



1994

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Recommended Citation

Pinson, Thomas M. (1994) "Dakota Sioux objects," *Work Papers of the Summer Institute of Linguistics, University of North Dakota Session*: Vol. 38, Article 10.

DOI: 10.31356/silwp.vol38.10

Available at: <https://commons.und.edu/sil-work-papers/vol38/iss1/10>

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Dakota Sioux Objects

Thomas M. Pinson

This article is a study of certain syntactic and morphological processes in Dakota Sioux within the Relational Grammar framework. There are three main topics dealt with as they relate to verb agreement: advancements to direct object, Possessor Ascension, and Clause Union. All three of these topics distinguish between direct objects, indirect objects, and obliques.

Verb agreement is examined and shown to consist of two distinct systems: person agreement and number agreement. These two systems give empirical evidence to the support of the multilevel relational network of Unaccusative and Reflexive clauses. It is also shown that an analysis which posits advancements to direct object allows for concise generalizations, whereas an analysis which does not include advancements to direct object cannot capture these generalizations.

There are two types of Possessor Ascension attested cross-linguistically: one in which the possessor assumes the grammatical relation of the host, and one in which the possessor assumes a grammatical relation other than the host. This article shows that Dakota Sioux has both constructions.

The last topic dealt with is Clause Union, in particular Causative Union. This article presents evidence that a union construction in Sioux is superficially monoclausal yet contains two predicates. After the evidence for the multipredicate clause is presented, verb agreement is again examined since both predicates may show person and number agreement.

1. Introduction

1.1. Goals of the Article

This article has two goals. The first is to present certain syntactic constructions in Dakota Sioux analyzed within the Relational Grammar (henceforth RG) framework which demonstrate the difference between direct and indirect objects. I will first present arguments for the RG analysis of Sioux verb agreement. Included under this topic of verb agreement is the notion of advancements and how this affects the analysis of the third person animate plural agreement, *wičha-*.¹ I will then discuss the construction known as Possessor Ascension. The last topic I

¹ This article is a slightly edited version of my 1990 M.A. Thesis at the University of North Dakota.

I would like to thank Chuck Speck for his helpful comments on the Possessor Ascension section. I would also like to thank my M.A. committee, Des Derbyshire and Steve Quackenbush, with special thanks to my advisor, Steve Marlett, for all their helpful criticism and advice.

Abbreviations: 1p - First Person Plural, 1s - First Person Singular, 2p - Second Person Plural, 2s - Second Person Singular, 3p - Third Person Plural, Adv - Advancement, Ben - Benefactive, Caus - Causative, Cho - Chomeur, Comp - Complementizer, Dat - Dative, Def - Definite, Dem - Demonstrative, Dur - Durative, Hab - Habitual, Indf - Indefinite, Ins - Instrument, Loc - Locative, N - Nominative, O - Objective, Obl - Oblique, Pl - Plural, Poss - Possessive, Pot - Potential, PRfl - Possessor Reflexive, QM - Question Marker, Rdp - Reduplication, Rfl, Reflexive.

The orthography used in this article conforms to the University of Colorado writing system (Taylor 1975, Rood and Taylor 1976). The characters *ħ* and *ǵ* are the voiceless and voiced velar fricatives, respectively.

<i>Stops</i>				
<i>Aspirated</i>	ph	th	čh	kh
<i>Unaspirated</i>	p	t	č	k
<i>Glottal</i>	pʔ	tʔ	čʔ	kʔ
<i>Voiced</i>	b	(d)*		g

will present is Clause Union. All of these constructions demonstrate a distinction between the two kinds of objects.

The second goal is to show how RG characterizes these constructions in cross-linguistically viable terms. Although there has already been extensive work done in Dakota Sioux, much of it has been purely descriptive. It is not the purpose of this article to repeat those previous works. Rather, my purpose is to apply the RG framework to Dakota Sioux. The RG analysis reveals that these constructions are not unique but have already been attested in natural language.

I assume familiarity with the Relational Grammar framework throughout this article.

1.2. Previous Work and Sources of Data

Dakota Sioux has been very well documented. There has been work in all dialects, but predominantly in the Teton (Lakhota) and Santee (Dakota) dialects. The earliest work was done by Stephen Riggs (1890 and 1893). He produced a dictionary in the Santee and Yankton (Nakota) dialects and later a book containing a grammar, texts, and an ethnography. The dictionary was reprinted in 1968 and the grammar in 1973. Then Franz Boas and Ella Deloria (1939, 1941) wrote a very comprehensive description of phonological, morphological, and syntactic processes of the Teton, Santee, and Yankton dialects. About that time Eugene Buechel (1939) wrote *A Grammar of Lakota: the language of the Teton Sioux Indians* and later Paul Manhart published Buechel's (1970 and 1983) dictionary.

More recent work in Lakhota includes David Rood and Allan Taylor's (1976) two volume *Beginning Lakhota*, a pedagogical grammar of Lakhota. Robert Van Valin, Jr. (1977a) wrote a grammar of Lakhota syntax using Role and Reference Grammar, focusing on relative and complement clauses. And Janis Williamson (1984) wrote a detailed Lakhota grammar in the Government and Binding Theory.

Another important work is Patricia Shaw's (1980) *Theoretical Issues in Dakota Phonology and Morphology*, written from the perspective of generative phonology. Her work was a comparison of all the Dakota dialects: Teton, Santee, Yankton, Stoney, and Assiniboine.

And lastly, Plunkett and McKeever's (1986) *Relational Grammar Approach to Verb Agreement in Lakota* examined several constructions, such as intransitive and reflexive clauses, and argued that a disjunctively ordered verb agreement rule was necessary for Sioux. This article goes beyond their work by treating person and number agreement as separate agreement systems, by examining advancements to direct object more closely, and by discussing the Possessor Ascension and Clause Union constructions in Sioux. For a list of other work in Sioux, consult Rood's (1977) bibliography.

Much of the data in the literature is from Lakhota sources. My data are primarily from Dakota sources. I began collecting data in a Field Methods course of the Summer Institute of

<i>Fricatives</i>					
<i>Voiceless</i>		s	š	ħ	h
<i>Glottal</i>		sʔ	šʔ	ħʔ	
<i>Voiced</i>		z	ž	ğ	
<i>Liquid</i>		(l)*			
<i>Nasals</i>	m	n			
<i>Glides</i>	w		y		
<i>Vowels</i>	i ɪ		u ʊ		
<i>(Plain and Nasalized)</i>	e		o		
		a ą			

*The d is used in Dakota and the l in Lakhota.

Linguistics at the University of North Dakota in 1986. I continued gathering data through successive independent studies and brief trips to both the Crow Creek Reservation of South Dakota and the Devil's Lake Reservation of North Dakota. Grammatically, Lakhota and Dakota are similar; therefore I will use both Dakota and Lakhota data throughout this article. I would like to thank both of my Lakhota consultants: Velma Flying Bye and the late Walter Taken Alive. I would also like to thank Sandra McDonald and Paul Little who are Dakota speakers. Finally, I am indebted to the late Bert McBride for his endless patience with my tedious questions about the Dakota language.

2. Verb Agreement

2.1. Person and Number Agreement

There are two sets of verb agreement affixes in Dakota. Traditionally these have been labeled nominative and objective. Compare the following:

- (1) A-ma-ya-pha.
Loc-1sO-2N-hit
You hit me.
- (2) Taku wa-pazo.
something 1sN-show
I showed something.

In (1) *ma-* signals agreement with the first person singular direct object, and in (2) *wa-* signals agreement with the first person singular subject. Table 1 presents the singular affixes of these two sets.

Table 1. Singular Agreement Affixes

<i>Nominative</i>		<i>Objective</i>	
<i>wa/bd-</i>	1s	<i>ma-</i>	1s
<i>ya/d-</i>	2s	<i>ni-</i>	2s
<i>Portmanteau: čhi- 1sN:2sO</i>			

Agreement with third person singular is not overtly marked. The *bd-* and *d-* affixes of the nominative set are the allomorphs of *wa-* and *ya-*, respectively, for verbs beginning with *y*.² The portmanteau prefix *čhi-* is the surface realization of first person singular subject and second person singular object in lieu of *wa-ni-*. In Table 2 the plural affixes of both sets are presented.

Table 2. Plural Agreement Affixes

<i>Nominative</i>			<i>Objective</i>		
<i>ɥk-</i>		1p dual	<i>ɥk-</i>	<i>-pi</i>	1p
<i>ɥk-</i>	<i>-pi</i>	1p			
<i>ya/d-</i>	<i>-pi</i>	2p	<i>ni-</i>	<i>-pi</i>	2p
	<i>-pi</i>	3p animate		<i>-pi</i>	3p
			<i>wičha-</i>		3p animate

The distinction of dual and plural first person is realized only in the nominative set. Consider the following:

² The same affixes in Lakhota are *b1-* and *l-*, respectively.

- (3) a. ʉk-o-ni-de-b.^3
 lp-?-20-*seek*-P1
We (> 2) are looking for you.
- b. ʉk-o-ni-de-pi.
 lp-?-20-*seek*-P1
We (dual) are looking for you (plural).
- c. He ʉk-ode-b.
 s/he lp-*seek*-P1
He was looking for us (dual or plural). or
We (> 2) were looking for him.
- d. =(V 1977a:7)
 ʉ-k'u
 lp-*give*
We (dual) gave it to him.
**(He gave us (dual) it.)*

When Table 1 and Table 2 are compared it can be seen that there is overlap. Both second and third person affixes are the same in the two tables. The distinction between the two tables is primarily the plural suffix *-pi* and the first person morphemes. Except for the first person affixes, number is indicated by either the presence or lack of the plural affix. Table 2 also contains the morpheme *wičha-*, animate third person plural, which I will discuss below. Table 3 offers a simplified paradigm of the person affixes.

Table 3. Person Agreement Affixes

	<i>Nominative</i>	<i>Objective</i>
1s	<i>wa/bd-</i>	<i>ma-</i>
1p	<i>ʉk-</i>	<i>ʉk-</i>
2	<i>ya/d-</i>	<i>ni-</i>

It can be seen from Table 3 that the distinction between the nominative and the objective set does not exist in first person plural. Therefore the arguments I present from verb agreement will primarily consider first person singular and second person singular and plural.

Although traditionally the two sets were called nominative and objective, these names are misleading for certain intransitive verbs. The nominative affixes occur on some intransitive verbs, while the objective affixes occur on other intransitive verbs, as shown in (4) and (5). Clauses like those in (4) are known as unergative clauses in RG and clauses like those in (5) are known as unaccusative clauses.

- (4) a. Wa-nuwa.
 1sN-*swim*
I am swimming.
- b. Ya-psiča.
 2N-*jump*
You are jumping.
- (5) a. M-ištima.
 1sO-*sleep*
I was sleeping.

³ There are several phonological processes which interact with the morphology, i.e. *-pi* reducing to *-b*. For a thorough discussion of these see Shaw 1980.

The ? in the word-for-word gloss indicates that the morpheme in question is not a usual prefix, but rather a discontinuous part of the root.

- b. Ni-t'a.
20-die
You are dying.

Consider now the following reflexive clauses.

- (6) a. Oyaza-m-ič'i-ya
hurt-1s0-Rfl-Caus
I hurt myself.
- b. A-n-ič'i-pha.
Loc-20-Rfl-hit
You hit yourself.

It can be seen that in reflexive clauses the person agreement is from the objective set and the verb includes the morpheme *ič'i*.⁴

Van Valin (1977a:26-27) formulated a verb agreement rule for Sioux, in the framework of Role and Reference Grammar. He claims that verb agreement can be accounted for using semantic notions. His rule may be stated as follows⁵:

- (7) a. *Actor*, which includes the semantic roles of actor and experiencer, determines nominative agreement.
- b. *Undergoer*, which includes the semantic roles experiencer, patient, goal, source and beneficiary, determines objective agreement.
- c. *Site*, which includes the semantic roles of location, goal and source, determines objective agreement and a location postposition.

He describes the categories Actor, Undergoer, and Site as domains or continua of semantic roles. Which particular roles are included in each domain is language specific, but the continuum labels are universal. In more recent work in Role and Reference Grammar, Van Valin and Foley (1980:338) do not discuss the third domain, Site, but rather "postulate a single fundamental universal semantic opposition of Actor and Undergoer."

It is interesting to examine the similarity of the Role and Reference Grammar framework to that of the RG framework. RG posits grammatical relations as primitives. Role and Reference Grammar posits the notion of the opposition of Actor and Undergoer as fundamental. Both theories claim that it is somewhat language specific as to which semantic roles are associated with these notions. With regard to this, both theories claim that there are universal tendencies. A fundamental difference between the two theories is RG's claim that the notion of levels is important.

Van Valin's rule, as summarized by Van Valin and Foley (1980:337), is: all Actors determine the nominative affixes, and all Undergoers determine the objective affixes, regardless of grammatical relations. But when Van Valin's rule is examined more closely, one notices the overlap between continua. He admits it is necessary to refer to the verb type in order to determine whether an experiencer is an Actor or an Undergoer. He states that experiencers of active verbs are Actors and experiencers of stative verbs are Undergoers. He also gives examples of both verb types. From his examples it is clear that he means that subject experiencers of transitive clauses are Actors and all other experiencers are Undergoers.

Van Valin's rule for verb agreement works for transitive, unergative and unaccusative clauses, as can be seen in the following:

⁴ There are three allomorphs of the reflexive morpheme: *igd-* (*igl-*) for verbs beginning with *y*, *ik-* for verbs beginning with *p*, and *ič'i*.

⁵ This is my account of Van Valin's rule. He presents his rule in two parts referring to the actual morphemes. I have combined these, and I refer to the nominative and objective sets.

- (8) a. A-ma-ya-pha
 Loc-1sO-2N-hit
You hit me.
- b. Wa-nųwą
 1sN-swim
I am swimming.
- c. Ni-hįħpa
 2O-fall.down
You fell down.

In (8a-b) the subjects are both Actors, therefore the nominative affixes are used. The direct object in (8a) and the subject in (8c) are both Undergoers, thus the objective affixes are used. Now consider reflexive clauses again:

- (9) A-n-ič'i-pha.
 Loc-2O-Rfl-hit
You hit yourself.

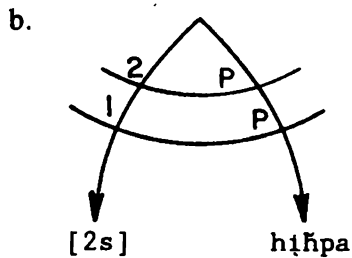
Van Valin (1977a:30) notes that the sole nominal in clauses like (9) has two semantic roles assigned to it (i.e. actor and patient). He offers no explanation for the use of the objective affixes other than stipulating that *ič'i-*, the reflexive morpheme, requires that the objective affixes be used with it.

Plunkett and McKeever (1986) discuss the implications of several constructions, including unaccusative and reflexive clauses, for verb agreement in Sioux. Then they state the following rule for verb agreement (p. 101):

- (10) a. Working 2s determine the objective agreement markers.
 b. Nominals heading a 1-arc determine the nominative agreement markers.
 Where (a) is disjunctively ordered with respect to (b).

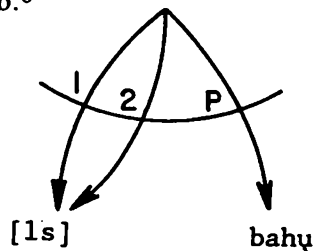
Working 2s are discussed in Perlmutter 1982 (p. 314). Informally, a nominal is a working 2 if it is a 2 at some level and not a chomeur. Plunkett and McKeever (1986) argue that disjunctive ordering is necessary for Sioux verb agreement. It accounts for unaccusative clauses like (11) and reflexive clauses like (12). According to rule (10), unaccusative and reflexive clauses use the objective person agreement because the final 1 is also an initial 2. Thus Plunkett and McKeever's rule accounts for the verb agreement in reflexive clauses without having to refer to the morphology of Dakota.

- (11) a. Ni-hįħpa
 2O-fall.down
You fell down.



- (12) a. Ba-m-ič'i-hų.
Ins-1sO-Rfl-slash
I cut myself.

b.⁶



Although Plunkett and McKeever's rule (10) is coherent, I propose an alternative person agreement rule; a rule that eliminates the need for the notion of working 2. It is as follows:

- (13) **Person Agreement Rule:**
The verb agrees in person with final nuclear terms.
a. Nominals heading a 2-arc determine the objective agreement markers.
b. Nominals heading a 1-arc determine the nominative agreement markers.
(a) is disjunctively ordered with respect to (b).

The notion of working 2 is unnecessary since a working 2 is either a final 1, 2, or 3 and there are no final 3s in Sioux. The disjunctive ordering is still necessary to account for the use of the objective person agreement with unaccusative and reflexive clauses. Therefore, this new rule (13) makes the same predictions as Plunkett and McKeever's rule (10).

The next area of agreement I will discuss is number agreement. Van Valin (1977a) does not discuss an agreement rule for number. The implication is that he includes it with his person agreement rule. Plunkett and McKeever (1986) also include number agreement with the nominative and objective person agreement, thereby allowing rule (10) to account for it. Examine (14).

- (14) a. Wiyaka-g he ma-ya-k'u-b.
feather-Def Dem 1sO-2N-give-Pl
You (pl.) gave me the feather.
- b. Hena ųk-ode-pi.
they 1p-look-Pl
They were looking for us (> 2).
- c. ųk-ya-b.
1p-go-Pl
We (> 2) went.
- d. =(V 1977a:8)
ų-hi
1p-arrive
We (dual) arrive.

In each of these examples the plural morphemes occur with the person agreement as shown in Table 2. In (14a) and (14c) the subject is plural and this is signaled by the plural suffix. In (14b) both the subject and direct object are plural; this is also signaled by the plural suffix. But when the first person dual-plural distinction is examined, differences in the person agreement and number agreement systems can be seen. Plunkett and McKeever (1986) present the first person dual-plural distinction as it is shown in Table 2. Therefore, if number agreement

⁶ This relational network is incomplete, showing only the relevant stratum.

follows rule (10), the dual-plural distinction should only be seen with subjects of transitive (cf. (14a)) and unergative verbs. In fact, this is not the case, as seen in the following examples:

- (15) =(V 1977a:9)
- a. Ma-ḥaske.
1s0-tall
I am tall.
 - b. ʋ-ḥaske.
1p-tall
We (dual) are tall.
 - c. ʋ-ḥaska-pi.
1p-tall-Pl
We (> 2) are tall.
- (16) =(W 1984:96)
- a. Na-m-ič'i-ḥtake.
Ins-1s0-Rfl-kick
I kicked myself.
 - b. Na-ʋk-ič'i-ḥtake.
Ins-1p-Rfl-kick
We (dual) kicked ourselves.
 - c. Na-ʋk-ič'i-ḥtaka-pi
Ins-1p-Rfl-kick-Pl
We (> 2) kicked ourselves.

The verb in 15 is unaccusative and the verb in (16) is reflexive. As mentioned above, and as can be seen in examples (15a) and (16a), both of these constructions use the objective person agreement. However, the first person dual-plural distinction is realized with them. This should not be the case according to Plunkett and McKeever (1986). They put the first person dual-plural distinction in the nominative set, not the objective set. Based on this, number agreement should be treated separate from person agreement. As mentioned above, final direct objects cannot make the first person dual-plural distinction, but the subjects of unaccusative verbs can. Therefore number agreement is sensitive to final relations.

- (17) *Plural Agreement Rule:*
If a final nuclear term is plural, then affix -pi, except when the trigger is first person dual subject.

The fact that the number agreement system is different from the person agreement system presents an argument for the RG analysis of unaccusative verbs. The objective person agreement is triggered by the nominal of unaccusative verbs. To capture a generalization about verb agreement, RG posits that the initial stratum of the unaccusative clause has an initial 2 and no initial 1. The Final 1 Law (Perlmutter and Postal 1983b) requires that the final stratum contain a 1; thus the initial 2 typically advances to 1 in such clauses. If the first person dual nominal of an unaccusative verb is *not* a final subject, then according to rule (17) it should trigger -pi agreement on the verb. In fact, it does not. If it is a final subject, as I have claimed, then rule (17) correctly describes the facts. Therefore, the RG analysis allows for a generalization of the plural agreement rule and Dakota provides evidence for the final 1-hood of the unaccusative nominal.

An alternative analysis under which the nominal of an unaccusative clause is an object and not a subject, requires that the plural agreement rule be modified. The exception clause of rule (17) should then read "except when the trigger is first person dual subject or first person dual unaccusative object." This analysis misses the generalization that the unaccusative advancement analysis allows.

There are two other ways to represent number agreement that I have not discussed. One is the morpheme *wičha-*, which signals agreement with animate third person plural objects. Van Valin (1977a:26) noted this about *wičha-*: "*Wičha- 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."

He does not include it with his other person agreement rules (i.e., rule (7)), nor does he give a generalization to account for it.

Williamson (1984) says that *wičha-* is the suppletive form of *-pi* and that it is used only for the third person plural animate objects of transitive verbs. Examples (18a-c) illustrate.

- (18) a. *Ma-duzahą.*
1sO-fast
I'm fast.
- b. *šųkawaką n-ithawa nina duzahą-pi.*
horse 20-belong very fast-Pl
Your horses are very fast.
- c. *šųka duzahą wičha-bd-uha.*
dog fast 3p-1sN-have
I have some fast dogs.
- d. **Wičša-g hena wičha-ħaska.*
man-Def those 3p-tall
(Those men are tall.)
- e. *Wičša-g hena ħaska-pi.*
man-Def those tall-Pl
Those men are tall.

The verb *duzahą* is unaccusative, as seen by the objective person agreement in (18a). Notice, however, that *wičha-* is not used in (18b), but the plural suffix *-pi* is used. It can be seen in (18c) that *wičha-* signals agreement with the animate third person plural direct object. In (18d-e) *ħaska* is unaccusative and takes the objective agreement, but *wičha-* renders the clause ungrammatical.

Plunkett and McKeever (1986) simply claim that *wičha-* fills the third person plural slot of the objective set. This cannot be the case since objective agreement is used with unaccusative verbs and *wičha-* cannot be used with them.

Reflexive clauses provide additional evidence that *wičha-* is not simply part of the objective set. Recall that the objective person agreement is used with reflexive clauses, as in (19a).

- (19) =(W 1984:96,98)
- a. *Na-m-ič'i-ħtake.*
Ins-1sO-Rfl-kick
I kicked myself.
- b. *Na-ič'i-ħtake-pi.*
Ins-Rfl-kick-Pl
They kicked themselves.
- c. **Wičh-igl-užąžą.*
3p-Rfl-wash
(*They wash themselves.*)

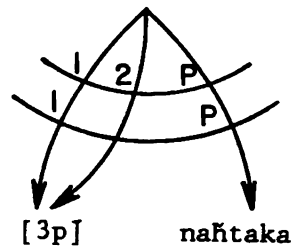
If *wičha-* had all the properties of the other objective affixes, it would be used in (19b); but the plural suffix *-pi* is used instead. In fact, when *wičha-* is used with a reflexive verb as in (19c), the clause is ungrammatical. Thus, the appropriate generalization must account for the fact that *wičha-* only signals agreement with *final* third person plural direct objects, and that it does not co-occur with *-pi*. Rule (17) is revised as follows:

- (20) *Plural Agreement Rule (second version):*
- a. If a final direct object is third person plural, then affix *wičha-*.
 - b. If a final nuclear term is plural, then affix *-pi*, except when the trigger is first person dual subject.
- (a) is disjunctively ordered with respect to (b).

The disjunctive ordering accounts for final third person plural objects not triggering both *wičha-* and *-pi*. Plunkett and McKeever (1986) argue that disjunctive ordering is crucial to account for Dakota verb agreement. The disjunctive ordering in the revised Plural Agreement Rule, (20) accounts for the use of *wičha-* in certain clauses and *-pi* in others.

Up to now I have made no claims regarding the relational network of reflexive clauses other than the multiattachment in the initial stratum. Rosen (1981) argued that multiattachment in Italian is resolved by cancellation. I propose that Sioux reflexive clauses also resolve multiattachment by cancellation. Rule (20) predicts that a final object that is third person plural triggers *wičha-*. It also predicts that a final subject that is plural determines *-pi*. According to rule (20), a reflexive verb, such as in (19b), should have both *wičha-* and *-pi*, if the structure of reflexive clauses is as shown in (12b) (that is, without cancellation). But (19c) shows that *wičha-* cannot occur on reflexive verbs. Thus the final stratum of the reflexive relational network contains a 1-arc and no 2-arc, as in the following diagram : ⁷

(21)



The last topic of number agreement that I have yet to discuss is verbal reduplication, as seen in the following examples:

- (22) =(B&D 1941:157)
- a. *čħa kř ħask-aska.*
tree Def tall-Rdp
The trees are tall.
 - b. *čħawape kř řni-řniřa.*
leaves Def Rdp-wither
The leaves are withered.
 - c. *Mila kř phe-phe-řni.*
knife Def sharp-Rdp-NEG
The knives are not sharp.

Compare (22) to the following example:

- (23) *řya-g ħe thaka.*
stone-Def Dem big
The rock is big.

This reduplication occurs only when the subject is inanimate plural (Boas and Deloria 1941:157). When the final object is inanimate plural, neither reduplication nor *wičha-* are used, but rather plurality is expressed only in the noun phrase.

⁷ An alternative analysis would be to assume that there is no cancellation, as shown in (12b). Then the generalization could be that *wičha-* signals agreement with a third person plural nominal that heads a 2-arc and no 1-arc. This would also account for the absence of *wičha-* in unaccusative clauses.

- (24) ɪya hena iħpeya-pi.
 stone those throw-Pl
They are throwing rocks.
**(He is throwing rocks.)*

Verb agreement with inanimate subjects presents more evidence for the RG analysis of unaccusative clauses. The argument is based on the fact that Sioux person agreement makes reference to the initial stratum of unaccusative clauses (i.e. the initial 2), and that Sioux number agreement makes reference to the final strata. This is seen in the clauses in (22). They are all unaccusative and take the objective person agreement. Yet only final subjects which are inanimate plural determine verb reduplication. Therefore the final stratum must contain a 1-arc. This supports the Final 1 Law.

The Plural Agreement Rule can contain three parts, referring to the three strategies for showing plural agreement: wičha-, -pi, and reduplication.

- (25) *Plural Agreement Rule (third version):*
 a. If a subject is inanimate plural, then perform verb reduplication.
 b. If a final direct object is animate third person plural, then affix wičha-.
 c. If a final nuclear term is animate plural, then affix -pi, except when trigger is first person dual subject.
 (b) is disjunctively ordered with respect to (c).

In summary, I present the person agreement rule again, and a summary of my arguments for the RG analysis of unaccusative and reflexive clauses.

- (26) *Person Agreement Rule:*
 The verb agrees in person with final nuclear terms.
 a. Nominals heading a 2-arc determine the objective agreement markers.
 b. Nominals heading a 1-arc determine the nominative agreement markers.
 (a) is disjunctively ordered with respect to (b).

I have argued for the multistratal analysis of unaccusative clauses. The argument for the 2-hood of the nominal is based on the fact that it determines objective person agreement. There are two arguments for the final 1-hood of the unaccusative nominal. The first is based on the generalization that only first person dual subjects fail to trigger the plural marker -pi. The unaccusative nominal must be a subject by this test, since it also fails to trigger -pi. The second argument is based on the generalization that only inanimate plural nominals which are subjects trigger verbal reduplication. The unaccusative nominal must be a subject by this test, since it triggers verbal reduplication. Under an alternative analysis of no advancement, these generalizations cannot be maintained.

I have also argued for the cancellation analysis of reflexive clauses in Sioux. This argument is based on the generalization for wičha-. Wičha- signals agreement with a third person animate plural final direct object. Since wičha- cannot occur in reflexive clauses, the final stratum does not contain a final 2.

2.2. Advancements to Direct Object

The verb agreement in Sioux that I have examined up to now has not included agreement with nominals such as Recipient, Goal, etc. The analysis of verb agreement has only included nominals such as Agents and Patients. I will now examine nominals that trigger verb agreement which are not Agents or Patients. In Sioux most animate nominals which are not Agents or Patients may or must head a 2-arc. The mechanism that Sioux uses for this is advancement to 2.

In this section I will first illustrate the different Advancees: 3, Benefactive, Locative, and others. Second, I will present arguments for the 2-hood of the Advancee based primarily on person and number agreement, as well as others. And last, I will consider alternative analyses.

2.2.1. The Data and Analyses

3-2 Advancement

Plunkett and McKeever (1986) argue that there is 3-2 advancement in Sioux. The following examples illustrate the verb agreeing with the non-Patient of the clause:

- (27) a. Wa-pazo.
1sN-show
I show it.
- b. Ma-ya-ki-pazo.
1sO-2N-Dat-show
You show it to me.
- (28) a. =(V 1977a:43)
Iyuha wičha-k'u-pi.
all 3p-give-Pl
They gave it to all of them.
- b. iya-g de čhi-č'u.
stone-Def Dem 1sN:20-give
I gave you this rock.
- (29) a. A-ma-pha.
Loc-1sO-hit
He hit me.
- b. =(W 1984:81)
John thapa ki a-ni-ki-phī-kte.
ball the Loc-20-Dat-hit-Pot
John will hit the ball to you.
- (30) a. Wa-dųwạ.
1sN-sing
I sang.
- b. Ma-ya-ki-dųwạ-s'a.
1sO-2N-Dat-sing-Hab
You used to sing to me.

In all of these examples the verb shows agreement with nominals that are not the Patient. In (27b) the verb shows agreement with the first person Experiencer, in (28a-b) with the Recipients, in (29b) with the second person Goal, and in (30b) with the first person Addressee.⁸ In all of these examples the animate non-Patient must trigger verb agreement. In RG terms this means that the advancement of 3 to 2 is obligatory.⁹

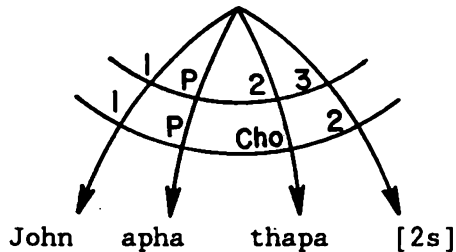
⁸ Van Valin (1977a:15-9, 27) notes that *ki-* is semantically complex. The nominal associated with it may even be a Beneficiary for a given verb. When this is the case, the role assigned to the nominal associated with *kičhi-* is Delegative for the same verb.

⁹ Van Valin (1977a:7) included the following clause in his paradigms. It is his only example of a 3 not advancing to 2, but my language consultants were unable to confirm its acceptability.

- (i) Ni-wičha-wa-k'u.
20-3p-1sN-give
I give you to them. (in marriage)

Notice also, that in all the (b) examples there is an extra morpheme, *ki-*, affixed to the verb, with the exception of (28).¹⁰ In the literature *ki-* has been called the Dative marker (Buechel 1939, Boas and Deloria 1941, Williamson 1984). I claim that *ki-* registers the advancement of a nominal heading a 3-arc to 2, when the nominal does not head a 1-arc. (I will present a more formal analysis below.) (29b) is illustrated below in (31).

(31)



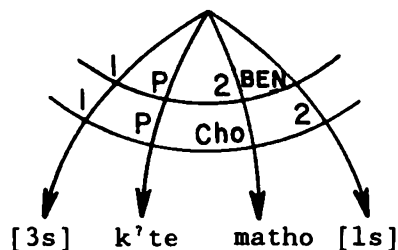
Benefactive-2 Advancement

Plunkett and McKeever (1986) argued that not only is there 3-2 advancement in Sioux, but advancements of obliques to 2 as well. They did not specify, but the examples they give illustrate Benefactive-2 advancement, as in the following data:

- (32) Matho-g he m-iči-kte.
 bear-Def Dem 1s0-Ben-kill
He killed the bear for me.
- (33) =(W 1984:81)
 John wowapi ki ni-čiči-yawa-ha he?
 paper Def 20-Ben-read-Dur QM
Is John reading the letter for you?
- (34) =(B 1939:49)
 ʉk-o-kiči-le-pi.
 1p-?-Ben-seek-P1
He seeks it for us.

In these clauses the verb agrees with the Beneficiary, and the morpheme *kiči-* is affixed to the verb. This affix in the literature has been called the Benefactive marker (Van Valin 1977a:18, Williamson 1984:36). I claim that just like *ki-* registers 3-2 advancement, *kiči-* registers Benefactive-2 advancement, when the Advancee does not head a 1-arc. (I will present a more formal analysis below.) Similarly to 3-2 advancement, Benefactive-2 advancement is obligatory. (32) is illustrated with the following diagram:

(35)



¹⁰ The verb *k'u to give* never takes the morpheme *ki-*.

Source-2 Advancement

Source to 2 is another obligatory advancement. Like 3-2 advancement, Source-2 is registered with the affix *ki-*. Consider the following examples:

- (36) Thaspą n-ithawa i-ma-ki-ču.
apple 20-belong Loc-1s0-Adv-take
He took your apple from me.
- (37) Hąpa n-ithawa ma-ki-yušdoka-pi.
shoe 20-belong 1s0-Adv-remove-P1
They took your shoes off me.

In both of these examples the nominal that is semantically a Source is triggering person agreement on the verb. Because the affix *ki-* may register the advancement of 3-2 or of Source-2, the rule for *ki-* must be stated such that it includes this kind of advancement.

Alternatively, one might claim that a Source advances to 3 and then the 3 advances to 2. Under this analysis, *ki-* simply registers 3-2 advancement.

Locative-2 Advancement

Sioux optionally advances animate Locatives to 2. Unlike the advancements discussed above, Locative-2 advancement is not registered with a verbal affix. Consider the following examples which demonstrate this advancement:

- (38) =(W 1984:172)
- a. *(m-)ilazata m-igl-ušna.
(1s0-)behind 1s0-Rfl-drop
I dropped it behind myself.
- b. *John wowapi ki isakib ič'i-gnake.
paper Def beside Rfl-keep
John keeps the letter beside himself.
- (39) a. =(B 1939:22)
M-isakib ahiųpe.
1s0-beside place
She placed it beside me.
- b. Thapa ki m-iňayata bd-ušna.
ball Def 1s0-behind 1sN-drop
I dropped the ball behind myself.

(38) and (39) demonstrate that when the postposition is used, the verb cannot show agreement with the Locative nominal, nor can reflexive morphology be triggered. This is also seen in the following examples:

- (40) =(W 1984:168)
- a. šuka ki el čha wą a-wa-pazo.
dog Def Loc stick Indf Loc-1sN-show
I pointed the stick at the dog.
- b. čha wą a-m-ik-pazo.
stick Indf Loc-1s0-Rfl-show
I pointed the stick at myself.
- (41) =(W 1984:168)
- a. John el islaye huň i-wa-ų-kte.
Loc ointment some Loc-1sN-use-Pot
I will rub some ointment on John.

- b. John islaye ɥuɥ i-wa-ɥ-kte.
 ointment some Loc-lsN-use-Pot
I will rub some ointment on John.
- c. John islaye ɥuɥ i-ič'i-yu-kte.
 ointment some Loc-Rfl-use-Pot
*John_i will rub some ointment on himself_i/*him_j.*

In (41a) the Locative nominal has not advanced, but in (41b-c) it has. In (40a) and (41a) the Locative nominal is followed by a postposition. (A postposition also appears in the ungrammatical examples in (38).) In (40b) and (41b-c) the verb shows agreement with the Locative nominal. The nominals that are followed by a postposition cannot determine person agreement and the reflexive morpheme, as seen in (38) and (39). An advancement analysis not only accounts for this nominal triggering person agreement, but it also accounts for the absence of the postposition when it does trigger agreement; it can no longer be flagged as a Locative. Notice also, that in (41) the advancement of the Locative to 2 is optional.

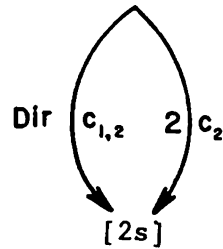
Directional-2 Advancement

There are four basic verbs of motion in Sioux which may subcategorize for Directionals. Directionals in Sioux are marked with a postposition. When the nominal is animate there is obligatory advancement to 2, although the postposition is retained. Examine the following examples.

- (42) = (V 1977a:20, 21)
- a. Wa-i.
 lsN-have.gone
 I went (arrived there).
- b. El wa-i.
 Loc lsN-have.gone
 I went to him.
- c. Thi pi el wa-i.
 house Loc lsN-have.gone
 I went to the house.
- d. El čhi-i.
 Loc lsN:20-have.gone
 I went to you.
- (43) = (V 1977a:20, 21)
- a. El ma-hi
 Loc ls0-arrive
 He came to me.
- b. *Ma-hi.
 ls0-arrive
 (He came to me.)

In each of the above examples, any Directional nominal is flagged by the postposition e1. It cannot be omitted, as (43b) demonstrates. Also, the animate nominal must advance to 2, thereby triggering person agreement. This construction is very similar to English pseudo-passives. Following Postal's (1986:203-41) analysis of these in *Arc Pair Grammar*, I claim that this construction in Sioux is a copy advancement to 2. Since the nominal is a final Directional the postposition is obligatory, and since it is a final 2 Pro-Drop is allowed. (I will discuss Pro-Drop in detail below.) This is illustrated with the following incomplete stratal diagram.

(44)

*"Oblique"-2 Advancement*

Consider now the Dakota construction in which a restricted set of verbs appear. These verbs are called "double patient" verbs by Williamson (1979:359), and stative verbs with two objects by Boas and Deloria (1941:76-7). The following examples demonstrate this "double patient" agreement:

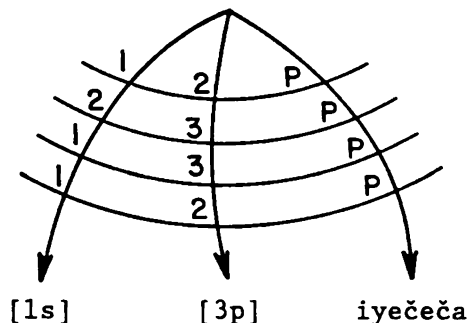
(45) =(W 1979:360)

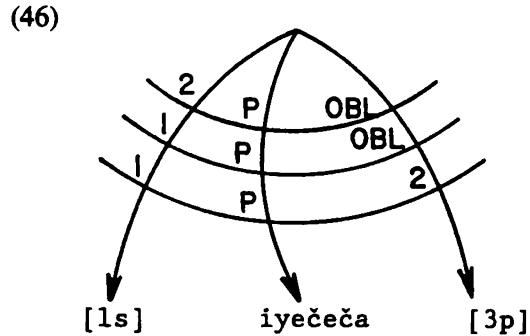
- a. Iye-wičha-ma-čeča.
 ?-3p-1s0-resemble
I resemble them.
 *(They resemble me.)
- b. Iye-ma-čeča-pi.
 ?-1s0-resemble-P1
They resemble me.
 *(I resemble them.)

Notice in (45a) that both the first person singular objective marker and the third person animate plural marker are used. According to rules (25) and (26) *ma-* and *wičha-* are only used with 2s (which are final terms) and final 2s, respectively. Williamson (1979) argued that the initial stratum of these clauses contains a 2-arc and an "oblique"-arc, but no 1-arc. Unaccusative advancement accounts for the final 1 and "oblique"-2 advancement accounts for the final 2. This advancement to 2, like 3-2 advancement and some of the others, is obligatory, and is illustrated in the following diagram of sentence (45a).¹¹

¹¹ An alternative analysis not considered by Williamson (1979) would be to posit an initially transitive stratum, Antipassive, 2-3 Retreat, and 3-2 advancement, as shown below. All of the known facts are accounted for except the lack of the prefix *ki-*, perhaps. (This was suggested by Steve Marlett, p.c.)

(ii)





2.2.2. Arguments for Advancement to 2 and Generalizations

Plunkett and McKeever (1986) give evidence that there are advancements to 2 in Lakota. They argue that this analysis allows their generalizations for verb agreement to be maintained, namely, that working 2s determine objective person agreement. Likewise, the generalizations of the person agreement rule (26) can be maintained, specifically, that the verb agrees with final nuclear terms and nominals heading a 2-arc determine objective person agreement. Compare the following examples which they provide:

- (47) = (P&M 1986:100)
- a. *He ma-ni-ki-pazo.
s/he 1sO-2O-Dat-show
(He showed you to me.)
 - b. He niye ma-ki-pazo.
s/he you 1sO-Dat-show
He showed you to me.

In (47b) the verb is showing agreement with the first person singular nominal, which is the initial 3, *not* the second person singular nominal, which is the initial 2. In fact, (47a) demonstrates that the verb cannot show agreement with both nominals. If the 3 advances to 2, putting the 2 en chomage, the verb should not agree with the Patient; and given rule (26), it does not.

Notice also in (47b) that the second person singular nominal must be expressed with a pronoun. Yet it is well documented that Sioux is a Pro-Drop language.¹² I propose that the rule for Pro-Drop is that personal pronouns that are final nuclear terms may be omitted. This would account for the obligatory presence of the personal pronoun that is a 2-chomeur. Examples (48a)-(48d) illustrate that a third person 2-chomeur is overt only if the referent is human. There is no overt pronoun (hence it cannot be dropped) for non-humans.

- (48)
- a. Iye čhi-či-pazo.
s/he 1sN:2O-Dat-show
I showed him to you.
*(I showed it to you.)
 - b. (šuka-g he) wa-ki-pazo.
(dog-Def Dem) 1sN-Dat-show
I showed it/(the dog) to him.
 - c. Ma-ya-ki-pazo.
1sO-2N-Dat-show
You showed it to me.

¹² Williamson (1984:73) says that "every personal pronoun in a position that is associated with an AGR marker may drop in Lakota."

- d. čhi-či-pazo.
 1sN:20-Dat-show
I showed it to you.
 *(I showed her to you.)

The advancement analysis accounts for all the different non-terms triggering person agreement, since they advance to 2. Thus, rule (26) needs no revision. The verb agrees with final nuclear terms.

Plural agreement presents another argument for the advancement analysis. The Plural Agreement Rule (25) states that only final nuclear terms trigger the plural suffix -pi. Therefore a nominal that advances to 2 should trigger plural agreement, which it does, as (49) and (50) demonstrate.

- (49) šuka wə ɥ-ki-pazo-b.
 dog Indf 1p-Dat-show-Pl
He showed a dog to us.
- (50) =(B 1939:49)
 ɥk-o-kiči-le-pi.
 1p-?-Ben-seeK-Pl
He seeks it for us.

Thus the plural agreement rule pertaining to -pi, (25c), needs no revision under the advancement analysis.

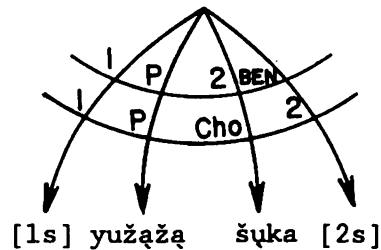
The animate third person plural agreement wičha- presents another argument for the advancement analysis. Rule (25b) states that wičha- shows agreement with final 2s. If an Advancee to 2 is animate third person plural, and is not a final 1, then according to (25b) it should trigger the affixation of wičha-, which it does, as seen in the following examples:

- (51) Wiyaka-g hena wičha-wa-k'u.
 feather-Def those 3p-1sN-give
I gave the feathers to them.
- (52) =(B 1939:49)
 0-wičha-kiči-le.
 ?-3p-Ben-seeK
He seeks it for them.
- (53) =(W 1979:360)
 Iye-wičha-ma-čeča.
 ?-3p-1s0-resemble
I resemble them.

But now consider the following examples where wičha- is showing agreement with a nominal that is not a final 2.

- (54) =(W 1984:81)
 Wičaša eya šukala ki wičha-ma-ki-pazo-pi.
 man some puppy Def 3p-1s0-Dat-show-Pl
Some men showed the puppies to me.
- (55) a. =(W 1984:81)
 šuka ki wičha-či-či-či-yužəžə-kte.
 dog the 3p-1sN:20-Ben-wash-Pot
I will wash the dogs for you.

b.



In (54) and (55) the verb shows agreement with both the initial 2 and Advancee. Also, the morpheme *ki-* is present in (54) and *kiči-* is present in (55a). Both register advancement. If the Advancee is a final 2, *wičha-* must be signalling agreement with the 2-chomeur. Therefore, the generalization for *wičha-* should include final 2s and 2-chomeurs. The notion of Acting 2 is useful for this generalization. Informally, an Acting 2 is any final 2 or 2-chomeur. The plural agreement rule after this modification is as follows:

- (56) *Plural Agreement Rule (final version):*
- a. If a subject is inanimate plural, then perform verb reduplication.
 - b. If an acting direct object is animate third person plural, then affix *wičha-*.
 - c. If a final nuclear term is animate plural, then affix *-pi*, except when trigger is first person dual subject.
- (b) is disjunctively ordered with respect to (c).

Another argument for the advancement analysis comes from the omission of the Locative postposition when the Locative nominal triggers verb agreement. A nominal that is an initial Locative may advance to 2. When it does advance, the nominal determines agreement on the verb and the postposition is omitted. This advancement is unlike the copy advancement of Directionals. Since the advanced nominal is not a final Locative, the postposition must be omitted, as seen above in (38)-(41).

Reflexivization presents one more argument for the advancement analysis. Now consider reflexives again.

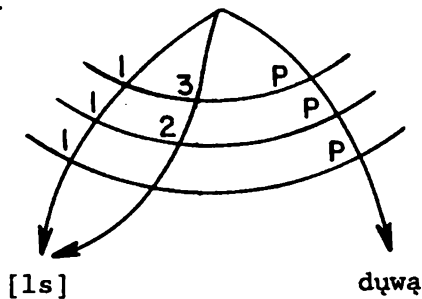
- (57) = (V 1977a:30)
He-m-ič'i-ye.
?-1sO-Rfl-say
I said that to myself.
- (58) = (V 1977a:30)
O-n-ič'i-lote.
Loc-2O-Rfl-borrow
You borrowed it for yourself.
**(You borrowed yourself.)*
- (59) Ağuyapī skuya wą m-ič'i-čağa.
bread sweet Indf 1sO-Rfl-make
I made a cake for myself.

In (57) the verb shows agreement with the initial 3. The advancement analysis claims that the 3 advances to 2, thereby allowing coreference between the initial 1 and 3 to follow the same pattern as coreference between the initial 1 and 2. This would be true for Benefactive-2 and Locative-2 advancements also, as seen in (58)-(59) and in (38)-(41). Thus the generalization about reflexivization would be the same for the clauses in (57)-(59) and (38)-(41) as it would for simple transitive clauses: *ič'i-* occurs if and only if there is multiattachment of a 1 and a 2.¹³

¹³ Williamson (1979) argued that the antecedent of reflexives in Sioux is obligatorily a subject.

The generalizations about the affixes *ki-* and *kiči-* can now be made. The formulation of these rules accounts for the omission of *ki-* and *kiči-* when there is 1-2 multiattachment. Thus, the reflexive morpheme *ič'i-* is affixed in (60b), and not *ki-* or *kiči-*.

- (60) a. *Ma-ya-ki-dųwạ-s'a.*
1s0-2N-Dat-sing-Hab
You used to sing to me.
- b. *M-ič'i-dųwạ-s'a.*
1s0-Rfl-sing-Hab
I sing to myself.
- c.



Informally *ki-* is affixed to the verb (except the verb *k'u to give*) when a nominal heading a 3-arc has advanced to 2:¹⁴

- (61) *Ki-Morphology:*
If a nominal heads a 3-arc in *c* and a 2-arc in *c*, where $j > i$ and there is no c_{j+1} , then affix *ki-* to the verb.

Informally, *kiči-* is affixed to the verb when a nominal heading a Ben-arc has advanced to 2:

- (62) *Kiči-Morphology:*
If a nominal heads a Ben-arc in *c* and a 2-arc in *c*, where $j > i$ and there is no c_{j+1} , then affix *kiči-* to the verb.

I have considered six arguments for the advancement analysis in this section. The advancement analysis allows for succinct verb agreement rules and the reflexivization rule. It also allows for a generalization for Pro-Drop in Sioux and the lack of postpositions with most advanced nominals, but the presence of the Directional postposition.

2.2.3. Alternative Analyses

One possible alternative to the advancement analysis is one in which the nominal in question does not advance to 2, but is both an initial and a final non-nuclear term or oblique. This analysis requires revisions to both the person and number agreement rules, as well as alternative analyses to Pro-Drop, Reflexivization, and other constructions.

Consider first what changes the person agreement rule (26) would require under this analysis. Rule (26) states that the verb agrees with final nuclear terms, and nominals heading a 2-arc determine objective person agreement. This would have to be broadened to allow for 3s, Benefactives, Locatives, Directionals and others discussed above to determine person agreement. It would be necessary to specify that when one of these nominals determines person agreement, the nominal heading the 2-arc cannot. It would also be necessary to say that these nominals are

¹⁴ This rule assumes that there is no Source-2 advancement, but rather two advancements: Source-3 and then 3-2 registered by *ki-*.

working objects and obliques because the objective person agreement is used in reflexive constructions.

The rule for reflexives under an analysis that does not allow advancement to 2 would say that any object or oblique nominal can be the target of reflexives.

The plural agreement rule (25) would have to be modified under this analysis. First it would have to say that plural animate final terms and obliques trigger the affix *-pi*. The plural agreement rule for *wičha-* would also have to state that animate third person plural final objects and obliques trigger the affixation of *wičha-*. Furthermore, the Pro-Drop rule for objects would have to stipulate that final 2s can be omitted only if there is no final 3 or oblique determining verb agreement. The rule would have to be stated as Williamson (1984) does, namely the nominal determining verb agreement may drop, regardless of its grammatical relation.

An analysis that does not allow advancement to 2 would have difficulty generalizing why some obliques always determine verb agreement (i.e. Benefactives), why others optionally determine verb agreement and when they do the postposition is omitted (i.e. Locatives), and why still others determine verb agreement but do not omit the postposition (i.e. Directionals). The complications caused by an analysis that does not posit advancements to 2 are sufficient to make one question its appropriateness.

Another alternative analysis to the advancement to 2 analysis would be one in which there is a direct mapping to 2. This kind of analysis would not require any changes to rules such as Reflexivization, Pro-Drop, and the person agreement rule (26). This analysis would allow the person agreement rule (26) to retain its generalizations. And for the most part, it would not require any changes to the plural agreement rule (56), except for the rule pertaining to *wičha-*.

An analysis which maps directly to 2 would have difficulty explaining why the Patient triggers *wičha-* even when the Recipient, Beneficiary, Locative, or whatever has been mapped to 2, as seen in the following example:

- (63) =(W 1984:81)
Wičaša eya šukala ki wiča-ma-ki-pazo-pi.
 man some puppy Def 3p-1s0-Dat-show-Pl
Some men showed the puppies to me.

The Patient in the above example is a clausal constituent of some kind. Under a direct mapping to 2 analysis this nominal would have a grammatical relation that would have to trigger *wičha-* but not the other plural agreement, nor person agreement.

The Directional obliques present another problem for this type of analysis. If the Directional is mapped directly to 2, then it should not require the Directional postposition, but it does.

The advancement to direct object analysis is superior to analyses of either type (i.e. no advancement to 2 analysis, or direct mapping to 2 analysis) in that it allows the agreement rules to retain their generalizations. It allows for a straightforward reflexivization rule. And it accounts for the verb showing agreement with initial 3s, Benefactive, and other obliques.

3. Possessors and Possessor Ascension

3.1. Introduction

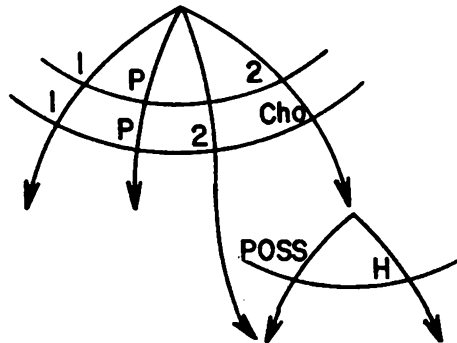
The goal of this section is to present evidence for Possessor Ascension in Dakota Sioux. In this construction, a nominal which is semantically a possessor is syntactically not a surface constituent of the noun phrase, but rather a constituent of the clause. I first discuss two constructions known as Possessor Ascension (PA) within the framework of Relational Grammar and give an introduction to the ways possession is expressed in Sioux. Next I present the

analysis of the two PA constructions. Then I present three arguments for these constructions in Sioux. And lastly, I argue against alternative analyses for these constructions.

3.1.1. Possessor Ascension Cross Linguistically

Two types of PA have been proposed in the literature. In the first type of PA, as shown in (64), the possessor ascends to take on the grammatical relation of the NP from which it comes (the host).

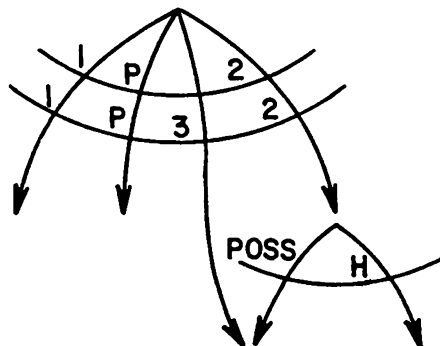
(64)



This type of PA has been posited for Blackfoot (Frantz 1979), Kinyarwanda (Bickford 1986), Kera (Camburn 1984), and Southern Tiwa (Allen, Frantz, Gardiner, and Perlmutter, 1990).

In the second type of PA, shown in (65), the possessor ascends to take on the grammatical relation of indirect object.

(65)



This type of PA has been argued for in Blackfoot (Frantz 1979), Choctaw (Davies 1986), Tzotzil (Aissen 1987), Kera (Camburn 1984), and Kinyarwanda (Bickford 1986).

What happens to the possessor in the NP after ascension is a language particular phenomenon. In some languages a pronominal copy occurs in the NP. In others, no copy occurs.

The second type of PA (cf. (65)) is anomalous because it violates the Relational Succession Law, which says:

(66) An ascendea assumes the grammatical relation of the host out of which it ascends.

In spite of this, the RG analysis of the second type of PA seems to be necessary for languages like Sioux.

3.1.2. Possession in Dakota

In this section I discuss the different ways in which Dakota expresses possession. There are four primary ways it accomplishes this: 1) using a relative clause, 2) using morphology on the possessed noun, 3) using morphology on the verb (both types of PA), and 4) coreference with the subject. The first method has sometimes been analyzed as a possessive pronoun. The second and third methods are related. I will discuss their relationship in section 3.2.3. The fourth method has been discussed in the literature, but I will apply an RG analysis to it. In this section I only present the facts of the language.

It has been argued that Sioux has no category Adjective (Van Valin 1977a). The relevant predicates are stative verbs, and they appear as main verbs as well as in relative clauses. This is illustrated by (67)-(68).

- (67) Wičaša mani haška-pi.
man walk tall-Pl
The men who are walking are tall.
The walking men are tall.
- (68) Wičaša haška mani-pi.
man tall walk-Pl
The men who are tall are walking.
The tall men are walking.

Similarly, Williamson (1979:359) argues that *thawa* in (69)-(70) is a verb, despite the earlier claim (Riggs 1893:16 and Buechel 1939:22) that it is a possessive pronoun.

- (69) šuka m-ithawa kute-pi.¹⁵
dog 1sO-belong shoot-Pl
They shot my dog.
Lit. *They shot the dog that belongs to me.*
- (70) šuka n-ithawa wa-kute.
dog 2O-belong 1sN-shoot
I shot your dog.
Lit. *I shot the dog that belongs to you.*

As a verb, it can also occur as the predicate of simple sentences, as shown in (71).¹⁶

- (71) =(W 1979:359)
Ni-m-ithawa.
2O-1sO-belong.
You belong to me.

The second method of expressing possession in Dakota is by means of person prefix on the noun itself. This construction is used with kinship terms and body parts, but not with alienable possessions (i.e. common nouns), cf. (72)-(76).

- (72) Mi-ate ki ku.
1s-father Def old
My father is old.

¹⁵ The stem of the verb *belong* (*to*) for 1st and 2nd person is *ithawa* (Riggs 1893:16, Buechel 1939:22).

<i>Underlying</i>	<i>Surface</i>	
ma+ithawa	-> mithawa	<i>it belongs to me</i>
ni+ithawa	-> nithawa	<i>it belongs to you</i>
uk+ithawa	-> ukithawa	<i>it belongs to us</i>

The stem for third person lacks the *i*: *thawa* *it belongs to him*.

¹⁶ This sentence is analyzed by Williamson (1979) like the "double patient" verbs in section 2.

- (73) Mi-siha šiča-mna.
1s-feet bad-smell
My feet stink.
- (74) *ni-šuka
20-dog
(your dog)
- (75) Ni-thakši a-wa-pha.
2-sister Loc-1sN-hit
I hit your younger sister.
- (76) Thakši m-ithawa a-ya-pha.
sister 1s0-belong Loc-2N-hit
You hit my younger sister.

According to Boas and Deloria (1941:129-31) kinship terms could not occur with the verb *thawa* to express possession, but obligatorily had the person prefix on them. This is shown in (75). However, examples like (76) are now attested. This may be an historical or dialectal variation.

The third common way used in Dakota to express possession is via person agreement on the verb. Consider (77) and (78).

- (77) Nape ma-yaza.
hand 1s0-hurt
My hand hurts.
- (78) Hapa ma-ki-yušdoka-pi.
shoe 1s0-Dat-remove-Pl
They took my shoes off.

In both of these clauses, the possessor is not expressed in the NP, rather on the verb. But there are differences between them also. The object in (77) is a body part noun (i.e. inalienable) and in (78), a common noun (i.e. alienable). In (78) the dative morpheme *ki-* occurs but in (77) it doesn't. I will discuss these differences below.

Both Riggs (1893:22, 63) and Buechel (1939:217-8) mention these types of constructions. They each state with regard to the construction represented by (78) that the verb takes two accusatives or objects: the possessor and the body part.

Boas and Deloria (1941:128-9, 132) also state that possession is commonly expressed on the verb. This is true with both types of PA in Sioux. They give the following examples:

- (79) =(B&D 1941:129)
Si ma-ka-hu.
foot 1s0-Ins-slash
He slashed my foot.
- (80) =(B&D 1941:132)
Woyuha ma-ma-ki-nu.
property ?-1s0-Dat-steal
He stole my property.

The fourth common way to indicate possession in Dakota is by means of the reflexive possessor prefix *ki-* (or one of its allomorphs *gd-/gl-* or *k-*).¹⁷ This construction has been called *Middle Voice* by Van Valin (1977a) and *Possessor Reflexive* by Williamson (1984), and it has been well documented in the literature (Buechel 1939 and Boas and Deloria 1941). This is illustrated in (81).

¹⁷ This is a different morpheme than the dative marker *ki-*, as both Van Valin (1977a) and Williamson (1984) argue. The argument is primarily based on the fact that the dative marker has different allomorphs.

- (81) =(W 1984:160)
 Wiyatke ki o-wa-gl-ušpe.
 cup Def Loc-1sN-PRfl-hold
I held (onto) my cup.

The ways that possession is expressed in Sioux can be summarized with the following table. Relative clauses are used with all three types of nouns. Prefixation on the noun is not used with common nouns. The two types of PA are not used with kinship terms. And the Possessor Reflexive construction is used only with common nouns.

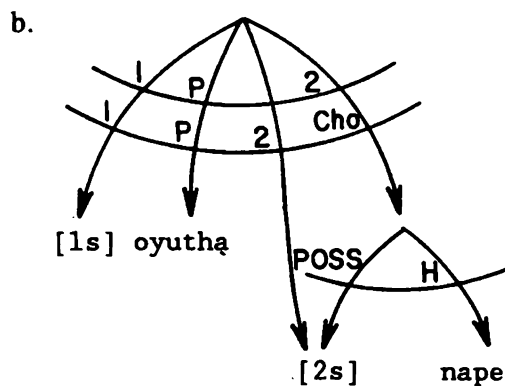
Table 4. Ways to Express Possession

	Rel. Cl.	Prefix	PA w/o ki-	PA w/ ki-	PRfl
Inalienable	X	X	X	-	- ¹⁸
Kinship	X	X	-	-	-
Alienable	X	-	-	X	X

3.1.3. Analysis of Both Types of Possessor Ascension

Cross-linguistically there are two types of PA attested, as mentioned above, and Sioux uses both types. The first type of PA in Sioux occurs only with body parts. The possessor ascends to 2 from an initial 2 host, putting the initial 2 en chomage. The possessor, as a final 2, triggers objective person agreement on the verb. (82) demonstrates this type of PA in a transitive clause.

- (82) a. Nape o-čhi-yutha
 hand Loc-1sN:20-touch
I touched your hand.



Examples (83) and (84) show that the possessed noun must be a body part for this type of PA.

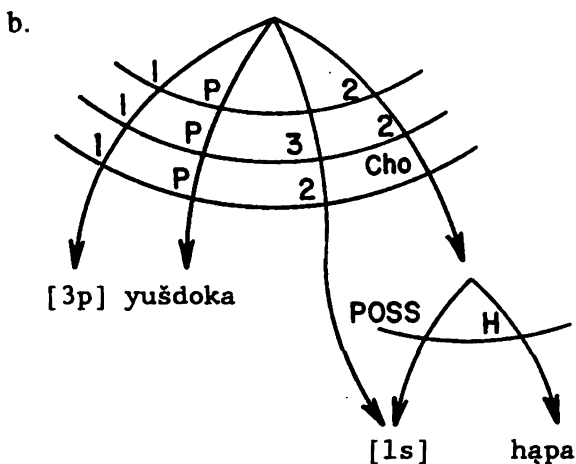
- (83) šuka o-čhi-yutha.
 dog Loc-1sN:20-touch
 *I touched your dog.
 Dog, I touched you.
- (84) Thakši ġu-ma-ya-ya
 sister burn-1sO-2N-Caus
 *You burned my sister.
 Sister, you burned me.

When this construction is formulated with something other than body parts it means either something other than possession, or it is ungrammatical.

¹⁸ Williamson (1984:159-60) claims that this construction is used with inalienable objects. My language consultants were unable to verify her data.

The second type of PA in Sioux occurs only with common nouns. The possessor ascends to 3 from an initial 2 host, then 3-2 advancement occurs, putting the initial 2 en chomage. The advancement is registered by the morpheme *ki-*, and the possessor triggers objective person agreement. This is represented in (85) with a transitive clause and stratal diagram.

- (85) a. Hąpa ma-ki-yušdoka-pi.
 shoe 1s-Dat-remove-Pl
They took my shoes off.

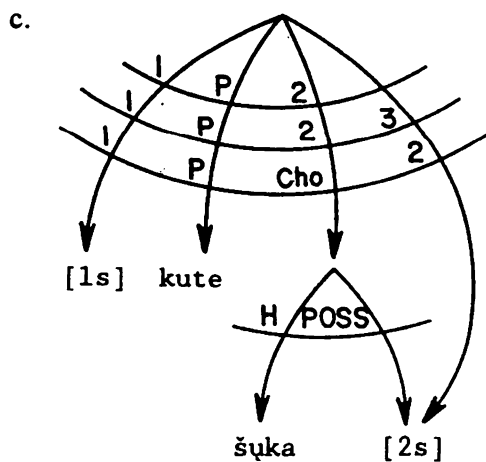


As discussed in section 3.1.2, (86) contains a noun followed by a relative clause.

- (86) šųka n-ithawa wa-kute.
 dog 20-belong 1sN-shoot
I shot your dog.

But now consider (87b).

- (87) a. šųka čhi-či-kute
 dog 1sN:20-Dat-shoot
I shot your dog.
 b. *Ni-šųka wa-kute.
 20-dog 1sN-shoot
(I shot your dog.)



Van Valin (1977a:45) claims that common nouns never take the person prefixes as body part nouns do. In fact, the only types of possessive constructions in which common nouns can be used are either PA or relative clauses. This can be accounted for by claiming that PA is

obligatory with possessors of common nouns. The PA facts described here look very much like those described by Judith Aissen for Tzotzil (Aissen 1987), a language which does not allow final 3s.

Consider now the host of ascensions in Sioux. Perlmutter and Postal (1983a:53) proposed the Host Limitation Law (HLL):

- (88) Only nominals bearing a term relation can serve as host of ascensions.

Dakota follows this law by only allowing Possessor Ascension from an initial 2 for both types of PA. In (89) and (90) it can be seen that the host may be a 2 of a transitive clause.

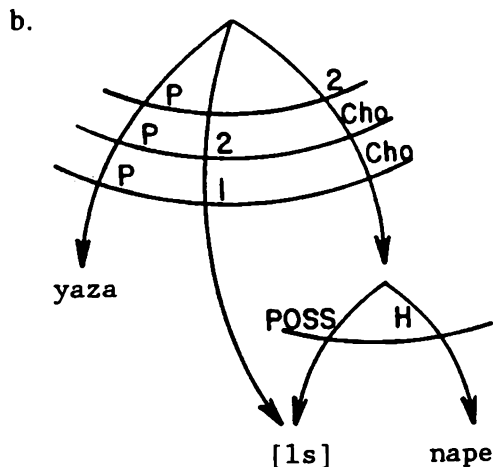
- (89) Nape ba-ma-ya-ksa.
hand Ins-1sO-2N-separate
You cut off my hand.
- (90) šuka ma-ki-kute.
dog 1sO-Dat-shoot
He shot my dog.

In (91) and (92) it can be seen that the host cannot be the 1 of a transitive clause.

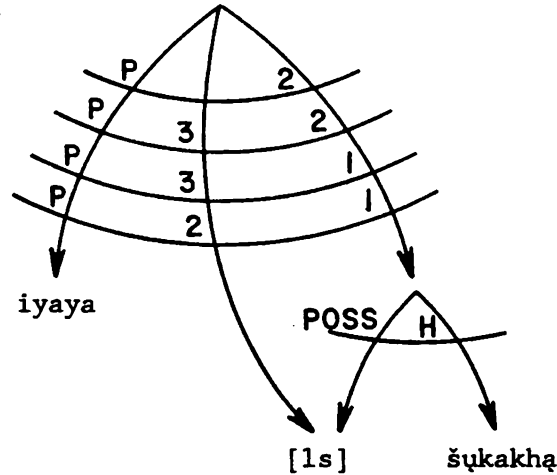
- (91) Nape o-ma-ya-yuta.
hand Loc-1sO-2N-touch
**Your hand touched me.*
You touched my hand.
- (92) šuka wa-ki-kte.
dog 1sN-Dat-kill
**My dog killed him.*
I killed his dog.

But the host can be the argument of an unaccusative verb. (93)-(94) show PA with body part nouns, and (95)-(96) show PA with common nouns.

- (93) a. šiča-ma-mna.
bad-1sO-smell
I stink.
- b. Siha šiča-ma-mna
foot bad-1sO-smell
My feet stink.
- (94) a. Nape ma-yaza.
hand 1sO-hurt
My hand hurts.



- (95) =(B&D 1941:128)
 šukakḥa wə ki-t'e.
 horse a Dat-die
His horse died.
- (96) a. =(B&D 1941:132)
 šukakḥa i-ma-ki-yaya-pi.
 horse Loc-1s0-Dat-have.gone-Pl
My horses have gone.
- b.



In (96) the plural suffix shows that *horses* is a final 1, and the first person singular affix shows that the Possessor is a final 2.

The argument of initially unergative clauses cannot host either type of PA, as illustrated in (97)-(98).

- (97) a. Wa-ni.
 1sN-live
I am alive.
- b. Natahu m-ithawa ni.
 brain 1s0-belong live
My brain is alive.
- c. *Natahu wa-ni.
 brain 1sN-live
(My brain is alive.)
- (98) a. Wa-psiča.
 1sN-jump
I jumped.
- b. šuka-g m-ithawa psiča.
 dog-Def 1s0-belong jump
My dog jumped.
- c. *šuka ma-ki-psiča
 dog 1s0-Dat-jump
(My dog jumped.)

And (99) shows that possessors cannot ascend out of 2s that are initial 3s.

- (99) a. šuka n-ithawa pežuta wa-k'u.
 dog 20-belong medicine 1sN-give
I fed medicine to your dog.
- b. *šuka pežuta čhi-č'u.
 dog medicine 1sN:20-give
(I fed medicine to your dog.)

- c. *šuka pežuta čhi-či-č'u.
 dog medicine 1sN:20-Dat-give
(I fed medicine to your dog.)

Nor can possessors ascend out of 2s that are initial Benefactives.

- (100) a. Ptewanapi n-ithawa wiča-kiči-dųwā.
 cattle 20-belong 3p-Ben-sing
He sings for your cattle.
- b. *Ptewanapi n-iči-dųwā.
 cattle 20-Ben-sing
(He sings for your cattle.)
- (101) a. Naği m-ithawa ɥ t'a.
 soul 1s0-belong Ben die
He died for my soul.
- b. Mi-naği ɥ t'a.
 1s-soul Ben die
He died for my soul.
- c. *Mi-naği kiči-t'a.
 1s-soul Ben-die
(He died for my soul.)
- d. *Naği m-iči-t'a.
 soul 1s0-Ben-die
(He died for my soul.)

Possessors cannot ascend out of 2s that are initial Locatives either.

- (102) a. Mi-siha akā ɣya bd-ušna.
 1s-foot Loc stone 1sN-drop
I dropped a rock on my foot.
- b. *Siha ɣya m-igd-ušna.
 foot stone 1s0-Rfl-drop
(I dropped a rock on my foot.)
- (103) a. šuka m-ithawa akā ɣya d-ušna.
 dog 1s0-belong Loc stone 2N-drop
You dropped a rock on my dog.
- b. *šuka ɣya ma-ki-d-ušna.
 dog stone 1s0-Dat-2N-drop
(You dropped a rock on my dog.)

In summary, the host of either type of PA must be the initial 2 of the clause. Possessors of body part nouns ascend to 2 under this condition. Possessors of common nouns obligatorily ascend to 3, then advance to 2.

These facts look very much like Kera (Camburn 1984), a language in Africa which also has both types of PA and in which the host is an initial 2. In Kera the possessor of body parts ascends to 2 and the possessor of kinship terms and alienable objects ascends to 3.

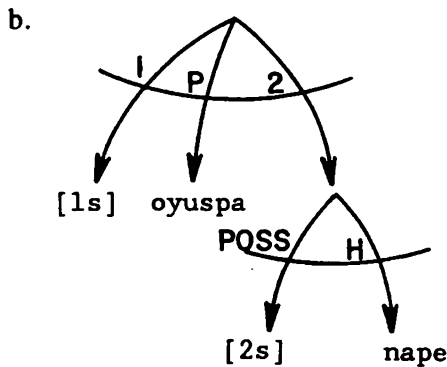
Kinyarwanda (Bickford 1986) is another language that has both types of PA, but unlike Sioux and Kera, the possessor of alienable nouns ascends to 2, and the possessor of inalienable nouns to 3.

3.2. Arguments for Both Types of Possessor Ascension

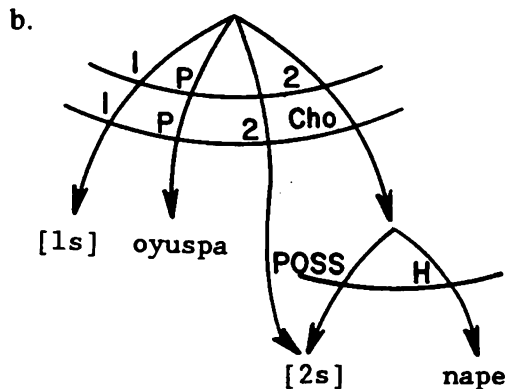
3.2.1. Verb Agreement

Verb agreement presents the strongest argument for PA in Dakota. When the possessor is a final 2 it becomes the trigger for person and number agreement, instead of the initial 2. Consider the following:

- (104) a. Ni-nape o-bd-uspa.
20-hand Loc-1sN-hold
I'm holding your hand.



- (105) a. Nape o-či-yuspa.
hand Loc-1sN:20-hold
I'm holding your hand.



In (104) the verb agrees with the first person singular subject. Since nape is third person, no agreement marker occurs. This is what rule (26) would predict. In (105), however, the verb agrees with a first person singular subject and a second person direct object. The PA analysis (105b) accounts for this since the second person singular possessor is a final direct object.

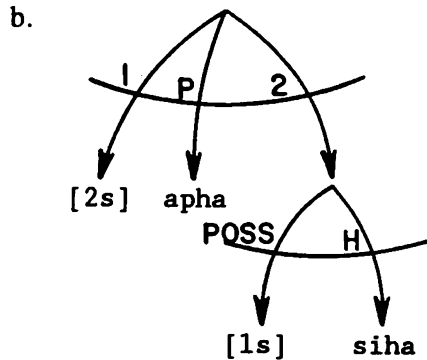
Now consider (106)-(107) which show that when the possessor ascends, it triggers plural agreement:

- (106) Siha ʊk-yaza-b.
foot 1p-hurt-Pl
Our feet hurt.
- (107) Nape we-ʊk-yau-b.
hand ?-1p-bleed-Pl
Our hands are bleeding.

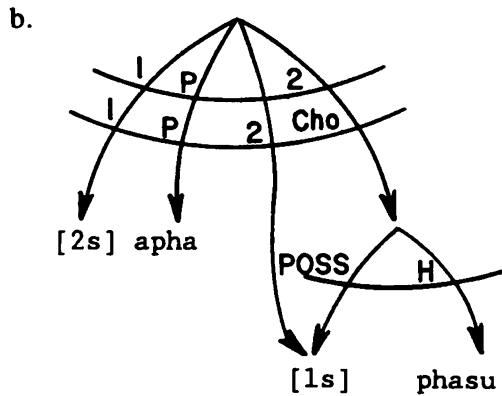
3.2.2. Distribution of Possessive Morpheme

Another argument comes from the distribution of the possessive morpheme with PA. The use of the possessive morpheme on body part nouns and PA are mutually exclusive and they are related. These two constructions have similar initial strata, but different final strata. Consider (108) and (109):

- (108) a. Mi-siha a-ya-pha.
1s-feet Loc-2N-hit
You hit my feet.



- (109) a. Phasu a-ma-ya-pha.
 nose Loc-1sO-2N-hit
You hit my nose.



The possessor heads a Poss arc in the NP and the body part noun is the head of the NP that is the direct object. Thus, the construction represented in (108) has the same initial stratum that a PA construction has. But in the final stratum of (109), the possessor is a constituent of the clause.

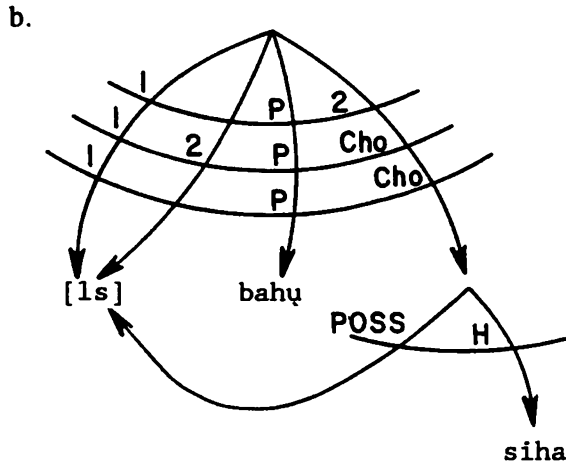
3.2.3. Reflexivization

I argued in section 2 that only 1-2 multiattachment triggers reflexive morphology. When a subject and a possessor are multiattached, there are three different ways to express possession. In the first, shown in (110), multiattachment is not resolved so there are person prefixes on both the verb and the noun.

- (110) Ni-suka ba-ya-hu.
 2O-brother Ins-2N-slash
You cut your younger brother.

In the second, shown in (111a), the possessor has ascended to 2, which results in a 1-2 multiattachment; this triggers reflexive morphology and the cancellation of the 2-arc.

- (111) a. Siha ba-m-ič'i-hu.
 foot Ins-1sO-Rfl-slash
I cut my foot.



The normal reflexive construction is never used when the possessor of common nouns is coreferential with the subject; instead, the *Possessor Reflexive* construction is used. Examine the following examples:

- (112) =(W 1984:158)
 Ogle wə wa-k-pabla-he.
 shirt Indf 1sN-PRfl-iron-Dur
I was ironing a shirt of mine.

- (113) =(V 1977a:29)
 šuka ki gl-užaža.
 dog Def PRfl-wash
He washes his (own) dog.

Unlike the PA example with normal reflexivization (111) which is marked with objective person agreement, the subject in Possessor Reflexive examples determines nominative person agreement on the verb. The verb is also affixed with the Possessor Reflexive morpheme *ki-*. Notice that there is no morphology in the NP indicating the possessor. This is simply a construction that registers the coreference of the subject and the possessor of the object with the morpheme (PRfl) *ki-*.

This construction is different from the PA constructions in that the host does not have to be an initial 2. The following example shows that the host may be a Locative.

- (114) =(W 1984:172)
 Oyuke ki el o-ki-gnake.
 bed Def Loc ?-PRfl-put
He put it on his bed.

Possessor Reflexives are important since Van Valin (1977a:68) claims that PA examples like (95) do not really contain a possessor at all. He says that "there is no possible possessor NP in the clause" as there are in examples like (112)-(113). In fact, there is a possessor in the clause, but it has ascended to 3, unlike the Possessor Reflexive clauses where there has been no ascension.

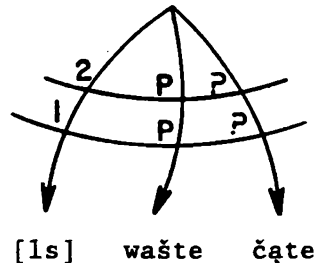
3.3. Alternative Analysis

A possible alternative to the PA analysis is to assume that the nominal in question does not ascend but is initially a clause level constituent. In the most straightforward cases, this means that the possessor of body part nouns heads an initial 2-arc, and the possessor of common nouns heads an initial 3-arc or Source-arc.

Under such an analysis, one must claim that in the construction without (Dat) *ki-*, the possessed body part is some sort of oblique or adjunct. Consider the following sentence with the analysis shown in (115b):

- (115) a. *čate ma-wašte.*
heart 1sO-good
My heart is good.

b.



One difficulty with this analysis is that it is unclear what grammatical relation the body part noun has to the clause. Under the PA analysis the body part noun heads a 2-arc initially and is a chomeur finally.

Another problem with this analysis is that it makes no claims about the construction with (dative) *ki-* and the possessor of common nouns. This construction could not be interpreted as those with body part nouns (i.e. "heartwise" as Williamson (1984) suggests), because the PA analysis says that the two types of constructions are similar, and that only the constraints on the type of noun and grammatical relation the possessor assumes are different.

An analysis along these lines was proposed by Van Valin (1977a). He said that in examples like (116) the Source is understood to be the possessor of the item.

- (116) a. *Thaspa ma-čhi-či-nu.*
apple ?-1sN:20-Dat-steal
I stole your apple. or
I stole the apple from you.

- b. =(V 1977a:16)
O-wičha-wa-ki-lote.
Loc-3p-1sN-Dat-borrow
I borrowed it from them. or
I borrowed theirs.

But this analysis does not account for sentences like the following, where the possessor cannot be taken as a Source.

- (117) *šuka ma-ki-kute.*
dog 1sO-Dat-shoot
He shot my dog.

- (118) *Nape ma-yuza.*
hand 1sO-hold
Shake my hand!

Nor does it explain sentences like the following where the possessor might be a Source but the verb is not marked as if it were with the morpheme (Dat) *ki-*, as it was in (116).

- (119) =(B 1939:217)
Pha kɪ i-ni-ču-kte.
head Def ?-20-take-Pot
He will take your head.

The PA analysis has no difficulty with these constructions. They are all examples of PA.

Another analysis along these lines is one in which the understood possessor is a 3, called the Ethical Dative. Tuggy (1980) argued for this analysis in Spanish. This analysis assumes that the possessor has been either deleted or omitted and the 3 is understood to be the possessor. There are two problems with this analysis. The first is that the notion of Ethical Dative is not independently motivated in Sioux, unlike Spanish. The second and more important problem with this analysis is that it assumes that the Ethical Dative is a 3. This could be a valid assumption for possessors of common nouns, where (Dat) *ki-* occurs, but in constructions with body part nouns, as seen in (118) and (119), the absence of (Dat) *ki-* argues against the Ethical Dative analysis. The PA analysis accounts for both constructions: those with common nouns and the morpheme (Dat) *ki-*, and those with body part nouns and without (Dat) *ki-*.

4. Clause Union

4.1. Introduction

4.1.1. Universal Characterization of Clause Union

The topic of Clause Union has been of increasing interest in recent years. The framework of RG has made some significant claims concerning Clause Unions and language universals. Gibson and Raposo (1986) present what has been called the first descriptively correct work of synthesis (Davies and Rosen 1988:53). Their work was based on the traditional idea that Clause Union was the collapsing of two clauses into one.

Recently there has been a new proposal with regard to Clause Unions. Davies and Rosen (1988) presented evidence that Unions are not the collapsing of two clauses; rather they are *Multipredicate Clauses*. They showed that Gibson and Raposo's (1986) Inheritance Principle was unnecessary and that the rules of Clause Union fall out of the general rules of clause structure already in existence, with a slight modification to the notion of level. They did keep the idea that the embedded final 1 is the only nominal allowed to revalue.

Davies and Rosen's (1988) claim that a Union clause can have two or more successive predicates required them to fine-tune the terminology. They presented the notion of P-Sector. This notion will be employed in this article. It is as follows:

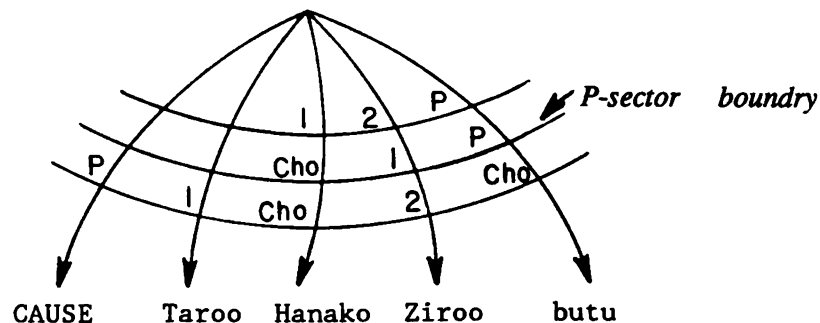
- (120) Let v be a predicate that heads, in clause b , a P-arc starting in stratum i and ending in stratum j : an arc $[P(v,b) < c_i c_j >]$.
- Its P-sector consists of all strata k from $k=i$ to $k=j$.
 - Its P-initial stratum is stratum i .
 - Its P-final stratum is stratum j .

This is illustrated in the following Japanese example taken from Suzuki 1984 that Davies and Rosen (1988:57) analyze.

- (121) a. Taroo ga Zi-roo o Hanako ni(-yotte)
Taro NOM Jiro ACC Hanako by

but-are-sase-ta.
hit-PASS-Caus-PAST
Taro made Jiro be hit by Hanako.

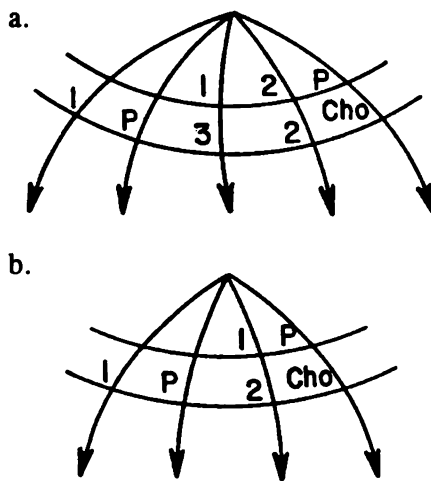
b.



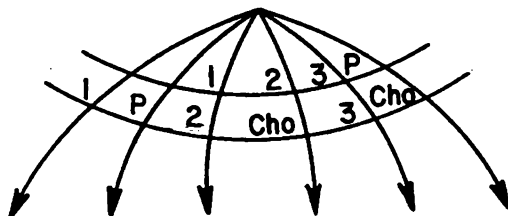
The inner verb, *butu*, has distinct P-initial and P-final strata. The union verb has one stratum that is both P-initial and P-final. For a more comprehensive introduction, one should consult Davies and Rosen (1988).

There have been three types of Causative Union, as relates to the grammatical relation that the embedded 1 assumes, attested in natural language. These are represented by French, Chamorro (Gibson and Raposo 1986), and Italian (Rosen 1983). The French pattern is what has been called the Ergative Analysis. This is when the P-final ergative revalues as a union P-initial 3, and the P-final absolutive revalues as a union P-initial 2. With the Chamorro pattern, any P-final 1 revalues to 2 in the union stratum. The third type of Causative Union has been called Chomeur Causee Unions (Rosen 1983). In this type of Union the P-final 1 does not revalue, but is put en chomage. Each of these is represented by the following stratal diagrams.

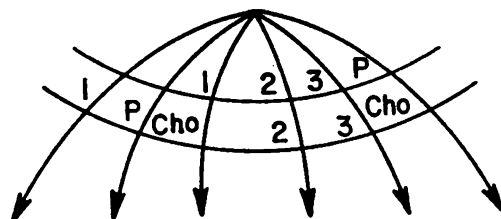
(122) French Pattern



(123) Chamorro Pattern



(124) Chomeur Causee Union



Every language has its own particular rules and thus may differ from these, but these are the three attested patterns. I will show that Sioux is most like the Chamorro Pattern and explain the language particular rules that make it unique.

4.1.2. Causative Clauses in Sioux

The literature has claimed that Sioux has two causative verbs, *-ya* and *-khiya*.¹⁹ Consider the following examples.

- (125) Sab-wa-ya.
black-1sN-Caus
I blacken it.
- (126) Nųwạ-ma-khiya-pi.
swim-1sO-Caus-Pl
They made me swim.
- (127) Matho kị kte-ma-khiya.
bear Def kill-1sO-Caus
He made me kill the bear.

Van Valin (1977a:85) calls *-ya* and *-khiya* "causative auxiliaries" because they cannot stand alone and constitute a clause. Also concerning examples like the above, Van Valin (1977a:87) concludes that "verb plus causative constructions in Lakhota can best be analyzed as compound verbal complexes rather than as independent complement plus verb."

Williamson (1984:125) states that these verbs are unique in the constructions they are used in. That is, they differ from other verbs with complement clauses. For example, complementizers are not allowed.

Boas and Deloria (1941:74) call these verbs "dependent verb stems" because they appear to be verbal suffixes but they presuppose a lower predicate.

In the following sections I will discuss this construction more thoroughly and present arguments that these verbs are different from the other verbs with complement clauses. I first present arguments based on phonological facts. Then I present arguments based on syntactic evidence. Because of the significant difference between the causative verbs *-ya* and *-khiya* and other verbs with complement clauses, I propose that they must occur in a Union structure. Then lastly, I present an analysis for Causative Union.

4.2. Arguments for Monoclausal Structure

Williamson (1984:111) states that Sioux roughly has two syntactic types of subcategorized complement clauses. There are those that have overt complementizers and those without.²⁰ The following are examples with complementizers.

- (128) šųka-g he a-ya-pha-g he sdod-wa-ya.
dog-Def Dem Loc-2N-hit-Comp Dem know-1sN-Caus
I know that you hit the dog.
- (129) =(V 1977a:92)
Ağuyapi ki i-ya-ču čha wạ-bl-ake.
bread Def Loc-2N-take Comp Indf-1sN-see
I saw you take the bread.
- (130) =(W 1984:116)
Tha-šųkawakha manu-pi k'ų w-eksuye.
Poss-horse steal-Pl Comp 1sN-remember
I remember that his horse had been stolen.

Now consider the following examples that do not take the complementizers.

¹⁹ Boas and Deloria (1941:74) state that the semantic difference of these two verbs is volition. The verb *-ya* indicates an unintentional causation, while *-khiya* has more of an intentional meaning.

²⁰ There are three different complementizers in Sioux. Williamson (1984) discusses the semantic differences between them.

- (131) Ya-psíča wa-čhí.
2N-jump 1sN-want
I want you to jump.
- (132) Ya-núwə o-yá-kihi.
2N-swim ?-2N-able
You can swim.
- (133) Paha o-ní-hiḥpaya w-éksuya.
hill Loc-20-fell 1sN-remember
I remember that you fell down the hill.
- (134) Maza kɪ katɪ-ya.
metal Def straight-Caus
*He caused the iron to be straight. or
He straightened the iron.*
- (135) Nwá-ma-khiya-pi
swim-1sO-Caus-Pl
The made me swim.

The set without complementizers contain two syntactic types of clauses. There are those where each predicate takes its own person marking (131)-(133), and there are those where the predicates share person marking (134)-(135). It is for the latter that I argue for a monoclausal construction.

There are other syntactic differences between clauses containing complement clauses and the causative clauses. I will discuss these in section 4.2.2. In section 4.2.1., I present the phonological arguments for the single stem of the causative predicate and the complement predicate.

4.2.1. Phonological Arguments

Shaw's (1980) phonological analysis of Sioux is very comprehensive. She starts by giving Chambers' (1974) Dakota Accent Rule (DAR) and then proceeds to build on it. Stated informally, the DAR says that the second syllable of a multisyllable word or the solitary syllable of a monosyllabic word receives the stress. When this rule interacts with other rules such as A-Drop, Coalescence or Stem Formation, it explains the apparent exceptions to the DAR. The words in (136) are examples of the interaction of DAR and each of these rules in each case.

(136) =(S 1980:33,34)

	<i>Underlying</i>	<i>Surface</i>	
a.	tha-isto	-> thísto	A-Drop
b.	wa-yuta	-> wóta	Coalescence
c.	čhap	-> čhápa	Stem Formation

Now consider the stress pattern in the following examples:

- (137) =(V 1977a:82)
M-ištíma i-bl-úthe.
1sO-sleep Loc-1sN-try
I tried to sleep.
- (138) =(V 1977a:82)
Mary wowapi wə ophé-w-ečathu wa-čhí.
book a ?-1sN-buy 1sN-want
I want to buy Mary a book.

It can be seen that both the embedded verb and the matrix verb take a primary stress. But in the causative clauses this is not true; although there are two predicates there is only one stress, as shown in (139)-(140).

- (139) =(V 1977a:12)
 Hiyápi ki pus-wá-ye.
 clothes Def dry-1sN-Caus
I dry the clothes.
- (140) =(B&D 1941:86)
 A-má-phe-čhi-čhiya.
 Loc-1sO-hit-1sN:20-Caus
I make you hit me.

Therefore, we should view the two predicates in such clauses as constituting a single word. If the causative predicate is taken as an affix structurally, as in other languages, this fact is accounted for.

Stem Formation presents a second phonological argument for a monoclausal structure. The Stem Formation rule prevents underlying single syllable words from surfacing with a final consonant (by inserting a vowel). If a causative predicate is suffixed to a single syllable verb such as *pus* *dry* in (139), then Stem Formation should not apply, which is the case as can be seen. Based on phonological evidence, the causative predicate and the complement predicate constitute a single word.

4.2.2. Comparison with other Complement Clauses

Sioux has been claimed in the literature to allow free word order of the NPs and adverbials in a clause (Van Valin 1977a:28 and Williamson 1984:25). The constituents of embedded clauses do not scramble with matrix clause constituents, as seen in the following examples:

- (141) a. =(W 1984:120)
 Bill [wičaša ki kičiza-hą-pi čha] wąyąke.
 [man Def fight-Dur-Pl Comp] see
Bill saw that the men were fighting.
- b. =(W 1984:120)
 [Wičaša ki kičiza-hą-pi čha] Bill wąyąke.
 [man Def fight-Dur-Pl Comp] see
Bill saw that the men were fighting.
- c. *Wičaša ki Bill kičiza-hą-pi čha wąyąke.
 man Def fight-Dur-Pl Comp see
(Bill saw that the men were fighting.)

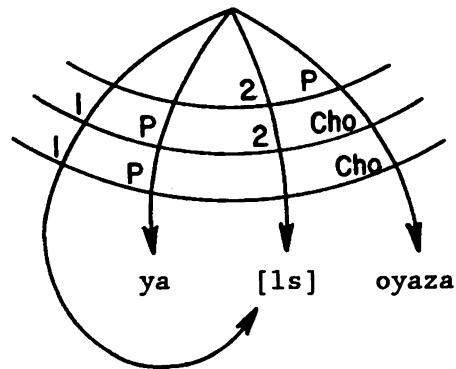
If causative clauses are superficially monoclausal, they should allow scrambling, and they do, as the following examples illustrate:

- (142) a. John šičeča kɪ taku wą
 children Def something Indf
 ophe-kiči-thų-wičha-khiya.
 ?-Ben-buy-3p-Caus
John made the children buy something for him.
- b. Taku wą John šičeča kɪ
 something Indf children Def
 ophe-kiči-thų-wičha-khiya.
 ?-Ben-buy-3p-Caus
John made the children to buy something for him.

It can be seen in (142b) that *John*, the subject of the outer clause, may scramble with *taku wą* and *šičeča kɪ*, which are constituents of the inner clause.

Further evidence that causative clauses have a monoclausal structure comes from the fact that the constituents of the complement clause act like constituents of the causative clause by triggering verb agreement. Consider (143)-(144) which show the causative predicate agreeing with the subject of the complement clause:

- (143) =(V 1977a:85)
 Ophéthų-ma-khiye.
 buy-1s0-Caus
He made me buy it.
- (144) a. Oyaza-m-ič'i-ya.
 hurt-1s0-Rfl-Caus
I caused myself to hurt. or
I hurt myself.
- b.



It is evident from the objective person affix in (143)-(144) that the subject of the complement is the direct object of the causative clause. Also notice that in (144) the causative verb has reflexive morphology, indicating 1-2 multiattachment.

I propose, based on the evidence that causative clauses display a monoclausal structure, that they can best be explained with Davies and Rosen's (1988) multipredicate Union analysis. The inner verb is a chomeur in the Union stratum. All of the constituents of the inner clause are constituents of the matrix clause.

4.3. Analysis of Causative Union as Multipredicate Clauses

4.3.1. Dakota Inner P-final 1 Revaluation

Causative clauses under the multipredicate clause analysis follow the laws of universal grammar, which leaves details like verb agreement and the inner P-final 1 revaluation to be dealt with on a language specific basis.

Dakota is most like the Chamorro pattern of the inner P-final 1 revaluation; that is the inner P-final 1 revalues to 2 in the Union P-sector. This can be seen from the fact that the inner P-final 1 triggers objective person agreement on the causative verb. Consider the following:

- (145) Nųwą-ma-khiya-pi.
 swim-1s0-Caus-Pl
They made me swim.
- (146) Matho kɪ kte-ma-khiya.
 bear Def kill-1s0-Caus
He made me kill the bear.

Number agreement of the inner P-final 1 on the causative verb is another piece of evidence for the revaluation to 2. When the inner P-final 1 is animate third person plural, it should trigger *wičha-* on the causative verb, which it does, as seen in (147).

- (147) *Ištima-wičha-wa-khiya.*
 sleep-3p-1sN-Caus
I made them go to sleep.

Another argument that the inner P-final 1 revalues to 2 in the Union clause comes from the reflexivization facts. The reflexive construction is only used when there is 1-2 multiattachment. In a Union stratum, if the inner P-final 1 revalues to 2 and is coreferenced with the Union P-final 1, then reflexive morphology will be triggered. This can be seen in the following example:

- (148) *ğu-m-ič'i-ya.*
 be.burned-1s0-Rfl-Caus
I burned myself.

The last argument for the revaluation of the inner P-final 1 to 2 comes from the fact that the morpheme registering 3-2 advancement, (Dat) *ki-*, does not appear; thus the 1 does not revalue to 3. This can be seen in (149)-(150), as well as the other examples following in this section:

- (149) =(B&D 1941:86)
A-ni-phe-wa-khiya.
 Loc-20-hit-1sN-Caus
I made him hit you.
- (150) **A-ni-phe-wa-ki-khiya.*
 Loc-20-hit-1sN-Dat-Caus
(I made him hit you.)

The inner P-final 1 revaluation rule for Sioux is as follows:

- (151) *Revaluation Rule:*
 Given an inner P-final arc A with the coordinates [1(a,b) < c_jc_i>] and a Union P-initial arc B with coordinates [1(d,b) < c_{i+1}c_k>], then A must revalue to [2(a,b) < c_{i+1}c_k>].

4.3.2 Verb Agreement

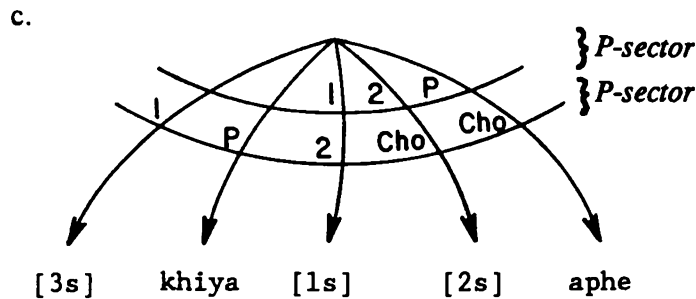
The verb agreement for the final stratum of the Union clause is the same as the rules given earlier. They are again presented here:

- (152) *Person Agreement Rule:*
 The verb agrees in person with final nuclear terms.
 a. Nominals heading a 2-arc determine the objective agreement markers.
 b. Nominals heading a 1-arc determine the nominative agreement markers.
 (a) is disjunctively ordered with respect to (b).
- (153) *Plural Agreement Rule:*
 a. If a subject is inanimate plural, then perform verb reduplication.
 b. If an acting direct object is animate third person plural, then affix *wičha-*.
 c. If a final nuclear term is animate plural, then affix *-pi*; except when trigger is first person dual subject.
 (b) is disjunctively ordered with respect to (c).

These rules do not account for all the facts of causative clauses, as can be seen in (154):

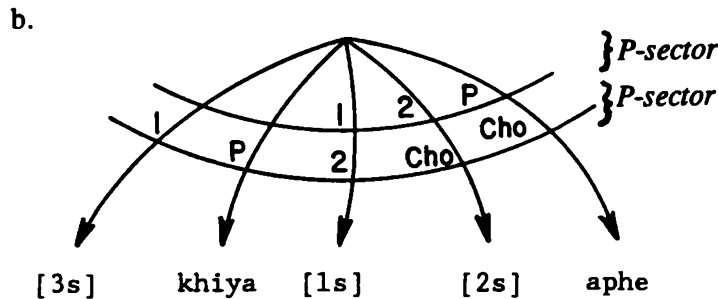
- (154) a. *A-wičha-pha-ma-khiya.*
 Loc-3p-hit-1s0-Caus
He made me hit them.

- b. =(V 1977a:153)
 A-ni-phe-ma-khiye.
 Loc-20-hit-1s0-Caus
He made me hit you.



Notice in (154) that the inner predicate is agreeing with the inner P-final 2. Rules (152) and (153) cannot account for this fact. Now consider the following example.

- (155) a. =(V 1977a:153)
 A-čhi-phe-ma-khiye.
 Loc-1sN:20-hit-1s0-Caus
He made me hit you.



In (155) the inner predicate is agreeing not only with the inner P-final 2, but the inner P-final 1 also. Van Valin (1977a:85) claimed that the inner P-final 1 may agree with the inner predicate only when the causative verb *-khiya* is used, not when *-ya* is used. He gives the following examples:

- (156) =(V 1977a:85)²¹
- a. Kte-ma-ya-ye.
 kill-1s0-2N-Caus
You caused me to kill it.
- b. *Wa-kte-ma-ya-ye.
 1sN-kill-1s0-2N-Caus
(You caused me to kill it.)

Based on this evidence I propose the following additional verb agreement rule:

- (157) *Inner Verb Agreement (first version):*
 The verb of a non-final P-sector agrees in person and number with the final 2 of that sector; and if and only if the Union predicate is *-khiya*, the verb optionally agrees with the final 1 of that P-sector.

This is similar to Tzotzil, a language in which the verb agrees with its P-final nuclear terms (Davies and Rosen 1988:76).²²

²¹ My language consultants were unable to verify the data in (156). The difference might be dialectal.

²² Davies and Rosen (1988:76) give the following Tzotzil example:

Rule (157) predicts that when the inner predicate is intransitive, its argument can optionally trigger person and number agreement on the inner verb. This prediction is incorrect, regardless of whether one assumes that unaccusative advancement takes place in the inner clause.

- (158) a. Ištima-ni-čhiya.
sleep-20-Caus
He made you sleep.
- b. *N-ištima-ni-čhiya.
20-sleep-20-Caus
(He made you sleep.)
- (159) a. Ištima-wičha-wa-khiya.
sleep-3p-1sN-Caus
I made them sleep.
- b. *Wičh-ištima-wičha-wa-khiya.
3p-sleep-3p-1sN-Caus
(I made them sleep.)
- (160) a. Nųwạ-ma-khiya.
swim-1s0-Caus
He made me swim.
- b. *Wa-nųwạ-ma-khiya.
1sN-swim-1s0-Caus
(He made me swim.)

Since rule (157) is incorrect for the argument of intransitive inner clauses, both unaccusative and unergative clauses, and is correct only for the 1 and 2 of transitive clauses, rule (157) needs to be revised to include only ergative and accusative arguments.

- (161) *Inner Verb Agreement:*
The verb of a non-final P-sector agrees in person and number with the accusative of that sector; and if and only if the Union predicate is -khiya, the verb optionally agrees with the ergative of that P-sector.

In summary, Sioux causative clauses are similar to the Chamorro pattern in that the inner P-final 1 revalues to 2. Sioux verb agreement is similar to Tzotzil in that both the inner predicate and the causative predicate may show person and number agreement, although inner predicate agreement is very restricted. All other aspects of Sioux causative clauses follow language universal rules.

5. Summary

This article examined verb agreement and showed that there are two distinct systems in Dakota: person agreement and number agreement. In transitive predicate clauses, only final nuclear terms trigger person agreement. Number agreement may be triggered by chomeurs. These two systems give empirical evidence to the support of the multistratal analysis of unaccusative and reflexive clauses. The present work also showed that an analysis which posits advancements to direct object allows for concise generalizations of person and number agreement, whereas an analysis which does not include advancements to direct object cannot capture these generalizations.

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- (iii) 1- i- y- ak'- be h- tuc'-ø- turasnu.
ASP- ABS- ERG- cause- Adv ERG- pick-ABS peach
1st 3rd 3-2 1st 3rd
He let me pick peaches.

This article also discussed two types of Possessor Ascension. In one type the possessor assumes the grammatical relation of the host (i.e. direct object), and in the other the possessor assumes a grammatical relation other than the host (i.e. indirect object). The Possessor Ascension analyses were then shown to be the best analyses of these constructions in Dakota Sioux.

The last topic dealt with was Clause Union, in particular Causative Union. This article presented evidence that causative constructions in Sioux are multipredicate clauses. It was also shown that the inner P-final 1 revalues to 2, and that there is a restricted type of inner verb agreement, similar to Tzotzil.

All three of these topics demonstrate syntactic and morphological differences between direct objects and indirect objects, as well as obliques.

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