitā*.

11. These terms are taken from A. Hale 1973 but are not being used the way Hale uses them.

12. One of the main problems of case grammars discussed in Fillmore 1977 is the determination of what the abstract semantic cases are and how many there should be. The division of semantic roles into three sets relating to the effecting entity, the affected entity and the spatio-temporal location of an activity or event is a potential solution to this problem. This division reflects the basic roles which participants may play in an event, action or activity, and so the notions of Actor, Undergoer and Site carve out the three major domains of semantic space relating to case roles. These are in turn further divided up by particular languages; Lakhotā, as we have seen, makes three distinctions in the Actor and Site areas and five in the Undergoer continuum. Thus the metatheory stakes out the domains within which individual languages may operate without specifying the exact number of cases each language must have or their contents; the minimal division a language could make would be a three-way one into the three general domains.

## Chapter II

### The Lakhota Noun Phrase

2.0. The Structure of the NP. We now turn our attention to the Lakhota noun phrase. Lakhota is strictly verb final, a fact which has certain typological implications for its NP structure. The full expansion of the Lakhota NP is exemplified in (63).

- (63)    wicha'ša hă'ska to'pa ki hena' iyu'ha  
           man        tall    four    the    those all  
           'All four of the tall men'

The noun wicha'ša 'man' is first, with all modifiers following it; however, Lakhota has only postpositions, which is the usual situation in verb-final languages. The only variable here is the position of the demonstrative; in some cases it may precede the noun, usually in order to emphasize its deictic role, e.g. he wi'yă ki 'that woman (there)', vs. wi'yă ki he 'the (that) woman' (see 2.0.3). The maximal expansion of an NP is presented in (63); the minimal form of an NP can be either a noun without any modifiers, as in e.g. (42b), or an independent pronoun (see 2.3.1), or zero, when all of the NPs in a clause are in the 3rd person singular zero form, as in e.g. (39c). Each of the modifying elements given in (63) will be discussed individually in the following sections. (see B&D, 125-7; B1, 87-93, 175-181).

2.0.1. The Noun. Lakhota nouns can be divided into two basic classes in terms of their syntactic properties: animate and inanimate. Animate nouns, e.g. wicha'ša 'man', wiyă 'woman', and wich'icala 'girl', trigger plural Actor and Patient concord (-pi and wicha-) with verbs. The plural inanimate arguments of intransitive (usually stative) verbs trigger verbal reduplication as an expression of plurality (see B&D, 157).

- (64) a. wicha'ša wă wi'yă ki hena' wăwi' chayăke.  
           man        a    woman the    those he-sees-them  
           'A man saw the women.'
- b. wi'yă eya' wicha'ša ki wăyă' kapi.  
           woman some man        the they-see-him  
           'Some women saw the man.'
- c. chă' ki hă'ske.  
           tree the tall  
           'The tree is tall.'
- d. \*chă' ki hă'skapi  
           'The trees are tall.'

- e. chă' ki hă'skaska  
tree the tall-redup.  
'The trees are tall.'
- f. wicha'ša ki hena' hă'skapi.  
man the those tall-pl  
'The men are tall.'
- g. \*wicha'ša ki hena' hă'skaska  
'The men are tall.'

As is clear from these examples, plurality is not signalled on the noun itself but rather is indicated either by the article, demonstrative, numeral (as in (63)) or on the verb. There are numerous processes yielding various types of derived nominals (see the passages in B&D and BI cited in 2.0).

2.0.2. The Article. There are five articles in Lakshota, two definite and three indefinite (see B&D, 133-7; BI, 322-30). They are: ki 'the', and k2B 'the aforementioned' (definite), and wā 'a (specific)', wā2i 'one (nonspecific)', and cha 'contrastive indefinite' (indefinite). cha is not normally included among the articles because of its peculiar semantic properties, but I will argue below that it has the same general syntactic properties as the other articles.

2.0.2.1. The definite article ki has the same general pragmatic function in Lakshota as the does in English: its use with a noun signals that the speaker assumes that the hearer can readily identify its referent, either in terms of the previous linguistic discourse, shared background knowledge, the extralinguistic situation, or any combination thereof (see Chafe 1976:38-40). This does not mean, however, that ki is used syntactically the same way as the; see Buechel 1939:322-7 for a detailed discussion of the differences in their syntactic uses. One important function of ki (and the other articles) is to mark a certain kind of nominalization, e.g. che'yapi 'they cry', che'yapi ki 'the crying'. Such nominalizations may function like a regular NP.

- (65) a. hi' ki he chă' ki icu'.  
arrive the that wood the he-takes-it  
'The one who came took the wood.'
- b. John hi' ki he slolye'.  
arrive the that he-knows-it/him  
'John knows the one who came.'
- c. John hi' ki he wo'wapi k?u'.  
arrive the that book he-gives-it-to him

'John gave a book to the one who came.'

Such constructions will be discussed in more detail in 2.3. What ki is doing in such configurations is indicating that a verb is functioning as a noun, and it does this by virtue of its final position in the NP; as we saw in (63), the article (and the demonstrative, when present) occurs after all of the other modifiers in the NP except quantifiers, thereby explicitly marking it as an NP and delimiting it.

2.0.2.2. The other definite article is kʔu. It was glossed above as 'the aforementioned', which means that it is normally used to mark an NP which refers to something which has been explicitly mentioned before. It is most often used in texts where it indicates that an NP has the same reference as an NP which was introduced earlier (see e.g. B&D, 160, lines 1-10). When used with verbs, either in direct quotations (see B&D, 107) or in nominalizations, kʔu signals past tense.

2.0.2.3. Two of the indefinite articles, wā and wāʔi, are quite similar in meaning and are etymologically related, wāʔi being the numeral 'one'. The difference between them can be illustrated as follows.

(66) a. igmu' wā wachi'.  
cat I-want-it  
'I want a cat.'

b. igmu' wāʔi wachi'.  
'I want a cat.'

In (66a) with wā there is a particular cat which I have in mind and which I want, whereas in (66b) with wāʔi there is no specific cat which I want and so conceivably any cat would do. This difference has been characterized as one of specificity by some linguists and philosophers of language, that is, the NP in (66a) is indefinite but specific, since the speaker has a certain cat in mind, while the one in (66b) is indefinite and non-specific, since the speaker has no particular cat in mind. Rood 1976 discusses this in terms of a feature [+certain]. Thus, wā is indefinite and specific (or [+certain]) and wāʔi is indefinite and non-specific (or [-certain]). Hence the gloss 'a certain one' for wā. The plural indefinite articles are eya (specific) and etā (non-specific) (see Rood 1976 for further discussion).

2.0.2.4. The final article is cha, which is not included in either Boas & Deloria's or Buechel's discussions of Lakhota articles. This is because it is homophonous with the conjunction cha which is of much more frequent use and which occurs in certain constructions which are superficially

similar to some in which the article cha occurs; consequently the two were not distinguished by Boas and Buechel. The conjunction cha will be discussed in detail in Chapter III.

I mentioned earlier that cha has similar syntactic properties to the other articles but very different semantic (or perhaps, pragmatic) properties. This is illustrated in (67).

(67) a. ʒu'kawakhā wā ophe'wathū.  
           horse       a I-buy-it  
           'I bought a horse.'

      b. ʒu'kawakhā cha ophe'wathū.  
           horse       ART I-buy-it  
           'It's a horse I bought.'

In both cases the modified noun is indefinite, but in the second sentence ʒu'kawakhā 'horse' is contrasted with something else the speaker could have bought. Buechel glosses a similar sentence, ʒu'kawakhā cha hiyo'wahi, as 'It is a horse for which I came (and nothing else).' (1939:245). The contrastive force of cha is brought out clearly in (68).

(68) hogā' wachī'ʒni;   agu'api cha wachī'.  
       fish I-want-it-NEG bread ART I-want-it  
       'I want bread, not fish.'  
       (lit. 'I don't want fish; it is bread I want.')

Here the speaker desires bread as opposed to fish, and cha explicitly marks the contrastive NP agu'api 'bread'. If one wished to contrast definite NPs, then the definite article plus e 'he, she, it' (derived from the independent third person pronoun iye 'he, she, it'; see 2.0.3, 2.2) would have to be used in addition to cha.

(69) a. wa'ta ki e' cha aphī'waye.  
           boat the it ART I-fix-it  
           'It's the boat I'm fixing.'

      b. hogā' ki wachī'ʒni;   agu'api ki e' cha wachī'.  
           fish the I-want-it-NEG bread the it ART I-want-it  
           'I want the bread, not the fish.'  
           (lit. 'I don't want the fish; it's the bread I want.')

The constructions are quite similar to relative clauses, which will be discussed in 2.3.

The main syntactic evidence that cha is syntactically an article is that it occurs in the same syntactic slot as the other articles; the syntactic structures of (67a) and (67b) are identical. It can also occur following a noun plus an adjective.

- (70) a. ʒũ'ka gi' wā wachI'.  
           dog brown a I-want-it  
           'I want a brown dog.'
- b. ʒũ'ka gi' cha wachI'.  
           dog brown ART I-want-it  
           'It's a brown dog I want.'

cha contrasts with wā in postpositional phrases as well.

- (71) a. makho'xloka wā e'l eũ'papi.  
           cave a in they-laid-him  
           'They laid him in a cave.'
- b. makho'xloka cha e'l eũ'papi.  
           cave ART in they-laid-him  
           'It was in a cave that they laid him.'

((71) is from Bl, 245.) Unlike the conjunction cha the article cha can occur in questions and with negated verbs.

- (72) a. ʒũ'kawakhā cha wāla'ka he? [1]  
           horse ART you-see-it Q  
           'Was it a horse that you saw?'
- b. igmu' cha wachI'ʒni.  
           cat ART I-want-it-NEG  
           'I don't want a cat.'  
           (lit. 'It's a cat I don't want.')

Thus cha has the same syntactic function as wā and therefore can legitimately be considered an article.

2.0.3. Lakota has a rich system of demonstratives which not only specify the deictic properties of NPs, but also combine with verbal stems and postpositions to refer to the spatial and temporal aspects of events, activities, and states of affairs (see B&D, 116ff). The three basic demonstratives are le 'this near the speaker', he 'that at a distance' or 'that referred to before', and ka 'that at a distance but visible and pointed out' (B&D, 114). Boas & Deloria treat e, mentioned in 2.0.2.4 above, as "a very general demonstrative" (114); I will discuss it with the independent pronouns, however. These demonstratives cooccur with ki and kʔ to specify the location of the referent of a definite NP; in general, the articles express the pragmatic properties of definiteness and specificity, while the demonstratives specify deictic properties of NPs.

- (73) a. thi'pi ki le 'this house'  
       b. thi'pi ki he 'that house'  
       c. thi'pi ki ka 'that house over there'

However, he also has certain discourse functions which the other two lack. Boas & Deloria point out that in discourse "the demonstrative he is constantly used to summarize preceding clauses" (155). Rather than referring simply to objects located a particular distance from the speaker, he can also refer to an earlier part of a discourse, and it thereby takes on a function similar to an article. It is therefore not surprising that he is often used in place of *ki* to signal definiteness; some Lakhota speakers seem to say e.g. *wicha'3a he* as often as *wicha'3a ki* for 'the man'.

In the brief discussion of (63) it was noted that the only element whose position in the NP is not fixed is the demonstrative, which may optionally occur immediately before the noun. When it does, the noun must be followed by a definite article. In comparing (74a) and (74b),

(74) a. *he' wicha'3a ki ksa'pe.*  
DEM man the smart  
'That man is wise.'

b. *wicha'3a ki he ksa'pe*  
'That man is wise.'

Boas & Deloria comment that "the first form seems to lay a little more stress on the demonstrative" (114). This added emphasis is a function of its occurrence independent of the definite article and in a "marked" position in the NP.

2.0.4. Adjectives are not a distinct part of speech in Lakhota as they are in English; they are merely a subset of the class of stative verbs. They always follow the nouns they modify, and so the structure of an NP with an adjective mirrors that of a clause with one NP and a stative verb (see B1, 94-6, 182-3, 320-2).

2.0.5. There are two classes of quantifiers in Lakhota: those such as *iyu'ha* 'all (of a group)', *oya's?i* 'all (of a kind)', and *iyu'hila* 'each, every', which are not stative verbs, and *o'ta* 'many', and *co'nala* 'few', which are stative verbs.

(75) a. *0ko'tapi/o'tapi.* 'We/they are many.'  
b. *0co'nalapi/co'nalapi* 'We/they are few.'  
c. *\*0ki'yuhapi/iyu'hapi* \*'We/they are all (of a group).'  
d. *\*0ko'yas?ipi/oya's?ipi* \*'We/they are all (of a kind).'

All quantifiers occur after the article or demonstrative when there is one; in phrases without other postnominal modifiers, the quantifiers may immediately follow the noun.

(76) a. *wi'yā ki o'ta waya'wapi oki'hipi.*  
woman the many they-read they-can  
'Many of the women can read.'



- b. wicha'ša co'nala waya'wapi oki'hipi.  
'few men can read.'
- c. hokši'la hā'ska ki iyu'ha waya'wapi oki'hipi.  
boy tall the all they-read they-can  
'All of the tall boys can read.'

As in English and many other languages, quantifiers may "float", i.e. they may occur non-contiguous to the NP they modify; an English example of a floating quantifier is The boys all left, instead of All the boys left.

- (77) a. hokši'la ki hena' ožā'žāglepi ki xta'lehā  
boy the those window the yesterday  
iyu'ha kable'blechapi.  
all they-shatter-them(inan)  
'The boys shattered all the windows yesterday.'
- b. hokši'la ki hena' echa'kel iyu'ha  
boy the those intentionally all  
ožā'žāglepi ki kable'blechapi.  
window the they-shatter-them(inan)  
'All the boys intentionally broke the windows.'

In both of the examples the floated quantifiers are interpreted as modifying the closest NP on their left; that it is this rather than merely the closest NP can be seen in (77b) where iyu'ha 'all' immediately precedes ožā'žāglepi 'window', but is understood as modifying hokši'la 'boys' even though the adverb echa'kel 'intentionally' separates them. An interesting situation arises in cases where the interpretation is ambiguous; such a situation can be found in (78), where there are no full NPs in the clause and the verb is marked for plural animate Actor and Patient.

- (78) a. wicha'ktepi.  
them-kill-plural Actor  
'They kill them.'
- b. iyu'ha wicha'ktepi.  
all them-they-kill  
'They killed all of them.' (\*'They all killed them.')
- c. iyu'ha kte'pi.  
all they-kill-it  
'They all killed it.'

(78b) must be understood with the quantifier modifying the Patient and not the Actor. Only when the Patient is singular and therefore cannot be quantified is the Actor

interpreted as modified by iyu'ha, as in (78c). Thus in ambiguous situations floating quantifiers are preferentially interpreted as modifying the Patient in such a transitive clause. When there is a Goal or Beneficiary NP in the clause, it is interpreted as having launched the floating quantifier.

(79) a. iyu'ha wicha'k?upi  
all they-give-it-to them  
'They give it to all of them.'

b. iyu'ha ophe'wichakicithūpi.  
all they-buy-it-for-them  
'They buy it for all of them.'

These facts may be summarized as follows: in ambiguous situations, the hierarchy for the interpretation of the floating quantifier is

Goal/Beneficiary > Patient > Actor. [2]

2.1. Possession. Lakhota distinguishes alienable and inalienable possession in the expression of possession in an NP. We have already seen how possession of a Patient by the Actor or Beneficiary can be signalled in the verbal complex (see 1.5.2 and 1.8.1).

2.1.1. Inalienable possession is marked by the prefixation of the "object" pronouns ma(mi), ni, Ø, and Ø(Øk) to the inalienably possessed noun. The only nouns which always take these forms are kinship terms (see B&D, 129-31; B1, 101-7); one example is given in (80).

(80) a. michI'ca ki 'my child'  
b. nichI'ca ki 'your child'  
c. chIca' ki 'his or her child'  
d. Øki'chIca ki 'our child'  
e. Øki'chIcapi ki 'our children'  
f. nichI'capi ki 'your children'  
g. chIca'pi ki 'their children'

Nouns referring to body parts may occur with the pronouns expressing inalienable possession, although they usually occur with the possessive ("middle voice") form of the verb (see 1.8.1). According to Boas & Deloria, these body parts "which are conceived as particularly subject to willpower take in the first person the form mi-; all others take ma-" (128).

(81) a. mii'3ta 'my eye'  
b. michā'te 'my heart'  
c. ma3u'pe 'my intestines'  
d. mawe' 'my blood'

2.1.2. There are two ways to express alienable possession in Lakhota. The first is through the prefix tha- plus the Undergoer pronouns, e.g. mitha'khola 'my friend' (kho'la 'friend') and thachā'nūpa 'his pipe' (chānū'pa 'pipe'). If the possessor is a full NP, it precedes the possessed NP, as in hokši'la ki thašū'ka ki 'the boy's dog'. The second is through the use of the stative verb tha'wa 'belong to', e.g. šū'ka mitha'wa ki 'my dog' (lit. 'The dog belonging to me.'). Neither body parts nor kinship terms occur with either of these forms. There is an interesting semantic difference between these two expressions of alienable possession: "The forms in tha'wa emphasize the contrast between what is his (mine, yours, ours) and the property of others, while the forms in tha- designate the contrast between the particular thing possessed by him (me, you, us) and other things belonging to the same person" (B&D, 132). They give the following examples.

- (82) a. mitha'woyuha                      ki wašte'šte.  
           my-household goods the good(redup)  
           'My household goods are fine (but my other property is not).'  
       b. wo'yuha                      mitha'wa                      ki hena' wašte'šte.  
           household goods me-belong-to the those good(redup)  
           'My household goods are fine (but yours are not).'

However, the most common way of expressing alienable possession is by means of the possessive or "middle" form of the verb; sentences like (56b) are much more common than those like (83b,c).

- (83) a. šū'ka ki wagli'zaža.    (= 56b)  
           dog    the I-wash-my own  
           'I washed my dog.'  
       b. mitha'šūka ki bluža'za.  
       c. šū'ka mitha'wa ki bluža'za.  
           'I washed my dog.'

There is an interesting cultural constraint on possession which seems to have lost some of its force in recent years. Boas & Deloria comment that

Natural objects, like land, water, animals including the dog but excepting the horse cannot take the possessive pronoun, because under aboriginal conditions they could not be the exclusive property of anyone. Food also is not used with possessive pronoun except in the term thawo'te 'his food supply', with the meaning of

"his means of extending hospitality" [e.g.]  
mitha'wota wāla'kikte 'you shall see my  
 hospitality'. (128)

Similar restrictions applied to the use of the middle voice.

According to Dakota concepts certain objects, particularly natural objects and food, cannot be personal property. For this reason the possessive forms cannot be used and reflexives take their place. (90)

Thus with the verb wažu'žu 'slaughter a buffalo' one cannot say \*we'žužu 'I slaughter my buffalo' but rather only wami'e'žužu 'I slaughter a buffalo for myself.' The weakening of these cultural constraints can be seen in the examples of possessives involving dogs as possessed objects.

2.2. Independent Pronouns. I discussed the bound pronominal forms in great detail in Chapter I. There are also independent personal pronouns which are normally used only for emphasis. They do not replace the bound pronominal affixes in the verb but rather fill the syntactic slots they code. Boas & Deloria list three series of independent pronouns with their different semantic functions. (78)

(84) a. Simple emphatic series

I	miye'	we (>2)	Ųki'yepi
you	niye'	you (pl)	niye'pi
he/she/it	ieye'	they	ieye'pi
we (2)	Ųkiye'		

b. Absolute adversative series

I	miye'š	we (>2)	Ųki'yeš
you	niye'š	you (pl)	niye'š
he/she/it	ieye'š	they	ieye'š
we (2)	Ųki'yeš		

c. Adversative following antecedent series

I	mi'š	we (>2)	Ųki'š
you	ni'š	you (pl)	ni'š
he	i'š	they	i'š
we (2)	Ųki'š		

Boas & Deloria illustrate these semantic distinctions with the following examples. (78)

(85) a. miye' wa?i'.

I I-arrive going  
 'I arrived there (and no one else).'

b. miye'š mnI'kte. (<\*bla + kta)

I I-go-POT

'I shall go (no matter what others may do).'

c. thiblo'            makhā' yublu'            na mi'3 wowa'2u.  
     older brother ground he-plows-it and I      I-plant  
     'My older brother plowed and I planted.'

The simple emphatic series appears to emphasize its referent without contrasting it with anything. The next two series are contrastive, the first (84b) not referring to a specific antecedent with which its referent is to be contrasted and the second (84c) referring to a particular antecedent. Boas & Deloria claim that the first series consists of the Undergoer pronouns plus i, which they say is a third person pronoun from an earlier stage in the language, plus the general demonstrative e. The second series adds the adversative suffix -3 (see B&D, 108), while the third appears to consist of the Undergoer pronoun plus i plus -3. Sometimes the third series is used in combination with the first for very strong emphasis, e.g. mi'3 miye 'I myself' (see B1, 20-1).

Demonstratives may also function as pronouns in Lakhota, as they do in many languages.

(86) a. he' iye'.

    that he  
     'That is he.'

b. le' mak?u'wo.  
     this me-give-IMP  
     'Give this to me.'

c. he'            kte'pi      ki wāyā'ke. (B&D, 134)  
     that one they-kill the he-sees-it  
     'That one saw the killing,' or 'He saw the killing.'

In the examples the demonstratives refer to both people and things. Note in (86a) that an independent pronoun is being used predicatively; demonstratives, however, may not be so used. This raises questions about what Boas & Deloria call the "general demonstrative" e. If we look back at the sentences in (69), we find that e appears to be functioning predicatively in two relative clauses. This suggests that the analysis of it as a demonstrative may be incorrect. Allan Taylor has suggested (personal communication) that it is in fact derived from the third person independent pronoun iye, rather than vice versa, as Boas & Deloria claim. That e can be used predicatively like an independent pronoun supports Taylor's analysis.

2.3.0. Relative Clauses. Prior to any analysis of the structure of relative clauses in a language it is necessary to ascertain the position of the clause in relation to the noun it modifies. This might appear to be a trivial task at

first glance, but if one assumes that relative clauses precede their head noun in verb-final languages, as they do in Turkish and Japanese, then Lakhota relative clauses become somewhat problematic. Compare this Lakhota construction with the examples from Turkish (b) and Japanese (c).

(87) a. wicha'ša wā Mary wo'wapi k?u ki he wābla'ke.  
           man       a       book       give the that I-see-it  
           'I saw the man who gave Mary a book.'

b. Sevim'in okuduğu roman Turkoedir.  
    Sevim       read       novel in-Turkish  
    'The novel which Sevim is reading is in Turkish.'

c. Boku no kaita tegami nagakatta.  
    I       GEN write letter long-PAST  
    'The letter that I wrote was long.'

It is quite clear in the Turkish and Japanese examples that the relative clauses occur prenominal; in the Lakhota sentence, on the other hand, the relative clause appears to follow the head noun. This should not be so surprising, however, since all of the other nominal modifiers we have looked at also occur postnominally. With the exception of the optional occurrence of demonstratives prenominal (2.0.3), it would appear that all nominal modifiers follow the noun they modify.

The claim that Lakhota relative clauses are postnominal is not uncontroversial. Rood 1973 initially analyzes them as being prenominal; in his analysis, the underlying structure of (87a) would be roughly

[ [ [ wicha'ša wā Mary wo'wapi k?u ] wicha'ša ki he ] wābla'ke ]

where the head noun wicha'ša is deleted, leaving its determiners to mark the relative clause. There are problems with this analysis, however, and Rood concludes by rejecting it and postulating underlying conjoined structures as the source of the Lakhota relatives.

There are a number of arguments for the postnominal position of Lakhota relative clauses. The prima facie evidence is that they appear to follow their head nouns, as we saw in (87a). Further examples are given in (88).

(88) a. wicha'ša ki wī'yā wā xta'lehā wāyā'ke       ki he  
           man       the woman a yesterday he-sees-her DET  
           wo'wapi ki k?u'.  
           book       the he-gives-it-to her  
           'The man gave the book to the woman he saw yesterday.'

b. wicha'ša wā Mary wo'wapi ophe'kicathū       ki he

man            a            book            he-buys-for her DET  
wo'wakiyake..  
I-talk-to him  
'I talked to the man who bought a book for Mary.'

In both of these examples, the relative clause appears to follow the noun it modifies, e.g., in (88a) the head noun is *wi'yā wā* 'a woman' and the relative clause is *xta'lehā wāyā'ke ki he* '[whom] he saw yesterday'. This is in line with the overwhelming tendency of all nominal modifiers to follow the verb, as shown in 2.0. The strongest evidence for this position is found in examples such as (89) (from Rood 1973).

- (89) a. wicha'ša wā šū'kawakhā wā ima'kicu ki he  
man a horse a he-takes-it-from me DET  
wāla'ka he? [3]  
you-see-him Q  
'Did you see the man who took my horse?'
- b. wicha'ša ki wāla'ka he šū'kawakhā wā  
man the you-see-him Q horse a  
ima'kicu ki he  
he-takes-it-from-me DET  
'Did you see the man who took my horse?'

The two sentences have the same semantic value, but in the second one the relative clause occurs post-verbally. The problem these examples pose for the prenominal analysis is illustrated in (90), where rough structural analyses of (89a) are given in terms of both pre- (90a) and postnominal (90b) relative clauses.

- (90) a. [ [ [wicha'ʂa wā ʂu'kawakhā wā ima'kicu] [Ø ki he] ] wāla'ka he]  
 S1 NP1 S2 S2 NP2 NP1 S1  
 b. [ [ [wicha'ʂa wā] [ʂu'kawakhā wa ima'kicu ki he] ] wāla'ka he]  
 S1 NP1 NP2 NP2 S2 S2 NP1 S1

In the prenominal analysis given in (90a), the only remnant of the head noun is its determiner in NP2 which marks S2 as being a relative clause. In the postnominal analysis, on the other hand, the head noun is a separate constituent followed by the relative clause which is also a complete constituent. Such an analysis is compatible with sentences like (89b) in which S2 occurs after the main verb *wāla'tka*; it is a complete constituent separate from the initial NP in NP1. Such sentences are not so easily accounted for in the

prenominal analysis. The main problem is obvious: 3ū'kawakhā wā ima'kicu ki he is not a possible constituent in that analysis (as it is in the postnominal proposal), and therefore its occurrence at the end of the clause should be impossible. Thus the prenominal analysis cannot cope with examples such as (89b) and therefore cannot be the correct analysis of the position of Lakhota relative clauses.

Further evidence in favor of the analysis given in (90b) is the acceptability of (91) which has no head noun at all.

- (91) 3ū'kawakhā wā ima'kicu ki he wāyā'ke.  
       horse a he-takes-it-from-me DET he-sees-it  
       'He saw the one who took my horse.'

Here the S2 of (90b) is functioning as a nominalized sentence ('the one who took my horse') without a lexical head noun; the prenominal analysis would be hard put to give a non-ad hoc account of (91), since the determiners at the end of the relative clause are supposed to come from a head noun which in this case was clearly never there. Thus, I conclude that relative clauses follow their head nouns in Lakhota. [4]

2.3.1.0. Having established that Lakhota relative clauses are postnominal, I now turn to an examination of their structure.

2.3.1.1. As the last few examples have illustrated, a relative clause consists of a verb or verb plus its arguments, nominalized by a set of determiners, usually an article plus a demonstrative; there is no relative pronoun in Lakhota. When the predicate in a relative clause is a stative verb, as in (92a), the only thing differentiating it from a simple noun plus adjective construction is the article on the head noun.

- (92) a. wichI'cala wā pte'chela ki he ixa't?e.  
       girl a short DET laugh  
       'The girl who is short is laughing.'

- b. wichI'cala pte'chela ki he ixa't?e.  
       'The short girl is laughing.'

The relative clause pte'chela ki he has a meaning independent of the head noun: 'the one who is short', or 'the short one'. This suggests that a sentence such as (92a) can be analyzed as 'a girl, the one who is short, she laughs'; similarly (89a) would be 'a man, the one who took my horse, did you see him?' Such an analysis is entirely plausible, since, as we have seen, the relative clause has an independent meaning as a substantive and a verb expresses all of the semantic roles in the clause itself. What this seems to be is a double "topic-comment" structure; that is,



'a man' is the "topic" upon which 'the one who stole my horse' "comments", and furthermore this whole complex NP then functions as the "topic" of the clause and 'did you see him' as the "comment".

This analysis captures a number of important facts about Lakshota relativization. First, the existence of sentences such as (89b) in which the relative clause occurs after the main verb and postverbal particles is easily accounted for, as noted in the previous section, and second, it is compatible with the independent nominal meaning and function of the relative clause. More significant, however, is the fact that it provides a potential explanation for the requirement that the head noun of a relative clause be indefinite. Buechel 1939:236 asserts that the article following the head noun must be either *wā* 'a certain' or *eya* 'some' (see 2.0.2.3); only the definiteness of the article at the end of the relative clause may vary, as in (93).

- (93) a. *xe' wā Tamalpais e'ciyapi wā e'l chā' kaksā'pi.*  
           mtn. a           they-call-it a on wood   they-cut-it  
           'They cut wood on a mountain called Tamalpais.'
- b. *xe' wā Tamalpais e'ciyapi ki e'l chā' kaksā'pi.*  
           'They cut wood on the mountain called Tamalpais.'
- c. *xe' wā Tamalpais e'ciyapi cha e'l chā' kaksā'pi.* [5]  
           'It was on a mountain called Tamalpais  
           that they cut wood.'

Three of the five articles are illustrated here; *kʔū* 'the aforementioned' is also possible, but *wāʔi* 'one' is not, because it is indefinite non-specific and relative clauses must be specific (see 2.0.2.3). The important thing to note in these examples is that it is the article at the end of the relative clause which determines the definiteness of the head noun. In all of the examples the head noun is marked as indefinite by *wā* but is interpreted in terms of the clause-final article. Note that when the relative clause occurs post-verbally as in (89b), the article on the head noun is definite, thus indicating the status of the head noun independent of the relative clause.

A possible explanation for this is the following. There are potentially two ways the definiteness of the head noun of a relative clause could be expressed: by its own article or by the one marking the relative clause. As the examples in (93) demonstrate, relative clauses may occur with either a definite (93b) or an indefinite (93a,c) head noun. Since there are a number of potential combinations and two possible articles, the simplest and most efficient way to handle the combinations is to keep one of the articles constant and vary the other. The two possibilities for the examples in (93) are given in (94), with the definiteness expressed by the variable article on the head noun, and in

(95), with the variable article being the one on the relative clause.

- (94) a. On a mountain, one called Tamalpais, they cut wood.  
 b. On the mountain, one called Tamalpais, they cut wood.  
 c. It was on a mountain, one called Tamalpais, they cut wood.
- (95) a. On a mountain, one called Tamalpais, they cut wood.  
 b. On a mountain, the one called Tamalpais, they cut wood.  
 c. On a mountain, it was one called Tamalpais, they cut wood.

When both articles are indefinite as in (94a,c) and (95a,c), there is no real difference between the two possibilities. The crucial difference is between (94b) and (95b). In comparing these examples, it becomes clear that the relative clauses in (94) do not contribute in any way to the specification of the reference of the head noun, which is the basic function of restrictive relative clauses; all of the clauses in (94) are non-restrictive, while both kinds are found in (95). Furthermore, if the fixed article in (94) were *ki* instead of *wā*, then only restrictive relative clauses would be possible, and consequently sentences such as (93a) would be impossible. Thus, varying the article on the head noun and keeping the one on the relative clause constant precludes the possibility of having both restrictive and non-restrictive relative clauses in the language.

There is a further problem with (94b). It seems to be semantically anomalous to modify a definite NP with an indefinite relative clause. The anomaly is much stronger when we use a relative clause without a proper name, e.g. (89).

(96) ?? The man, one who took my horse, did you see him?

This paraphrase is clearly much less acceptable than (94b), which is in turn much less natural than (95b). This example illustrates the inherent semantic anomaly of (94b). Thus, there are two major objections to the strategy given in (94): first, it precludes the possibility of there being both restrictive and non-restrictive relative clauses in the language, and second, it is semantically anomalous to modify a definite NP with an indefinite relative clause.

2.3.1.2. This analysis of Lakhota relative clauses has an interesting implication. If we analyze them as being equivalent to independent nominal clauses like the one in (91), then there is no reason to posit an NP coreferential with the head noun in the relative clause. In the "appositional" analysis given in the previous section, the nominal clause (or "clausal substantive", as Buechel calls

them; see Bl, 227ff) acts as a noun modifier (relative clause) when it follows a noun and as an independent substantive when it does not. Since there are no grounds for postulating the existence of a coreferential NP in the independent nominal clause, there is equally little reason to posit one in relative clauses, given the structural identity between the two types of constructions.

The coreferential NP in the relative clause becomes the relative pronoun in languages which have relative pronouns, according to transformational theory. Since Lakhota has no relative pronouns, this motivation for postulating a coreferential NP is eliminated. Another potential reason for it is to establish the grammatical role and semantic function of the head noun in the relative clause. After the verb has been inflected to agree with the noun (if there is verb agreement in the particular language), it is deleted, and the head noun fills its slot in the clause. Such an analysis of Lakhota would stipulate that the verb is inflected to agree with the coreferential noun in terms of its semantic role in the clause, and then the noun is deleted; the verb in the relative clause thereby agrees with the head noun to be modified.

This analysis is entirely plausible and in fact reflects the standard transformational treatment. The important thing to notice about it is that it is a totally noun-oriented approach to clause-level grammar which takes nouns to be of primary importance in the syntactic organization of the clause. This approach has its contemporary roots in Chomsky 1965, and Fillmore 1968 adopted it as well; in both theories the nouns in the underlying phrase marker determine the verb to be inserted (see Chomsky 1965, chapter 2; Fillmore 1968:27ff). That such an analysis should be developed for English is perhaps not too surprising, given the important role nouns play in English syntax, i.e., even the most minimal declarative clause must contain a noun phrase of some kind. In Lakhota, on the other hand, the verbal complex is the focus of the organization of clause-level grammar, as it directly expresses not only the predication but also all of the semantic roles which its arguments may play in the clause; as shown in Chapter I, the verb alone may constitute a complete sentence. This suggests that the heavily noun-oriented approach sketched above might be more of a Procrustean bed than a revealing analysis of a "verb-oriented" language like Lakhota.

How, then, could one approach Lakhota relativization without the traditional bias in favor of nouns? The obvious answer is to start the analysis with the verb of the relative clause rather than with a hypothetical coreferential NP. To illustrate this, let us first look at simple clauses.

- (97) a. wicha'ktepi.  
P(3pl-anim)-A(3pl)-kill

'They kill them.'

b. wicha'kte.

P(3pl-anim)-A(3sg)-kill

'He kills them.'

c. kte'pi.

P(3sg)-A(3pl)-kill

'They kill it.'

Instead of looking at these verbs as agreeing with the Actor and Patient NPs in the clause, one may say that these verbs set up "slots" in the clause which may be filled by full NPs which must meet the slot specifications coded in the verb; in other words, the nouns must agree with the verb, and not vice versa. [6] The verb in (97a) specifies that there can be two NP arguments in the clause, an Actor and a Patient, and that both must be animate and plural. The two "slots" can be characterized as "Actor, animate, plural" and "Patient, animate, plural", with the NP filling the Actor slot normally preceding the one in the Patient (Undergoer) slot. The fundamental constraint of Lakhota clause-level grammar would then be:

The number of unmarked full NPs in a clause, i.e. NPs without postpositions, must be less than or equal to the number of slots given in the verb, and the NPs must agree with the slots in person or animacy, and number.

There must be person agreement in case there are independent personal pronouns in the clause. For full NPs, which are third person, there must be agreement in animacy. This constraint rules out (98a,b), which are ungrammatical.

(98) a. \*hokši'la ki hena' matho' wā wicha'ktepi.  
boy (A) the those bear(P) a P(3pl-anim)-A(3pl)-kill  
'The boys killed a bear.'

b. \*hokši'la ki hena' chā o'ta wicha'ktepi.  
boy(A) the those tree(P) many P(3pl-anim)-A(3pl)-kill  
'The boys killed many trees.'

(98a) is ungrammatical because the Patient NP matho 'bear' is singular and thus does not fill the plural animate Patient slot signalled in the verb by wicha-. The ungrammaticality of (98b) is more subtle; both Actor and Patient are plural, as specified by the verb, but the Patient chā 'tree' is inanimate and therefore cannot occur in the plural animate Patient slot set up by wicha-. Note that (98a) would be acceptable if the verb were kte'pi as in (97c), since it specifies a plural animate Actor and a singular Patient. [7]

The notion of the verb setting up slots which are filled by NPs in the clause can be applied to relativization in the following way. The sentential NPs which function as relative clauses and nominal clauses have an unfilled slot which is filled by the head noun in the case of relative clauses and which is left unfilled in the case of nominal clauses, e.g., in (89) the nominal clause ʒD'kawakhā wā ima'kicu ki he 'the one who took my horse' has an empty Actor slot which wicha'ʒa wā 'a man' fills, whereas in (91) it is left empty. The same constraint discussed above in relation to simple clauses holds here as well: the head noun must be compatible with the slot in terms of animacy and number.

- (99) a. \*wicha'ʒa eya' xta'lehā wābia'ke  
           man           some(pl) yesterday P(3sg)-A(1sg)-see  
           ki he lakho'tapi  
           DET(sg) be Indian-P(3pl-anim)  
           'The men I saw yesterday were Indians.'
- b. \*wicha'ʒa wā xta'lehā wāwi'chablake  
           man           a(sg) yesterday P(3pl-anim)-A(1sg)-see  
           ki hena' lakho'ta.  
           DET(pl) be Indian-P(3sg)  
           \*The men I saw yesterday was an Indian.'

The ungrammaticality of these two sentences results from the conflict between the number of the head noun and that of the slot in the relative clause it is supposed to fill; in (99a) the head noun is plural, while the verb codes a singular Patient, and in (99b) the head noun is singular and the Patient plural. In situations where there is more than one potential head noun, i.e., where more than one NP in the main clause can fill the unfilled slot in the relative clause, this analysis predicts that ambiguity will result, and that is in fact what happens.

- (100) ʒD'ka ki wicha'ʒa ki yaxta'ke thalo'  
           dog the man the P(3sg)-A(3sg)-bite meat  
           ki yu'te k'ʉ he.  
           the P(3sg)-A(3sg)-eat DET  
           'The dog bit the man who ate the meat,' or  
           'The dog that ate the meat bit the man.'

Both ʒD'ka 'dog' and wicha'ʒa 'man' can fill the Actor slot in the postverbal relative clause, and so it can be interpreted as modifying either NP.

To sum up: the constraint which was posited to handle the agreement between full NPs and the verb in a simple clause is the very same one which was invoked to take care of the

relationship between a head noun and its relative clause. Thus, this analysis of Lakhota relative clauses receives independent motivation from another part of Lakhota grammar.

There is a cross-linguistic motivation for this analysis as well. In Tunica (Haas 1940), which is also a stative-active language, the verbal complex is also the focus of clause-level grammar, and as in Lakhota it directly expresses all of the semantic roles which NPs may have in the clause. (Examples from Haas 1940)

- (101) a. sinsa'kutcht'ni (55)  
sink- '3 fem.d-pl P' + sa'ku 'eat' +  
-ti '3 fem.sg. A' + -aha NPG + -a'ni 'quotative'  
 'She did not eat them, it is said.'
- b. ?uwe'niwihē (99)  
?uhk- '3 masc.sg.P' + we'ni 'find' +  
wi '3 masc.sg. A' + hē 'subordination'  
 'When he found him'

When full NPs occur in a clause, they must agree in gender and number with the slots set up by the verb.

- (102) a. ta'ruštaku, tɔ'mahkak (99)  
 Rabbit the alligator  
?uwe'niwihē  
 P(3 masc.sg.)-find-A(3 masc.sg.)  
 'When Rabbit found the alligator'
- ta'ruštaku < ta- 'the' + rusta 'rabbit' +  
ku 'masc. sg.'  
tɔ'mahkak < ta- 'the' + ɔmahka 'alligator' +  
ku 'masc. sg.'
- b. \*ta'ruštaku tɔ'mahkahē  
 Rabbit the alligator (fem.)  
?uwe'niwihē  
 P(3 masc.sg.)-find-A(3 masc.sg.)  
ɔmahkahē < ta- 'the' + ɔmahka 'alligator' +  
hē 'fem.sg.'

In the first example the two NPs fit the slots coded in the verb, whereas in the second the Patient is feminine while the Patient affix on the verb specifies masculine singular, thereby resulting in ungrammaticality. The same general constraint discussed for Lakhota holds in Tunica as well.

Relative clauses are formed by adding one of the nominal gender-number suffixes, e.g. -ku 'masc. sg.' as in ta'raštaku 'the rabbit' (see Haas 1940:65), to a verb,

thereby nominalizing it. The nominalized clause may then be used in one of two ways: as a relative clause when it follows a noun and as an independent substantive.

- (103) a. to'nisɛ'man, ta'heritʔ ki'ɕun, ʔukʔɛrasɛ'man (66)  
the people boat in they-sit-3 masc.pl.

'The people who were in the boat'

tonisɛman < ta 'the' + oni 'person' +

sɛma '3 masc.pl.' + n [7]

ta'heritʔ < ta 'the' + heritʔ 'large boat,  
riverboat'

ki'cun < ki'cu 'in, into, inside of' + n

ʔukʔɛrasɛman < ʔukʔɛra 'they sit' +

sɛma '3 masc.pl.' + n

- b. ta'heritʔɛ ki'cun, ʔukʔɛrasɛman (cf. also 1940:97)  
'The ones who were in the boat'

In the nominal clause given in (103b), the Actor slot is not filled by a full NP, but is coded as third person plural in the verb. The suffix -s 'ma '3 masc. pl.' signals that the verb (and clause) are functioning as a noun, analogous to the postverbal article *ki* in Lakhota. Here again the head noun is filling a slot in a nominal clause which can also serve as an independent substantive, as in (104) (from Mary Haas, personal communication).

- (104) ta'heritʔɛ ki'ɕun ʔukʔɛrasɛman,  
boat in they sit-3 masc.pl.

hopo'kata'ni.

(cf. 1940:93)

they look out-quotative

'The ones who were in the boat were looking out,  
it is said.'

hop'okata'ni < ho- 'out' + po' 'look' +

kata '3 masc.pl.habitual asp.' + a'ni 'quotative'

The situation in Tunica is remarkably similar to that in Lakhota, and the analysis of the Lakhota relative clause as not having an NP coreferential with the head noun appears to be valid here as well. Thus, the analysis of Lakhota relative clauses given above has both language-internal and cross-linguistic independent motivation.

One of the consequences of this analysis is that a third type of relative construction must now be recognized: (1) relative clauses with a head noun and a coreferential element (relative pronoun) in the clause, as in English; (2) headless relative clauses which lack a head noun, as in Diegueño (see Gorbet 1977); and (3) relative clauses of the Lakhota-Tunica variety which lack an NP coreferential with the head noun. Further investigation of other languages with similar relative clause formation strategies, e.g.





Thus, the first three categories on the Keenan-Comrie hierarchy are relativizable in Lakhota.

Things are equally straightforward with respect to oblique NPs, although the empty slots we are dealing with now are not slots set up by the verb in the relative clause but rather relate to postpositions and possessed NPs. There is no problem with the object of a postposition.

- (106) a. xe' wā e'l chā' kaks'a'pi ki he  
 mtn. a on wood P(3pl)-INAN)-A(3pl)-cut DET(sg)

Tamalpais e'ciyapi.

P(3sg)-A(3pl)-call

'The mountain on which they cut wood is called Tamalpais.'

- b. xe' ki Tamalpais e'ciyapi e'l chā'  
mtn. the P(3sg)-A(3pl)-call on wood

kaksa'pi

ki he.

P(3pl-inan)-A(3pl)-cut DET(sg)

'The mountain on which they cut wood is called Tamalpays.'

In (106) the slot which the head noun *xe* 'mountain' fills is set up by the postposition *el* 'on'; this can be seen clearly in (106b), where the relative clause *e'l chā' kaks'a'pi ki he* 'the one on which they cut wood' occurs postverbally.

As shown in 2.1.2, there are two types of constructions used to express alienable possession, one involving the prefix tha- on the possessed NP and the other employing the stative verb tha'wa 'belong to'. These latter constructions appear to be similar to relative clauses, e.g. igmu' nitha'wa 'your cat', but they are in fact not relative clauses. Two facts differentiate them from true relative clauses: first, the head noun (possessed NP) cannot be marked by an indefinite article (\*igmu' wa nitha'wa ki), and second, the phrase consisting of tha'wa plus definite article cannot occur separated from the possessed noun.

- (107) a. 3ū'ka mitha'wa                      ki yakte'.  
           dog    it-belong-to me    the P(3sg)-A(2sg)-kill  
           'You killed my dog.'

- b. \*ʒū'ka (ki) yakte',                      mitha'wa                      ki  
dog (the) P(3sg)-A(2sg)kill it-belongs-to me the  
'You killed my dog.'

This suggests that such constructions are more like (92b) than (92a); that is, they are a noun plus an inflected stative verb functioning in the attributive adjective slot in the NP. We may characterize the difference between constructions like (107a) and true relative clauses (and

that between (92a) and (92b)) as being one of bondedness, i.e., simple stative verbs are more tightly bound to the noun they modify than are relative clauses, and consequently they cannot occur separated from them. Foley 1976 argues that the strength of the syntactic bond between a noun and its adjunct is a function of the semantic relation between them: the closer the semantic relation, the tighter the syntactic bond. Foley presents a hierarchy of syntactic bonds between nouns and their adjuncts, based on evidence from Austronesian languages, with the strongest bond being between a noun and its article and the weakest between a noun and a relative clause. It states that adjectives are more tightly bound to the noun they modify than relative clauses, and this difference is expressed in Lakhota by the occurrence of an article after the noun modified by a relative clause but not after that modified by an adjective; the article signals that the noun is an independent syntactic unit which can stand apart from the modifiers which follow. Hence the ability of relative clauses but not of attributive adjectives (stative verbs) to occur postverbally is a function of the syntactic bond between them and the nouns they modify. Thus the hierarchy of syntactic boundedness proposed in Foley 1976 is applicable to relations within the Lakhota noun phrase and offers an explanation of the syntactic differences between relative clauses and possessive phrases with *tha'wa*.

Looking at the other types of possessive constructions, (108a) gives an example of the head noun functioning as the possessor of an alienably possessed noun, while in (108b) the relative clause occurs postverbally. In (108c,d) the head noun is the possessor of an inalienably possessed noun.

- (108) a. *wicha'ša wā thašū'ke ki t'e' ki he*  
           man           a his-horse the P(3sg)-die DET(sg)

*li'la chāze'ke.*  
       very P(3sg)-angry  
       'The man whose horse died is very angry.'

- b. *wicha'ša ki li'la chāze'ke, thašū'ke ki*  
       man           the very angry           his-horse the

*t'e' ki he.*  
       P(3sg)-die DET(sg)  
       'The man whose horse died is very angry.'

- c. *wicha'ša wā li'la thezi' thā'ka ki he*  
       man           a very stomach P(3sg)-big DET(sg)

*li'la blo' wāšte'lake.*  
       very potatoes P(3pl-inan)-E(3sg)-like  
       'The man whose stomach is very big really  
       likes potatoes.'

- d. wicha'ʒa ki li'la blo' waʒte'lake  
 man the very potatoes P(3pl-inan)-E(3sg)-like  
 li'la thezi' thā'ka ki he.  
 very stomach P(3sg)-big DET(sg)  
 'The man whose stomach is very big really  
 likes potatoes.'

In both types of possession the relative clause may occur postverbally. The slot filled by the head noun in each case is specified by the possessed NP. Here again the relative clauses have independent nominal meaning, i.e. 'the one whose horse died' and 'the one whose stomach is very big'.

It is not possible to have a relative clause in which the head noun functions as the object of a comparison, because the order of elements in a comparison conflicts with that required for the relative clause. [9]

- (109) a. John Mary isa'mya hā'ske.  
 more P(3sg)-tall  
 'John is taller than Mary.'
- b. wicha'ʒa wā wī'yā ki isa'mya hā'ske ki he  
 man a woman the more P(3sg)-tall DET  
 li'la che'pe.  
 very P(3sg)-fat  
 'The man who is taller than the woman is very fat.'  
 (\*'The man who the woman is taller than is very fat.')
- c. wicha'ʒa ki li'la che'pe, wī'yā ki isa'mya  
 hā'ske ki he.  
 'The man who is taller than the woman is very fat.'

(109b,c) can only mean that the man is taller than the woman. The problem is that the NP filling the empty slot in the relative clause must be clause-initial, whereas the standard (object) of the comparison must follow the noun representing the thing being compared with it, thereby precluding the possibility of the head noun filling the object of the comparative particle slot. Similarly, (110) can mean only 'the one who is taller than the woman', and not 'the one who the woman is taller than.'

- (110) wī'yā ki isa'mya hā'ske ki he li'la che'pe.  
 woman the more P(3sg)-tall DET more P(3sg)-fat  
 'The one who is taller than the woman is very fat.'  
 (\*'The one who the woman is taller than is very fat.')

2.3.2.1. One of the questions which a universal generalization such as the accessibility hierarchy poses is why some languages, e.g. Tagalog (Foley & Van Valin 1977) and Dyirbal (Dixon 1972) allow only one NP type to be

relativized while others allow almost any NP to undergo relativization, e.g. Lakhotá. When one looks at the relativization strategies which these four languages employ, one discovers that all four lack relative pronouns and relativize "by deletion". The following Tagalog data are from Foley & Van Valin 1977.

- (111) a. b-in-ili ng lalake sa bata ang isda.  
 PF-buy A man S child "topic" fish  
 'A/the man bought the fish from the child.'
- b. isda-ng b-in-ili ng lalake sa bata.  
 fish-lig PF-buy A man S child  
 'The fish that a/the man bought from the child'
- c. \*isda-ng b-um-ili ang lalake sa bata  
 fish-lig AF-buy "topic" man S child
- d. \*isda-ng b-in-ilh-an ng lalake ang bata  
 fish-lig perf-buy-LF A man "topic" child

In the Tagalog clause all NPs are marked for their semantic role, and one is picked out as the "topic" and marked by *ang*, as (111a) illustrates. This eliminates its semantic role marking, and to compensate for this the verb is affixed to indicate the semantic role of the "topic" NP; thus in (111) "PF" (Patient focus) means the verb is inflected to signal that the "topic" is a Patient, "AF" relates to the Actor "topic", and "LF" to the Source "topic". The head noun *isda* 'fish' in (111b) functions as a Patient in the relative clause, and so the verb is inflected for Patient focus; even though there is absolutely no lexical remnant of an NP coreferential with the head noun, its semantic function and therefore that of the head noun is recoverable from the verb. The ungrammaticality of (111c,d) results from the non-recoverability of the semantic function of the head noun in the relative clause; in both cases the verb expresses the semantic role of an NP in the clause and not that of the head noun (see Foley & Van Valin 1977 for further discussion). Thus, the restriction of NP accessibility to relativization to one NP type, the "topic", is the direct result of the fact that it is the only NP type whose semantic role in the relative clause is recoverable due to its being coded in the verb of the relative clause.

A similar situation obtains in Dyirbal, an Australian ergative language. In a basic Dyirbal clause, illustrated in (112a), the Actor is in the ergative case and the Patient in the absolutive (data from Dixon 1972).

- (112) a. balan dyugumbil bangul yarangu balgan.  
 woman-ABS(P) man-ERG(A) hit  
 'Man hit woman.'

- b. bayi yara bagun dyugumbilgu balgalqanyu.  
 man-ABS(A) woman-DAT(P) hit+ANTIPASSIVE  
 'Man hit woman.'

The unmarked situation is for the Patient to be in the absolutive case, and when an NP bearing a different semantic role is in the absolutive, the verb is specially inflected to reflect this; the antipassivized verb in (112b) indicates that an Actor NP is in the absolutive (see Dixon 1972:65-6). Thus the semantic role of the absolutive NP is determinable from verbal inflection, and so it is not surprising that the "deleted element" in a relative clause is treated as if it had been in the absolutive case so that its semantic function is recoverable from the verb.

- (113) a. qadya bayi yara bangun dyugumbilgu balganu buran.  
 I(A) man-ABS(P) woman-ERG(A) hit+REL see  
 'I saw man who woman hit.'  
 b. bayi yara buralqanyu bagun dyugumbilgu baninyu.  
 man-ABS(A) see+ANTI+REL woman-DAT(P) come  
 'Man who saw woman came.'

In the first example the verb in the relative clause is in the unmarked form indicating that the head noun bayi yara 'man', is filling the Patient slot therein, whereas in the second the verb has been antipassivized which indicates that the head noun is functioning as an Actor in the relative clause. If the non-occurring element in a Dyirbal relative clause were not treated as if it were in the absolutive case, there would be no way to recover its semantic function and therefore that of the head noun. Thus, the problem of the recoverability of the semantic function of the head noun in the relative clause leads to a very restricted relativization strategy in Dyirbal (see Givon 1976 for further discussion of the semantic recoverability problem in relativization).

As shown in 2.3.1, there is no recoverability problem in Lakhota and Tunica because the verb in the relative clause explicitly codes the semantic roles of all of its arguments, with the head noun filling an empty semantic slot. In Dyirbal and Tagalog, on the other hand, the verb explicitly reflects the semantic role of only one of the NPs in a clause, thereby creating a potential recoverability problem. I have given a partial answer to the question of why some languages place greater restrictions on the NPs accessible to relativization than others, namely the recoverability problem [10]. This leads to a new question about the reason some languages give preferential treatment to one particular NP in a clause while others do not. That is, why is it that in some languages the verb reflects the semantic role of only one NP whereas in others the expression of semantic roles is not so restricted.

2.3.2.2. Here again I can only give a tentative, partial answer, but before I attempt to deal with this question, I must introduce an important typological consideration. While all languages must have ways of expressing the semantic functions of the NPs in a clause and have syntactic processes which are sensitive to these functions, e.g. reflexivization, in some languages the semantic role marking of NPs either operates alongside of or is subordinated to the marking of NPs in terms of their pragmatic salience. The pragmatic salience of an NP may be in terms of definiteness or givenness (see Chafe 1976), inherent topicworthiness (see Silverstein 1976, Hawkinson & Hyman 1974), or both. The organization of a clause in terms of the pragmatic properties of its NPs is called its referential structure, which may be realized in terms of case marking, as in Tagalog with its explicit "topic" marker *ang*, or word order, as in Navajo where the highest ranking NP in the clause in terms of inherent topicworthiness must be clause-initial (see K. Hale 1972). Within the referential structure of a clause one NP is picked out as being the pragmatically most salient NP, and it becomes the pivot for referential operations in the clause, e.g. relativization. This NP is called the pragmatic peak [PrP] of the clause. It is the NP around which most of the reference-related subject properties discussed in Keenan 1976 cluster, e.g. triggering coreferential deletion across coordinate conjunctions, relativization, leftmost NP, and launching floating quantifiers (see Foley & Van Valin 1977 and Van Valin 1977a for further discussion). Consequently, in languages with a clause-level referential structure the NP which has been traditionally analyzed as the "subject" is often the PrP, although there are numerous exceptions, e.g. Dyirbal. Some languages, e.g. English and Bantu languages, have a secondary PrP, the "direct object" position; see Givón 1976 for a discussion of the pragmatic nature of the "direct object" position in these languages.

Looking at the English notion of "subject", we see that in terms of a role and reference analysis it is bisected into two aspects, one relating to the pragmatic properties of the NP and the other to its semantic role function. The crucial point here is that these two aspects are independent of each other; a wide range of semantic roles may occur in the PrP slot in English, e.g. Actor, Patient, Instrument, Experiencer, Goal and Source. Equally important is the fact that these roles do not have equal access to it. That is, in a simple transitive clause only Actors, Experiencers, Sources and Instruments (if there is no Actor) may occur in the PrP slot; if a Patient or Goal appears in it, passive morphology is required on the verb. Thus in English there are semantic roles which have unmarked access to the PrP position, e.g. Actor and Experiencer, and there are those which have marked access, i.e. Patient and Goal; the

markedness of the latter is signalled by verbal morphology.

The situation in Dyirbal is similar but somewhat simpler. The unmarked choice as the PrP (which is in the absolutive case; see Van Valin 1977a for justification of the analysis of the absolutive as marking the PrP in Dyirbal) is the Patient NP with most transitive verbs; with verbs of giving, it is the Goal NP (Dixon 1972:300). When the Actor NP occurs in the absolutive case in a semantically transitive clause, the verb is inflected to reflect this (see (112b) above); there is a further inflection to signal the occurrence of an Instrument as the PrP. Only the semantic role of the absolutive NP is reflected in the verb and therefore recoverable if the NP is deleted. Similarly in Tagalog, the verb signals the semantic role of only the PrP (the NP marked by *ang*), and so here too the PrP is the only NP whose role is recoverable if it is deleted. It appears, then, that in languages with a clause-level referential structure the verb inflects to express the semantic role of the NP functioning as the primary PrP [PrP1].

Various devices are also used by languages with a secondary PrP [PrP2] to code its semantic role. For example, in Kinyarwanda the unmarked semantic role of the PrP2 with a transitive verb such as *write* is Patient, as in (114a) (data from Kimenyi 1976).

- (114) a. Umugabo a- ra- andik-a ibarúwa n'íkarámu  
           man he-PRES-write-ASP letter with pen  
           'The man is writing a letter with the pen.'
- b. Umugabo a- ra- andik-iisha-a ibarúwa íkarámu  
           man he-PRES-write-IN- ASP letter pen  
           'The man is writing a letter with the pen.'

In the second example the Instrument NP *íkarámu* 'pen' has been "dative shifted" into the non-oblique postverbal PrP2 slot with the Patient *ibarúwa* 'letter', and its semantic role is indicated in the verb by the Instrumental affix *-iisha*. In Kinyarwanda and other Bantu languages, only PrPs are accessible to relativization, and so there are rules in these languages such as the one illustrated in (114) which permit NPs which normally occur in prepositional phrases, e.g. Instruments and Locatives, to occur in the PrP2 in order to allow them to undergo relativization (see Givón 1976 for further discussion). [11] Thus, languages with a clause-level referential structure have means by which the semantic roles of the NPs occurring as PrPs are recoverable from the verb.

We have seen that both Dyirbal and Tagalog have a clause-level referential structure and that in both languages it is the semantic role of the PrP alone which is directly expressed in the verb. In Lakhota and Tunica, on the other hand, no NP is singled out for such treatment, as the semantic roles of all NP arguments are overtly signalled

in the verb. Furthermore, it was shown in Foley & Van Valin 1977 that reference-related "subject" properties do not cluster around a single NP type in Lakhota. This suggests that Lakhota has no clause-level referential structure. It was pointed out earlier that referential structure may be expressed either through case marking or word order. With the exception of Instruments and Locatives, Lakhota NPs bear no case markings, and as we saw in 1.7, word order serves to differentiate the semantic roles of the full NPs. There is therefore no vehicle for the expression of the pragmatic salience of NPs at the clause level in Lakhota (see Foley & Van Valin 1977 for further discussion). Thus, it must be concluded that Lakhota has no clause-level referential structure. Such a language may be termed role-dominated, since the syntactic processes at the clause level are concerned solely with the semantic roles of NPs and not their pragmatic salience.

To say that a language is role-dominated is not to say that the pragmatic salience of NPs is completely ignored in the grammar. The clause level is only one within a hierarchically organized grammar. The grammatical levels are those of tagmemic theory: discourse, paragraph, sentence, clause, phrase, word and morpheme levels. In role-dominated languages such as Lakhota pragmatic considerations operate at the sentence rather than at the clause level. The sentences in (115) illustrate the difference between these two levels in English.

- (115) a. Beans are liked by everyone.  
b. Beans, everyone likes.

In the first sentence the Patient occurs in the PrP slot, and this is reflected in the morphology of the verb. In the second sentence, the Patient occurs before the PrP everyone and is outside of the intonation pattern of the clause; moreover, its occurrence in sentence-initial position is not signalled in any way in the verb. There are two general criteria for distinguishing PrPs from sentence-level topics: (1) PrPs are subject to selectional restrictions with the verb, whereas topics are not; and (2) there are clause-level options such as the passive in English and the antipassive in Dyirbal which alter the pattern of eligibility to the PrP slot and which are overtly indicated by verbal morphology or some other means, whereas topics are usually signalled by variant word orders without any clause-level coding. Here is a further example to illustrate this distinction, taken from Tagalog.

- (116) Sa tindahan b-um-ili ng isda ang lalake  
L store AF-buy P fish PrP man  
  
at b-in-asa niya ang diyaryo.  
and PF-read he(A) PrP newspaper



'In the store the man bought some fish  
and read the newspaper.'

In this example (from Foley & Van Valin 1977), the sentence-level topic sa tindahan 'at the store' occurs preverbally, which is a highly marked position, since the verb is the initial element in the Tagalog clause, receives no special inflection besides its normal case marking, and triggers no special inflections in the verb. The PrPs in each clause, lalake 'man' and diyaryo 'newspaper', receive a special marking to signal their status as PrPs, and their verbs reflect their respective semantic roles.

Lakhota has no clause-level syntactic operation analogous to the English passive. It does, however, have sentence-level topicalization options, and these will be a major topic of Chapter IV. I will give one example here to illustrate these processes.

- (117) a. A: wicha'ʒa ki takto'khū he?  
man the he-do-what Q  
'What did the man do?', or  
'What happened to the man?'  
b. B: wicha'ʒa ki thathā'ka kte'pi.  
man the buffalo they-kill-him  
'The man was killed by buffalo.'

The topic in these two sentences is wicha'ʒa 'man', and so it may appear sentence-initially in (117b); in actual conversation it would most likely not be repeated. Since the topic is singular, it cannot fill the Actor slot specified by the verb, and so thathā'ka 'buffalo' is taken to be the Actor because it is not specified for number and may be interpreted as plural; thus the semantic roles of the NPs in (117b) are unambiguous. We will return to this in Chapter IV.

Before going back and dealing with the questions about relativization which prompted this discussion of language typology, I will summarize what has been said about referential structure. I have argued that in some languages syntactic processes within the clause are sensitive to the pragmatic as well as semantic properties of NPs, and this organization of clause-level grammar relating to the pragmatic aspects of NPs I have termed the referential structure of the clause. Languages which possess a clause-level referential structure will be termed reference-dominated languages. Within the referential structure of the clause, one NP is singled out as the pragmatically most salient NP and becomes the pivot for referentially or pragmatically oriented operations in the clause; this NP is called the pragmatic peak [PrP] of the clause. The semantic role of the PrP in a clause is usually directly recoverable from the inflection of the verb, as in Dyirbal and Tagalog.

In the Introduction it was stated that role and reference grammar assumes clause-level grammar to be primarily the interaction between semantics and pragmatics. In the case of reference-dominated languages, this may be rephrased as "the interaction between semantic role function and referential structure" (see Foley & Van Valin 1977 and Van Valin 1977a for analyses of this interaction in Tagalog, Navajo and Dyirbal). There are languages, however, which have no clause-level referential structure, e.g. Lakota and Tunica [12], and therefore no NP is singled out for special treatment as a PrP. I have called such languages role-dominated. In them the interaction between semantics and pragmatics takes place only indirectly and on two different levels: clause-level operations are keyed to the semantic role functions of NPs, while pragmatically motivated operations work at the sentence level or above.

I raised the question as to why it is that in some languages the verb reflects the semantic role of only one NP, whereas in others the expression of semantic roles is not so restricted. The answer should be clear from the previous discussion. Reference-dominated languages single out at least one NP, the PrP, for special treatment because of its pragmatic properties, and it is the semantic function of this NP which the verb is inflected to express. This is true in Tagalog, Dyirbal and English, as shown above. In role-dominated languages, on the other hand, the grammatical processes at the clause-level are sensitive to the semantic rather than pragmatic properties of NPs. Consequently, there is no reason to pick out one NP as the PrP, since the pragmatic status of an NP is irrelevant for the clause-level processes. What is important for the grammatical operations in the clause is the semantic role of each NP in a clause, and so it is not surprising that in Lakota and Tunica the verb directly expresses the semantic roles of all of its NP arguments. This leads back to the problem of the recoverability of the semantic role of a "deleted" NP and the question about restricted relativization strategies. All four of the languages I have been discussing relativize "by deletion", and the restrictions on NP accessibility in Tagalog and Dyirbal are directly attributable to their being reference-dominated languages, while the lack of restrictions in Lakota and Tunica is due to their being role-dominated, which precludes the recoverability problem found in Tagalog and Dyirbal.

## Footnotes to Chapter II

1. Questions are formed in Lakhota by the addition of the sentence-final question particle *he*; there is no change in word order. The Lakhota equivalents of English *wh-* words all begin with *t-*: *ta'ku* 'what', *tuwa* 'who', *tukte* 'which', *ta'kuwe* 'why', *tohā* 'when', and *tuktel* 'where'. See B&D, 111, and B1, 24, 122-3, for further discussion.

2. See Foley & Van Valin 1977:314-5 for an explanation of this hierarchy in terms of the typological characteristics of Lakhota.

3. The use of *ki-* in these examples is very interesting. As shown in 1.5.2 and 1.7.1, *ki-* is used to mark not only a variety of semantic roles but also the middle voice. A verb like *ima'kicu* is a very good example of how confusing *ki-* can be, because although the sentence is translated with a possessive meaning, which suggests that *ki-* is being used to mark the middle voice, it is in fact signalling a Source NP. It cannot be expressing the possessive form of the verb *icu* 'take', because the Actor is not the possessor of the Patient (see 1.8.1). The verb *ima'kicu* means literally 'he takes it from me', and the implication of possession results from the fact that if someone takes something from me, it most likely belonged to me. Thus *ki-* expresses possession only indirectly in this case. A similar example is (i).

- (i) 30'kakhā wā kit?e'. (B&D, 128)  
       horse a it-dies-to him  
       'A horse died to him', or  
       'His horse died.'

Here again *ki-* cannot be marking a possessive verb form (middle voice) because there is no possible possessor NP in the clause as there is in examples such as (56b). The most reasonable analysis in this case seems to be that it is marking a Goal (Dative) NP which, like the Source NP in (89), is then interpreted as the possessor of the Patient. These examples illustrate uses of *ki-* which appear to blur the distinction between its role-coding and verbal possession marking functions drawn in Chapter I.

4. Other verb-final languages with postnominal relative clauses include Tunica (Haas 1940; see also 2.3.1.2), Choctaw (Nicklas 1974; see 4.2.3.2), Huichol (Heath 1972), Yaqui (Lindenfield 1973) and Enga (R. Lang 1973; see 4.4.1).

5. Indefinite relative clauses marked by *wā* are much more restricted than those marked by *cha*. In fact, my native speaker consultants would accept *wā* after a relative clause

only if it were followed by a postposition, as in (93a); otherwise, only cha is possible, as in (i) (from B1, 237).

- (i) ita'zipa wā li'la hā'ska cha yuha' naʔi'.  
 bow a very long ARI he-has-it he-stands  
 'He stood holding a bow which was very long.'
- (ii) \*ita'zipa wā li'la hā'ska wā yuha' naʔi'.
- (iii) ita'zipa wā li'la hā'ske ki he yuha' naʔi'.  
 'He stood holding the bow which was very long.'

When cha is in a position where it does not contrast with wā but only with ki as in (i), it does not seem to have its contrastive force and acts as a "plain" indefinite article.

6. The notion of syntactic slots and NP fillers is fundamental to tagmemic theory and analysis.

7. The ungrammaticality of these sentences would be predicted by any adequate analysis. The point here is to show how they can be handled without a transformational rule of verb agreement.

8. This final nasal segment signals that this is the "pause form" of a word; see Haas 1940:34 for further discussion.

9. In Foley & Van Valin 1977 it was stated that it is possible to relativize on the object of a comparative particle in Lakhota. Subsequent work has led me to the conclusion that such constructions are generally unacceptable in Lakhota. The sentence given in the earlier article was judged acceptable by one speaker and vigorously rejected by another. The unacceptability of such constructions does not affect the argument made in Foley & Van Valin 1977 concerning Lakhota.

10. In Foley & Van Valin 1977:313 it was noted that relativization and coreferential deletion exhibit markedly parallel behavior in Tagalog, Navajo, Lakhota and Dyirbal. The reason for this is that coreferential deletion is subject to the same recoverability problem as relativization by deletion, and so in languages in which the semantic role of only one NP, i.e. the PrP, is recoverable from the verb, deletion must be limited to it. A very good example of this can be found in the constraints in Dyirbal on pronouns in topic chains discussed in Dixon 1972:130ff. In Lakhota, on the other hand, where the semantic roles of all NP arguments are recoverable, no such restriction is necessary.

11. This illustrates the possibility of there being more than one NP in the postverbal PrP slot in these languages. This is an important difference between primary and

secondary PrPs: the former may consist of only one NP (which may be compound or complex), whereas there is no such restriction on secondary PrPs. There is no need to posit a tertiary PrP for Kinyarwanda, since the referential properties of the two postverbal NPs in (114b) are the same, i.e., both are accessible to passivization and relativization.

12. A number of different considerations suggest that Tunica, like Lakhota, is a role-dominated language. As we saw in (101), the semantic roles of all NP arguments are directly expressed in the verb, and the semantic roles of full NPs are determined by word order, with the first being the Actor and the second the Undergoer, in transitive clauses (Haas 1940:99). Since word order functions to differentiate semantic roles and there is no case marking, there is no means by which clause-level referential structure could be realized. This is the same situation found in Lakhota. Furthermore, there is no passive construction in Tunica (see Chapter IV for a discussion of why role-dominated languages lack English-style passive constructions). Finally, no NP is singled out for preferential treatment with respect to relativization; Haas 1940 states that relative clauses may be used to modify full NPs functioning as subject or object, and there are locative relative clauses as well (the only postpositions in Tunica are locative). Thus, Tunica appears to be a solidly role-dominated language like Lakhota.

# Chapter III

## Complementation

3.0. Introduction. In this chapter I will present an overview of the facts relating to complementation in Lakshota. Two very different but superficially similar constructions are used to express what appears to be a sentence functioning as an argument of a verb.

- (118) a. Mary agu'api ki yu'te ki  
bread the P(3sg)-A(3sg)-eat DET

slolwa'ye.  
P(3sg)-E(1sg)-know  
'I know that Mary ate the bread.'

- b. Mary agu'api ki yu'ta cha  
bread the P(3sg)-A(3sg)-eat CONJ

slolwa'ye.  
P(3sg)-E(1sg)-know  
'I know that Mary ate the bread.'

The first example illustrates what I will call 'complementation', i.e. the use of a nominal clause as a verbal argument, while the second example illustrates the conjoining of two clauses using the conjunction *cha*. The purpose of this chapter is to examine each of these construction types in detail, with the goal of uncovering how each works and differs from the other. I will begin with complementation.

3.1. Complementation. In defining 'complementation' as the use of a nominal clause as a verbal argument, I am using the term to refer to both sentential "subjects" and "objects", which are structurally identical.

- (119) a. Mary wo'yute ophe'thū ki wašte'.  
food P(3sg)-A(3sg)-buy DET P(3sg)-good  
'That Mary bought food is a good thing.'

- b. Mary wo'yute ophe'thū ki wābla'ke.  
P(3sg)-E(1sg)-see  
'I saw Mary buy food.'

In the first sentence the nominal clause serves as the "subject" of the stative verb *wašte* 'be good', and in the second it is the "object" of *wābla'ke* 'I see'.

The investigation of complementation in Lakshota will proceed in two steps. In 3.1.1 sentences involving a nominal clause functioning as the argument of a single verb

will be examined, and in 3.1.2 sentences with verbal complements, e.g. causatives, will be analyzed.

3.1.1. Nominal clauses were discussed extensively in 2.3.1.1 and 2.3.1.2 with respect to relativization; in the most simple terms, they are clauses nominalized by an article, usually *ki*. There is one major difference between those functioning as complements and those functioning as relative clauses: whereas there is one verbal slot left empty in a relative clause which the head noun may fill, in the complements in (118a) and (119) all of the slots specified by the verb are filled. In those sentences *Mary* functions as the third person singular Actor and *agu'api* 'bread' as the third person singular Patient of the complement verb. This also differentiates complements from nominal clauses as in (91), since in the latter there is an unfilled slot which remains empty. [1] Structurally, complements and relative clause-type nominal clauses are very similar, as the following examples illustrate.

- (120) a. *che'yapi ki nawi'chawax?u.*  
 A(3pl)-cry the P(3pl-anim)-E(1sg)-hear  
 'I heard them crying.'
- b. *che'yapi ki hena' nawi'chawax?u.*  
 A(3pl)-cry the those P(3pl-anim)-E(1sg)-hear  
 'I heard the ones who were crying.'
- (121) a. *Šu'ka ki t?e' ki he slolwa'ye.*  
 dog the P(3sg)-die DET P(3sg)-E(1sg)-know  
 'I know that the dog died.'
- b. *Šu'ka wā t?e' ki he slolwa'ye.*  
 dog a P(3sg)-die DET P(3sg)-E(1sg)-know  
 'I know the dog that died.'

The factor distinguishing the two types of constructions in (120) is the presence of *hena* 'those' with *ki* 'the' in (120b); *hena* is the demonstrative 'those' (see 2.0.3) which expresses certain deictic properties of an NP. The nominal clause in (120b) refers to particular entities, i.e. the ones who were crying, whereas the complement in (120a) does not refer to any individual but rather expresses the fact that particular individuals were crying. Consequently, the occurrence of the demonstrative signals that the clause is to be interpreted as referential and thus as 'the one(s) who X' rather than 'that X'. In the second set of examples, however, there is a demonstrative present in both sentences, and so it cannot be the distinguishing factor between the complement and the relative clause interpretations. Because the single verbal slot is occupied by full NPs in both sentences, there is no possibility of an interpretation like that of (120b). The only difference between the two

sentences is the article following the sentence-initial NP; in (121a) it is definite and in (121b) indefinite. In 2.3.1.1 it was shown that the head noun of a relative clause must be indefinite, and this constraint precludes the interpretation of (121a) as noun plus relative clause. Thus (121a) must be understood as a complement and not as a relative clause, while (121b) is open only to the latter interpretation. Here we find another motivation for the constraint that head nouns be indefinite: it serves to differentiate noun plus relative clause constructions from complements.

All of the sentential NPs looked at so far, complements, relative clauses and nominal clauses, have been marked by an article, usually ki. There are certain verbs, however, which do not take complements with ki.

- (122) a. iyo'kiphišni iblu'kcā.  
P(3sg)-be happy-NEG P(3sg)-E(1sg)-think  
'I think he's not happy.'

b. \*iyo'kiphišni ki iblu'kcā.

Furthermore, many verbs appear to require ki.

- (123) a. iyo'kiphišni ki slolwa'ye.  
P(3sg)-be happy-NEG DET P(3sg)-E(1sg)-know  
'I know he's not happy.'

b. \*iyo'kiphišni slolwa'ye.

The basic contrast in these examples is between the factive verb slolya 'know, have knowledge of' (Bl 1970:457) and the non-factive verb iyu'kcā 'understand, have an opinion or understanding of, think, guess; judge' (Bl 1970:263). However, the occurrence of ki with a complement cannot be predicted from the factivity of the main verb alone, as (124) shows.

- (124) a. Berkeley ekta' mni'kta slolwa'ye.  
to A(1sg)-go-POT P(3sg)-E(1sg)-know  
'I know I'm going to Berkeley.'

b. Berkeley ekta' mni'kte ki slolwa'ye.  
'I know I'm going to Berkeley.'

- (125) a. \*Berkeley etā' John hi'  
from A(3sg)-arrive coming  
slolwa'ye.  
P(3sg)-E(1sg)-know  
'I know John came from Berkeley.'

b. Berkeley etā' John ki' ki slolwa'ye.



'I know John came from Berkeley.'

In all four of these sentences the verb is slolya 'know', and so the differences in the occurrence of ki cannot be attributed to the main verb. This suggests that the crucial contrast lies in the complement itself, and the major difference between each pair of sentences is that in the first example the complement verb is in the potential aspect, indicating that the action has not yet taken place, while in the second it is a verb which refers to a completed action, i.e. hi 'arrived coming'. Where the action of the complement clause is potential and not actual, ki may or may not be used, as (124) shows; when it is completed, as in (125), ki must be used. This suggests that a speaker has an option with respect to how he treats a future event; if he wishes to treat it as a fact, ki may be used, and if he does not, then it may be omitted. With the sentences in (125), ki must be used because the action has been completed and therefore must be treated as a fact. [2] Thus one factor affecting the use of ki with a complement appears to be the potential vs. realized status of the action denoted by the complement verb.

Further evidence in support of this conclusion can be found in (126).

(126) a. thi'pi ki xugna'gIkta  
house the P(3sg)-burn down-POT

wakū'ze.

G(3sg)-A(1sg)-wish evil

'I wish the house would burn down.'

b. \*thi'pi ki xugna'gIkte ki wakū'ze.

c. thi'pi ki xugna'ga wakū'ze.

house the P(3sg)-burn down G(3sg)-A(1sg)-wish evil  
'I hope the house burns down.'

d. ??thi'pi ki xugna'ge ki wakū'ze.

The verb in these sentences is kū'za 'wish evil upon'. In the first two examples the complement verb is in the potential aspect, while in the last two it is not; in all of them the house cannot have already burned down, regardless of the inflection of xugna'ga 'burn down'. Here again ki is not possible, apparently because of the potential status of the action of the complement verb, regardless of its inflection. (126d) is interesting, because one native speaker accepted it with the meaning 'I wished it - the house burned down', where the house had in fact burned down. While other speakers do not seem to share this judgement, it is revealing that at least one speaker should accept it and give the complement a perfective interpretation. These

examples support the conclusion that the potential vs. realized status of the action of the complement verb affects the use of ki.

However, it appears that the nature of the complement affects the use of ki only with a verb like siclyä; with kü'za, which is non-factive, ki cannot occur, and the same is true of iyu'kcä.

- (127) a. Berkeley ekta' mni'kta iblu'kcä.  
to A(1sg)-go-POT P(3sg)-E(1sg)-think  
'I think I'm going to Berkeley.'

b. \*Berkeley ekta' mni'kte ki iblu'kcä.

- (128) a. Berkeley etä' John hi'  
from A(3sg)-arrive coming  
iblu'kcä.  
P(3sg)-E(1sg)-think  
'I think John came from Berkeley.'

b. \*Berkeley etä' John hi' ki iblu'kcä.

ki cannot be used with iyu'kcä, regardless of the status of the action in the complement verb. The factive/non-factive dichotomy breaks down with wica'la 'believe, put confidence in' and wica'laka 'believe' (Bl 1970:579), both of which seem to allow the use of ki with their complements.

- (129) a. Carter li'la wašte' wica'wala.  
very good P(3sg)-E(1sg)-believe  
'I believe Carter is very good.'

b. Ford li'la ši'ca wica'walake.  
very bad P(3sg)-E(1sg)-believe  
'I believe Ford is very bad.'

c. Carter li'la ši'ce ki wica'wala.  
'I believe Carter is very bad.'

d. Ford li'la wašte' ki wica'walake.  
'I believe Ford is very good.'

All four of these sentences were judged to be equally acceptable. These examples suggest that there is more to the occurrence of ki with a complement than the two factors already discussed, but at the present time it is not at all clear to me what it might be. The problem of "complementizers" in Lakota seems to be no less complex than that in English.

I now turn to the complements of the perception verbs wäyā'ka 'see' and nax?ü 'hear'; their complements may or may not be marked by ki.



- b. che'yapi ki nawi'chawax?ũ.  
 A(3pl)-cry DET P(3pl-anim)-E(1sg)-hear  
 'I heard them crying.'

When the Actor of the complement verb is coded as a Patient on the main verb, it may be omitted on the verb of a complement not marked by ki. (The same is true of the Patients of stative verbs, but I will limit the discussion to active verbs.)

- (134) a. agu'api ki icu' wāchi'yāke.  
 bread the P(3sg)-[A(2sg)]-take P(2sg)-E(1sg)-see  
 'I saw you take the bread.'

- b. \*agu'api ki icu' ki  
 bread the P(3sg)-A(3sg)-take DET  
 wāchi'yāke.  
 P(2sg)-E(1sg)-see  
 \*'I saw you-he took the bread.'

- (135) a. šũ'ka ki naxta'ka nachi'x?ũ.  
 dog the P(3sg)-[A(2sg)]-kick P(2sg)-E(1sg)-see  
 'I heard you kick the dog.'

- b. \*šũ'ka ki naxta'ke ki  
 dog the P(3sg)-A(3sg)-kick DET  
 nachi'x?ũ.  
 P(2sg)-E(1sg)-hear  
 \*'I heard you-he kicked the dog.'

In the (a) versions of each sentence the Actor of the complement verb is interpreted as being the same as the Patient of the main verb. Because the third person singular Actor marking is zero, it is impossible to tell from these examples whether the complement verb is simply unmarked for Actor or whether it is in the third person singular zero form. The following examples suggest that the verb is in fact unmarked for Actor.

- (136) a. che'yapi nawi'chawax?ũ. (=132b)  
 A(3pl)-cry P(3pl-anim)-E(1sg)-hear  
 'I heard them crying.'

- b. che'ya nawi'chawax?ũ.  
 cry P(3pl-anim)-E(1sg)-hear  
 'I heard them crying.'

- (137) a. agu'api ki iya'cupi wāchi'yākapi.  
 bread the P(3sg)-A(2pl)-take P(2pl)-E(1sg)-see  
 'I saw you(pl) take the bread.'

- b. agu'api ki icu' wāchi'yākapi.  
 bread the P(3sg)-take P(2pl)-E(1sg)-see  
 'I saw you(pl) take the bread.'

If the verbs in the (b) sentences were in the third person form, then they would have to be marked by -pi as the verbs in the (a) sentences are, since the Actors are plural. That they are not shows that there is no Actor coding on the complement verbs in the (b) sentences.

When the complement is marked by ki in sentences such as (134b) and (135b), the complement verb is interpreted as being in the third person singular Actor form, and consequently the Patient of the higher verb is not coreferential with the Actor of the complement. Furthermore, there is no verbal slot for the complement to fill; the Experiencer and Patient slots of the verbs are filled by personal pronouns. The complement Actor need not fill the main verb Patient slot, as in (132), but if it does not, there must be a third person singular Patient slot in the main verb for the complement as a whole to fill.

- (138) a. agu'api ki iya'cu ki  
 bread the P(3sg)-A(2sg)-take DET

wābla'ke.  
 P(3sg)-E(1sg)-see  
 'I saw you take the bread.'

- b. agu'api ki iya'cu wābla'ke.  
 bread the P(3sg)-A(2sg)-take P(3sg)-E(1sg)-see  
 'I saw you take the bread.'

The complement functions as the Patient of wāyā'ka in these examples; the presence or absence of ki appears to be irrelevant.

A question immediately arises as to the function of the complement in a sentence like (133a), where the complement Actor functions as the Patient in the main clause.

- (139) a. agu'api ki iya'cu ki (=138a)  
 bread the P(3sg)-A(2sg)-take DET

wābla'ke.  
 P(3sg)-E(1sg)-see  
 'I saw you take the bread.'

- b. agu'api ki iya'cu ki (=133a)  
 bread the P(3sg)-A(2sg)-take DET

wāchi'yāke.  
 P(2sg)-E(1sg)-see  
 'I saw you take the bread.'

The entire complement functions as the Patient in (139a). This is similar to Kirsner & Thompson's 1976 analysis of sensory verb complements in English in which they argue that the entire complement functions as the "direct object" of the sensory verb. In (139b), however, the Patient slot of *wāyā'ka* is specified as second person singular, the same as the Actor slot of the complement verb. If one assumes that the verb in Lakota is inflected to agree with the NPs in the clause, then sentences like (139b) present a problem, since the single full NP in the main clause is third person rather than second person singular. However, I argued in 2.3.1.2 that in Lakota the verb sets up syntactic slots which the NPs in the clause must fill; moreover, in 2.3.1.1 I argued that there is a "topic-comment" relationship between the full NPs and the verb in a clause. Thus (139a) can be paraphrased as 'you took the bread, I saw it', where the complement 'you took the bread' supplies the semantic content of the Patient *it*. Similarly, (139b) can be rendered 'you took the bread, I saw you'; here the emphasis is placed on seeing the doer of the action rather than on the perception of the action or event as a whole. The difference between the sentences in (139) is a matter of emphasis. This explains the ungrammaticality of (134b) and (135b); there the doer of the action as specified in the main verb is different from that in the complement, resulting in 'he took the bread, I saw you', which is clearly unacceptable.

In this section we have seen that there is a complex interaction between the occurrence of *ki* with a complement and the coding of the "subject" of the complement as a Patient on the main verb. It appears that the main function of *ki* in such constructions is to explicitly mark the boundary between the two clauses. When a complement is marked by *ki*, it must be interpreted as having a "subject" specification, as in (134b) and (135b), whereas those without *ki* may be interpreted as receiving their "subject" specification from the Patient specification of the main verb, as in (134a) and (135a). There does not seem to be any major syntactic difference between clauses with *ki* and those without it in which the "subject" is specified, but there is one between those with "subject" specification and those without it: only clauses with overtly coded "subjects" may occur postverbally.

- (140) a. *wābla'kešni*,                      *agu'api ki iya'cu ki*.  
           P(3sg)-E(1sg)-see-NEG  
           'I didn't see you take the bread.'
- b. *wāchi'yākešni*,                    *agu'api ki iya'cu ki*.  
           P(2sg)-E(1sg)-see-NEG  
           'I didn't see you take the bread.'
- c. *wāchi'yākešni*, *agu'api ki iya'cu*.

'I didn't see you take the bread.'

d. \*wāchi'yākešni, agu'api ki icu'.

The last example is ungrammatical because there is no Actor specification in the postverbal complement; consequently, it is interpreted as being third person singular, which conflicts with the specifications of the Patient slot in the main verb.

In 2.3.2 I argued that the crucial difference between relative clauses and possessive constructions with tha'wa with respect to the ability to occur postverbally is that the syntactic bond between the possessed noun and tha'wa is much stronger than that between a head noun and a relative clause, and therefore only relative clauses may occur separated from the noun they modify. The same notion of bondedness is applicable here. The strength of the syntactic bond between two elements (in this case, clauses) is a reflection of the semantic relationship between them; the closer the semantic relationship, the stronger the syntactic bond (see Foley 1976 for further discussion). There are clear differences in the syntactic bond between different types of complements and the main verb. The basic division seems to be between those complements which have "subject" coding and those which lack it, the former being more sentential than the latter. The semantic relationship between the main verb and the complement is much closer when the main verb supplies the "subject" specification than when it does not, and consequently the syntactic bond between a "subjectless" complement and the main verb is stronger than that between complements with "subjects" and the main verb. That "subjectless" complements cannot occur postverbally is an indication of the stronger syntactic bond. Thus, the notion of syntactic bondedness is relevant to the analysis of complementation as well as relativization in Lakota.

In closing, it should be pointed out that wāyā'ka and nax?ū are not the only verbs in Lakota which take these three kinds of complements. Other verbs which do so include wakta 'expect', aphe 'wait for' (see Bl, 305), iyu'kcā 'think', and wica'lakā 'believe'. iyu'kcā does not take complements with ki, as shown above (see (127), (128)).

3.1.2. In this section the complements of verbs like chi 'want', iyu'tha 'try' and -ya 'causative' will be investigated. I referred to these as "verbal complements" in 3.1.0. This is perhaps misleading, because the complements of these verbs are like those discussed in 3.1.1, with one important exception: they can never be marked by ki. Some examples of these verbs and their complements are given below.

(141) a. Mary wo'wapi wā cphe'wecathū  
           book a B(3sg)-P(3sg)-A(1sg)-buy for

- wachI'. (<\*ophe-wa-ki-ca-thū)  
 P(3sg)-E(1sg)-want  
 'I want to buy Mary a book.'
- b. laxta'ka ilu'the.  
 P(3sg)-A(2sg)-bite P(3sg)-A(2sg)-try  
 'You tried to bite it.'
- c. nūwā' cki'hi.  
 A(3sg)-swim P(3sg)-A(3sg)-can  
 'She can swim.'
- d. thalo' ki yu'ta maya'ʒi.  
 meat the P(3sg)-A(1sg)-eat G(1sg)-P(3sg)-A(2sg)-tell  
 'You told me to eat the meat.'
- e. yakte'chichiye. (<\*ya-kte-chi-khiya)  
 P(3sg)-A(2sg)-kill-P(2sg)-A(1sg)-cause  
 'I made you kill it.'

Each of these verbs will be examined individually below.

The first verb is chl 'want'. It exhibits two interesting syntactic traits: (1) there is no "deletion" of the coreferential Actor argument in the complement, and (2) the "subject" of the complement may not function as the Patient of chl. In (141a) the first person singular Actor is explicitly coded in the complement verb; if it were not, the meaning of the sentence would be different.

- (142) Mary wo'wapi wā ophe'kicathū  
 book a B(3sg)-P(3sg)-A(3sg)-buy for

wachI'.  
 P(3sg)-E(1sg)-want  
 'I want him to buy Mary a book.'

The complement verb is now in the third person singular zero Actor form, and the sentence is interpreted accordingly. The "subject" of the complement verb may not fill the Patient slot of chl.

- (143) a. wagnI'kta wachI'. (<\*wa-gla-kta)  
 A(1sg)-go home-POT P(3sg)-E(1sg)-want  
 'I want to go home.'
- b. yagnI'kta wachI'.  
 A(2sg)-go home-POT P(3sg)-E(1sg)-want  
 'I want you to go home.'
- c. \*yagnI'kta chichI'.  
 A(2sg)-go home-POT P(2sg)-E(1sg)-want  
 \*'I want you-you go home.'



When chi takes a complement as its Patient, its Patient slot must be third person singular, as in (143a) and (143b).

These facts can be viewed at least two ways with respect to the existence of a rule of equi-NP-deletion in Lakhota. Rood 1973 argues that these facts show that a rule of verb agreement applies before equi. Thus in a transformational scenario the underlying structure which serves as input to these two rules would be roughly

[NP1 [NP2 - V] chi]

where NP stands for either an independent pronoun or a full NP. The person agreement rule applies first, marking the respective verbs with the appropriate bound pronominal forms, and then equi applies, if the two NPs are coreferential. This is not enough to yield a sentence like (143a), however, as NP1 is still present. Therefore another rule (call it "independent-NP-deletion") must be posited to eliminate NP1. To derive (143b), this rule would have to delete both NP1 and NP2. This is an entirely plausible account of the Lakhota data. However, it is open to the same general objection as the transformational account of relativization applied to Lakhota: it is a completely noun-oriented approach which takes nouns to be of primary importance in clause-level grammar. The scenario sketched above assumes that nouns must be present in a clause to trigger verb affixation for person and number, and since there are no NPs in any of the sentences in (143), it is necessary to postulate NPs to trigger agreement and further to postulate rules to delete those NPs. If, on the other hand, one assumes that the verb is central to clause-level grammar and that the verb sets up syntactic slots in the clause which NPs must fill (see 2.3.1.2), then there is no reason to posit any NPs in an abstract underlying form or any rules to delete them. When one analyzes nouns as agreeing with verbs in Lakhota, rather than vice versa, the motivation for a rule like equi-NP-deletion disappears completely. It is important to note that the only grammatical device which must be postulated to handle these constructions is the very same one discussed earlier with respect to simple clauses and relativization, namely, the constraint that an NP in a clause must fill a slot specified by the verb and agree with it in person, animacy and number. In the role-and-reference analysis of relativization and complementation in Lakhota, no deletion rules are posited, and the same constraint which is necessary to account for the agreement of NPs with the verb in a simple clause handles these constructions as well. On grounds of theoretical parsimony alone, the role-and-reference approach is more desirable than the transformational approach.

There is further evidence which supports the non-equi analysis. The output of the equi rule in English is a

tenseless clause in which the verb does not agree with any NP, i.e. a non-finite verb. The complement verbs of chl, however, are certainly finite. In (143a,b) the complement verbs not only have explicit Actor specifications but are also inflected for the potential aspect. This means that if there were a rule of equi in Lakshota, its output would be very different from that in English. Furthermore, equi rules posited for other languages, e.g. Basque (Heath 1974a; see also 4.4.2), also produce non-finite verbs. Thus, that the complement verbs of chl are finite argues against there being a rule of equi-NP-deletion in Lakshota.[4]

The next verb to be examined is iyu'tha 'try'. As in English, this verb requires identity of "subject" with the complement verb; that is, the Actor of the complement verb (if it is active, the Patient if it is stative) must be coreferential with the Actor of iyu'tha.

- (144) a. e'bluthā                      iblu'the.  
           P(3sg)-A(1sg)-touch P(3sg)-A(1sg)-try  
           'I tried to touch it.'
- b. mi3ti'ma                      iblu'the.  
           P(1sg)-sleep P(3sg)-A(1sg)-try  
           'I tried to sleep.'

Because the specification of the "subject" of the complement verb is recoverable from that of the Actor of iyu'tha, it may be omitted.

- (145) a. e'yuthā                      iblu'the.  
           P(3sg)-touch P(3sg)-A(1sg)-try  
           'I tried to touch it.'
- b. i3ti'ma iblu'the.  
           sleep P(3sg)-A(1sg)-try  
           'I tried to sleep.'

The Patient specification of the complement verb is unaffected (if it is a transitive verb).

- (146) a. e'wichabluthā                      iblu'the.  
           P(3pl-anim)-A(1sg)-touch P(3sg)-A(1sg)-try  
           'I tried to touch them'
- b. e'wichayuthā iblu'the.  
           'I tried to touch them.'

These complements are very much like those in (134a) and (134b), where the "subject" specification of the complement verb is recoverable from the Patient specification of the main verb.

The next verb, cki'hi 'can, be able', is similar to iyu'tha in that it requires identity of the complement

"subject" with its Actor, but unlike iyu'tha the "subject" specification on the complement verb cannot be omitted.

- (147) a. chā ki bluwe'ga owa'kihi.  
stick the P(3sg)-A(1sg)-break P(3sg)-A(1sg)-can  
'I can break the stick.'

- b. \*chā ki yuwe'ga owa'kihi.  
stick the P(3sg)-[A(3sg)]-break P(3sg)-A(1sg)-can

Buechel claims that cki'hi is not an 'auxiliary verb' but a full-fledged verb meaning something like 'to master or control (an action)'; furthermore, the complement functions as the "direct object" of cki'hi (1939:296). The complement thus functions as the third person singular Patient of cki'hi.

None of the first three verbs discussed allows the complement "subject" to fill its Patient slot. This is not only necessary with ʒi 'tell one to, order one to', but the "subject" specification in the complement must also be omitted.

- (148) a. wo'wapi ki ophe'thū maya'ʒi.  
book the P(3sg)-buy G(1sg)-P(3sg)-A(2sg)-tell one to  
'You told me to buy the book.'

- b. \*wo'wapi ki ophe'wathū  
book the P(3sg)-A(1sg)-buy  
yaʒi'.  
G(3sg)-P(3sg)-A(2sg)-tell one to

- c. \*wo'wapi ki ophe'wathū  
book the P(3sg)-A(1sg)-buy  
maya'ʒi.  
G(1sg)-P(3sg)-A(2sg)-tell one to

- d. iʒti'me chiʒi'.  
sleep G(2sg)-P(3sg)-A(1sg)-tell one to  
'I told you to (go to) sleep.'

- e. \*niʒti'me chiʒi'.  
P(2sg)-sleep G(2sg)-P(3sg)-A(1sg)-tell one to

In the first sentence there is no Actor specification on the complement verb; it is inferred from the Goal specification of ʒi, namely, first person singular. The next two examples are unacceptable because in both the Actor is specified on the complement verb; in (148b) it does not fit the Goal slot of ʒi, as well. The final two sentences have a stative verb as the complement verb, and the same constraints apply to it that apply to the Actor of the active complement verb in

(148a-c).

The final verbs to be examined are -ya and -khi'ya, the causative auxiliaries. I call them 'auxiliaries' because they cannot constitute a complete clause in and of themselves, as can the other verbs discussed in this section; rather they must occur with another verb to form a complete predication. The first one, -ya (CAUSE1) means to cause something to happen or someone to do something unintentionally or without force, while -khi'ya (CAUSE2) means to do so forcefully or intentionally. They have surprisingly different syntactic properties. The main differences are that only -ya occurs with stative verbs and that -ya does not allow expression of the "subject" of the complement verb while -khi'ya does.

(149) a. kte'mayaye.

P(3sg)-kill-P(1sg)-A(2sg)-CAUSE1  
'You (accidentally) caused me to kill it.'

b. \*wakte'mayaye.

P(3sg)-A(1sg)-kill-P(1sg)-A(2sg)-CAUSE1  
'You (accidentally) caused me to kill it.'

c. ʒachi'ye.

red-P(2sg)-A(1sg)-CAUSE1  
'I caused you to be red,' or 'I painted you red.'

d. \*niʒa'chiye.

P(2sg)-red-P(2sg)-A(1sg)-CAUSE1  
'I painted you red.'

(150) a. ophe'thūmakhiye.

P(3sg)-buy-P(1sg)-A(3sg)-CAUSE2  
'He caused me to buy it,' or 'He made me buy it.'

b. ophe'wathūmakhiye.

P(3sg)-A(1sg)-buy-P(1sg)-A(3sg)-CAUSE2  
'He made me buy it.'

In comparing (149a,b,d) with (150a,b), it is clear that -ya does not allow coding of the complement "subject" whereas -khi'ya does.

Another significant difference between -ya and -khi'ya is that only -ya appears to be able to take a Goal marker, while only -khi'ya occurs with kici-, the Benefactive marker. The affix which codes the Goal role is khi- rather than ki-, which marks only the middle voice with -ya.

(151) a. sabma'khiye.

(B&D, 100)

black-G(1sg)-P(3sg)-A(3sg)-CAUSE1  
'He causes it to be black to me,' or 'He blackens mine.'

b. sabwa'kiye.

black-P(3sg)-A(1sg)-CAUSE1 [middle voice]  
 'I blacken mine.'

In the first example there is a first person singular Goal which is understood as the possessor of the Patient (see 1.5.1, 1.5.2; also Ch.II,fn.3), while in the second there is simply an Actor and a Patient, with the former possessing the latter. Boas & Deloria provide two forms for the "second dative" (Benefactive), one of which is presently obsolete.

(152) a. ina'ʔIwecichiye. (<\*-wa-kici-khiya)  
 stand up-B(3sg)-P(3sg)-A(1sg)-CAUSE2  
 'I made it stand up in his place.'

b. \*ina'ʔIweciye. (<\*-wa-kici-ya)  
 stand up-B(3sg)-P(3sg)-A(1sg)-CAUSE1  
 'I made it stand up on my own initiative.'

The examples and glosses are from Boas & Deloria (100). These forms are kici- plus -ya or -khiya, the -ya forms are no longer in use. Note that (151a) has the same form as 'he causes me to be black' would have if -khiya were used with stative verbs.

I have analyzed these verbs as having two arguments, an Actor and a Patient. The Actor is the causer, the one who causes someone to do something or something to happen. The Patient slot is filled by the "subject" of the complement verb. The complement does not fill a syntactic slot of the causative verb. Since the causative auxiliaries cannot stand alone as complete predicates and the complement "subject" must function as the Patient of the causative verb, the semantic relation and hence the syntactic bond between the complement verb and the causative is very strong, so strong in fact that it suggests that the predicates in (149) and (150) could be best analyzed as compound verbal complexes meaning 'cause to kill', 'reddden (cause to become red)', and 'cause to buy', respectively. There are a number of facts which support this analysis. First, there is only one stressed syllable in the entire verbal complex in the sentences in (149) and (150), namely the second; the stressed syllable is usually in the first verb, except when it is monosyllabic as in (149c). The causative verb does not receive a primary stress of its own. Second, -ya may occur with nouns to form a verb. This is the case with kinship terms, e.g. ate '(my)father', ate'ya 'have for a father', ate'waye 'I have for a father, my father'. Buechel gives the following examples in addition to kinship terms (1939:161): wico'xʔa ya 'make something one's work or occupation' from wico'xʔa 'work, occupation' plus -ya, and ithā'cāya 'to have one for one's superior', from ithā'cā 'chief, boss' plus -ya. Verb plus -ya constructions are analogous to nouns plus -ya in that both form a single

verbal unit. Third, as noted above, neither -ya nor -khi'ya may function as an independent verb, e.g. \*waye 'I caused it' is not an acceptable answer to a question like tuwe' 3aya' he? 'Who painted it red?' (lit. 'Who caused it to be red?'). These facts support this analysis of causative complements. Thus, verb plus causative constructions in Lakhota can best be analyzed as compound verbal complexes rather than as independent complement plus verb.

This survey of the facts of Lakhota complementation raises a theoretical question: is there a rule of raising-to-object in Lakhota? We have seen many cases where the "subject" of the complement functions as the Patient of the main verb, and this is the normal output of a raising-to-object rule (see Postal 1974). I will repeat the relevant Lakhota examples below.

- (153) a. che'yapi nawi'chawax?ü. (=132b)  
A(3pl)-cry P(3pl-anim)-E(1sg)-hear  
 'I heard them crying.'
- b. agu'api ki iya'cu ki (=133a)  
 bread the P(3sg)-A(2sg)-take DET  
 wāchi'yāke.  
P(2sg)-E(1sg)-see  
 'I saw you take the bread.'
- c. 3ū'ka ki naxta'ka nachi'x?ü. (=135a)  
 dog the P(3sg)-kick P(2sg)-E(1sg)-hear  
 'I heard you kick the dog.'
- d. i3ti'me chi3i'. (=148d)  
 sleep G(2sg)-P(3sg)-A(1sg)-tell one to  
 'I told you to (go to) sleep.'
- e. achi'phemakhiye.  
P(2sg)-A(1sg)-hit-P(1sg)-A(3sg)-CAUSE2  
 'He made me hit you.'
- f. ani'phemakhiye.  
P(2sg)-hit-P(1sg)-A(3sg)-CAUSE2  
 'He made me hit you.'
- g. sabni'ye.  
 black-P(2sg)-A(3sg)-CAUSE1  
 'He blackened you.'

The underlined specifications are shared by both clauses. There appear to be two classes of constructions represented here, i.e. those in which there are coreferential argument specifications in each clause (a, b, and e), and those in which an argument of the main verb supplies the specification for a missing argument in the complement







deal with constructions such as those in (153a,b,e) where the Patient slot of the main verb of the complement is not third person singular, and with constructions such as those in (153c,d,f,g) where the Patient slot of the main verb provides the "subject" specification for the complement verb. The constraint which handles the former sentences can be stated as follows:

- A. If the NP is a complement (V1), and if the P slot of the main verb (V2) is not 3sg, then it is necessary that "subject"(V1) = P(V2).

This says that if a complement (not a nominal clause as in (91)) functions as the argument of a verb whose Patient specification is not third person singular, the specification of the "subject" of the complement verb (V1) must be the same as that of the Patient of the main verb (V2). This rules out sentences such as (157).

- (157) a. \*yache'ya nawi'chawax?ũ.  
           A(2sg)-cry P(3pl-anim)-E(1sg)-hear  
           \*'You cry-I hear them.'  
       b. \*ophe'wathünichiyapi.  
           P(3sg)-A(1sg)-buy-P(2sg)-A(3pl)-CAUSE2  
           \*'They made you-I bought it.'

The problem with these sentences is self-evident.

The second additional constraint is somewhat more complex than the first. It may be stated as follows:

- B. If the NP is a complement (V1), if it is not marked by *ki*, and if it has no "subject" specification, then "subject"(V1) = P(V2).

This specifies that a "subjectless" complement not marked by *ki* receives its "subject" specification from that of the Patient of the main verb. While these two constraints may appear to be very similar, they are in fact quite different. The first imposes a syntactic restriction on the "subject" slot of V1 and the Patient slot of V2, namely, that they must be identical under certain circumstances, whereas the second is a restriction on the possible semantic interpretation of a certain syntactic configuration. Constraint A rules out certain syntactic possibilities, while constraint B is more akin to a "semantic interpretation rule" which constrains the interpretation of a construction but does not preclude any particular syntactic construction. These are not the only constraints necessary to account for all of the details discussed in this section; just as a transformational account would have to stipulate which verbs undergo "raising", "copying", or both, that there is a like-"subject" constraint on the

complements of iyu'tha 'try' and eki'hi 'can', and that the complement "subject" of iyu'tha but not of eki'hi may be deleted, so a role-and-reference analysis must express these facts in the appropriate terms. These fine points need not concern us here, however, as I have already sketched out the two approaches in sufficient detail to allow comparison of them.

Throughout this discussion I have maintained that transformational analyses of the Lakhota data are quite plausible and have never claimed that they cannot account for the data. I have tried to argue that such analyses are founded on the assumption of the primacy of the noun phrase in clause-level syntactic processes and have proposed an alternative approach based on the premise of the centrality of the verb in clause-level syntax. In essence I have presented a "comparative advantage case" which does not fault the opposition but which simply argues that there is a better alternative. The criterion I wish to suggest for the comparison is the notorious simplicity metric. To handle the Lakhota facts relating to relativization and complementation, a transformational analysis would have to postulate at least five transformational rules (person agreement, independent-NP-deletion, equi-NP-deletion, copying, and raising-to-object), and the concomitant theoretical apparatus which includes derivations from abstract underlying structures containing entities with no overt realization. The role-and-reference analysis, on the other hand, requires the postulation of only three constraints, two syntactic and one semantic; no abstract underlying forms containing elements which are not realized in actual sentences are hypothesized, and so no derivational processes going from the abstract to the concrete are needed. By the criterion of theoretical simplicity, the role-and-reference approach is to be preferred over the transformational.

3.2. The conjunction cha. At the beginning of this chapter I said that there were two superficially similar constructions in Lakhota which are used to express the translation equivalent of English object complements. I have discussed those involving ki (or zero), and I will now analyze constructions with cha.

- (158) agu'api ki iyacu cha  
 bread the P(3sg)-A(2sg)-take CONJ  
 wäbla'ke.  
 P(3sg)-E(1sg)-see  
 'You took the bread, and so I saw it', or  
 'I saw you take the bread.'

Sentences like (158) with cha are much more frequent than those like (133a) with ki or (138a) without it. In this

section I will show first that the conjunction cha is a different grammatical entity from the article cha (see 2.0.2.4), and second how constructions with cha differ from those discussed in 3.1.

The exact status of cha has long been a point of uncertainty. Both Buechel and Boas discuss examples of what I have called the article cha and the conjunction cha as if they were the same morpheme (see Bl, 231-3, 237-9; B&D, 146-7). Boas & Deloria translate it as 'it being so' (146). Consider the following example.

- (159) John wichI'cala wā nūwā' cha  
           girl           a A(3sg)-swim ?

wāyā'ke.  
 P(3sg)-E(3sg)-see  
 'John saw a girl swimming.'

This construction is very similar to an indefinite relative clause with cha (cf. Chap. II, fn. 5, (i)). There are, however, several ways to prove that this cha is a conjunction meaning 'and so' rather than the contrastive indefinite article. An important syntactic test involves questions and negation: the conjunction cha cannot occur with the verbs wāyā'ka 'see', nax?ū 'hear', slōlya 'know', and able'za 'notice' when they are negated or questioned. cha is usually used with these verbs when they are in their non-negated forms.

- (160) a. John iṣti'ma cha awa'bleze.  
           P(3sg)-sleep CONJ P(3sg)-E(1sg)-notice  
           'John is sleeping and so I noticed it,' or  
           'I noticed that John is sleeping.'
- b. 3ū'ka ki t?a' cha slōlwa'ye.  
           dog the P(3sg)-die CONJ P(3sg)-E(1sg)-know  
           'The dog died and so I know it,' or  
           'I know that the dog died.'
- c. yalo'wā cha nawa'x?ū.  
           A(2g)-sing CONJ P(3sg)-E(1sg)-hear  
           'You sang, and so I heard it,' or  
           'I heard you sing.'
- (161) a. \*John iṣti'ma cha awa'blezeṣni.  
           P(3sg)-sleep CONJ P(3sg)-E(1sg)-notice-NEG  
           \*'John is sleeping, and so I didn't notice it.'
- b. \*3ū'ka ki t?a' cha slōlya'ya he?  
           dog the P(3sg)-die CONJ P(3sg)-E(2sg)-know Q  
           \*'The dog died, and so do you know it?'
- c. \*yalo'wā cha nawa'x?ūṣni.

A(2sg)-sing CONJ P(3sg)-E(1sg)-hear-NEG  
 \*'You sang, and so I didn't hear it.'

The semantic anomaly which renders the sentences in (161) unacceptable is evident in their literal translations; it is odd to assert something and then say that therefore you are unaware of it. Buechel characterizes the semantic difference between ki and cha as follows.

This construction [nominal clause + ki or Ø with perception verbs] is used merely to mention what is seen or heard. If the speaker desires to emphasize the fact of his seeing or hearing something, he uses the clausal substantive [complement] with "ca" [cha]. (1939:304)

With the constructions described in 3.1 the emphasis is on the content of the complement, whereas with cha it is on the perceptual experience of the speaker.

Applying the negation and question test to (159), we find that it is rendered unacceptable.

(162) a. \*John wichI'cala wā nūwā' cha  
           girl           a A(3sg)-swim ?

wāyā'kešni.  
 P(3sg)-E(3sg)-see-NEG  
 'John didn't see a girl swimming.'

b. \*John wichI'cala wā nūwā' cha  
       girl           a A(3sg)-swim ?

wāyā'ka               he?  
 P(3sg)-E(3sg)-see Q  
 'Did John see a girl swimming?'

This suggests that the cha in these sentences is the conjunction rather than the article.

(163) a. John wicha'ša wā li'la phehI' hā'skaska cha  
           man           a very hair long-redupl. ART

wāyā'ka               he?  
 P(3sg)-E(3sg)-see Q  
 'Did John see a man whose hair was very long?'

b. \*John wicha'ša wā li'la phehI' hā'skaska cha  
       man           a very hair long-redupl. ART

wāyā'kešni.  
 P(3sg)-E(3sg)-see-NEG  
 'John didn't see a man whose hair was very long.'

The acceptability of (163a) indicates that the cha in it is the article rather than the conjunction. However, the unacceptability of (163b) muddles the issue somewhat. I suspect that the constraint against using cha before a negated form of wāyā'ka is so strong as to preclude any occurrence of cha in this position, article or conjunction.

There is a further syntactic test which can be used to distinguish pseudo-relative clauses such as (159) from genuine relative clauses. When cha joins two clauses, the "subject" of the first clause usually functions as the Patient in the second, if the entire first clause does not (see B&D, 147). In the sentences in (160), the entire first clause functions as the Patient of the perception verb in the second clause. In the following examples, the Actor in the first clause must be interpreted as the Patient of the second.

- (164) a. matho' ki thi' ekta' ?i' cha  
bear the house to A(3sg)-went CONJ

John kte'.

P(3sg)-A(3sg)-kill

'The bear went to the house, and so John killed it.'

(\*'The bear went to the house, and (so) it killed John.')

- b. John Bill thi' ekta' ?i' cha  
house to A(3sg)-went CONJ

Bill aphe'.

P(3sg)-A(3sg)-hit

'John went to Bill's house, and so Bill hit him.'

(\*'John went to Bill's house, and (so) he hit Bill.')

Looking at (159), it is interesting to note that John does not fill a verbal slot in the first clause, despite its sentence-initial position, but does fill the Experiencer slot of wāyā'ka 'see'. This is a clear case of an NP functioning as a sentence-level topic; this will be discussed in more detail in Chapter IV. If (159) is two clauses linked by the conjunction cha, with John as sentence-level topic, then the occurrence of John after cha in the second clause should not affect the meaning of the sentence, because the Actor of the first clause, wichI'cala 'girl', would still function as the Patient of the second, with John as the Experiencer. If, on the other hand, (159) is one main clause with two NPs, one modified by a true relative clause, then reversing the order of the NPs should affect the interpretation of the sentence, because the basic word order in the clause is Actor-Undergoer (see 1.7).

- (165) wichI'cala wā nūwā' cha John  
girl a A(3sg)-swim ?

wāyā'ke.

P(3sg)-E(3sg)-see  
'John saw a girl swimming.'

- (166) a. John wichi'cala wā nūwe' ki he  
girl a A(3sg)-swim DET

wāyā'ke.  
P(3sg)-E(3sg)-see  
'John saw the girl who was swimming.'

- b. wichi'cala wā nūwe' ki he John wāyā'ke.  
'The girl who was swimming saw John.'

That the meaning of (165) is the same as that of (159), while (166a) differs from (166b), indicates that the cha in (159) and (165) is in fact the conjunction, not the article. Accordingly, a literal translation of (159) would be 'John, a girl was swimming, and so he saw her.' Thus, we may conclude that there are two different lexical items in Lakshota, one an article and the other a conjunction, which have the form cha.

The most vexing problem of 3.1.1 was the determination of the factors affecting the use of ki with a verb, and cha is no less problematic. One similarity between the two is fairly clear: verbs which do not allow ki also do not allow cha.

- (167) a. \*Berkeley ekta' mni'kta cha  
to A(1sg)-go-POT CONJ

iblu'kcā.  
P(3sg)-E(1sg)-think  
\*'I am going to Berkeley, and so I think it.'

- b. \*thi'pi ki xugna'ga cha  
house the P(3sg)-burn down CONJ

wakū'ze.  
G(3sg)-A(1sg)-wish evil upon  
\*'The house burned down, and so I wished it.'

However, some verbs which do take ki do not permit cha.

- (168) a. \*wi'yā ki hi' cha  
woman the A(3sg)-arrive CONJ

e'waktūže.  
P(3sg)-E(1sg)-forget  
\*'The woman came, and so I forgot it.'

- b. wi'yā ki hi' ki e'waktūže.  
woman the A(3sg)-arrive DET P(3sg)-E(1sg)-forget  
'I forgot that the woman came.'

The anomaly of the (a) versions of this sentence is attributable to the weak causality expressed by cha. The main factor governing the occurrence of cha with a verb appears to be whether this causality is compatible with the semantics of the verb.

The constraints on the arguments in the two clauses with cha is similar to those with ki. If the Patient slot of the perception verb in the second clause is third person singular, then the "subject" specification of the first clause is unconstrained; if, however, the Patient specification is other than third person singular, then constraint A comes into play, restricting the "subject" specification of the first clause to the Patient of the perception verb.

- (169) a. chă' ki iya'cu cha  
wood the P(3sg)-A(2sg)-take CONJ  
  
wăbla'ke.  
P(3sg)-E(1sg)-see  
'You took the wood, and so I saw it,' or  
'I saw you take the wood.'
- b. chă' ki iya'cu cha  
wood the P(3sg)-A(2sg)-take CONJ  
  
wăchi'yăke.  
P(2sg)-E(1sg)-see  
'You took the wood, and so I saw you,' or  
'I saw you take the wood.'
- c. \*chă' ki icu' cha  
wood the P(3sg)-A(1sg)-take CONJ  
  
wăchi'yăke.  
P(2sg)-E(1sg)-see  
\*He took the wood, and so I saw you.'

The ungrammaticality of (169c) is similar to that of (134b). Like ki complements, clauses with cha can occur either sentence-initially or finally.

- (170) a. hokš'i'la ki chă' icu' ki  
boy the wood P(3sg)-A(3sg)-take DET  
  
wăla'kešni cha li'la  
P(3sg)-E(2sg)-see-NEG CONJ very  
  
achi'chăzeke.  
G(2sg)-A(1sg)-be mad at  
'You didn't see the boy take the wood,  
and so I'm mad at you.'

- b. li'la achi'chāzeke, hokši'la ki chā' icu' ki  
 wāla'kešni cha.  
 'I'm mad at you because you didn't see the boy take  
 the wood.'

Thus, despite the obvious syntactic difference that cha is a conjunction, and ki an article, the cha complement constructions are in certain respects similar to those with ki; with both the Patient specification of the main verb may be either third person singular or the same as that of the "subject" of the complement, and complements with cha or ki may occur postverbally.



## Footnotes to Chapter III

1. In this discussion I will use "complement" to refer to the type of sentential NPs illustrated in (118a), (119), (120a) and (121a), and "nominal clause" to refer to that in (120b).

2. I am indebted to Wallace Chafe for this observation.

3. For this discussion, "subject" may be defined for Lakhota as the Actor or Experiencer of an active verb or the Patient or Experiencer of a stative verb. It must be borne in mind that the term is being used as a purely descriptive label and not as a theoretical construct (see Foley & Van Valin 1977 for a discussion of the use of the notion of 'subject' as a descriptive label and theoretical construct). It is thus an entirely Lakhota-specific definition. To emphasize this, I will always put it in double quotation marks. See Foley & Van Valin 1977 for a discussion of the difficulty of accommodating the Lakhota facts into a universally-valid definition of 'subject'.

4. In Van Valin 1977a it was erroneously claimed that there is a rule of equi-NP-deletion in Lakhota. Subsequent analysis of further data led to the conclusion that there is no such rule in the language. This does not affect the point being made in Van Valin 1977a.

5. It should be noted in passing that there is no raising-to-subject in Lakhota. This is not surprising, since Lakhota is verb-final.

- (i) li'la kša'pa nic?i'lapi s?ele'ceca. (B1, 302)  
 very smart 2pl-REFL-consider seem  
 'You seem to consider yourselves to be very intelligent.'  
 or 'It seems that you consider yourselves to be very intelligent.'

The word for seem or appear in Lakhota is the impersonal verb s?ele'ceca. In order for there to be raising-to-subject, the "subject" of the complement would have to be raised to fill a slot on s?ele'ceca, which is impossible.

- (ii) \*lile kša'pa ic?i'la nis?e'lececap.  
 very smart REFL-consider P(2pl)-seem

Furthermore, in sentences where the "subject" is a full NP, it is already in initial position.

- (iii) John khu'že s?ele'ceca.  
 P(3sg)-sick seem  
 'John seems to be sick.'

Thus, it is quite clear that there is no rule of raising-to-subject in Lakota.

The verb ic?i'la 'consider oneself' in (i) would appear to be a potential case of raising-to-object. However, it is the reflexive form of la 'consider, esteem.' Constructions with ic?i'la are no different in principle from those like (153c,d), and so the analysis given for them holds for those such as (i) as well.

## Chapter IV

## The Lakhota "Passive" and Universal Grammar

4.0. Introduction. In this chapter I will discuss Lakhota "passive" constructions with reference to certain universal claims which have recently been made about passivization. I will begin by describing these theoretical claims and then presenting the Lakhota data relevant to them. Further data from other languages similar to Lakhota will also be presented, and then a characterization of these facts in terms of role and reference grammar will be given. Antipassivization in ergative languages will then be discussed in light of the distinction between reference- and role-dominated languages. I will also analyze recent claims about ergativity from a role-and-reference perspective. Finally, a theory of language typology based on whether a language has a clause-level referential structure or not is proposed.

## 4.1. Universal claims about passivization.

4.1.1. Perlmutter & Postal 1977 attempt a universal characterization of passivization in terms of relational grammar. This theory assumes that "the structure of sentences, and also of clauses,...consists of an object we will call a relational network" (1977:401) which is made up of a predicate and NPs bearing certain relations to it, i.e. 'subject of', 'direct object of', 'indirect object of', 'beneficiary of', etc. The most important point of the theory for this discussion is that it tries to describe clause structure and grammatical rules in terms of the universal primitives of 'subject', 'direct object', and 'indirect object'. [1]

Perlmutter and Postal characterize passives universally as follows: (1) the direct object of an active clause is the (superficial) subject of the 'corresponding' passive; (2) the subject of an active clause is neither the (superficial) subject nor the (superficial) direct object of the 'corresponding' passive; and (3), (1) and (2) entail that in the absence of another rule permitting some further nominal to be a direct object of the clause, a passive clause is a (superficially) intransitive clause (1977:399). In this account the most important aspect of a passive construction is that the direct object of a transitive clause becomes the subject of the corresponding passive clause; that the subject of the active clause is deleted or occurs in an oblique case is a consequence of other principles of relational grammar which are of no direct concern here (see Perlmutter & Postal 1977 for further discussion). Thus for a language like English this approach would claim that the occurrence of the erstwhile direct object of (171a) as the

subject of (171b) is the most fundamental aspect of this passive sentence, with the nonoccurrence or occurrence in a by-phrase of the subject of the former is a consequence of the promotion of the direct object.

- (171) a. Angry mobs looted the city.  
 b. The city was looted (by angry mobs).

It should be noted that the version of relational grammar put forth in Johnson 1976 also assumes that the universal passive rule is: direct object --> subject.

4.1.2. Keenan 1975 also attempts to state certain universal generalizations about passivization within a relational grammar framework. The version of the universal passive rule which he argues for is: (1) the subject of the active sentence ceases to bear any grammatical relation to its verb, and (2) the direct object becomes the subject (1975:340). This is the opposite of the Perlmutter-Postal-Johnson universal conception of passive, because it claims that direct object promotion to subject is a consequence of and not the precondition for the demotion of the subject. The main evidence which Keenan gives in support of his version is the fact that in many languages, e.g. Latin, Turkish, Russian and Dutch, there are passive constructions in which the subject has been demoted but nothing has been promoted to take its place.

- (172) a. *curritur* (Latin)  
           run-PASS+3sg.  
           'There was running.'
- b. *inyep ny- tapuy-ê-m* (Mojave)  
           me(ACC) 1sg(ACC) kill-PASS-TNS  
           'I was killed.'

((172a) is from Keenan 1975, (172b) from Langacker & Munro 1975.) In the first example the verb is intransitive, and so there is no direct object to be promoted; in the second, the "subject" *inyep* 'me' is the accusative case form of the first person pronoun, which means that it is still the direct object and has not been promoted to subject.

On the basis of his demotional conception of passive, Keenan 1975 makes a number of general predictions about passive constructions cross-linguistically: (1) the demoted subject either will not appear at all or will appear optionally in an oblique case, both of these possibilities following from (1) above which states that the demoted subject ceases to bear any grammatical relation to the verb; (2) passive sentences are intransitive, because the direct object has been promoted to subject ((2) above); and (3) direct objects promoted by a passive rule take over the coding properties of subjects, i.e. they assume the

characteristic position, case marking and verb agreements of a basic subject (1975:340). This last claim is elaborated in Keenan 1976 into a "Promotion to Subject Hierarchy", which is given in (173).

(173) Promotion to Subject Hierarchy (PSH)

Coding properties > Behavior and control properties >  
semantic properties

- a. Coding properties = position > case marking > verb agreement
- b. Behavior and control properties = deletion, movement, case changing properties, control of cross-reference properties, etc.
- c. Semantic properties = agency, autonomous existence, selectional restrictions. (1976:324)

"The claim made by the PSH is that if an NP in a derived sentence is assigned any of the three categories of subject properties, then it is assigned all the higher categories." (324) Thus if a promoted NP in a language takes over the behavior and control subject properties, for example, then it will also take over the coding properties of subjects. Furthermore, "within the category of coding properties, if an NP acquires the verb agreement characteristics of subjects, then it must also acquire the case marking and position; and if it acquires the case marking it must acquire the position." (ibid.) In English, for example, the derived subject not only triggers verb agreement but also takes over the case marking (if it is a pronoun) and the clause-initial position of basic English subjects.

To sum up, Keenan views demotion of the active subject to be the core of the universal passive rule, with promotion of the direct object being an optional consequence.

4.1-3. Dixon 1977 is concerned primarily with ergativity, but a number of claims are made which are relevant to the present discussion. Dixon 1972 introduces three deep syntactic functions, i.e. A 'transitive subject (agent)', O 'transitive object', and S 'intransitive subject', which are used in the description of Dyirbal. Dixon states the major claim of the ergativity paper as follows.

The basic thesis of this paper is that A, S and O are the universal core [syntactic] categories and that syntactic rules in every grammar are framed in terms of them. There is, as a further stage, a universal grouping of A and S as 'subject', a category that plays an important role in every grammar. Some types of syntactic processes will always be statable in terms of 'subject', in every language; other types of processes may relate to

'subject' in some languages, but they can be in terms of some other combination of core functions in other languages. (1977:49)

The theoretical framework within which Dixon operates is a modified form of transformational grammar which includes a distinction between singular (e.g. passive) and generalized transformations (e.g. coordination) along the lines of Chomsky 1957; the main modification is the introduction of the notions of S, A and O. The notion of 'subject' proposed above, {A,S} is a deep structure notion defined by the semantic criterion of potential agency (see 1977:49-54 for further discussion). The syntactic processes which he claims are always dependent upon it are imperatives, jussive complements and causatives (see 1977:56-61).

Dixon talks about syntactic processes as being statable in terms of a combination of core functions, and this nexus of functions constitutes the syntactic pivot in a language. A syntactic pivot is the NP to which operations such as subordination, coordination and relativization may be keyed, with a constraint requiring coreference between the pivots in clauses which are to be e.g. conjoined. He gives two basic kinds of pivots: (1) S/A pivot, where the coreferential NP must be in (derived) S or A function in one (or both) clauses, or (2) S/O pivot, where it must be in (derived) S or O function in one (or both) clauses (1977:64). Languages which have an S/A pivot are accusative, since the pivot associates the transitive and intransitive subjects, whereas those with an S/O pivot are ergative, since the pivot links the transitive object and intransitive subject. According to Dixon, syntactic pivots function at the level of shallow structure, i.e. the level created by the output of the singular transformations before the application of any generalized transformations. They therefore function at a different level than the notion of 'subject', which is defined by semantic-syntactic criteria at the deep structure level only. It is important to note that in accusative languages 'subject' and syntactic pivot will both be S/A; in traditional transformational terms, the former is the "deep subject" and the latter the "surface subject."

It would perhaps be helpful to illustrate these distinctions with concrete examples. In Dyirbal, an ergative language, there is an S/O pivot, which means that in processes of relativization and coordination ("topic chaining"), the NP(s) to be deleted under coreference must be in either S or O function (in the absolutive case for full NPs). It was shown in 2.3.2.1 that the NP to be relativized upon (and ultimately deleted) in a Dyirbal clause must be in the absolutive case (S/O function); if it is not, there are antipassive constructions which put an Actor or Instrument NP into the absolutive (derived S function). The same is true for coordination. (The

following examples are from Dixon 1972; I will mark their functions in terms of Dixon's analysis.)

- (174) a. balan dyugumbil baninyu bangul yarangu bupan.  
           woman-ABS-S       come    man-ERG-A       see  
           'Woman came and man saw her.'
- b. \*balan dyugumbil baninyu bayi yapa bupan.  
           woman-ABS-S       come    man-ABS-O see  
           'Woman came and saw man.'

The deleted NP in the second clause of (174a) is in O function, but in (174b) it is in A, thereby rendering the sentence unacceptable. An antipassive construction would have to be used to get the coreferential NP in the second clause into the S/O pivot, so that it can be deleted.

- (175) balan dyugumbil baninyu bagul yaragu bupalnanyu  
           woman-ABS-S       come    man-DAT       see+ANTI  
           'Woman came and saw man.'

In (175) the NP in the second clause coreferential with the S NP in the first, balan dyugumbil 'woman', is also in S function (and consequently the absolute case), thereby allowing it to be deleted.

German is an example of an accusative language with an S/A pivot. This can be illustrated clearly by looking at coreferential deletion and relativization. The deleted coreferential NP in conjoined sentences must be in either S or A function, both of which are signalled by the nominative case.

- (176) a. Der Knabe sah den Mann und Ø schlug ihn.  
           'The boy saw the man and hit him.'
- b. \*Der Knabe sah den Mann und er schlug Ø.  
           \*The boy saw the man and he (the man) hit.'
- c. Der Knabe sah den Mann und Ø wurde gekidnappt.'  
           'The boy saw the man and was kidnapped.'
- d. \*Der Knabe sah den Mann und er kidnappte Ø.  
           \*The boy saw the man and he (the man) kidnapped.'

In (176a) the deleted NP is in either A (a) or S (c) function and accordingly the nominative case; the deleted NPs in the other two sentences are not, and so the sentences are ungrammatical. (176c) involves a passive construction, which takes an NP in O function and puts it in S.

The second example of the S/A pivot in German involves relativization. German has two different relativization strategies, the prenominal participial strategy being of interest here. The important fact about this type of

relative clause is that it is only possible when the coreferential NP in the participle (which is deleted) is in nominative case, i.e. S or A function.

- (177) a. Die den Mann schlagende Frau ist ein Spion.  
 'The woman who hit the man is a spy,' or  
 'The woman hitting the man is a spy.'
- b. \*Die der Mann schlagende Frau ist ein Spion.  
 \*'The woman man hitting [man hit woman] is a spy.'
- c. Die vom Mann geschlagene Frau ist ein Spion.  
 'The woman who was hit by the man is a spy.'

The first and third examples are acceptable because the head noun (and therefore the deleted coreferential NP), is in A function in (a) and S function in (c); in (177b), however, it is in O function, rendering the sentence ungrammatical. These two processes illustrate that the syntactic pivot in German is S/A.

Dixon's notion of a syntactic pivot being the grouping of the S function with either A or O captures an important insight into the operation of grammatical rules, namely that all grammatical rules which apply to the "favored" NP in a transitive clause also apply to the S NP regardless of its semantic function. The notions of A and O functions are not purely syntactic; A is the transitive agent function and O the transitive object or Patient. S, on the other hand, is merely the single argument of an intransitive verb, which may have various semantic functions, depending upon the nature of the verb. Thus in Dyirbal, for example, certain grammatical rules are constrained to apply to the O NP, which may be Actor, Patient or Instrument, depending upon the construction. If a language were to restrict operations such as raising, equi, relativization or coreferential deletion to either A or O and to only those S NPs with the same semantic function as the "favored" NP in transitive clauses, then these processes would be severely restricted in their range of application, so that, for example, sequences of conjoined transitive and intransitive clauses would be prohibited unless the semantic roles of the pivot NPs were the same. Fortunately, no natural languages place such restrictions upon their grammars, and this is captured in Dixon's notion of S function.

Dixon specifically discusses the passive only briefly. He characterizes passive and antipassive rules as follows.

Passive places the deep O NP in surface S function, and marks the deep A NP with an oblique case/preposition, etc. (this NP can then be deleted); Antipassive places the deep A NP in surface S function, and marks the deep O NP with an oblique case/preposition, etc. (this NP can then be



deleted). (1977:62)

He does not give an extensive account of why languages have such rules and their functions, but he does say that one of the basic motivations for a passive is to bring a deep O NP into S function so that it can participate in grammatical processes which have an S/A pivot. This was shown clearly in the German examples.

Dixon's claims may be summarized thus: S, A and O are universal syntactic functions. At the deep structure level, {S,A} constitute the universal notion of 'subject', while at the shallow structure level S and O or S and A may fall together as the syntactic pivot for operations such as relativization or coordination. Passive rules function to put a deep O NP into S function at the shallow structure level, so that it may undergo grammatical operations restricted to S or A NPs.

#### 4.2. The Lakhota facts.

4.2.1. Having presented several recent proposals concerning passives in universal grammar, I will now discuss the Lakhota constructions which may be construed as passives. I say "construed", because Lakhota is traditionally analyzed as having no passive voice. Buechel states quite straightforwardly: "Transitive verbs, in English and other languages, have two forms, called the active and passive voices... There is no passive voice in Lakhota" (1939:30). The construction which both Buechel and Boas give as being closest to the English passive is shown in (178).

- (178) matho' ki kte'pi.  
       bear the P(3sg)-A(3pl)-kill  
       'They killed the bear,' or 'The bear was killed.'

In this construction matho 'bear' fills the third person singular patient slot of the verb, while the third person plural Actor slot is left without further specification. That there is no demotion of the Actor in such a construction is indicated by -pi, which shows that there is a third person plural Actor involved in the action; hence the two possible translations. Further examples are given below.

- (179) a. ama'phapi.  
           P(1sg)-A(3pl)-hit  
           'They hit me,' or 'I was hit.'
- b. wāni'yākapi.  
           P(2sg)-A(3pl)-see  
           'They saw you,' or 'you were seen.'

These sentences clearly show the Patient status of the

"subject" of the passive translations. Moreover, the possibility of interpreting them as 'they hit/saw X' indicates that they are not impersonal constructions and that the Actor is very much there syntactically and semantically.

It is possible to make the Actor explicit, but it does not occur as an oblique.

(180) a. John matho' kte'pi.

bear A(3pl)-P(3sg)-kill  
'John was killed by a bear,' or  
'Bears killed John.'

b. matho' ki waši'cu hena' kte'pi.

bear the white man those P(3sg)-A(3pl)-kill  
'The white men killed the bear,' or  
'The bear was killed by the white men.'

c. \*matho' ki waši'cu hena' ū kte'pi.

bear the white man those IN P(3sg)-A(3pl)-kill

(180a) is interesting in that matho is translated 'a bear', even though the verb is marked for third person plural Actor. This suggests that -pi might be analyzed as a "passive marker" in this case. However, two facts argue against this interpretation. First, as in (178) and (179), the sentences may be given an active English translation, and second, if matho is explicitly marked for number, it must be plural. \*John matho' wā kte'pi with matho explicitly marked as singular by wā 'a', is ungrammatical; only modifiers expressing plurality such as hena 'those' and o'ta 'many' are possible. The semantic roles of the NPs in (180a,b) are unambiguous, even though both NPs are potential Actors. In (180a) John is singular and consequently can fill only the third person singular Patient slot; matho is unmarked for number and can be interpreted as plural, thereby meeting the specification of the Actor slot. In (180b), on the other hand, matho is not specified for number, although the default interpretation with ki is singular, while waši'cu is overtly marked as plural by hena 'those'; thus only matho can fill the third singular Patient slot and waši'cu the third plural Actor slot. The last example is ungrammatical because the Actor is marked by the postposition ū 'with, by means of', the normal Instrument NP marker.

It should be clear that the constructions in (180) are nothing more than a reversal of the order of the two full NPs in the clause; nothing is changed on the verb at all. This is the crucial point about these constructions: they merely involve the sentence-initial occurrence of an NP without any change in semantic role, verbal morphology, or status of the Actor vis-a-vis the verb. Furthermore, the accessibility of the sentence-initial NP to grammatical

processes is not affected in any way; in particular, it does not become accessible to any processes which it was not accessible to before. Comparing (180a) with (181),

- (181) waši'cu hena' matho' ki kte'pi.  
'The white men killed the bear.'

we find that in both cases matho is "accessible to relativization" (see 2.3.2.0 above).

- (182) matho' wā waši'cu hena' kte'pi  
bear a white man those P(3sg)-A(3pl)-kill

ki he wābla'ke.  
DET P(3sg)-E(1sg)-see  
'I saw the bear which the men killed.'

In this case the position of matho in (180a) or (181) is irrelevant, since it never occurs in the relative clause in (182) (see 2.3.1.1). Furthermore, matho can "trigger coreferential deletion" in either position. [2]

- (183) a. waši'cu hena' matho' ki kte'pi  
white man those bear the P(3sg)-A(3pl)-kill

na yuga'papi.  
and P(3sg)-A(3pl)-skin  
'The white men killed the bear and skinned [it].'

- b. matho' ki waši'cu hena' kte'pi na yuga'papi.  
'The bear was killed by the white men and skinned.'

The second example could also be glossed the same as (a). In neither sentence is there any manifestation of matho in the second clause. In a transformational-type of analysis, where waši'cu and matho would have to be present in both clauses to account for "subject" and "object" agreement in the verb, both could be analyzed as being deleted by the same rule of coreferential deletion across conjunctions. These examples show that the accessibility of the Patient to syntactic processes is not affected by its sentence-initial occurrence.

I have referred to matho as being "sentence-initial" in (180b), (182) and (183b), and by this I mean that it is functioning as a sentence-level topic. This is a major difference between constructions like these and (178), where it is sentence-initial by default, since it is the only NP. In cases such as (180b) and (182) where the sentence is coterminous with a clause, it is difficult to establish that matho is a sentence-level topic rather than simply the clause-initial NP. However, there are clear cut cases of sentence-level topics in Lahota; (159) in 3.2 was one example.

- (184) a. hokši'la ki wicha'ša ki nūwā'he  
           boy           the man           the A(3sg)-swim-CONT  
           k?e'yaš wāyā'kešni.  
           but           P(3sg)-E(3sg)-see-NEG  
           'The man was swimming, but the boy didn't see him.'
- b. wicha'ša ki nūwā'he k?e'yaš hokši'la ki wāyākešni.  
           'The man was swimming, but the boy didn't see him.'
- (185) a. John khokho'yaxāla ki li'la che'pa  
           chicken           the very P(3sg)-fat  
           cha           kte.  
           and-so P(3sg)-A(3sg)-kill  
           'The chicken was very fat, and so John killed it.'
- b. khokho'yaxāla ki li'la che'pa cha John kte.  
           'The chicken was very fat, and so John killed it.'

In (184a) and (185a) the sentence-initial NPs play no semantic role in the first clause but do in the second; they are therefore unambiguously sentence-level topics. The (b) versions of each sentence have the NP in the non-topic position within the clause in which that NP fills a verbal slot. The difference between these sentences and (183b) is that in these the topics fill a slot in only one clause, namely the second, whereas *matho* functions as the Patient in both clauses in (183b). A perhaps more accurate rendering of it would be 'The bear, the white men killed it and skinned it.'

These Lakhota facts may be summed up as follows. Lakhota does not have any constructions analogous to an English passive where the Patient becomes the "subject" and the Actor occurs in an oblique case. There are, however, constructions involving a Patient with a verb marked for third person plural Actor and a Patient functioning as a sentence-level topic.

4.2.2. I will now discuss the proposed universals of passivization presented in 4.1 with regard to the Lakhota constructions analyzed above. Perlmutter & Postal 1977 make three universal generalizations which may be summarized as follows: (1) the active direct object is promoted to subject; (2) the active subject is demoted; and (3) the resulting passive sentence is intransitive (see 4.1.1). Lakhota appears to constitute a major counter-example to these claims. As we saw above, there is no "promotion" of a direct object to subject; the closest thing to it is the topicalization illustrated in (180a) and (183b), but it was shown that this topicalization does not affect an NP's accessibility to grammatical processes as passivization does

in e.g. German (see 4.1.3, esp. (176) and (177)). Furthermore, this topicalization does not affect the semantic role coding verb in any way; no changes in verbal morphology are triggered. The sentences in (179) clearly show that the "subject" of the "passive" is still syntactically a "direct object" (Patient). The second claim is that the active subject is neither the subject nor direct object of the passive verb, and yet as (178) and (179) show, even when there is no full NP or independent pronoun functioning as the Actor, there is still an Actor slot specified in the verb. Thus the Actor NP still functions as the "subject" of the "passive" sentence, which also means that the sentence cannot be intransitive, in contradiction to the third claim. None of the Lakhota constructions described in 4.2.1 are compatible with the generalizations about passive which Perlmutter and Postal make.

One way out of this problem would be to claim that not all languages have passive rules. However, if Perlmutter and Postal are to maintain that relational grammar is a theory of universal grammar and therefore that the clause structure of all languages can be characterized in terms of the primitive notions of 'subject', 'direct object', and 'indirect object', then they must be able to give a principled explanation of why direct objects may be promoted to subject in English but not in Lakhota. At present I see no possibility of a non-ad hoc account of the Lakhota facts within relational grammar.

Since the claims made in Keenan (1975, 1976) are very similar to those made by Perlmutter and Postal, the problems just discussed plague Keenan's approach as well. The main difference between his version of passive and theirs is that he takes subject demotion rather than direct object promotion to be primary, but this is of little consequence with respect to the Lakhota facts, since, as we have seen, the "subject" (Actor) still bears its normal "grammatical relation" to the verb in "passive" constructions. Keenan's "Promotion to Subject Hierarchy" (see (173)) is revealing with regard to the status of the "direct object" (Patient) in such sentences, in that the only "subject" property it acquires is sentence- (or clause-) initial position, which is the easiest and hence least significant property to acquire; it does not take over "verb agreement" or any of the behavior and control properties, as do "derived subjects" in e.g. German and English. The same metatheoretical problem, i.e. how a language can lack a passive if the clause structure of all languages can be described in terms of certain grammatical relations, is engendered by the Lakhota facts for Keenan's version of relational grammar as well as for Perlmutter and Postal's.

Dixon makes no strong universal claims about passivization and in fact allows for the possibility that there are languages which do not have a clearly definable syntactic pivot. It has been shown that with respect to

relativization in Lakhota, there are no constraints on the NP slot in the clause which the head noun filled; this suggests that Lakhota has no syntactic pivot in the way that German or Dyirbal does. Consequently, the Lakhota data is compatible with his general proposals. The only problem for his analysis based on the primitives S, A, and O is that there is no unified marking of S NPs in the language. Dixon notes this and in fact devotes a portion of his discussion to what he calls "split S-marking languages" such as Lakhota; he does not consider them to be a problem within his framework.

While Dixon does not claim that every language must have a syntactic pivot, he does not give any account of why one language, e.g. German, should have one and another one, e.g. Lakhota, should not. This is a very important question, since Dixon argues that the type of pivot a language has, i.e. S/O or S/A, determines whether it is typologically ergative or accusative. Consequently, the determination of factors affecting whether a language has a syntactic pivot and if so what kind, is extremely important for an adequate theory of language typology and universal grammar. I will return to this question later.

4.2.3. The Lakhota facts presented in 4.2.1 constitute a major counterexample to the claims of Perlmutter, Postal and Keenan. However, some linguists might be tempted to dismiss Lakhota as a unique and aberrant exception, saying that it is one of a kind. I will therefore present data from two more American Indian languages, Tunica and Choctaw, which also lack passive constructions as defined by Perlmutter & Postal 1977 and Keenan 1975.

4.2.3.1. Tunica. Basic aspects of Tunica clause structure were discussed in 2.3.1.2. As in Lakhota, the verb is central to clause-level grammatical processes and directly signals the semantic roles of its NP arguments. The "split S" marking in Tunica is different from that in Lakhota in that there are two sets of Undergoer pronouns, one of which is used to mark alienable possession with nouns and the Patients of transitive active verbs, with the other signalling inalienable possession with nouns and the Patient of stative verbs (see Haas 1940:36-8). An inflected verbal complex may constitute an entire clause; when full NPs are present, the order is Actor-Undergoer (see (101) and (102)).

There is no construction in Tunica analogous to the English or German passive where the "direct object" (Patient) becomes the "subject" and the latter occurs as an oblique. There are, however, two constructions which can be used to deemphasize the actor and topicalize the Patient. The first involves simple omission of the Actor NP, analogous to that in (178) and (179) in Lakhota.

(186) ta'yaʒi' ʔuwe'nʔuhkɛni.

(Haas 1946:362)

buck(m) P(3masc.sg.)-A(3masc.sg.)-find  
 'He found the buck, it is said,' or  
 'The buck was found by him, it is said.'

ta'ya3i' < ta'- 'the' + ya3i' 'buck'  
?uwe'n?uhkε'ni < ?uhk- PP(3masc.sg) + we'ni- 'find' +  
 -?uhki- A(3masc.sg) [3] + -a'ni 'quotative'

The translation of (186) as an English passive is perhaps misleading; the most accurate rendering would be 'The buck, he found it,' where the Patient functions as a topic. The other quasi-passive construction is called "transimpersonal" (transitive impersonal) by Haas 1940 (see 58-59). Here the verb is inflected for the third person feminine singular Actor, which is the indefinite Actor form of the verb in Tunica; the Patient is then the prominent role in the verbal complex.

(187) ?uwe'niti3tuk?ɔhɔ'ni. (Haas 1940:59)  
 'He cannot be found.'

?uwe'niti3tuk?ɔhɔ'ni < ?uhk- P(3masc.sg) +  
 we'ni- 'find' + -ti A(3fem.sg) + -3tuk?ɔhɔ 'cannot',  
 (< 3tuku 'can' + ?aha NEG) + -a'ni 'quotative'

In this case too the Actor ("subject") still bears a "grammatical relation" to the verb, and the form of the Patient remains unaltered. While calling this construction a "passive", Haas notes that "in a different context this same construction could mean 'She cannot find him'." (1940:59) Thus, the situation in Tunica is very similar to that in Lakhota, where there is no demotion or promotion of NPs of any kind.

4.2.3.2. Choctaw. The most striking feature of Choctaw clause-level grammar is the existence of two distinct "case" systems, one coding the semantic roles of NP arguments in the verb and the other marking full NPs. According to Heath 1977, five different semantic roles may be marked on the verb: Agent, Patient, Dative, Instrument and Locative (204-6). The agentive marker is used to mark the "subject" of transitive verbs and intransitive verbs "describing active or voluntary activity" (1977:204). The Patient affix is used with the "direct object" of transitive verbs and the "subject" of intransitive verbs denoting states or involuntary action. Thus Choctaw makes the same fundamental distinction in argument coding between active and stative verbs made by Lakhota and Tunica, as well as Caddo and Iroquoian languages (W. Chafe, Personal communication). The Dative marker is used not only for "indirect objects" (including Beneficiaries) but also for the "direct objects" of transitive verbs of emotional state and for the "subject" of stative verbs expressing emotional states. Heath gives

the following examples to illustrate the coding of Agent, Patient and Dative roles (1977:204).

- (188) a. i3-iya-h.  
A(2sg)-go-PRES  
'You are going.'
- b. si-(y)abi:ka-h.  
P(1sg)-be sick-PRES  
'I am sick.'
- c. im-ačokma-h.  
D(3)-feel good-PRES  
'He feels good.'
- d. či-pI:sa-li-h.  
P(2sg)-see-A(1sg)-pres  
'I see you.'
- e. šI:-hikI:ya-li-h.  
D(2sg)-stand-A(1sg)-PRES  
'I am waiting ("standing") for you.'
- f. I:-sa-nokšo-pa-h.  
D(3)-P(1sg)-be afraid-PRES  
'I am afraid of him.'
- g. im-č-ano:li-li-h.  
D(3)-P(3)-tell-A(1sg)-PRES  
'I am telling it to him.'

(Third person is not differentiated for number.) These examples are all complete sentences; no independent adjuncts are necessary. This is similar to the situation in Lakota and Tunica.

If independent NPs are present in a clause, they must fill the slots coded in the verb as illustrated above. There is a second case system for full NPs, but instead of marking the five-way distinction which the verb makes, it distinguishes only between what Heath calls "subject" and "oblique". In essence, one NP is chosen as the "subject" and all others are marked as oblique. With intransitive verbs (active and stative) the single argument receives the "subject" marking regardless of its semantic role. In transitive clauses, however, the choice is less simple. There is a hierarchy determining "subject" marking such that if there is an Actor NP, it receives the "subject" suffix, which is -t (see McClaran & Herrod 1977:215-6); if there is no Actor role in the clause but there is a Patient, then the Patient becomes the "subject", even if a Dative role is also present. Dative NPs may become "subjects" only if no Actor or Patient is present, which means that they can be "subjects" only with certain stative verbs. Instrument and



Locative NPs can never be "subjects". Heath gives the following examples of NP case marking. (The oblique suffix is *-n*, which is often realized simply as nasalization of the preceding vowel.)

- (189) a. hattak + at Ø-*iya*-h [4]  
           man "subj" A(3)-go-PRES  
           'The man goes.'
- b. hattak+at Ø-*abi:ka*-h  
                         P(3)-be sick-PRES  
           'The man is sick.'
- c. hattak+at im-*ačokma*-h  
                         D(3)-feel good-PRES  
           'The man feels good.'
- d. hattak+at oho:yoh(+ā:) Ø-Ø-p*I:sa*-h  
                         woman (OBL) A(3)-P(3)-see-PRES  
           'The man sees the woman.'
- e. hattak+at oho:yoh(+ā:) Ø-*l:-hikI:ya*-h  
   A(3)-D(3)-stand-PRES  
           'The man waits for the woman.'
- f. hattak+at oho:yoh(+ā:) I-Ø-nokšo:pa-h  
   D(3)-P(3)-be afraid-PRES  
           'The man is afraid of the woman.'
- g. hattak+at oho:yoh(+ā:) Ø-im-Ø-ano:li-h  
   A(3)-D(3)-P(3)-tell-PRES  
           'The man tells it to the woman.'

Note that oblique marking is optional, while subject marking is obligatory.

The most important fact about this system of "subject" marking for this discussion is that it is completely determined by the semantic role functions in the clause. Heath formulates a "main subject selection rule" as follows:

Given a descending rank-order  $A > P > D > \text{others}$ , the highest ranking NP in a clause is marked as subject. (1977:207)

By "the highest ranking NP in a clause" is not meant the highest ranking full NP in a clause but rather the NP filling the highest ranking role in the clause. Thus if hattak 'man' were omitted in (189d), for example, oho:yoh 'woman' would not then receive "subject" inflection; it would retain its oblique marking. Pragmatic factors do not affect "subject" selection; Heath notes that "the subject/oblique opposition is cross-cut by what can be described very roughly as a definite/indefinite

opposition."(1977:206) Since "subject" marking is entirely semantically determined, it is not surprising that there is no passive construction in Choctaw which allows an otherwise oblique NP to occur with -t, while the erstwhile "subject" appears with oblique marking; in the Choctaw system this would amount to changing the semantic role of the NP (see Heath 1977:207).

This NP marking system performs a number of important functions in Choctaw grammar at both the clause and sentence levels. I would like to argue that at the clause level it performs the same function as word order in Lakhota in the determination of the semantic roles of full NPs. It was shown in 1.7 that the basic word order constraint in the Lakhota clause is Actor followed by Undergoer(s); when there is more than one human or animate Undergoer NP, as in (55), the interpretation of the NPs is variable and ultimately dependent upon context. Thus there is a two-way distinction in Lakhota word order, Actor vs. everything else. This is virtually the same distinction that the NP case system in Choctaw marks. Given a role hierarchy of Actor > Patient > Dative, the highest ranking NP is positively marked with -t, all others optionally getting -n. Put another way, the NP filling the highest ranking slot of the verb receives "subject" marking; all other NPs are treated as obliques. When both Patient and Dative NPs are human, the NP marking gives no clue as to which NP fills which slot, just as word order is no help in Lakhota in that situation (see 1.7). In short, at the clause level in Choctaw the NP case system functions to disambiguate the semantic roles of full NPs.

It also plays an important role in subordination processes in that -t and -n are used to signal same and different "subject" in subordinate and main clauses. If the NP filling the highest ranking slot in the subordinate clause is the same as that filling the highest ranking slot in the main clause, then the subordinate clause is marked by -t; if not, then it receives -n. McClaran & Herrod 1977 give the following examples. (217)

- (190) a.  $\hat{c}i:\hat{c}okka$   $i\hat{s}ya\hat{c}i:k-a-t$   
           your house you will go-ART-"SUBJ"  
           *i\hat{s}anokfillih h\hat{a}:*?  
           you think Q  
           'Do you think you'll go home?'
- b.  $nakni$   $a\hat{i}ihat$   $alah m\hat{a}:$   $Tabi$   $at$   $impa$   $tok.$   
     men arrive OBL "SUBJ" eat PAST  
     'When the men (not including Tabi) arrived, Tabi ate.'
- c.  $nakni$   $a\hat{i}ihat$   $alah mat$   $Tabi$   $at$   $impa$   $tok.$   
     men arrive "SUBJ" "SUBJ" eat PAST  
     'When the men (including Tabi) arrived, Tabi ate.'

In the first sentence the Actor of the subordinate clause is coreferential with that of the main clause, and so the subordinate clause is marked with -t. It appears that the subordinate status of the clause is signalled by the article a 'the' following the verb; this is similar to Lakhota, which marks subordinate clauses with ki 'the' (see 3.1.1). The difference between the last two examples is that the "subject" of the main clause, Tabi, is not one of the persons making up the plural "subject" in (190b) but is in (190c), hence the difference in marking on the subordinate clauses. It was pointed out earlier that the third person slot is not differentiated for number, and this may be the reason the difference in number across the two clauses is of no consequence in these examples. [5] Thus, switch-reference in Choctaw is keyed to the highest ranking NP in each clause in terms of the "subject" selection hierarchy.

All of the grammatical processes examined so far have been completely tied to the semantic role functions of the clause. Pragmatic factors are not ignored entirely, however. McClaran & Herrod 1977 argue that there is a topicalizing suffix -3 which may be added to the article on an NP. It wipes out the case marker the NP has, and any NP, "subject" or oblique, may take it. They give the following examples (1977:215-6).

(191) a. Q: katimi holisso y8: i3-ho8iffo tok?  
           what book OBL you-read PAST  
           'Which book did you read?'

      b. A: holisso ho3          ho8iffo-li tok.  
           book this-TOPIC read-I PAST  
           'I read this book.'

(192) a. Q: katimi i3-ata tok?  
           what you-do PAST  
           'What did you do?'

      b. A: holisso y8: ho8iffo-li tok.  
           book OBL read-I PAST  
           'I read a book.'

In the first dialogue holisso 'book' is established as the topic by the question, and so it is marked by -3 in the reply. In the second one, however, it is new information in the response and so is not marked by -3. Note that in (192b) the single NP holisso 'book' is marked as an oblique rather than as "subject" because there is a higher ranking role, the second person singular Actor, in the clause.

A number of considerations suggest that an NP marked by -3 should be considered a sentence-level topic rather than a clause-level pragmatic peak [PrP]. First, an NP with -3 is not obligatory in every clause, whereas a PrP is normally indispensable (see Foley & Van Valin 1977, Van Valin 1977a).

Second, there is no special verbal coding with reference to the NP whose case marking has been eliminated by -3, as there is in Tagalog when ang replaces the case marker of an NP functioning as a PrP (see 2.3.2.1). Finally, -3 may mark entire clauses as topics whereas such a clause may not, in general, function as a PrP.

- (193) a:pokni iyakni mā:kō:h a:mi3kit  
 my-grandmother her-land where-PRED my-mother-"SUBJ"  
 ðokka ikbi tok o3 mā:kō:h anta kiyo.  
 house build PAST TOPIC where-PRED (she)-living PART  
 'My mother is living where she built her house on  
 my grandmother's land.' (McClaran & Herrod 1977:217)

The entire subordinate clause ai:mi3kit ðokka ikbi tok 'my mother built her house' is topicalized by -3. (It is interesting to note that this sentence was a response to a question about where the speaker was going to live when she went home to Oklahoma.) It may thus be concluded that -3 marks sentence-level topics rather than PrPs in Choctaw.

The final aspect of Choctaw syntax to be examined is relativization. Choctaw relative clauses are strikingly similar to those in Lakhota and Tunica. They consist of a clause nominalized by an article with the head noun filling one of its slots; there is no relative pronoun (see Nicklas 1974:232-4).

- (194) a. hattak o3 tamaha iya tok  
 man TOPIC to-town he-goes PAST  
 at abi:kah.  
 ART-"SUBJ" he-sick-PRES  
 'The man who went to town is sick.'  
 b. hattak tamaha iya tok at abi:kah.  
 'The man who went to town is sick.'

The definiteness and function of the head noun in the main clause is marked on the relative clause; in Lakhota, as shown in 2.3.1.1, the definiteness of the head noun is also determined by the relative clause. The head noun need not be marked by -3, as (194b) shows. In (195) the head noun functions as a Patient in the relative clause.

- (195) hattak ɔ: Bill at pI:sa tok  
 man OBL "SUBJ" he-sees-him PAST  
 at abi:kah.  
 ART-"SUBJ" he-sick-PRES  
 'The man who Bill saw is sick.'

Note that the head noun receives the oblique case marking

appropriate to its role in the relative clause. Unfortunately, I have only been able to find clear-cut examples of these two types of relatives, i.e. Actor and Patient. However, the subordinate clause in (193) may be analyzed as a relative clause construction with a:pokni iyakni 'my grandmother's land' as the head noun, and mā:kō:h a:miškit čokka ikbitck 'where she built her house' as the relative clause; the second occurrence of mā:kōh appears to be a postposition modifying the entire NP plus relative clause, yielding 'on my grandmother's land where she built her house' (compare the Lakhota constructions in (93) and (106).) Thus (193) could perhaps also be rendered 'My mother is living on my grandmother's land where she built her house.' If this is an accurate analysis, then (193) can be taken as an example of a head noun functioning as the object of a postposition in a relative clause. This suggests that relativization in Choctaw, like that in Lakhota and Tunica, is relatively unconstrained. This is not surprising, given the great structural similarity between relative clauses in the three languages. [6]

Looking over the Choctaw facts, it is clear that grammatical processes at the clause level are sensitive exclusively to the semantic role properties of NPs and not to their pragmatic or referential properties. Thus it may be concluded that Choctaw, like Lakhota and Tunica, is a role-dominated language, i.e., it lacks a clause-level referential structure (see 2.3.2). Full NP case marking is completely determined by a semantic role hierarchy, to which switch reference constraints are also sensitive. Pragmatic factors are expressed primarily through -3, which marks sentence-level topics. The extensive typological similarities between these three languages are thus not surprising, since they are all role-dominated and stative-active.

4.3. I have presented data from three unrelated American Indian languages which lack passive constructions of the kind postulated as universal by Postal, Perlmutter, Keenan, and Johnson. [7] If relational grammar is to be a valid theory of universal grammar, then it must account for why these languages lack promotional or demotional passive constructions. In other words, since the theory claims that all languages can be described in terms of the universal primitive notions of 'subject', 'direct object', and 'indirect object', it must give a principled non-ad hoc account of why some languages, e.g. German and French, have such relation changing rules and why Choctaw, Tunica and Lakhota do not. An analogous problem confronts Dixon's proposed universals: if all languages have the core semantic-syntactic functions S, A and O, then a principled account must be given of why some languages group two of these functions together to form syntactic pivots and why others do not. Dixon does not claim that syntactic pivots

are universal, but he makes no attempt to explain their distribution.

If one looks at Lakhota, Choctaw and Tunica in terms of grammatical relations or functions, there is nothing about them which readily suggests an answer to these questions. However, if one looks at them within the framework of role and reference grammar, it is immediately evident that there is something very different about these languages from languages such as German and English; namely, they are all role-dominated languages, while the latter are reference-dominated (see 2.3.2.2). This is an interesting fact, since these role-dominated languages all lack passive constructions, while these reference-dominated ones all have passives of the kind described by Perlmutter, Postal, Keenan and Johnson. Given this initial correlation, the question which must be answered is why there is a connection between having a passive and being reference-dominated.

This connection can be illustrated by some examples from German. The PrP of a German clause is the NP in the nominative case. Zubin 1976 argues that the NP in the nominative case in a German sentence represents or refers to the pragmatically most prominent participant from the point of view of the speaker, and the PrP is defined as the pragmatically most salient NP in a clause. [8] In standard accounts of German grammar, the nominative case NP is taken to be the "subject". It was shown in the discussion of syntactic pivots in 4.1.3 that there are syntactic processes in German which involve only NPs in the nominative case, i.e. only PrPs. In (176) it was shown that only "subjects" could be coreferentially deleted across coordinate conjunctions, and furthermore, prenominal participial relative clauses are only possible when the "deleted" NP is the PrP, as in (177a). The important thing to notice about these examples is that it is not the semantic role of the NP which is crucial but rather its occurrence as the PrP. This is illustrated by (176c,d) and (177b,c), repeated here in (196) and (197).

(196) a. Der Knabe sah den Mann und Ø wurde gekidnappt. (=176c)  
'The boy saw the man and was kidnapped.'

b. \*Der Knabe sah den Mann und er kidnappte Ø. (=176d)  
'The boy saw the man and he (the man) kidnapped.'

(197) a. \*Die der Mann schlagende Frau ist ein Spion. (=177b)  
'\*The woman man hitting [man hit woman] is a spy.'

b. Die vom Mann geschlagene Frau ist ein Spion. (=177c)  
'The woman who was hit by the man is a spy,' or  
'The woman being hit by the man is a spy.'

In all of these examples the non-occurring ("deleted") NP is semantically a Patient; the difference between the pairs of

sentences is that in (196a) and (197b) the "deleted" Patient is the PrP. These rules are therefore sensitive to whether an NP is a PrP and not to its semantic role.

The same is true of equi-NP-deletion.

- (198) a. Johann möchte gehen.  
'Johann would like to go.'
- b. Johann möchte dass Jürgen geht.  
'Johann would like Jürgen to go.'
- c. Johann möchte einen Apfel essen.  
'Johann would like to eat an apple.'
- d. Johann möchte dass Jürgen einen Apfel isst.  
'Johann would like Jürgen to eat an apple.'
- e. Johann möchte zum Kanzler gewählt werden.  
'Johann would like to be elected Chancellor.'
- f. \*Johann möchte dass das deutsche Volk Ø zum  
Kanzler wählt.  
\*'Johann would like the German people to elect  
Chancellor.'

In (198a,c) the Actor of both verbs is the same, and so in a transformational analysis one would say that the "subject" of the lower verb has been deleted by equi-NP-deletion; in (198b,d), on the other hand, the "subjects" (Actors) are not the same, and so there are two explicit clauses, each with its own "subject". The interesting cases are (198e,f), where the coreferential NP in the lower clause is a Patient, rather than an Actor; it may be deleted only when it is the "subject", i.e. the PrP, as in (198e). Thus this rule, like the other two illustrated above, is sensitive to the status of an NP qua PrP and not qua semantic function.

These examples illustrate aspects of the referential structure of the German clause. Since the accessibility of an NP to certain grammatical operations is determined by its function in the referential structure rather than its semantic role, some languages have means by which NPs may have various referential or pragmatic statuses. In particular, there are means by which NPs bearing different semantic roles may occur as the PrP and thereby participate in the kinds of processes illustrated above. In 2.3.2.2 I argued that in English certain semantic roles have unmarked access to the PrP position, e.g. Actor and Experiencer, whereas others, in particular Patient and Goal, have marked access, such that in a simple transitive clause they cannot occur as the PrP. The same is true for German: Actor and Experiencer are unmarked with respect to occurrence as the PrP in the nominative case, while Patient and Goal are marked. The primary function of the passive in languages

like German and English, i.e. reference-dominated languages, is to allow the occurrence of NPs bearing marked semantic roles as PrPs, thus making them more accessible to syntactic operations. In the role-dominated languages examined above, grammatical processes are sensitive to the semantic functions of NPs and not their pragmatic status, and so an operation like passive, which does not affect the semantic role function of NPs, has no place in such a grammar.

This, then, is the reason that reference-dominated languages have passive constructions and that role-dominated languages lack them. A couple of points need to be made here. First, it is not necessarily the case that all reference-dominated languages have passive constructions exactly like those found in German, French, English and Kinyarwanda (see Kimenyi 1976). These presuppose a distinction between roles with marked and unmarked access to occurrence as the PrP; it is entirely possible that a language could make no such distinction. Tagalog is in fact such a language, in which there are no unmarked semantic roles vis-a-vis the PrP. This is shown in the following examples involving the verb bili 'buy' (see also 2.3.2.1, (11) above).

- (199) a. b-um-ili ng isda sa bata ang lalake.  
           buy-AF P fish S child PrP man  
           'The man bought some fish from the child.'
- b. b-in-ili ng lalake sa bata ang isda.  
           buy-PF A man S child PrP fish  
           'A/The man bought the fish from the child.'
- c. b-in-ilh-an ng lalake ng isda ang bata.  
           buy-LF A man P fish PrP child  
           'A/The man bought some fish from the child.'

The important thing about these examples is that in none of them does the unaffixed root bili occur; the verb is inflected in a particular way for each semantic role which occurs as the PrP. Thus it is not possible to designate certain roles as marked and others as unmarked; all are equally "marked". This illustrates an important difference between the Tagalog focus system and English passives, and it argues against analyzing Tagalog as having simply several different English-style "voices" (see Foley 1976 for further discussion.)

The second point concerns Dixon's notion of 'syntactic pivot'. With respect to German, the examples which illustrate the S/A pivot are the very same ones which illustrate the PrP. This suggests that the German PrP, the NP in the nominative case, is also the syntactic pivot. It is certainly true that in English and Tagalog as well, the PrP is the syntactic pivot. It would thus appear that the S/A pivot which Dixon posits for accusative languages is the



same thing as the PrP in accusative reference-dominated languages. When syntactic pivots are viewed as PrPs, then there is a possibility of accounting for their distribution. For example, Dixon 1977 claims that Choctaw has an S/A pivot, like English and German. However as shown in 4.2.3.2, grammatical processes in Choctaw are keyed to the NP bearing the highest ranking semantic role in the clause rather than to the pragmatic properties of that NP, and there are no operations which can make a lower ranking NP accessible to processes such as switch reference. Furthermore, relativization appears to have no definable pivot at all. Consequently, to lump Choctaw and German together under the heading of "languages with S/A pivot" totally obfuscates the important typological differences between the languages; moreover, one is unable to account for German having a passive and Choctaw not having one. Thus, reanalyzing syntactic pivots as PrPs leads to important generalizations that an analysis purely in terms of syntactic pivots would necessarily miss.

4.4. I have thus far discussed PrPs only in languages which have an S/A pivot, i.e. accusative languages. What about languages such as Dyirbal, which have an S/O pivot? In 2.3.2.2 I argued that Dyirbal is a reference-dominated language (see also Van Valin 1977a), with the NP in the absolutive case being the PrP. Relativization in Dyirbal is limited to the PrP, as discussed in 2.3.2.1, as is coreferential deletion in "topic chains" (see 4.1.3). Thus the syntactic pivot, in this case S/O, is the same as the PrP.

I discussed the basic aspects of Dyirbal clause structure in 2.3.2.1, but will repeat them here. In a simple clause, the Actor NP is in the ergative case, and the Patient is in the absolutive case and therefore the PrP; this is the unmarked situation.

(200) balan dyugumbil bangul yarangu buran.  
 woman-ABS (P) man-ERG (A) see  
 'Man sees woman.'

In processes such as relativization and coreferential deletion, only balan dyugumbil 'woman (ABS)' could be deleted, as it is the PrP. If, however one wished to coreferentially delete or relativize upon bangul yarangu 'man (ERG)', it would have to be in the absolutive case. Since it cannot be the PrP in a simple unmarked transitive clause such as (200), a special construction must be employed which allows the occurrence of a marked role as the PrP (see also 2.3.2.1, (112) and (113)).

(201) bayi yapa bagun dyugumbilgu buralnaynyu.  
 man-ABS (A) woman-DAT (P) see+ANTI  
 'Man sees woman.'

In this construction, the verb is explicitly inflected to signal the occurrence of a marked role as the PrP. It is normally called an antipassive and is functionally quite similar to a passive in an accusative reference-dominated language in that it allows the occurrence of a marked role as the PrP. There is another construction which permits Instrumental NP to be the PrP (see Dixon 1972:95-6).

- (202) a. balan dyugumbil bangul yaraṅgu banggu yuguṅgu  
 woman-ABS (P) man-ERG(A) stick-INST (IN)  
 balgan.  
 hit  
 'Man hit woman with stick.'
- b. bala yugu bangul yaraṅgu balgalman  
 stick-ABS (IN) man-ERG (A) hit+INST  
 bagun dyugumbilgu.  
 woman-DAT (P)  
 'Man hit woman with stick.'

Both of these antipassive constructions have NPs in the absolutive case which do not normally occur in it and which may now undergo grammatical processes which they otherwise could not.

It appears, then, that reference-dominated languages have constructions which allow various NPs to occur as the PrP and thereby undergo grammatical operations which are restricted to it. The crucial difference between an accusative language like English, and an ergative language like Dyirbal, can be expressed in terms of the eligibility of particular semantic roles to occurrence as the PrP.

- (203) UNMARKED OCCURRENCE AS PrP  
 English (accusative) ACTOR-INST > PATIENT-GOAL  
 Dyirbal (ergative) PATIENT-GOAL > ACTOR-INST

In intransitive clauses, there is only one NP, and so it is marked as the PrP. In transitive clauses, on the other hand, when the higher ranking NP is chosen as the PrP, then the verb occurs in its unmarked form; when a lower ranking NP is chosen, then it is inflected to reflect the occurrence of a marked role as the PrP. In accusative languages, such constructions are called passives and in ergative languages antipassives.

This role and reference analysis makes two important claims. First, it claims that passive and antipassive constructions have the same basic function, namely, to permit the occurrence of NPs bearing marked semantic roles to occur as the PrP. Dixon 1977 notes the common functional basis of passives and antipassives; he says that the basic reason for them is to take an NP in 'X' function and place it in S so that it can undergo operations which have an

S/"Y" pivot, with A --> S being antipassive, and O --> S passive. However, Dixon's analysis does not predict the existence of an antipassive construction in Dyirbal which allows Instrument NPs to be in the absolutive case (S function), since it defines antipassive solely in terms of S, A and O. On the other hand, the existence of such a construction is very much in line with the role-and-reference analysis given above.

Johnson 1976 discusses antipassives in a relational grammar framework. He postulates a universal rule of Passive:

direct object --> subject  
and antipassive:  
    subject(ERG)-direct object(ABS)-V[trans] -->  
    subject(ABS)-direct object chômeur(OBL)-V[intrans]

(1976:7). Note that this formulation of antipassivization is based on the assumption that the ergative case (Actor) NP is the "subject" in a simple transitive clause in an ergative language; Heath 1976 makes the same assumption (see Van Valin 1977a for a discussion of the difficulty of defining the "subject" in ergative languages). The important thing about the analysis of these rules is that the two have very little in common with each other, either in form or function. Johnson in fact comments that the "exact mechanics of this rule [antipassive] remain a mystery." (1976:7) There is no mystery about antipassives at all in the role and reference analysis; its functional identity with passives is readily apparent.

The second important claim of this analysis is that role-dominated ergative languages will not have antipassive constructions, just as the role-dominated "accusative" languages examined above have no passive constructions. Dyirbal and Eskimo (Woodbury 1977) both have clause-level referential structures and consequently antipassive constructions. I will now present data from two role-dominated languages which have traditionally been analyzed as ergative, Enga and Basque.

4.4.1. Enga. Data on Enga is from R. Lang 1973 and personal communication. Enga is a non-Austronesian language spoken in Papua-New Guinea. It is verb-final with ergative case marking.

- (204) a. akáli dokó-mé mená dčko p-í-á.  
man DET-A pig DET hit-PAST-A(3sg)  
'The man hit (or killed) the pig.'  
  
b. akáli dóko p-é-á.  
man DET go-PAST-A(3sg)  
'The man went.'

In the first example the Actor akali 'man' is explicitly

marked as such by the suffix -me attached to its determiner doko; the Patient mena 'pig' receives no case marking. The second sentence is intransitive, and so the single argument does not get the Actor suffix -me even though it is semantically an Actor. In both sentences the verb explicitly codes the person and number of the Actor. This can be seen clearly in (205), where the Actor is first person singular and the Patient third singular.

- (205) Namba-me kuma-s-i-o.  
 I-A die-CAUSE-PAST-A(1sg)  
 'I killed it.'

Here the verb specifies a first person singular Actor. Consequently, namba-me need not occur, since the Actor role is explicitly marked in the verb; thus kumasio can be a complete sentence meaning 'I killed it.'

The Patient is not specified overtly in the verb. There are non-zero affixes marking Beneficiary and Goal on the verb.

- (206) a. akáli dokó-mé mená doko émba-nya pya-k-e-á.  
 man DET-A pig DET you-B hit-B-PAST-A(3sg)  
 'The man killed the pig for you.'

- b. akáli dokó-mé mená doko baa-nyá pya-kamai-y-á.  
 man DET-A pig DET he-B hit-B-PAST-A(3sg)  
 'The man killed the pig for him.'

- (207) a. émba-me nambá pií méndé la-ngi-l-i-no.  
 you-A I word a utter-G-PRES-A(2sg)-AUG  
 'You are telling me something.'

- b. émba-me baá pií méndé la-mai-l-i-no.  
 you-A he word a utter-G-PRES-A(2sg)-AUG  
 'You are telling him something.'

There is a distinction between speaker-hearer vs. everyone else made in both the Beneficiary and Goal affixes: ka- and ngi- mark first or second person Beneficiary and Goal, respectively, while kamai- and mai- mark third person Beneficiary and Goal, respectively. Note that Beneficiary but not Goal NPs are explicitly marked for their role.

To sum up Enga semantic role coding, the Actor NP in transitive clauses is positively marked with a suffix, -me, and it is overtly specified in the verb. The Patient, on the other hand, receives neither case marking nor explicit coding in the verb. The single argument of an intransitive verb is not case marked. There are verbal affixes specifying Beneficiary and Goal roles, and Beneficiary NPs also receive explicit case markings.

Like many Papuan languages, Enga makes a fundamental distinction between sentence-medial and sentence-final verb

forms. There are no conjunctions in the language, and so special verbal affixes are used with all but the final verb of a sentence to express the relationships between clauses. Thus the two clauses in (208) may be linked to form (209).

- (208) a. Baá p-é-á.  
           he gc-PAST-A(3sg)  
           'He went.'
- b. Baa-mé kalái p-i-á.  
           he-A work dc-PAST-A(3sg)  
           'He worked.'
- (209) Baa-mé pa-c kalái p-i-á.  
       he-A gc-CMPL work dc-PAST-A(3sg)  
       'He went and worked (at the same time).'

Tense and Actor specifications can occur only on the final verb of the sentence. Note that the first NP in the sentence is explicitly marked as the Actor for both clauses. The "complementizer" -c occurs on the medial but not on the final verb. There are a number of different suffixes expressing different relationships between the clauses (see R. Lang 1973:xxxii ff for further discussion).

When the Actors in the two clauses are not coreferential, a construction like (209) cannot be used. In this case both verbs must retain their tense and Actor specification and the sentence-medial marker -pa is used.

- (210) a. \*Namba pa-c baa-me kalai p-i-a.  
           I gc-CMPL he-A work dc-PAST-A(3sg)
- b. Nambá p-e-é-pa baa-mé kalái p-i-á.  
           I gc-PAST-A(1sg)-PA he-A work dc-PAST-A(3sg)  
           'I went and he worked.'

The important thing about these examples of clause-chaining is that the switch reference mechanism and the concomitant syntactic processes are sensitive to whether or not an NP (in a transitive clause) is an Actor. R. Lang states that "co-ordinate and subordinate sentences with co-referential subjects are called 'same actor' sentences in Enga grammatical studies, and those with non-coreferential subjects are called 'different actor' sentences." (1973:xxx [emphasis added]) Thus this process of coordination and subordination is restricted to Actor NPs in transitive clauses; the accessibility of an NP to these processes is determined not by its pragmatic features but solely by its semantic role function.

The last syntactic operation to be examined is relative clause formation. Relativization in Enga is strikingly similar to that in Lakhota, Tunica and Choctaw. As in those languages, all nominal modifiers, including relative

clauses, follow the noun they modify. A relative clause consists of a verb (plus adjuncts, if it is transitive) followed by the determiner doko; the head noun has no determiner.

- (211) a. Akāli andīpā epe-ly-ā-mo dōko  
 man now come-PRES-A(3sg)-AUG DET  
 alēmbc p-ē-ā.  
 day-before-yesterday gc-PAST-A(3sg)  
 'The man who is now coming left two days ago.'
- b. Andīpā epe-ly-ā-mo dōko alēmbc p-ē-ā.  
 'The one who is now coming left two days ago.'

There is no relative pronoun, and so in transformational terms one would say that Enga relativizes "by deletion". The second example shows that relative clauses may be used without head nouns with the meaning 'The one who X', just as in Lakshota and Tunica. When a head noun functions as an Actor in a transitive main clause, the Actor suffix -me is attached to the determiner marking the relative clause.

- (212) akāli andīpā epe-ly-ā-mo dōkō-mē  
 man now come-PRES-A(3sg)-AUG DET-A  
 ēnda-nya menā dōko p-i-ā.  
 woman-POSS pig DET hit-PAST-A(3sg)  
 'The man who is now coming killed the woman's pig.'

In terms of the Keenan-Comrie NP accessibility hierarchy, all NP types except objects of comparative particles may be relativized upon (R. Lang, personal communication). This is very important because role-dominated languages which relativize "by deletion" have generally unrestricted strategies, whereas reference-dominated languages which relativize in the same way usually have very restricted strategies (see 2.3.2.2).

The facts discussed above about Enga syntax point unambiguously to the conclusion that it is a role-dominated language. "Verb agreement" and switch reference in coordination-subordination are keyed to the semantic role of Actor in transitive clauses; in intransitive clauses they are of course keyed to the single NP argument regardless of its semantic role (see 4.1.3). It is therefore not surprising that Enga lacks an antipassive construction like that in Dyirbal. Since an antipassive does not affect the semantic role of an NP, it would have no function in Enga grammar; the syntactic processes which antipassives make NPs eligible for in Dyirbal are sensitive to semantic and not pragmatic properties of NPs in Enga. Thus, there is a direct correlation between the role-dominated nature of grammatical processes in Enga and its lack of an

antipassive.

4.4.2. Basque. In a simple transitive Basque clause, the Actor is in the ergative case, and the Patient in the absolutive (which is zero); furthermore, there is with most verbs an auxiliary which specifies the person and number of the ergative and absolutive NPs. In intransitive clauses the single NP argument is in the absolutive case. (213a,b) are from Heath 1976.

(213) a. ni-k gizon-a-Ø hil d-u-t.  
I-ERG(A) man-DEF-ABS(P) kill ABS(3sg)-AUX-ERG(1sg)  
'I have killed the man.'

b. ethorri d-a.  
come ABS(3sg)-AUX  
'He has come.'

It appears from these examples that the auxiliary specifies the person and number of the NP in a particular case rather than that of the NPs bearing particular semantic roles, as in Enga. Nevertheless, a verb plus inflected auxiliary may constitute a complete sentence, as in (213b); independent pronouns may be omitted, as they are used mostly for emphasis (Heath 1974a). Word order in Basque is "free" (Donzeaud 1974), although the unmarked order appears to be ergative NP - absolutive NP - verb.

Heath (1974a,b) discusses the Basque rules for equi-NP-deletion and complement object genitivization. In Basque equi, the single argument of intransitive verbs and the ergative argument of transitive verbs are deleted when they are coreferential with the ergative NP of the main clause.

(214) a. joan-ten da.  
go-IMPF AUX(3sg)  
'He is going.'

b. nahi du joan-Ø.  
desire have(3sg/3sg) go-PERF  
'He wants to go.'

c. nahi du joan dadin.  
desire have(3sg/3sg) go AUX(3sg)  
'He wants him to go.'

(215) a. ikhus-ten nau.  
see-IMPF AUX(3sg/1sg)  
'He sees me.'

b. nahi nau ikhus-i.  
desire have(3sg/1sg) see-PERF  
'He wants to see me.'

- c. nahi du ikhus nazan.  
 desire have(3sg/3sg) see AUX(3sg/1sg)  
 'He wants him to see me.'

In these examples, d- marks third person singular absolutive, n- first person singular absolutive, and Ø- third person singular ergative in the auxiliary. (214a) and (215a) represent simple intransitive and transitive clauses, respectively. In (214b) the entire auxiliary in the lower clause has been deleted, because its "subject" is coreferential with that in the higher clause. The two "subjects" (the ergative argument in the main clause and the absolutive in the subordinate clause) are not coreferential in (214c), and so the lower auxiliary is fully inflected.

Things become somewhat more complicated when the verb in the lower clause is transitive, as in (215b). As in (214b), the entire lower auxiliary is deleted, and this eliminates not only the "subject" coding but also the "object" coding as well. This presents a problem, since there is no direct way to recover the specification of the Patient of the lower clause. This problem is solved by coding the Patient of the complement verb on the auxiliary of the main verb. In (215b) the Patient of ikhus 'see' is specified as the first person singular absolutive in the main verb auxiliary nau. [9] The main and lower clause "subjects" are not coreferential in (215c) and so no deletion is possible.

The important aspect of equi-NP-deletion for this discussion is that whether deletion can occur is determined by whether the controlling NP in the main clause is coreferential with the single argument of an intransitive verb or the ergative NP of a transitive verb. The rule is not sensitive to an NP in a clause with a transitive verb in terms of its case marking (and hence possible status as PrP if Basque were to have a referential structure) but rather in terms of its semantic role.

The second rule discussed by Heath is complement object genitivization. In the northern dialects of Basque (Labourdin, Low Navarrese, and Souletin) the Patients of transitive verbs in the infinitive form occur in the genitive case; transitive and intransitive "subjects" are unaffected by the rule. The following examples are from Heath 1974b.

- (216) a. txadurr-a-ren hil-tze-ra joan-Ø nintzer.  
 dog-the-GEN kill-INF-to go-ASP PAST-1sg  
 'I went to kill the dog.'
- b. txakurr-a-ren hil-tze-a on-a zen.  
 dog-the-GEN kill-INF-the good-the was-3sg  
 'Killing the dog was good.'

The Patient of the infinitive hil 'kill' occurs in the genitive case (marked by -ren). Intransitive "subjects",



which also normally occur in the absolutive, are never genitivized.

(217) a. ni ethor-tze-ko  
I come-INF-for  
'for me to come'

b. \*ene ethor-tze-ko  
I(GEN) come-INF-for

Complement object genitivization is a rule which appears to be sensitive to a particular NP type solely in terms of its semantic function rather than case marking or pragmatic status. Thus both this rule and equi-NP-deletion are keyed to the semantic function of an NP rather than its pragmatic (referential) properties.

Facts about relativization are very important for determining whether a language has a clause-level referential structure. Like all of the other languages examined in this study, Basque relativizes "by deletion"; There is no relative pronoun as in French, English and German. DeRijk 1972 gives the following example of Basque relative clauses (117-8).

(218) a. aita-k irakurri nahi du ama-k  
father-ERG read desire AUX mother-ERG

erre due-n liburu-a.  
burn AUX-REL book-the

'Father wants to read the book that Mother has burned.'

b. eman die-n aurr-a gaizto-a da.  
given he-has-it-to-him+REL child-the bad-the he-is  
i. 'The child whom he has given to him is bad.'  
ii. 'The child who has given it to him is bad.'  
iii. 'The child to whom he has given it is bad.'

The suffix -n is added to the verb in the relative clause. In both of these examples, the relative clause precedes the noun it modifies; this is interesting in that both adjectives and determiners are postnominal. Heath 1974b gives an example of a postnominal non-restrictive relative clause.

(219) O Jainko hainbertze mirakulu egin-Ø-a.  
Oh God so many miracles do-PERF-the  
'Oh God, who has performed so many miracles.'

The interesting example is (218b), which is three ways ambiguous; the head noun can serve as the Actor (i), Patient(ii), or Goal (iii) in the relative clause. The auxiliary of eman 'given' is inflected for third person singular Actor, Patient and Goal, and the head noun aurra

'the child' can fill any of the three slots. In terms of NP accessibility, Basque is thus relatively unrestricted. DeRijk describes two dialects which he calls "main" and "restricted". In the former, Actors, Patients, Goals and the objects of (monosyllabic) postpositions may be relativized upon, while in the latter, relativization is limited to Actors, Patients and Goals (1972:119). It was shown in 2.3.2.2 that reference-dominated languages which relativize "by deletion" usually have extremely restricted strategies, since the semantic role of normally only one NP is recoverable from the verb if it is deleted; the recoverable NP is usually the PrP, and so relativization is restricted to it. In role-dominated languages, on the other hand, the verb directly expresses the semantic roles of its NP arguments, and the role of any NP is recoverable from the verb; accordingly, these languages do not have such restricted relativization strategies. It should be clear that in terms of relativization strategies Basque falls in with Lakhota, Enga and the other role-dominated languages. This is consistent with the facts regarding equi-NP-deletion and complement object genitivization which showed these rules to be sensitive to semantic rather than pragmatic properties of NPs. It may thus be concluded that like Enga, Basque is a role-dominated language.

It would therefore not be surprising to discover that Basque lacks a Dyirbal-style antipassive construction. Heath 1976, however, describes a construction which he terms "antipassive".

- (220) ni-k gizon-a-Ø hil n-u-en.  
 I(ERG) man-the-ABS kill ABS(1sg)-AUX  
 'I killed the man.'

Here the auxiliary is inflected for first person singular absolutive, even though the first singular pronoun ni has the ergative case marker -k; there is no coding of the third person singular absolutive NP gizon 'man'. This construction only occurs in the "past [tense] system when the TS [transitive subject] is first or second person and the TO [transitive object] is third person." (1976:208) It is not clear what the function of such a construction is, since it changes neither case marking nor accessibility to grammatical processes such as equi-NP-deletion and relativization. It is clear, however, that it is nothing like an antipassive in a reference-dominated language such as Dyirbal which serves to make certain NP types accessible to processes such as coreferential deletion and relativization.

There are two other constructions in Basque which merit comment. Jacobsen 1969 presents the following examples of what he calls "mediopassive" (221) and "agentive" (222) constructions.

- (221) a. (ni-k) ogia-Ø      jan d-u-t.  
               (I-ERG) bread-ABS eat ABS(3sg)-AUX-ERG(1sg)  
               'I ate the bread.'
- b. ogia-Ø      (ni-k) jana      d-a.  
               bread-ABS (I-ERG) eat-PASS(?) ABS(3sg)-AUX  
               'The bread was eaten (by me).'
- (222) a. gizon-a-k ogia-Ø      jaten      d-u-Ø  
               man-the-ERG bread-ABS eat-PRES ABS(3sg)-AUX-ERG(3sg)  
               'The man is eating the bread.'
- b. (ogia-ren) gizon-a-Ø      jaten      ari      d-a.  
               bread-GEN man-the-ABS eat-PRES INTRANS ABS(3sg)-AUX  
               'The man is eating (bread).'

The constructions appear to have the function of suppressing Actors (221b) and Patients (222b), respectively. Note that in these examples the Actor or Patient role is excised from the auxiliary, creating in effect an intransitive verb. The motivation for these constructions is clearly semantic, as they do not affect the eligibility of an NP for e.g. relativization but do affect the meaning of the sentences. These constructions alter the semantic structure of the clause but do not change the pragmatic status of NPs. [10] This is further evidence in favor of analyzing Basque as being role-dominated.

4.4.3. I have presented data from Enga and Basque and argued that these two ergative languages are in fact role-dominated; consequently, that both of them lack antipassive constructions as discussed in 4.4 is in line with the claim of role and reference grammar that role-dominated languages with ergative morphology will not have antipassives. In more general terms, I have presented evidence that reference-dominated languages have constructions which permit various NP types to occur as the PrP and thereby become accessible to grammatical processes keyed to the PrP, e.g. coreferential deletion and relativization. I have also given evidence that languages in which grammatical processes are sensitive to the semantic role function of NPs do not have constructions which affect the pragmatic status but not the semantic function of NPs, i.e. passives or antipassives. Thus the data from the languages surveyed above support the generalizations made by role and reference grammar.

4.5. Recent discussions of ergativity. Ergativity has become a major topic of concern in linguistic theory recently, and in this section I will discuss a number of recent claims about ergative languages.

Anderson 1976, Comrie 1977 and Dixon 1977 all argue that the majority of ergative languages are only superficially ergative: while case marking operates on an ergative basis,

the major syntactic processes of these languages operate on a nominative-accusative basis. Comrie sums this up as follows.

In the study of most languages that have morphological ergativity (nominal, verbal or both), it seems to turn out that, apart from a few syntactic processes like incorporation that tend always to operate on an ergative-absolute basis rather than a nominative-accusative basis, the vast majority of syntactic phenomena operate on a nominative-accusative basis rather than an ergative-absolute basis, i.e. the majority of languages that are morphologically ergative are not syntactically ergative, i.e., in the majority of ergative languages ergativity does seem to be a relatively superficial phenomenon, at least as far as morphology and syntax are concerned... (1977:16)

Anderson 1976 argues that ergative languages have the same notion of subject as accusative languages and therefore that ergative case marking "is reduced to a comparatively trivial fact about morphology." (1976:17)

Their basic argument is that syntactic processes in most ergative languages identify transitive and intransitive subjects, regardless of surface case marking which associates the intransitive subject with the transitive object. In Dixon's terminology one would say that they have an S/A pivot just like German and English. Anderson 1976 discusses a number of different phenomena from several ergative languages in support of his claim. However, he begins by discussing equi-NP-deletion and subject raising in English. He presents the following examples (1976:3-9).

(223) Equi-NP-Deletion

- a. John wants to laugh. (=7a)
- b. \*John wants Bill to tickle. (=7c)
- c. John wants to be tickled by Bill. (=8b)

(224) Subject Raising

- a. John seems to be laughing. (=9a)
- b. John seems to be getting the job. (=9b)
- c. \*John seems for a Dayak to tattoo.
- d. John seems to have been tattooed by a Dayak. (=9d)

With respect to these examples, Anderson claims they show that "It is the syntactic relation of subject, rather than an underlying (and hence possibly semantic) relation, which is relevant [to their application]..." (1977:8 [emphasis added]). He is correct in saying that these rules are not sensitive to "underlying" semantic relations. In both (223b) and (223c) the deleted NP is semantically a Patient,

but only one of the sentences is acceptable. Similarly in (224), the raised NP in (c) and (d) is again a Patient, but only one, (d) is grammatical. Thus, on Anderson's account, the crucial fact about (223b,c) and (224c,d) is that in the first sentence of each pair the deleted or raised NP is not the subject of the lower clause while in the second it is. In Dixon's terms, the deleted NPs in (223a,d) are in S function, while that in (b) is in O; and in (224) the raised NPs must be in either S or A function, because English has an S/A pivot.

Within a role-and-reference framework, one would say that equi and subject raising are sensitive to the PrP of the lower clause, regardless of its semantic role. When the coreferential NP is a Patient or Goal, as in (223b,c), a passive construction must be used, so that it may occur as the PrP and thereby become eligible for deletion. The same is true in (224); the NP to be raised must be the PrP of the lower clause, and so when it is a Patient, a passive construction is necessary as in (224d). These two processes illustrate the reference-dominated nature of English syntax.

Anderson first discusses data relating to equi-NP-deletion in Basque; his examples are similar to those presented in 4.4.2, in particular (214) and (215). He argues that such examples show that it is the "subject" of the two clauses which must be coreferential and that a coreferential "object" cannot be deleted. He therefore concludes that "the rule of Equi in Basque...is sensitive to the same notion of subject as in English, and not sensitive to a notion of subject that would correspond with the morphological category of absolutive." (1976:12-3) Heath 1974a draws a similar conclusion, i.e. that Basque equi operates on an accusative basis as in English. While it is certainly true that this rule does not operate in terms of the categories reflected by case marking, this does not, however, mean that the rule is sensitive to the same notion of "subject" as in English. The Basque rule applies only to ~~the~~ Actor (ergative NP) of a transitive verb; in English, on the other hand, the rule is sensitive to the PrP of the lower clause regardless of its semantic function. This can be seen clearly in a comparison of (223a) with (223c); in the first sentence the deleted NP is an Actor and in the second a Patient, but in both cases it is the PrP of the lower clause. The two rules are thus not sensitive to the same notion of "subject", since the Basque rule deletes only the Actor of a transitive verb, whereas the English rule deletes the PrP of the lower clause without regard to its semantic role. By claiming that Basque is syntactically accusative like English, Anderson and Heath overlook the crucially important typological difference between the two languages, namely, that Basque is role-dominated and English reference-dominated.

Anderson's next argument relates to subject raising in Tongan. He gives examples of raising out of clauses with

transitive and intransitive verbs.

(225) a. 'oku lava ke hu 'a mele ki hono fale.  
PRES possible TNS enter ABS Mary to his house  
'It is possible for Mary to enter his house.'

b. 'oku lava 'a mele 'o hu ki hono fale.  
PRES possible ABS Mary TNS enter to his house  
'Mary can enter his house.'

c. 'oku lava ke taa'i 'e siale 'a  
PRES possible TNS hit-TR ERG Charlie ABS

e fefine.

def woman

'It is possible for Charlie to hit the woman.'

d. 'oku lava 'e siale 'o taa'i 'a  
PRES possible ERG Charlie TNS hit-TR NOM

e fefine.

def woman

'Charlie can hit the woman.'

e. \*'oku lava 'a e fefine 'o taa'i  
RES possible ABS def woman TNS hit-TR

'e siale.

ERG Charlie

'The woman can be hit (by Charlie).'

The verb in the lower clause in the first two examples is intransitive, and in (225b) the "subject" of the lower clause, which is in the absolutive, has been raised into the matrix clause with lava 'be possible'. The last three examples involve transitive verbs in the lower clauses. In (225d) the Actor of the transitive verb has been raised, and the result is grammatical; when mele 'Mary', the Patient in the absolutive is raised, as in (225e), however, the resulting sentence is ungrammatical. From these examples Anderson draws the following conclusion.

Subjects can thus be raised out of complements of lava 'be possible' regardless of transitivity. Non-subjects, however, cannot be raised even if they are morphological absolutives... Tongan subject raising, then, only applies to subjects in the same sense as English subject raising. (1976:13)

Again the ergative (Actor) NP is taken to be the "subject" in a transitive clause. Comparing the Tongan data with the English sentences in (224), we see that both the Actor and

Patient adjuncts of a transitive verb may be raised in English, as long as they are the PrP of the lower clause, whereas only the Actor argument of a transitive verb can be raised in Tongan. Thus the Tongan rule is sensitive to the semantic function of NPs in the lower clause and applies only to the Actor of a transitive verb, the single argument of an intransitive verb being eligible by default regardless of its semantic role. [11] The English rule, on the other hand, is keyed to the PrP of the lower clause irrespective of its semantics; consequently, both arguments of a transitive verb are eligible to be raised, as long as the NP to be raised is the PrP of the lower clause. Anderson's claim that the same notion of "subject" is operative in both languages is therefore incorrect.

That the Tongan rule applies to NPs with a particular semantic function rather than pragmatic status suggests that Tongan could be a role-dominated language. Confirming evidence can be found in the fact that Tongan, like Basque and Enga, lacks an antipassive construction which allows the Actor NP of a transitive verb to appear in the absolutive case. In the discussions of Basque and Enga it was shown that there is a correlation of the absence of an antipassive and the sensitivity of grammatical rules to the semantic role function of NPs with the lack of a clause-level referential structure. It may be concluded then that Tongan is role-dominated. This accounts for the difference between subject raising in Tongan and in English and furthermore for why Tongan and Basque superficially appear to be accusative syntactically. Anderson's argument is based on the fact that in simple English clauses with transitive verbs, the PrP is usually an Actor, and so when simple English sentences are compared with equivalent constructions in Basque and Tongan, equi and subject raising appear to be sensitive to the same NP type. Upon closer examination, however, they are shown to be sensitive to quite different NP types.

Anderson next discusses coordination and switch reference in Kâte, a Papuan language of New Guinea. He argues as follows.

[A]lthough the NP morphology of Kâte makes it an ergative language, the notion of subject which is relevant for the conjoining process is the same as that in accusative languages. The ergative subject of a transitive verb counts as subject, as does the absolutive subject of an intransitive, while the absolutive object does not count as a subject. (1977:14)

The situation in Kâte is exactly the same as that found in Enga: switch reference and the concomitant syntactic mechanisms of coordination are keyed to whether the "subjects" of two adjacent clauses are coreferential, the

"subject" being the Actor of a transitive verb and the single argument of an intransitive verb (see 4.4.1). Recall that in Enga the verb "agrees" with the Actor in both transitive and intransitive clauses, and furthermore that it lacks an antipassive. Since Enga is a role-dominated language, these facts are not surprising; from Anderson's description, it seems reasonable to conclude that Kâte is role-dominated as well. There is accordingly no way that a non-Actor NP would become the "subject" for switch reference, whereas, as we have seen, there are mechanisms in English which allow non-Actor NPs to function in grammatical processes restricted to "subjects". Here again Anderson's claim that the notion of "subject" in an ergative language is the same as that in English is incorrect, and moreover, another ergative language with superficially "accusative" syntax turns out to be role-dominated.

Anderson's final argument concerns reflexivization, an operation which is clearly related to the semantic properties of the affected NPs rather than to their pragmatic status. Consequently, Actors act as the controllers of reflexivization in both ergative and non-ergative languages. Thus all of the operations which Anderson discusses are sensitive to the semantic role properties of NPs in the languages he discusses. It is interesting that the three languages he analyzes in some detail, Basque, Tongan and Kâte, are all role-dominated. Furthermore, the only languages which he acknowledges as having an "ergative notion of subject" are Dyirbal and Hurrian, both of which are reference-dominated. [12] Anderson attempts to account for this discrepancy by saying that in Dyirbal and Hurrian the absolutive is the syntactic subject, the result of an "underlying passive" transformation (1976:17). Otherwise, languages with ergative morphology are syntactically "accusative".

I argued above that the superficial similarity between the syntax of ergative role-dominated languages and that of accusative languages is due to the Actor being the unmarked choice as the PrP in accusative languages. Moreover, as I have shown above, most syntactic processes in accusative languages such as English, which are reference-dominated, are sensitive to PrPs and not to specific semantic roles, as are processes in role-dominated languages. Anderson misses this fundamental distinction, because the theory in which he operates (the extended standard theory) does not distinguish referential structure and role function in clause-level syntax. Furthermore, he cannot give a non-ad hoc account of why one ergative language, e.g. Dyirbal, has ergative syntax, while another, e.g. Tongan, has "accusative" syntax. Within role and reference grammar, however, a principled explanation of these facts is possible, one which is derived from the basic tenet of the theory that clause-level syntax is largely determined by the interplay between pragmatic and semantic factors.



Dixon 1977 claims that "it is undoubtedly the case that most syntactic operations of this type [coordination, subordination and related phenomena], across the 4,000 or so currently spoken languages, equate S and A functions." (67) With respect to languages exhibiting ergative case marking he claims:

All languages which use an S/O pivot, to any degree, show some 'ergativity' in morphological marking. The reverse does not hold: perhaps the majority of languages which mark S and O in the same way in some part of the morphology...rely exclusively on S/A as syntactic pivot. (ibid.)

The data from Tongan, Basque and Kâte discussed by Anderson can all be analyzed as indicating that these languages have an S/A pivot. Since Dixon also analyzes German and English as having S/A pivots, the inevitable conclusion is that these languages are syntactically accusative.

To illustrate this point, Dixon contrasts syntactic processes in Dyirbal with those in Walmatjari, a close relative of Walbiri. Independent NPs are case marked in an ergative pattern in both Walmatjari and Walbiri, the absolutive (S,O) being zero and the ergative (A) -nu or Lu. [13] There is an auxiliary in each clause which explicitly specifies the person and number of the NP arguments of the verb. Dixon gives no examples from Walmatjari; the following Walbiri sentences are from K. Hale 1973.

- (226) a. natju ka-Na                      pula-mi.  
           I        PRES-A(1sg) shout-NONPAST  
           'I am shouting; I shout.' (1973:309)
- b. natjulu-Lu ka-Na-nku                      njuntu nja-nji.  
           I(ERG)        PRES-A(1sg)-P(2sg) you        see-NONPAST  
           'I see you.' (328)
- c. njuntulu-Lu ka-npa-tju                      natju nja-nji  
           you(ERG)        PRES-A(2sg)-P(1sg) I        see-NONPAST  
           'You see me.' (328)

The interesting thing about the role coding in the auxiliary is that it appears to be on an accusative basis; in (226a,b) the auxiliary specifies a first person singular Actor, even though the first person pronoun is in the absolutive in (a) and the ergative in (b). Despite the ergative case marking on NPs, "verb agreement" seems to be accusative in Walmatjari and Walbiri.

Dixon presents Walmatjari data from Hudson 1976 concerning three conjunction operations.

- (227) TikiPyan-ula ma-Na-Ø-nja-lu                      mana-waNTi-Ø patjani.  
       return-ula    IND-1(excl)-3-pl-pl tree-pl-ABS chopped

'Having returned, we chopped trees.'

The suffix -uLa on the subordinate verb indicates that the action of its verb was completed before that of the main verb began. A suffix -u may be added to subordinate clauses to indicate that the main clause action made that of the subordinate verb possible. Finally, simple coordination is effected by a suffix -tja: which is added to the last word of the first clause. The significant fact about these three operations is that there is a constraint which requires that the two clauses must share a common NP in S or A function. Dixon concludes that this fact, plus the "accusative" verb "agreement", indicates that Walmatjari has an S/A pivot and is therefore syntactically accusative.

There is another way to interpret these facts, however. Comparing Walmatjari (and Walbiri) with Enga (see 4.4.1), we see that in both languages the verb specifies the slot of the Actor, regardless of its case marking, and furthermore that coordination processes are keyed to transitive Actors and intransitive "subjects" in both languages. This suggests that Walmatjari, like Enga, is role-dominated. Strong evidence for this can be found in Dixon's comment that "it is noteworthy that, despite the ergative marking conventions, Walmatjari does not have any transformation of the antipassive variety." (1977:68 [emphasis added]) Here again we find that an ergative language with "accusative" syntax is role-dominated. Dixon's analysis is founded on the assumption that the S/A pivot he postulates for English and the S/A pivot in Walmatjari (as well as Basque, Tongan and Kâte) are equivalent. But they are not. The crucial difference between them lies in the fact that some of the NPs in S function in English are derived; that is, they are in clauses which allow an O NP to occur as the "subject" of a transitive verb in a formally intransitive construction, e.g. (223c) and (224d). Languages with clause-level referential structures such as English and German have such options, but role-dominated languages such as Walmatjari and Enga do not. Consequently, there is no possibility of an O NP occurring as a derived S so that it can undergo processes limited to the S/A pivot. The S/A pivot in English and German is a pragmatic pivot, i.e. a PrP, whereas that in Walmatjari is a role pivot; the two are therefore not equivalent (see also 4.3). Dixon's analysis does not take into account this fundamental difference and therefore incorrectly claims that English and Walmatjari have typologically identical syntactic processes. Most syntactic processes in English (and Dyirbal) are keyed to PrPs regardless of their semantic role, whereas those in Walmatjari and other role-dominated languages are sensitive to the semantic role functions of NPs.

4.6. I have argued that recent analyses of ergative languages as being syntactically accusative are incorrect.

I have tried to show that the data which Anderson and Dixon cite in support of their claim comes from role-dominated languages, and consequently that this undermines their argument completely, since the accusative data they cite comes from reference-dominated languages. Throughout this discussion I have argued that the crucial fact which these analyses miss is the distinction between languages with and without a clause-level referential structure. On the basis of this distinction I have claimed that reference-dominated languages will have constructions which allow various NP types to occur as the PrP and thereby to undergo grammatical processes which are restricted to PrPs, whereas role-dominated languages have no such options, because their grammatical operations are sensitive to the semantic role function rather than the pragmatic status of NPs. This leads directly to the major typological claim of role and reference grammar: the most important typological fact about a language is whether it is role-dominated or reference-dominated. To say that a language is reference-dominated does not mean that every syntactic process in it is keyed to the referential structure in some way. Dixon 1977 argues that there are certain operations, e.g. imperatives, which are universally linked to Actors (see 4.1.3). However, it has been shown that processes such as coordination, subordination, relativization, equi-NP-deletion, subject raising, coreferential deletion across conjunctions, and verb agreement are sensitive to the pragmatic status of an NP rather than its semantic function in reference-dominated languages like German, Dyirbal and English. Thus whether a language has a clause-level referential structure or not crucially determines the nature of its grammatical processes.

Within the role- vs. reference- dominated dichotomy, further divisions are possible. With reference-dominated languages, a three-way division is possible between accusative, ergative and neutral languages. The basis of this classification is whether a language makes a distinction between semantic roles with marked and unmarked access to occurrence as the PrP, and if so, which roles are marked and which are unmarked. I argued in 2.3.1.2 that in English Actors, Experiencers and Instruments have unmarked access to the clause-initial PrP slot with transitive verbs, while Patients and Goals have marked access, i.e. they can only occur as the PrP in passive constructions. Furthermore, a similar distinction is made in Dyirbal, albeit the opposite one: in this language Patients and Goals are the unmarked choice for the PrP, while Actors and Instruments can occur as the PrP only in antipassive constructions. The single argument of an intransitive verb always occurs as the PrP. Thus languages which give the Actor preferential treatment as the PrP are accusative and those which give it to the Patient are ergative, since the former associate the transitive "subject" (Actor) with the

intransitive "subject" as the PrP and the latter associate the transitive "object" (Patient) with the intransitive "subject" as the PrP. In 4.3 I argued that no such distinction is made in Tagalog and therefore that all semantic roles can be considered equally marked with respect to occurrence as the PrP. Tagalog and other Philippine languages thus fall into the class of what I am calling neutral languages, "neutral" because no distinction between marked and unmarked roles is made.

These divisions with representative languages are given below.

#### REFERENCE-DOMINATED LANGUAGES

1. ACCUSATIVE: Indo-European, Niger-Congo,  
Semitic, Uralic, Altaic; Japanese,  
Korean, Mandarin, Patwin (Penutian),  
Navajo, Indonesian,...
2. ERGATIVE: Dyirbal, Yidin, Eskimo, Hurrian,  
Georgian...
3. NEUTRAL: Tagalog, and other Philippine languages ...

The most striking aspect of this table is the distribution of languages: the majority of reference-dominated languages appear to be accusative. There appear to be comparatively few of the ergative or neutral variety.

With respect to role-dominated languages, categories set up for reference-dominated languages are inapplicable. I propose to set up a classification of role-dominated languages based on the way semantic roles are coded in the clause. The basic division is between languages in which the semantic roles of NP arguments are coded in the verb and those in which they are not. The only role-dominated languages examined above in which the verb does not code the roles of its arguments is Tongan (see 4.5). The next division is between languages which have NP case marking and those which do not. This yields four basic categories: languages with verb coding and NP case marking, e.g. Choctaw, Enga and Walbiri; languages with verb coding but no NP case marking, e.g. Lakhota and Tunica; languages without verb coding but with NP case marking, e.g. Tongan; and languages which have neither verb coding nor NP case marking (no examples). No examples of this last category have been discussed, and it appears somewhat paradoxical that a language could lack both verbal and nominal coding of semantic roles and yet be considered role-dominated. However, heavily topic-oriented languages in Southeast Asia such as Lisu appear to lack clause-level operations such as passive, and instead make constant use of sentence-level topicalization (see Li & Thompson 1976). Such languages appear to be potential members of this category; more extensive analysis of them is necessary before any conclusions may be drawn.

Within the class of languages with verbal coding, further divisions are necessary among languages with and without NP case marking. Among languages with case marking, a distinction may be made between those which mark the Actor of a transitive verb and single argument of an intransitive verb alike ("accusative"), and those which positively mark the Actor of a transitive verb and leave the Patient of a transitive verb and argument of an intransitive verb unmarked ("ergative"). I know of only one example of the former category, Choctaw, while there are many members of the other: Basque, Enga, Kâte, Walmatjari-Walbiri, Tibetan, Sherpa, and Mayan languages.

There are a number of variations in the way verbs in languages with verbal coding only signal the semantic roles of their arguments. In Lakshota and Tunica the coding is strictly semantic, with the S NP marked in terms of its semantic role. In Barbareño Chumash, on the other hand, S NPs are not differentiated as to role and in fact receive the same marking as transitive "subjects" (Actors) (Ken Whistler, personal communication). And finally in Crow the marking of the "subject" of certain intransitive verbs is determined by whether the "subject" has volitional control over the activity (Dixon 1977).

This classification of role-dominated languages may be summed up as follows.

1. +verb coding, +NP case marking:
  - a. "Accusative": Choctaw,...
  - b. "Ergative": Basque, Enga, Kâte, Walmatjari-Walbiri, Tibetan, Sherpa, Mayan languages,...
2. +verb coding, -NP case marking:
  - a. Barbareño Chumash,...
  - b. Lakshota, Tunica, Caddo, Iroquoian languages,...
  - c. Crow,...
3. ~~+verb~~ coding, +NP case marking: Tongan,...
4. -verb coding, -NP case marking: ??

This array is very tentative and represents only a first approximation; many more languages must be investigated before the validity of these categories can be established. Nevertheless, on the basis of this small sample, a pattern does emerge, with "ergative" languages and languages with verb coding but without NP case marking being the largest categories. This is striking in that role-dominated languages with either no NP marking or "ergative" case marking patterns appear to be much more common than role-dominated languages with an "accusative" morphological pattern, which is exactly the opposite of the distribution found in reference-dominated languages. Accusative languages seem to be much more numerous than either ergative or

neutral languages among reference-dominated languages. Taken together, these two tables suggest that the majority of reference-dominated languages are accusative and the majority of role-dominated languages are either ergative or have no NP case marking at all. Anderson, Comrie and Dixon all claim that most ergative languages are syntactically "accusative", and as we saw in the last section, this probably means that they are role-dominated; this lends further evidence for this distribution. These two tables thus suggest not only that most reference-dominated languages are accusative and most role-dominated languages are either ergative or have no NP marking at all, but also that most accusative languages are reference-dominated and most ergative languages are role-dominated.

There are a number of implicational generalizations which may be stated with respect to a language being role- or reference-dominated. [14] As I argued in 4.3 and 4.4.0, reference-dominated languages have true passive or antipassive constructions, while role-dominated languages do not. It was shown in 2.3.2.2 that reference-dominated languages which relativize "by deletion" have strategies restricted to PrP(s), whereas role-dominated languages with the same strategy do not have such restricted strategies. The reason for this is that in reference-dominated languages the verb is inflected to express the semantic role of the PrP, and so it is the only NP whose role is recoverable if it is deleted; in role-dominated languages, on the other hand, the verb normally expresses the roles of all of its NP arguments, and so any of them may be deleted without their role being unrecoverable.

Finally, one last tendency uncovered in this study is that reference-dominated verb-final languages seem to have exclusively prenominal noun modifiers, i.e. relative clauses and adjectives, and lack true definite and indefinite articles, e.g. Japanese, Turkish, Hungarian, and Patwin, while role-dominated verb-final languages appear to have postnominal relative clauses and adjectives, and have true definite and indefinite articles, e.g. Enga, Lakhota, Tunica, and Choctaw. (Basque is a problem with its prenominal relative clauses, but it does have postnominal adjectives and articles.) One possible explanation for the presence of articles in role-dominated languages and their absence in reference-dominated ones is that in reference-dominated languages, the definiteness of an NP can be determined in many cases from its position in a sentence. For example, according to Erguvanli 1977, the position immediately preceding the verb in Turkish is reserved for indefinite NPs bearing new information. Furthermore in Mandarin, preverbal NPs must be definite and postverbal ones indefinite (see Chao 1968:76-7); consequently there is no need for articles, since the definiteness of an NP is expressed by its position in the sentence. However, in role-dominated languages there are no such constraints at

the clause-level, and so articles are necessary to indicate the referential status of an NP. This last generalization is quite tentative, and many more languages, both role- and reference-dominated, must be examined before its validity can be ascertained.

One final comment is necessary on the syntactic differences between role- and reference-dominated languages. Because syntactic processes in reference-dominated languages are keyed to a PrP and are determined by the choice of the roles with marked and unmarked access to it, there is a great variation in syntactic patterns among reference-dominated languages; one need only compare Tagalog, Dyirbal and English to confirm this. There is, however, reasonable homogeneity among role-dominated languages with respect to syntactic processes, because they are all keyed to role functions which are relatively constant from language to language. Thus the terms "accusative" and "ergative" say much more about the syntax of reference-dominated languages than they do about that of role-dominated ones; in the latter case they really only refer to case marking patterns. Anderson's claim that ergativity is nothing more than a trivial fact about morphology is in some sense correct with respect to role-dominated but not reference-dominated ergative languages. Moreover, the assertion that most ergative languages are not thoroughly ergative syntactically (like Dyirbal) is also correct, although the conclusion drawn from this, that they are syntactically accusative, is false.

4.7. In this study I have presented the theory of role and reference grammar through an analysis of major syntactic processes in Lakhota and a discussion of their implications for universal grammar. With respect to the Lakhota facts, I have argued that for relativization and complementation a role and reference analysis is simpler and more elegant than competing transformational analyses. Furthermore, in the discussion of the Lakhota "passive" it was shown that various versions of relational grammar cannot handle the Lakhota facts. However, individual facts in a particular language can always be dealt with in one way or another, and so to claim that this Lakhota fact disconfirms this or that theory would be inconclusive. The most important standard by which competing theories should be judged, I believe, is the kind of claims and predictions a theory makes about universal grammar. I have made a number of claims about language typology and universal grammar which cannot in principle be expressed in either relational grammar or transformational grammar (in either its revised standard or modified form). Both relational grammar and Dixon's modified version of transformational grammar base their analyses on grammatical relations or functions which conflate referential structure and role function. Consequently, a distinction between role- and reference-

dominated languages is inexpressible in either framework. Perhaps some notion of referential structure could be added, but this would necessitate a total reanalysis of the grammatical relations and functions they presently assume, and thus of the theories in general. It is also difficult to see how these syntactic generalizations could be expressed in the extended standard theory, since generalizations about "thematic relations" such as Agent, etc., on the one hand, and "focus and presupposition" (given and new information), on the other, are stated in a part of the grammar which has no direct involvement with syntactic processes. Consequently, it is not clear how one would characterize the difference between e.g. subject raising in English and Tongan, since grammatical rules apply only to formal syntactic structures which cannot reflect the crucial difference between the processes in the two languages.

Role and reference grammar expresses important cross-linguistic generalizations which other approaches necessarily miss. It is thus a fruitful framework not only for the analysis of particular languages, but also for the study of universal grammar.



## Footnotes to Chapter IV

1. See Foley & Van Valin for a critique of relational grammar with respect to its assumption of the universal validity of the notion of "subject".

2. Within a role-and-reference analysis of Lakhota, no such rule is necessary. Both verbs set up the appropriate syntactic slots, and *na* requires coreference of the Actors in both clauses; *matho* 'bear' then fills the Patient slot in both clauses. No rule of coreferential deletion need be postulated.

3. *?uhki* is actually not a simple third person masculine singular Actor suffix; it is in fact the third person masculine singular form of the auxiliary verb *?uhki* 'be, exist.' It is used in Tunica "to express priority in time. It covers the simple past, the present perfect, and the past perfect tenses of English." (Haas 1940:49) In this construction it is a combination tense/aspect and Actor marker.

4. *at* in these examples is actually the article *a* 'the', plus the "subject" suffix *-t*. See McClaran & Herrod 1977 for a discussion of Choctaw articles.

5. Heath 1977 presents the following examples of an apparently different kind of switch reference mechanism. (212)

(i)  $\emptyset$ - $\emptyset$ -pI:sa- $\hat{c}a$ :,  $\emptyset$ -iya-h  
A(3)-P(3)-see-SAME A(3)-go-PRES  
'He sees her, and (he) goes.'

(ii)  $\emptyset$ - $\emptyset$ -pI:sa-na:,  $\emptyset$ -iya-h  
A(3)-P(3)-see-DIFF A(3)-go-PRES  
'He sees him, and she goes.'

In these examples the "same subject" suffix appears to be *- $\hat{c}a$ :* and the "different subject" suffix *-na:*; these are quite different from those in (190). However, McClaran & Herrod 1977 argue that *- $\hat{c}a$*  is a truncated form of the conjunction *mi $\hat{c}a$*  'and' and that *-na:* is a shortened form of *a:yi:na* 'besides'; the final vowels are lengthened as a result of the truncation. It would appear, then, that the switch reference system uses *-t* and *n* for same and different "subject" respectively, rather than  *$\hat{c}a$ :* and *na:*.

6. I am indebted to Johanna Nichols for pointing out to me the possibility of interpreting (193) as having a locative relative clause.

7. Lakhota is clearly genetically unrelated to either Tunica or Choctaw, but the relationship between the latter two is not so obvious. Swanton and Swadesh postulate a "Tunican" stock composed of Tunica, Chitimacha and Atakapa. Choctaw, on the other hand, is Muskogean. Haas 1951 proposes a linguistic stock called "Gulf" which includes the Tunican and Muskogean families as well as Natchez. Within Haas' classification Tunica would be considered genetically related to Choctaw, albeit distantly.

8. There are of course sentences in German which lack an NP in the nominative, e.g. Mir ist kalt 'I'm cold' and Mir wurde geholfen 'I was helped.' In the former case a dummy NP in the nominative case is possible (Es ist mir kalt), while in the latter the derived "subjects" of passivized verbs taking dative objects retain their case marking. Such sentences only occur with a restricted class of predicates.

9. This situation is very similar to that in Lakhota with respect to the complements of perception verbs discussed in 3.1. Note that the constraint which would be necessary to account for the correct interpretation of the "deleted" arguments of the lower verb is very similar to constraint B presented for Lakhota in 3.1.2. This illustrates an important point about role-and-reference analyses: the constraints posited for a language should receive cross-linguistic motivation wherever possible. The analysis of Lakhota relativization has received cross-linguistic support from Tunica, Choctaw and Enga, and these Basque facts provide support for the analysis of Lakhota complementation given above.

10. Many ergative languages are reported to have passive constructions, often in addition to antipassives. (221b) in Basque is often called a "passive", even though its function is rather different from passives in English and other reference-dominated languages; in the latter the semantic role structure of the clause is unaffected while the pragmatic status of the NPs is rearranged, whereas in Basque the semantic structure of the clause is altered without necessarily affecting the pragmatic status of the NPs. Woodbury 1977 reports that Greenlandic Eskimo has both an antipassive (i) and a passive (ii).

- (i) a. Nakuras-p taku-vaa piniartu-p qiqmiq-Ø  
 doctor-ERG see-IND:3sg,3sg hunter-ERG dog-ABS

unatar-aa.  
 beat-T:3sg,3sg  
 'The doctor saw that the hunter beat the dog.'

- b. Nakursa-p taku-vaa piniartuq-Ø qiqmi-mik  
 hunter-ABS dog-IN

unata-1-3uq.  
 beat-ANTI-IP:3sg  
 'The doctor saw that the hunter beat the dog.'

- (ii) a. Aqut-ip arnaq-Ø taku-vaa.  
 man-ERG woman-ABS see-IND:3sg,3sg  
 'The man saw the woman.'
- b. Arnaq-Ø (aqut-mik) taku-niqar-puq.  
 woman-ABS man-IN see-PASS-IND:3sg  
 'The woman was seen (by the man).'

Note that the antipassive in (i) affects which NP takes the absolutive case, whereas the passive in (ii) leaves the absolutive NP unaffected. Woodbury notes that this passive is of rather infrequent occurrence (1977:324); furthermore, there is a very important difference between these two constructions: antipassive "feeds" other grammatical processes, e.g. participle formation, while no grammatical processes in Eskimo are "fed" by passive (A. Woodbury, personal communication). Thus the passive functions very differently within Greenlandic grammar than it does in English or German grammar. Note that the Basque "passive" also does not appear to "feed" any grammatical processes. This suggests that "passives" in ergative languages, regardless of whether they are reference- or role-dominated, have primarily a semantic function rather than the pragmatic functions which passives in accusative reference-dominated languages have.

11. Bill Foley has pointed out to me (personal communication) that the Patient of a stative verb may be raised in a lava construction. This illustrates how rules in role-dominated languages are sensitive to the semantic functions of NPs only in transitive clauses, and that they apply to the single NP of an intransitive verb by default (see also 4.1.3).

12. Anderson makes two comments about Hurrian which strongly suggest that it is reference-dominated: (1) equi-NP-deletion applies to intransitive "subjects" and transitive "objects", and (2) relativization is restricted to NPs in the absolutive case (17). The latter fact is particularly revealing, since all of the languages which we have looked at which have restricted relativization strategies have been reference-dominated (see 2.3.2). Thus we may tentatively conclude that Hurrian is a reference-dominated language.

13. In the Walmatjari and Walbiri data, L, N, and I stand for apico-domal laterals, nasals and alveolar stops, respectively.

14. This basic typological distinction between role- and reference-dominated languages is not equivalent to that between subject-prominent and topic-prominent languages proposed in Li & Thompson 1972. For example, while role-dominated languages rely on sentence-level topicalization processes to express the pragmatic status of NPs, many reference-dominated languages also make extensive use of this device, the best known examples being Japanese, Korean and Mandarin. In Japanese, for example, *wa* marks sentence-level topics and *ga* clause-level PrPs. It is interesting to note that the criteria they give for distinguishing subjects from topics are very similar to those given in 2.3.2 for differentiating PrPs and sentence-level topics.

## REFERENCES

- Anderson, S. 1976. On the notion of subject in ergative languages. In Li (ed.), 1-23.
- Benveniste, E. 1971. Active and middle voice in the verb. Problems in General Linguistics, University of Miami Press, 145-152.
- Boas, F. and E. Deloria. 1939. Dakota Grammar. Memoirs of the National Academy of Sciences, Vol XXIII.
- Buchel, E. 1939. A grammar of Lakhota. Rosebud Educational Society.
- \_\_\_\_\_. 1970. Lakhota-English Dictionary. (ed. by P. Manhart). Institute of Indian Studies.
- Chafe, W. 1970. Meaning and the Structure of Language. University of Chicago Press.
- \_\_\_\_\_. 1976. Givenness, contrastiveness, definiteness, subjects, topics and point of view. In C. Li (ed.), 25-56.
- Chao, Y.R. 1968. A grammar of spoken Chinese. UC Press.
- Chomsky, N. 1957. Syntactic Structures. Mouton.
- \_\_\_\_\_. 1965. Aspects of a Theory of Syntax. M.I.T. Press
- \_\_\_\_\_. 1977. Reflections on Language. Pantheon.
- Comrie, B. 1977. Ergativity. Unpublished ms.
- DeRijk, R. 1972. Basque relative clauses: a guided tour. In Peranteau et al (eds.), 115-135.
- Dixon, R.M.W. 1972. The Dyirbal Language of North Queensland. Cambridge: Cambridge University Press.
- \_\_\_\_\_. 1977. Ergativity. Unpublished preliminary draft ms.
- Donzeaud, F. 1974. The expression of focus in Basque. Papers from the Basque Linguistics Seminar (Anuario del Seminario de Filología Vasca "Julio de Urquijo" VI) University of Nevada, 35-45.
- Erguvanli, E. 1977. A preliminary study of word order in Turkish. Paper presented at Seventh Annual California Linguistics Association Conference, Fresno, CA.
- Fillmore, D. 1968. The case for case. In E. Bach & R. Harms (eds.), Universals in Linguistic Theory, Holt, Rinehart & Winston, 1-88.
- \_\_\_\_\_. 1977. The case for case reopened. In R. Cole and J. Sadock (eds.) Syntax and Semantics Vol. 9: Grammatical Relations. Academic Press,

- Foley, W. 1976. Comparative Syntax in Austronesian. Unpublished Ph.D. dissertation, University of California, Berkeley.
- Foley, W. & R. Van Valin. 1977. On the viability of the notion of 'subject' in universal grammar. In Whistler & Van Valin et al (eds.), 293-320.
- Givón, T. 1976. Promotion, accessibility, and case marking: toward understanding grammars. Unpublished ms.
- Gorbet, L. 1977. Headless relatives in the southwest: are they related? In Whistler & Van Valin et al (eds.), 270-278.
- Haas, M. 1940. Tunica. Handbook of American Indian Languages, Vol. IV, J.J. Augustin.
- \_\_\_\_\_. 1946. A grammatical sketch of Tunica. Linguistic Structures of Native America. Viking Fund Publications in Anthropology, no. 6, 336-365.
- \_\_\_\_\_. 1951. The proto-Gulf word for water (with notes on Siouan-Yuchi). IJAL 17:71-79.
- Hale, A. 1973. Toward a systematization of display grammar. In Clause, Sentence, and Discourse Patterns in Selected Languages of Nepal, Part I, Summer Institute of Linguistics.
- Hale, K. 1972. A note on subject-object inversion in Navajo. In B. Kachru (ed.), Linguistic Studies in Honor of Henry and Rene Kahane. Bloomington: Indiana University Press, 300-309.
- \_\_\_\_\_. 1973. Person marking in Walbiri. In S. Anderson & P. Kiparsky, (eds.) A Festschrift for Morris Halle, Holt, Reinhart & Winston, 308-44.
- Hawkinson, A. and L. Hyman. 1974. Hierarchies of natural topic in Shona. Studies in African Linguistics 5:147-170.
- Heath, J. 1972. Uto-Aztecan relative clauses. In Peranteau et al (eds.), 230-245.
- \_\_\_\_\_. 1974a. Some related transformations in Basque. CLS 10 248-258.
- \_\_\_\_\_. 1974b. Genitivization in Northern Basque complement clauses. Papers from the Basque Linguistics Seminar 46-66.
- \_\_\_\_\_. 1976. Antipassivization: a functional typology. In Thompson & Whistler et al, (eds.), 202-211.
- \_\_\_\_\_. 1977. Choctaw cases. In Whistler & Van Valin et al, (eds.), 204-213.

- Hudson, J. 1976. Walmatjari: nominative-ergative or nominative-accusative? Papers in Australian Linguistics No. 9 1-30, Pacific Linguistics.
- Jacobsen, W. 1969. The analog of the passive transformation in ergative-type languages. Paper presented at 1969 LSA Annual Meeting.
- Keenan, E. 1975. Some universals of passive in relational grammar. CLS 11, 340-352.
- 1976. Towards a universal definition of 'subject'. In C. Li (ed.), 301-333.
- Keenan, E. and B. Comrie. 1972. Noun phrase accessibility and universal grammar. Paper presented at the 47th LSA meeting.
- Kimenyi, Alexandre. 1976. Subjectivization rules in Kinyarwanda. In Thompson & Whistler et al, (eds.), 258-268.
- Klimov, G. 1974. On the character of languages of active typology. Linguistics 131:11-26.
- Kirsner, R. & S. Thompson 1976. The role of pragmatic inference in semantics: a study of sensory verb complements in English. Glossa, 10:2, 200-240.
- Lang, R. 1973. Grammatical sketch. In A. Lang, Enga Dictionary. Pacific Linguistics Series C, no. 20, xviii-lvii.
- Langacker, R. & P. Munro 1975. Passives and their meaning. Language 51:789-830.
- Li, C. (ed.) 1976. Subject and Topic. New York: Academic Press.
- Li, C. & S. Thompson 1976. Subject and topic: a new typology of language. In Li (ed.) 457-489.
- Lindenfield, J. 1973. Yaqui Syntax. U.C. Press.
- Lipkind, W. 1945. Winnebago Grammar. Crown Press.
- McClaran, M. & G. Herrod. 1977. Choctaw 'articles' in discourse. In Whistler & Van Valin et al (eds.), 214-222.
- Nicklas, T. 1974. The Elements of Choctaw. University of Michigan dissertation; Xerox University Microfilm.
- Peranteau, P. et al (eds). 1972. The Chicago Which Hunt,

## Chicago Linguistic Society.

- Perlmutter, D.M. & P.M. Postal. 1977. Toward a universal characterization of passivization. In Whistler & Van Valin et al (eds.), 394-417.
- Postal, P. 1974. On Raising. M.I.T. Press.
- Riggs, S. 1893. Dakota Grammar, Texts and Ethnography. Contributions to North American Ethnology, vol. IX.
- Rood, D. 1973. Aspects of subordination in Lakhota and Wichita. In Cowan et al (eds.) You Take the High Node and I'll Take the Low Node, Chicago Linguistic Society, 71-88.
- \_\_\_\_\_. 1976. Some Lakhota presuppositions. Paper read at 1976 AAA meeting.
- Silverstein, M. 1976. Hierarchy of features and ergativity. In R. Dixon (ed.), Grammatical Categories in Australian Languages. Canberra: Australian Institute of Aboriginal Studies, 112-171.
- Taylor, A. 1976. On verbs of motion in Siouan languages. IJAL 42,4:287-96.
- Thompson, H. & K. Whistler, et al (eds.). 1976. Proceedings of the Second Annual Meeting of the Berkeley Linguistics Society. University of California, Berkeley, February 14-16, 1976.
- Van Valin, R.D. Jr. 1977a. Ergativity and the universality of subjects. CLS 13.
- \_\_\_\_\_. 1977b. Meaning and interpretation. Unpublished ms.
- Whistler, K. & R.D. Van Valin Jr., et al (eds.). 1977. Proceedings of the Third Annual Meeting of the Berkeley Linguistics Society. University of California, Berkeley.
- Woodbury, A.C. 1977. Greenlandic Eskimo, ergativity and relational grammar. In R. Cole & J. Sadock(eds.), Syntax and Semantics Vol. 8: Grammatical Relations. Academic Press, 307-336.
- Zubin, D. 1976. Salience and egocentrism. Unpublished ms.