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VOLUME ONE

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To my loving wife Mariam,
without whom this would not have been possible.

And to the memory of
Pearl Young Bear
and Ailsa Anna Gwin
for keeping the language alive.

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MORPHEME ABBREVIATIONS

1A	first person active
1B	first person stative
1APPROX	first person approximative
1.CAS.D	first person causative, definite
1.FUT.sg	first person future, specific
1.FUT.S.pl	first person future, specific plural
1.POS.A	first person possessive, alienable
1.POS.I	first person possessive, inalienable
1.PRO	first person independent pronoun
2A	second person active
2B	second person stative
2.CAS.D	second person causative, definite
2.FUT.sg	second person future, specific
2.FUT.S.pl	second person future, specific plural
2.POS.A	second person possessive, alienable
2.POS.I	second person possessive, inalienable
2.PRO	second person independent pronoun
3A	third person active
3B	third person stative
3.CAS.D.pl	third person causative, definite plural
3.CAS.D.sg	third person causative, definite singular
3.FUT	third person future
3.FUT.pl	third person future plural
3.POS.A	third person possessive, alienable
3.POS.I	third person possessive, inalienable
3.PRO.sg	third person independent pronoun singular
ADV	adverbial
APPROX	approximative
ARG	argumentative
CONCESS	concessive
COND	conditional
CONJ	conjunction
CONT	continuative
COOR	coordinator

DECL	declarative
DEM	demonstrative
DEM.A	demonstrative, attributive
DEM.PL	demonstrative, plural
DEM.S	demonstrative specific
DES	desiderative
DET.D	determiner, definite
DET.I	determiner, indefinite
DIM	diminutive
DS	different subject
EMPH	emphatic
FOC	focus
FRE	frequentative
FUT.N	future, nonspecific
GOAL	goal
HAB	habitual
HAB.PL	habitual plural
IMPER	imperative
IMPER.M	imperative, moderate
INCEP	inceptive
INES	inessive
INCL	inclusive
INDEF	indefinite
INf	instrumental by foot
INh	instrumental by hand
INht	instrumental by heat
INm	instrumental by mouth
INp	instrumental by pushing, force
INs	instrumental by striking, fist, hammer
INt	instrumental by sharp tool, knife
INST	instrumental
INTEN	intensifier
LOC	locative
MUL	multiplicative
NE	narrative ending
NEG	negative
NON.SPEC	non-speculative

OPIN	opinion
PAR	partitive
PAST.DEF.pl	past definite, plural
PAST.DEF.sg	past definite, singular
PERM	permission
PL.D	plural, definite
PL.G	plural, group
PL.I	plural, indefinite
PL.IMPER	plural, imperative
PROG	progressive
PUNCT	punctual
Q	question particle/word
REFL	reflexive
REL.N	relative, non-specific
REL.S	relative, specific
REPOR	reportative
REPOR.pl	reportative, plural
REPT	repetitive
SC	sentence connective
SPEC	speculative
SS	same subject
STAT	stativizer
STATE	entry into a state
SUBOR	subordinator
suus	suus marker
TEMP	temporal

ABSTRACT

This dissertation is a study of the morpho-syntax and clause structure of Hidatsa, a Siouan language spoken in North Dakota. This dissertation is divided into three major sections: a short ethnography and history of the Hidatsa (chapter 1); a description of the major components of Hidatsa grammar (chapters 2-4); and a theoretical analysis of Hidatsa clause structure (chapter 5-6). This is followed by some concluding remarks.

Chapter 1 presents a brief history of the Hidatsa people and how population loss due to diseases, the disruption of tribal life causes by the Dawes Severalty Act, and the building of the Garrison Dam has lead to a drastic decline in the daily use of the Hidatsa language. I also include the position of Hidatsa in the larger Siouan language family, a literature review, and a short description of the theoretical assumptions used in this dissertation.

Chapter 2 presents an overview of the phonology of Hidatsa as well as a description of the major phonological and morphophonological alternations found in the language. I also present a description of syllable structure and a brief account of the pitch accent system.

Chapter 3 describes the derivational morphology that can affix to nouns, including number marking, alienable and inalienable possessive prefixes, and determiners. I then show that noun phrases serve as compliments to determiner phrases (DPs). Nominalization strategies are examined as are oblique arguments that are marked as postpositional phrases.

Chapter 4 describes the derivational and inflection morphology of the verb. I give special detail to the active-stative pronominal system, causative verbs, negation, aspect (including three types of approximatives, a frequentative, and a habitual), future tense, number marking and progressive aspect (which is shown with a set of positional verbs). I also describe clause final switch-reference markers, temporal and conditional subordinate clause markers, and a wide variety of matrix clause final illocutionary force markers.

Chapter 5 presents a theoretical description and analysis of Hidatsa clause structure. I show that given Hidatsa's agglutinating and polysynthetic nature, the syntax of the language must have access to many of the features that make up the verb. I show that Hidatsa is a configurational language based on word order restrictions, subject and object asymmetries, scope relationship of auxiliaries and adverbials over conjoined verbs, and incorporation data. I then argue that both fully specified DPs as well as the pronominal prefixes can serve as arguments for the verb using data from coordinate structures. These findings show that Hidatsa is a head-marking configurational language countering claims put forward by Nicholas (1986) and Van Valin (1985). My analysis of the pronominal prefixes shows that they are not marked for overt case (as had been claimed for other Siouan languages by Williamson (1979, 1987) Van Valin (1985) Legendre and Rood (1992), Wallace (1993), and West (2003) among others), but instead reflect the semantic macro-roles of *Actor* (A) and *Undergoer* (U). I argue that verbs are lexically specified as +/- Undergoer subject and +/- transitive and this accounts for which the pronominal prefixes are selected. This approach accounts for data that has previously proved troublesome in Siouan linguistics, most notably the double stative class of verbs. I then

show that causatives function as vp shells that incorporate a lexical VP. Additional verbal suffixes are treated as functional nodes which project heads that are realized as morphemes on the verb.

I show that the vast majority of multi-clause sentences are clause chains. Following Van Valin (1985) I analyze them as [+ coordinate, + dependent] or co-subordinate clauses. Using ideas put forward by Johannessen (1998), I show that these form coordinate phrases. This analysis allows for a straightforward account of how switch-reference (SR) functions. Rejecting previous analysis put forward by Finer (1984, 1985) and Broadwell (1997) that claim SR markers serve as + anaphor or + pronominal, I show that they are coordinators that conjoin different types of phrases. I claim that same subject markers (SS) conjoin VPs and different subject markers (DS) conjoin AgrPs. This analysis is simpler and accounts for all of the data in Hidatsa in a less theoretical dependent manner. Lastly, I adopt the claim put forward by Rizzi (1997) that CP is actually made up of four functional nodes. These are [FORCE P [TOPIC P [FOCUS P [TOPIC P]]]]. This structure accounts for topicalization, focus constructions, and rightward dislocation.

Chapter 6 examines relative clause formation. I show that all relative clauses in Hidatsa are internally headed (IHRCs). These clauses are nominalized sentences but they can serve as any other DP in a larger superordinate clause. I then provide a semantic explanation as to why IHRCs must have an indefinite head. Using Heim's (1982) framework to account for this indefiniteness restriction, I show that head must be marked as indefinite in order to escape existential closure at LF. This analysis provides motivation for the indefiniteness restriction discussed by Williamson (1987) regarding Lakhota IHRC.

This model simplifies earlier accounts of this phenomenon (Williamson 1987, Cole 1987, Culy 1990, Basilico 1996, among others).

Chapter 7 provides a brief conclusion.

CHAPTER ONE INTRODUCTION AND HISTORY

1.0. INTRODUCTION. This chapter will present a brief history of the Hidatsa people and the state of their language today, followed by a description of how Hidatsa fits within the Siouan language family, in addition to a review of previous scholarship. I will then discuss data sources and some of the problems when comparing older sources to modern spoken Hidatsa. Lastly, I will discuss the theoretical assumptions that are used in this dissertation and the general organization of the overall project.

1.1. A BRIEF HISTORY OF THE HIDATSA (1750 TO THE PRESENT). Traditional Hidatsa stories tell of the various bands moving to their current location in pre-contact times. Although these bands (see Table 1B) share social and linguistic ties, the Hidatsa were not a homogeneous group, as is well documented in their oral histories (Wood 1980:1). The Hidatsa migrated to central western North Dakota in successive waves, originating from areas to the east. The history and material presented here is not meant to be exhaustive. It focuses on the causes for the decline in language use. For a more comprehensive history of the Hidatsa see Bowers 1965, Wood 1986, Hanson 1987, Peters 1995, and Stewart 2001 among others.

1.1.1. LIFESTYLES AND DIVISIONS. The Hidatsa live primarily on the Fort Berthold Indian Reservation in North Dakota. They share this reservation with two other tribes, the

Mandan and the Arikara.¹ Today, they are known as the Three Affiliated Tribes. The modern reservation is a greatly reduced portion of the original Hidatsa lands. Their life style was one of semi-sedentary horticulturists. Historically, they lived in earth lodge villages close to the Missouri River and its northern tributaries, the Little Missouri and Knife Rivers. The Hidatsa established a kinship with the land, where they utilized the river flood plains to grow garden crops, most notably corn, beans, squash, and sunflowers. They also hunted in the adjoining upland grasslands for game, especially bison but also antelope and deer (Lehmer 2001:248; Wood 2001:188). Archeological evidence suggests that earth-lodge villages existed in this area as far back as 900 years ago (Wood 1986:22; Wood 2001:186).

The Hidatsa are a matrilineal society. Children belong to their mother's clan. In pre-contact times, the Hidatsa claim to have had thirteen clans.² Oral traditions state that these were consolidated into the present day seven clan system after numerous epidemics of old world diseases. These clans are divided into two main groups, the Three Clans³ and the Four Clans. The clan breakdown can be seen in Table 1A.

1 Prior to 1850, the Hidatsa were the northern-most of the three tribes living along the northern Middle-Missouri and Knife rivers in what is today North Dakota. The Mandan lived immediately south also along the Missouri river again in modern North Dakota and the Arikara lived further south along the Missouri, White, and Cheyenne rivers in what today is South Dakota.

2 This comes from the tradition of the Awatíxa (Wood 1986:34, Bowers 1965:293).

3 Bower's (1965:64-6) gives the origin stories for the clans and their names. The story of Packs Antelope and the origin of the Low Caps is also told in Parks et al (1978:54-7) and a shorter version is found in Hall (1898).

Table 1A - The Hidatsa Clan System

The Three Clans (naagiráawi)

The Low Cap Clan	ap ^h úhkawigaa
The Knife Clan	mé?cirooga
The Alkali Salt Clan	ma?xóoxadi

The Four Clans (naagidóoba)

The Water-Buster Clan	miribáadi
The Wide Ridge Clan	ihdíshuga
The Prairie Chicken Clan	ciícga
The Dripping Dirt Clan	awaxé (awaxéraawihta)

The contemporary Hidatsa also divide themselves into five bands.⁴ According to modern tradition, the five bands represent the five villages in which the Hidatsa lived.⁵

Members of every clan were found in each village. The word *Hidatsa*⁶ comes from the largest of these villages and although the people as a whole today self identify as Hidatsa,

⁴ Although there were five bands, one of which was Hidatsa, the term Hidatsa is used today to refer to the the entire people. In the past they have also been known as Gros Ventre or Big Bellies, the Minitari (by the Mandan), and The Fall Indians (Bowers, 1965:xii).

⁵ Bowers (1965) and Wood (1986) state that there were only three bands or villages: the Hidatsa-Proper, the *Awatíxa*, and the *Awaxawi*. Both Bowers and Wood state that the Crow split from these groups in two waves. Wood (1986:28) states that the “Crow” or Mountain Crow split from the *Awatíxa* in pre-contact times. Parks and Rankin (2001:104) believe this split occurred approximately 600 years ago. Wood (1986:28) then states that the “Paunch” or River Crow split from the Hidatsa-Proper sometime later. Neither Bowers nor Wood make clear if the River Crow joined with the Mountain Crow. According to oral tradition among both the Crow and the Hidatsa there was only one split. The *Hóska* are the followers of Crow-Flies-High, who took a group of Hidatsa off of the Ft. Berthold reservation in the early 1870s to live at the confluence of the Missouri and Yellowstone rivers near the site of the then abandon Ft. Union. They returned to the reservation in 1894 and the descendants settled on the Little Shell portion of the modern reservation.

⁶ The term *Hidatsa* means ‘people of the willows’.

the Hidatsa name for themselves was *awaʔáagaaru rúxpaaɡa* ‘above ground people’. The five Bands according to modern tradition are shown in Table 1B.

Table 1B - The Five Bands (Contemporary)

(The) Hiráaca (Hidatsa-Proper)
(The) Awatíxa
(The) Awaxáwi
(The) Hóska
(The) Gixáaʔicca (Crow)

Hidatsa⁷ society was highly complex with specific roles that differed for men and women. Women tended the gardens and crops, made and repaired clothes, and cooked and tended the home. The earth lodge belonged to the woman. The women were the backbone of the Hidatsa family. When couples married, the women of the wife’s clan would build the newly weds a new earth lodge. Men hunted, grew tobacco, and protected the villages from raids. They also carried out retaliatory raids, most often against the Sioux, Cheyenne, and Blackfeet. Hidatsa society was further divided into age grade societies. Men and woman would move through their respective societies as they grew.⁸ The different societies had different village jobs and obligations. By the time one became an elder in the tribe they had carried out all of the major jobs in the village and thus could make wise decisions for their village based on years of accumulated experience.

7 When I use the term Hidatsa, I mean all of the bands with the exception of the Crow. When I employ the name Hidatsa-Proper, I am referring to just this band.

8 Entrance into these societies had to be purchased. For more detail see Bowers (1965) and Stewart (2001).

1.1.2. SMALLPOX. There is some contention as to when the Plains Villages reached their peak populations.⁹ Population numbers have been revised upwards in recent years, but no consensus has arisen. The main reason for this is a lack of good archeological evidence as to where and when Plains villages were occupied. An estimate of the populations for the Hidatsa Villages can be seen in Table 1C.¹⁰

Table 1C - Estimated Hidatsa Population from pre-1700-1780

<u>Tribe</u>	<u>Oral Traditions(pre-1700)</u>	<u>1700-1750</u>	<u>1780</u>
Hidatsa	20,000	8,300	2,500

Adapted from Lehmer (2001:248)

The reason for the decline in population shown in Table 1C is the introduction of Old World diseases. While many contagious diseases infected the Plains tribes, including measles, cholera, malaria, whooping cough, and influenza, the most deadly was smallpox

⁹ Lehmer (2001:248) puts the peak population for the Plains Villages in the mid-eighteenth century, however Stewart (2001:344) puts the peak population point in the 15th century, which fits oral tradition. This can be seen in Table 3.

¹⁰ I give a pre-1700 population number of 20,000, which is in accord with oral traditions. Given the effect of old-world disease on Native populations, this does not seem to me to be too high. Population numbers for indigenous groups prior to 1492 are generally being revised upwards (see Mann 2005) and we have no way of knowing how many epidemics struck the North American continent prior to the 1780-81 smallpox outbreak. We know that there was at least one smallpox outbreak in 1750. If both the 1750 and the 1780-1 outbreak killed between 50 - 75% of the population and in 1780 (after the smallpox outbreak) there were approximately 2,500 tribal members the estimate of 20,000 is at the higher end of the possible population range. This would suggest that the Hidatsa lived in more than just three villages, however there is no archaeological evidence to unequivocally support this (for more on the problem of pre-epidemic population numbers see Hanson 1987).

(Trimble 1979). One of the first deadly epidemics to strike the Plains villages occurred in 1730 (Swagerty 2001:257) and another occurred around 1750.¹¹ Both were probably smallpox (Dobyns 1983: 15-26).

Another outbreak of smallpox spread through the Plains in 1780-81. This virulent pandemic may have begun in Boston in the summer of 1775 during the American revolution. While more people had immunity in the bustling seaports and commercial hubs of the East coast thanks to previous contact with milder forms of the virus and inoculation, Native Americans had no such resistance and they appear to have had extraordinarily high fatality rates when the virus struck (Fenn 2001).¹² Beginning in Boston, this epidemic swept down the coast to Mexico where it then proceeded to move south, into the interior, and to the North back into what would become the continental United States. From here, and from ports on the Mississippi, it swept up the Great Plains, hitting the villages of the Hidatsa, Mandan, and Arikara in 1780-81. From the Northern Plains it moved into Canada and northwards into Alaska. In its wake, it left unspeakable suffering and while the survivors were now immune to further outbreaks, many of them were blind, scarred, and maimed. Although no one can be sure, the epidemic is estimated to have killed over

¹¹ It is likely that epidemics occurred prior to 1730. Swagerty (2001:256-58) states that old world diseases may have infected the Plains as early as 1617. From 1687-91 smallpox is documented to have hit the Southern Plains areas and this probably spread further north. Crosby (1972, 1976:289-90) and Dobyns (1983) argue that a pandemic swept northwards from Mexico as early as 1520-1524 and infected many Plains villages.

¹² Fenn (2001) discusses whether this North American pandemic was really one outbreak or two. For simplicity in the discussion, I have treated the pandemic as one.

200,000 people and to have destroyed entire villages and communities (Dobyns 1983, Fenn 2001).

As a result of this outbreak of smallpox, the Arikara were reported to have been reduced to two villages centered at the confluence of the Missouri and Cheyenne rivers. The Mandan villages around the mouth of the Heart river were abandoned and the survivors moved upstream near the mouth of the Knife river where in 1804 Lewis and Clark describe them living in two villages near three Hidatsa villages (Lehmer 2001:255). Archeological evidence indicates that these Hidatsa villages were themselves remnants of larger pre-1780 populations (Lehmer 2001:255).

The third major smallpox outbreak to affect the Hidatsa, Mandan, and Arikara was introduced by a steamboat sent up the Missouri river to supply the fur trade posts in 1837 (Dollar 1977, Meyer 1977, Trimble 1979). Mortality rates for this epidemic are well documented for the three tribes. The Mandan suffered the worst outbreak and approximately 98% of the population died. Among the Arikara 50% of the population died, and the Hidatsa suffered the lowest mortality rate of 33%. This lower rate was because most of the Hidatsa villages were out on the plains engaged in the annual bison hunt (Lehmer 2001:255).

A final outbreak of smallpox occurred in 1856. This outbreak devastated the remaining Hidatsa and Mandan, now living together at Like-a-Fishhook Village on the confluence of the Missouri and Little Missouri rivers. The Arikara, living near Ft. Clark below the Knife river were similarly affected (Lehmer 2001:255). The U.S. Census Office, in 1894, estimates that total population for the Northern plains had declined by well over

80% from reports of first contact in the early 1800s. This drastic reduction of population left few warriors among the three tribes and the earth lodge villages of the Northern plains became easy prey for their enemies, most notably the Sioux.

1.1.3. RESERVATION SETTLEMENT AND WHITE EXPANSION. Due to their northern location, the Hidatsa and Mandan were not close to the westward emigration routes and as a result they were not subject to many pressures that affected other Native Americans, such as ceding of village lands to white settlers. In 1845, the Mandan joined the Hidatsa at Like-a-Fishhook Village and in 1862, the Arikara also moved there for safety from constant harassment by the Sioux (Fowler 2001:281). In 1870, President Grant formally created the Ft. Berthold reservation, which was 7.8 million acres and included this main village, out of lands assigned to the Hidatsa in 1851.¹³

The Mandan, Hidatsa, and Arikara shared this village and each group had its own section (in addition to a fourth section headed by French-Canadian men and their wives). Although the Mandan and Hidatsa consolidated many of their clans and societies, the separation of the village into sections helped keep the respective traditions and languages distinct and alive (Schneider 2001:391). Although generally removed from the emigration process, for the Northern plains tribes this period was one of accommodation to growing

¹³ The 1851 Treaty of Fort Laramie guaranteed the Hidatsa 12.6 million acres for their reservation. This landgrant included most of their original living territory from the Heart and Knife Rivers to the Yellowstone River. However, it did not include all of the territory that the Hidatsa claimed for hunting, which was much greater. This hunting territory extended from the Yellowstone River in the west to Spirit Lake in the East and from the Southern Canadian provinces of Saskatchewan and Manitoba in the north to the Black Hills and Teton mountains in the South. Neither Congress nor the Hidatsa ever agreed to the reduction that occurred in 1870.

U.S. expansion (Fowler 2001:281). The Hidatsa and Arikara worked as army scouts and the Indian agency helped provide food for the newly created reservation. This relationship helped to avoid hostile contact between what would become the Three Affiliated Tribes, the U.S. government and settlers.

The treaties signed with the U.S. inevitably brought Indian agents who attempted to get the Indians to adopt non-Indian culture, most prominently by trying to get men to work for wages and to become farmers. The second goal proved the most difficult since farming had traditionally been done by women. In 1880, President Hayes signed an executive order reducing the reservation size to 1.2 million acres. In 1887 the Dawes Severalty Act was passed by Congress. This act did several things. First, it provided personal allotments of land to Indians on various reservations, including Ft. Berthold; second, it allowed land not awarded to individuals to be opened to public sale. Then in 1889, the tribes were forced to accept yet another reduction of the reservation, bringing it almost to its modern size. In 1912 the northeast third was opened for white settlement.¹⁴ This portion contained the best grazing land for cattle and horses and wasn't returned to the tribes until 1970.

By the late 1880s Like-a-Fishhook Village was abandoned due to overcrowding and the depletion of natural resources in the immediate area, most notably wood. The abandonment of the village and the allotment of tribal lands to individuals fit into the federal government's plans to get the Indians to adopt white ways of farming and ranching. Missionaries also began to move onto the reservation, including, in 1876, the Reverend Charles Hall. The missionaries and the U.S. government hoped that the Indians would

¹⁴ At this point in time, the reservation was approximately 170,000 acres.

adopt Christianity and thus make the process of assimilation easier. To assist the missionaries' work, the government and its agents worked diligently to stop native religious ceremonies in the late nineteenth century. They also tried to prohibit gatherings and gift exchanges (Fowler 2001:286), which were central to the Plains Indian way of life.

A central part of the government's policy of assimilation was the education of Indians. The federal government established day schools on the reservation and boarding schools much further away in order to bring the people into white cultural norms and practices. Although these schools were welcomed by some members of the tribe as they thought it important to be able to read treaties and other government documents (Schneider 2001:393), they were actively resisted by others. Children were often forcefully sent to these schools, which were usually located far outside of the child's native community. The schools emphasized vocational rather than academic training. These schools advanced a curriculum that, in addition to teaching trades, farming and domestic work, demeaned native institutions (Fowler 2001:288). The children were kept away from their communities as much as possible. They were forced to cut their hair and were severely punished for speaking their native language. The schools also acted as a breeding ground for disease. The educational policy of the U.S. government was one of the most important factors in breaking up the traditional way of life. It helped to destroy kinship systems and the role of the extended family. In addition, it was the main factor in the decline of native language use as many returning students could no longer fluently speak their own native language.

Despite the best efforts of the agents and missionaries, the three tribes managed to maintain their languages and traditional customs. By the early part of the 20th century, life

on the reservation had come to combine both Indian and non-Indian elements. Although traditional earth lodges had been abandoned and men and women wore nontraditional clothes, kinship relations and linguistic identities were maintained (Schneider 2001:349). For example, both young and old continued to attend traditional dances as well as powwows despite opposition from tribal agents and the various missionaries on the reservation. This strong sense of culture and language use continued until the coming of Garrison Dam in 1953.

1.1.4. THE CONSTRUCTION OF THE GARRISON DAM (1953). During the 1930s the Army Corps of Engineers proposed a series of flood controls for the Missouri and Mississippi rivers. However, it was not until 1943 that Congress took interest due to a series of floods and droughts. The Flood Control Act passed Congress in 1944 and although the Three Affiliated Tribes opposed the construction of the Garrison Dam plans for reconstruction of the reservation were drawn up in 1945. The proposed dam would be located right outside of the southeast corner of the reservation. The water behind the dam would flood most of the bottom land of the reservation. This bottom land was where most of the tribal members still lived. The construction of the dam would necessitate moving all of the Indian homes, building new roads and sanitation systems, and moving or building schools, bridges, and other structures (Schneider 2001:396).

Prior to the construction of the dam, most people were bilingual, trilingual, or multilingual with Hidatsa being the common language among Indians and English spoken by all people except some of the elders. The traditional kinship system was still very strong

and people still had strong ties to the resources of the bottom land. Many people still lived in log cabins that were heated with wood that grew along the river. Women still planted and tended gardens and collected berries and wild plants that grew along the riverside, and men supplemented family income by hunting deer that lived along the wooded terraces of the river (Schneider 2001:396). Tribal members were not prepared for the move out of the bottom lands.

The construction of Garrison Dam and the subsequent formation of Lake Sakakawea destroyed a way of life that had survived much adversity. Not only were homes lost, but also sacred sites were inundated and the river itself was changed forever. 90% of the three tribes were forced to move out of the bottom lands and onto the rough and windy plateau overlooking the river. Communities and families that were once separated by a fordable river now found themselves cut off by a huge lake. The reservation tribal center of Elbowoods was inundated, as were the non-Indian communities of Sanish and Van Hook. As a result of the creation of the lake, three new Indian communities replaced those lost by the Dam (Schneider 2001:396). These communities were no longer close to each other. The Hidatsa community became centered at Mandaree, the Mandan at Twin Buttes, and the Arikara at White Shield. Forever lost was the close contact that had existed between the tribal communities prior to the construction of the Garrison Dam.

1.2 GENETIC AFFILIATION. Hidatsa is a member of the Siouan language family which extends from the northern plains of the United States and into Canada to the lower

Mississippi River. In addition, there were Siouan languages spoken in the Ohio Valley and what is now Virginia. The genetic breakdown is shown in Table 1D:¹⁵

Table 1D - The Siouan-Catawban Language Family

Eastern Siouan
<i>Catawba+</i> , <i>Woccon+</i>
Core Siouan
Missouri Valley Siouan
<i>Crow</i>
<i>Hidatsa</i>
<i>Mandan</i>
Ohio Valley Siouan (Southeastern)
Virginia Siouan
<i>Monyton+</i>
<i>Tutelo+</i>
<i>Saponi+</i>
<i>Occaneechi+</i>
Ofo-Biloxi
<i>Ofo+</i>
<i>Biloxi+</i>
Mississippi Valley Siouan
Dakotan
<i>Lakhota (Teton)</i>
<i>Dakota (Santee-Sisseton)</i>
<i>(Yankton-Yanktonai)</i>
<i>Assiniboine</i>
<i>Stoney</i>
Winnebago-Chiwere
<i>Winnebago (Hocán)</i>
<i>Chiwere (Ioway+, Oto+, Missouri+)</i>
Dhegiha
<i>Omaha - Ponca</i>
<i>Kansa (Kaw +) - Quapaw +</i>
<i>Osage+</i>

15 This family tree is adapted from Mithun 1999 and Oliverio and Rankin 2003.

Hidatsa is classified as a member of the Missouri Valley branch of Siouan and is closely related to Crow, which is spoken in Southeastern Montana. Other branches include Mandan, Ohio Valley (also known as Southeastern) and Mississippi River which is the most populous and diverse of all of the Siouan subfamilies. Hidatsa and Crow form an easily recognizable subgroup. Though not mutually intelligible, they share a number of phonological features and a large body of cognates. In addition, the basic morphology and syntax of the two languages are similar.

1.3. PREVIOUS SCHOLARSHIP. Hidatsa, like many Native American languages, has been studied by very few people. Much of the earliest material on Hidatsa consists of word lists. Washington Matthews wrote the first grammar of Hidatsa, which originally appeared in 1873. This included a short sketch of the language, some ethnographic material, and a Hidatsa-English dictionary. This material was gathered while he was stationed in the Dakota Territory as an Assistant Surgeon in the United States Army between the years of 1865 and 1872. In 1874, he published an English-Hidatsa dictionary. In 1877, Matthews published an ethnography and History of the Hidatsa tribe along with a new version of his grammar and dictionaries. In this grammar he lists many of the verbal affixes and provides examples thereof. Most of his examples are stem + affix, and he only rarely gives examples that are morphologically complex with multiple affixes. His dictionary contains approximately three thousand Hidatsa entries although many of these are morphologically complex and the base stem is repeated elsewhere in the dictionary. The major shortfall of this work is that Matthews did not include pre- and post-aspiration or vowel length.

Considering that Matthews was not a trained philologist his work is of remarkable quality and it still proves to be one of the basic references that linguists use when working on the Hidatsa language.

Charles Hall was sent to Ft. Berthold in the late 1800's as a missionary. In 1898 he transcribed a short version of the Low-Cap Clan creation story, which he entitled "The Myth of Packs Antelope." He clearly learned the Hidatsa language to some degree of fluency and in 1906 published a short book of Christian hymns and Bible verses in Hidatsa. While some idea of the morphology and syntax can be gleaned in these, Hall makes several critical mistakes in his orthography: he doesn't transcribe vowel length or aspiration, and he doesn't always recognize the glottal stop. These transcription errors make this material difficult to work with for any linguistic analysis.

In 1911 Robert Lowie recorded four Hidatsa texts while traveling through North Dakota on an Indian expedition for the American Museum of Natural History. These were published in 1939 by Zellig Harris and C. F. Voegelin, who included an additional text. In this set of texts, Harris and Voegelin give a preliminary analysis of many of the words and sentences in a long series of footnotes. All of the stories were re-elicited by Harris and Voegelin either in North Dakota or in Bloomington, Indiana at the Summer Institute for Linguistics in 1938. Several additional recordings exist at Indiana University at Bloomington that were made by Harris and Voegelin but these have not been transcribed or published at this time. These texts are the first scholarly work on Hidatsa and they show that Harris and Voegelin had worked out much of the grammar of Hidatsa. Unfortunately,

no additional work was published on Hidatsa by these authors.¹⁶

In 1955, Florence M. Robinett published three articles in the *International Journal of American Linguistics*. These three articles; “Hidatsa I: Morphophonemics,” “Hidatsa II: Affixes,” and “Hidatsa III: Stems and Themes” are written in a model of grammatical description known as Item-and-Arrangement (IA). Although these articles provide the most complete published description of Hidatsa morphology, the IA approach suffers from several drawbacks. Her adherence to the principle of biuniqueness keeps her from making clear generalizations about the language. This is particularly true with regard to section I on morphophonemics. In the morphology section, Robinett arranges the affixes by assigning a number which is unique to each morpheme, called a decade class. The problem here is that she lists each phonemic realization of any given morpheme. This presents a problem when dealing with the prefix person markers. Robinett lists eight possible phonemic shapes for the first-person affix, eight for the second-person affix, and four for the third-person affix. Given the IA framework she does not make any statement as to which ones are mutually exclusive. As Matthews (1965) states “this is comparable to regarding the English words *I*, *me*, *mine*, and *my* as alternates of a single morpheme.” Like many works of its time, it glosses over syntax. However, even with the theoretical limitations and a lack of syntactic description, Robinett’s work is a significant contribution to both Hidatsa studies specifically and Siouan studies in general.

In 1965 G. Hubert Matthews compiled an early Transformational analysis of Hidatsa syntax. One aspect of the importance of this work is that it shows how

¹⁶ Zellig Harris did use some Hidatsa data in his paper *From morpheme to utterance* (1946).

Chomsky's theories of transformational syntax could be applied to a Native American language with a structure very different from that seen in English. This work is presented in an early generative transformational framework. It describes Hidatsa syntax as a series of phrase structure rules. The main problem of this type of work is that it becomes outdated rather quickly. In addition, Matthews adopts a spelling system of what he believes are underlying representations of Hidatsa's phonemic inventory. He also breaks words down into their component morphemes. As a result, there is very little actual Hidatsa as it is spoken in *Hidatsa Syntax*. While there are many penetrating insights in this work, it is very difficult for a general reader without a familiarity and background in early transformational grammar to ascertain exactly what these are.

A. Wesley Jones did field work on Hidatsa from the late 1970's through the 1980s and published several articles (1979a, 1983, 1992a, 1992b), a word list (1979b), and co-authored a book of texts (Parks, Jones, and Hollow 1978). In 1984, Jones produced a number of papers on Hidatsa phonology and morphology for the Comparative Siouan Workshop (this is designated as Jones 1984a-t in the references of this dissertation). In this unpublished material, Jones clearly demonstrates a good understanding of many of the phonological rules that apply to Hidatsa. He also sketched out a basic templatic analysis of the verb along with its prefixes and suffixes. Unfortunately, this material was never fleshed out and published. In addition, Jones also compiled an impressive set of slip files with Hidatsa lexical information which remains unpublished.¹⁷

¹⁷ These slip files are stored at The American Indian Studies Research Institute at Indiana University. They form the basis for Boyle & Gwin 2006.

In 1996, Norman Bowers wrote a dissertation for the University of Idaho using data from Hidatsa. This work is titled *Hidatsa Suprasegmentals* and it focuses on the problems that linguists have often puzzled over with regard to Hidatsa accent. This work is unsatisfying for several reasons. Bowers uses a very small amount of Hidatsa data, he postulates functions for morphemes that are erroneous, and he never really identifies what is happening with Hidatsa accent. Instead, he postulates that modern Hidatsa accent is the residual result of several phonological processes that have arisen and are no longer productive in the language. He then postulates very unlikely accent patterns to have existed in the past. These patterns are unlikely since they do not show up in any of the related languages, especially Crow. This work examines Hidatsa in isolation and it suffers greatly from it.

Apart from these works there have been several short articles written on Hidatsa (Stetson 1946, Zwicky 1985). There has been no attempt at a comprehensive treatment of Hidatsa grammar other than Matthews (1877) and Robinett (1955). As a result there is a clear need for an up-to-date description of the language. One of the main goals of this dissertation, then, is to provide just such a description in a coherent grammatical framework, thus providing a basis for further linguistic research.

1.4. DATA SOURCES. I have used three types of sources for data in this research: 1) written texts; 2) elicited data; and 3) previous scholarly research.

There is a very limited number of texts written in Hidatsa. These include the five texts published as Lowie (1939), four additional texts published as Parks, Jones, and

Hollow (1978), and one text published as Wicker (1978). I also have two additional texts that are unpublished (Jones 1984t, Boyle 2000a).¹⁸ This material will be used throughout the dissertation, however, it should be noted that Hidatsa has undergone major syntactic changes (see Boyle 2006a) since the Lowie texts were first published. These changes will be addressed in the dissertation.

The second source of data is elicitation. This will be used throughout the dissertation as many of the syntactic phenomena that are investigated here are not found in the written sources. I have been extremely lucky to have had the chance to work with Alex Gwin who is not only a fluent speaker of Hidatsa but extremely interested in the type of work I am doing. He is deeply committed to doing everything possible to see that Hidatsa is preserved for future generations, and is currently the lead Hidatsa teacher for the school system in Mandaree, ND.

The third source of data is that produced by previous scholars. This includes an extensive set of slip files compiled by A. Wesley Jones with lexical data. This has proven to be invaluable in providing examples for some of the verbal affixes. In addition to the Jones material, there are also unpublished recordings made by Harris and Vogelin in the late 1930s, Lemont West in 1956, and an extensive series of tapes made by Robinett from the early 1950s. I will use these as needed throughout the dissertation.

¹⁸ Jones 1984t is the story “Rusti Tipi and the Hidatsa Territory” and Boyle 2000a is “The Family History of Pearl Burr Young Bear”. Jones (1984t) appears in this dissertation as Appendix B.

1.5. PROBLEMS WITH OLDER DATA SOURCES. Hidatsa has undergone considerable structural changes in the last one hundred years. This is most notable in the leveling of the morphology reflected in the two registers of speech and the reinterpretation of the old switch reference system to an English style clause connective system seen in modern spoken Hidatsa. This has been documented in Boyle (2006a) and will be further elaborated on in later chapters. In addition, there seems to be some variability with regard to the positioning of some of the affixes in the verbal complex. I base this on the finding that the verbal ordering of affixes that Robinett gives (1955) is different than the one that Jones and I have proposed for contemporary Hidatsa. This dissertation will be a description of Hidatsa as it is spoken today. Historical differences and changes with regard to the older sources and the modern language will be noted in order to give a complete account of the language.

1.6. THEORETICAL ASSUMPTIONS. This paper is written in a generative framework generally following the Minimalist Program (MP) of Chomsky (1993, 1995). Although I make few minimalist claims, I assume a derivational model in which syntactic trees are built out of lexical items via the operations of Merge and Move. The MP model has four major components: the lexicon, the computational system, Spell-Out, and two interface levels - Logical Form (LF) and Phonetic Form (PF). It is generally assumed that the resources of the lexicon include fully inflected nouns and verbs, and that these are combined to forms larger units of grammar (phrases and clauses) via the operations Merge and Move.

Hidatsa is a polysynthetic language with a complex verbal morphology. I will show that many of these morphemes have syntactic functions. Following ideas put forward by Julien (2002), I assume that complex words in Hidatsa are not inserted into the syntax fully formed. I will show that much of the morphology (both verbal and nominal) enters into the derivational process as the result of being the head of a functional projection. These then take part in the computational process like any other lexical resource.

Although Hidatsa is primarily an *in-situ* language where movement of constituents does not seemingly occur, I will show that movement does indeed occur in the derivation. Some of the movement is overt and occurs to check features, other is covert and only occurs after Spell-Out. I will show that the verb must overtly move to have its subject (and object) features checked at Agreement nodes in addition to movement forced by certain morphemes with strong features. This type of overt movement can be contrasted with wh-movement, which happens after Spell-Out, and is covert in nature. Conditions on movement dictate both why elements move and where they move to. An integral constraint to movement is the idea of Economy. The idea of economy employs several theory-internal constraints. These are: Least Effort, Last Resort, Greed, Shortest Movement, and Procrastinate. The consequence of these notions of economy are that items may not move more often than they must (Shortest Move and Least Effort), before they must (Procrastinate and Last Resort), or to satisfy the requirements of other items (Greed).

In addition to ideas put forward by the MP, I will also employ ideas from several other theoretical frameworks. These include ideas about clause structure and clause-chaining put forward by Olsen (1981) and Van Valin (1987) in a Role and Reference

framework (RRG) as well as ideas argued for by Rizzi (1997) about the nature of CP in a Relativized Minimality Framework.¹⁹

1.7. THE STRUCTURE OF HIDATSA. Hidatsa is an agglutinating language with many polysynthetic characteristics. There are a large number of prefixes and suffixes that can attach to the verb. Typologically, Hidatsa is a left branching, head-marking SOV language with productive incorporation. As a result of these features, words can become quite large in comparison to English. Nouns take far less affixation and most of this is derivational.

Hidatsa has four word classes. These include two closed word classes which are made up of temporal adverbials and deictic/demonstratives and two open word classes which are made up of nouns and verbs. Hidatsa has no adjectives (despite claims by Dixon 1982, Baker 2003 and Dixon and Aikhenvald 2004 among others). All apparent adjectives in Hidatsa (and all other Siouan languages) are stative verbs. All prepositional functions are done with postpositional locatives that usually suffix to nouns (a restricted set of these postpositions can also affix to verbs).

1.8. DIALECT AND LANGUAGE VARIATION. Undoubtedly, dialect variation existed between the *Hidatsa Proper*, the *Awatíxa*, and the *Awaxáwi* in pre-contact times.

However, mutual intelligibility was probably possible between the three. After the consolidation of the three groups at Like-A-Fish-Hook village in 1862 any variation

¹⁹ It should be noted that Relativized Minimality (Rizzi 1990) is very compatible with the MP. RRG has very different assumptions about the nature of language, however the ideas about clause chaining can easily be worked into a MP framework following the work of Johanneses (1998).

probably ceased to exist as none was noted by Washington Matthews in his wordlist from the 1880s.

After construction of the Garrison Dam in 1953 the Hidatsa language population was fractured and today most of the remaining speakers are members of one of five or six extended families. This has caused some modern variation to arise. This variation is reflected in the preference for certain morphemes (and how productive they are) and word construction strategies by the individual families. The most important result of this is the rejection by some speakers of certain words in favor of other types of constructions. These discrepancies will be noted throughout the dissertation. However, these constructions can still be understood by other speakers, so the variation that exists today is, for the most part, a lexical one.

1.9. LAYOUT OF THE DISSERTATION. This dissertation is divided into two sections. The first section is descriptive. Chapters 2, 3, and 4, contain an overview of Hidatsa phonology, and nominal and verbal structure respectively. The second section is theoretical in nature. In Chapter 5, I argue that Hidatsa is a head-marking configurational language counter to the claims of Nichols (1986) and Van Valin (1985). I also show that both overt DPs and the pronominal prefixes can serve as arguments for the verb. This shows that Hidatsa is not a Pronominal Argument language (as described by Jelinek 1984 and Baker 1990). I then argue that the Hidatsa switch-reference (SR) system is a type of coordinate structure. The same-subject (SS) and different-subject (DS) markers are not constrained by binding theory but by the fact that they conjoin different types of clauses and only some

arguments are available as subjects of the various clauses. Lastly, I show that Hidatsa focus, topicalization, and rightward dislocation can be explained if we adopt the view of an expanded CP (Rizzi 1997). In Chapter 6, I show that Hidatsa relative clauses are internally headed. I then explain why Williamson's (1987) indefiniteness restriction applies to the head. Following ideas put forward in Heim (1982), I show that the heads must be marked as indefinite so that they can escape existential closure at LF. This is followed by a brief conclusion in Chapter 7, which will include a summary of the dissertation.

CHAPTER TWO THE BASIC PHONOLOGY OF HIDATSA

2.0. INTRODUCTION. This chapter will contain a brief discussion of the phonology. This should be in enough detail that the reader can follow the rest of the dissertation. Section 1 will present the orthography employed in this dissertation. Section 2 will describe the consonantal and vocalic inventories of Hidatsa. A brief examination of syllable structure will be presented in Section 3. Section 4 will detail some of the phonological and morphological alternations that play a prominent role in the language. This will be followed by a brief account of accent in Section 5 and the conclusion in Section 6.

2.1. ORTHOGRAPHY. The orthography employed in this dissertation has several different levels. All glosses will be given in a modification of the Standard Hidatsa Orthography which was developed in the late 1970s by A. Wesley Jones for the Hidatsa language program. This is the orthography now used in the Mandaree schools for teaching Hidatsa. The modifications I will make here are a closer reflection of the surface structure of actual speech. These modifications include:

- 1) Post aspiration is marked with a [h].
- 2) Stop Consonants that are voiced in speech are reflected by the voiced consonant stop series [b, d, g].
- 3) Long vowels are written as digraphs (*ii, ee, aa, uu, oo*)

- 4) Diphthongs are written *ia* and *ua*, even though phonetically they consist of a long vowel followed by a schwa off-glide.
- 5) /š/ is written as *sh*.
- 6) The allophones of /w/ and /ɾ/ -- *m* and *n* -- respectively are written as such after a pause (usually sentence initial).
- 7) Epenthetic glottal stops will not be represented in the phonemic representation.
- 8) The orthography distinguishes the citation (independent word) forms of long vowels and diphthongs, although phonetically they may not be distinguishable (as the diphthongs are long vowels plus a glide).

- (1) a. *múa* /wúa/ ‘fish’ (citation form of diphthong)
 míá /wíá/ ‘woman’
- b. *aábacibuuá* /áapacipuua/ ‘swollen throat’ (citation form of long vowel)
 báxiia /páxiia/ ‘to cause to fall’, ‘to shove’

These orthographic devices will be used for the first line in the examples. All examples taken from older sources will be modified to reflect this. The second line in the examples will represent the phonemic or underlying structure of the language. This uses a more restricted consonantal inventory. The third line in the examples will contain a morphemic breakdown. The fourth and final line in the examples will be a free English translation. On occasion, I will also provide a literal translation for clarification of the examples. This structure can be seen in Table 2A.

Table 2A - Hidatsa Examples and Glosses

- 1) Surface Structure of Hidatsa Example
- 2) Phonemic Structure of Hidatsa Example
- 3) Morphemic Breakdown of Hidatsa Example
- 4) English Free Translation

2.2. PHONEMIC INVENTORY. Hidatsa, like the closely related language Crow as well as other languages of the Plains, has a relatively sparse phonemic inventory.

2.2.1. HIDATSA CONSONANTAL INVENTORY. Table 2B shows the consonantal inventory of Hidatsa.

Table 2B - Consonantal Inventory

	labial	alveolar	alveopalatal	velar	glottal
stops	p	t		k	ʔ
fricatives			ʃ	x	
affricates		c			
sonorants	w	r			h

Unlike many of the Mississippi Valley Siouan languages, Hidatsa lacks both the glottalized (or ejective) and aspirated stops of Proto-Siouan. Hidatsa has only a single series of voiceless oral stops. These lenis stops /p, t, k/ are voiced intervocalically and realized as [b, d, g]. Hidatsa also has one voiceless affricate /c/ and two fricatives /ʃ/ and /x/. They are lenis when unaspirated. When they are aspirated, they are fortis (Harris & Voegelin 1939:183). Unlike the stops, they are not voiced intervocalically. Hidatsa also has two glides, /w/ and /r/, in addition to /h/. The glides are realized as [m] and [n] when following

a pause (shown in examples 2a-b & 2c-d respectively). This most often occurs phrase initially or when words that begin with these sounds are asked for in isolation (i.e. citation form).

/w/ as [m] after a pause		/w/ as [w] word internally	
(2a)	<u>m</u> acée man	/wacée/ -->	maagarišhdaw <u>w</u> acee /waakarišta-wacee/ boy (lit. child-man)
(2b)	<u>m</u> íá woman	/wíá/ -->	maagarišhdaw <u>w</u> ia /waakarišta-wia/ girl (lit. child-woman)
/r/ as [n] after a pause		/r/ as [r] word internally	
(2c)	<u>n</u> úshgic s/he opens (it).	/rúškic/ -->	ma <u>r</u> úshgic /warúškic/ I open it.
(2d)	<u>n</u> axbicí bear	/raxpicí/ -->	mashií?idar <u>r</u> axbicci /waší-itaraxpicci/ pig (lit. White man's bear)

Hidatsa has two glottal stops, one that is phonemic as shown in example (3) and one that is phonologically conditioned as shown in example (4). This second glottal stop is epenthetic and inserted between a number of morphemes to ensure their integrity. The environment for the epenthetic glottal is after morphemes that end in a vowel and before morphemes that begin with a vowel. This stops the process of vowel assimilation and vocalic ablaut (Section 3.1). Phonemic glottal stops are always followed by a consonant (i.e. only /ʔC/).

Phonemic Glottal Stop

Epenthetic Glottal Stop

(3) miiciŋric
wii-ciŋri -c
1B -yellow-DECL
I am yellow.

(4) miiŋháac
wii-iháa -c
1B -different-DECL
I am different.

Hidatsa allows medial consonant clusters. Following Matthews (1965) and Jones (1984a) I treat aspiration as consonant clusters rather than as phonemic units. These aspirated consonants are always fortis and somewhat lengthened. Hidatsa permits the following medial consonant clusters (shown in Table 2C).

Table 2C - Permissible Hidatsa Consonant Clusters

Medial:	1 st	2 nd									
	p	t	k	c	š	x	h	w	r	?	
p	-	y	y	y	y	y	y	-	-	-	
t	-	-	-	-	-	-	y	-	-	-	
k	-	-	-	y	y	-	y	-	-	-	
c	-	-	y	y	-	-	y	-	-	-	
š	y	y	y	-	-	-	y	-	-	-	
x	y	y	-	-	-	-	y	-	-	-	
h	y	y	y	y	y	y	-	-	-	-	
w	-	-	-	-	-	-	-	-	-	-	
r	-	-	-	-	-	-	-	-	-	-	
?	-	y	y	y	y	y	y	y	y	-	

Table 2D exemplifies the consonant clusters attested in my data. Jones (1984a) states that /tx/ is also a possible consonant cluster. I have no examples of this and can only assume that Jones did as he had compiled a much larger set of data than mine (this is discussed

below in Table 2D). Table 2C and the examples in Table 2D, also show that Hidatsa has a consonant constraint against the voiced consonants, /w/ and /r/, occurring in consonant clusters. The clusters /šh/ and /hš/ are also problematic. It is very difficult to determine whether the /š/ in these clusters have pre or post aspiration or if they are examples of geminate /š/ (as mentioned above in the orthographic rule 5). Often words that Voegelin and Harris (Lowie 1939) transcribe as /šʰ/ with post aspiration (or geminate), Jones transcribes as /hš/ with preaspiration. I have a very difficult time distinguishing pre- and post-aspiration on the /š/ phoneme and in fact these sounds may have merged in Hidatsa or just be examples of gemination. Although examples are given of both in Table 2D, this is an area of the phonology that needs further research.¹

Table 2D - Examples of Hidatsa Consonant Clusters

<u>Cluster</u>	<u>Word</u>	<u>Phonemic</u>	<u>Gloss</u>
pt	íbdaree	/íptaree/	to pin something on
pk	íbgidi	/ípkiti/	to smear with the hands
pc	íbcaa	/ípcaa/	to string beads
pš	óbshagi	/ópšaki/	to dip something
px	ííbxoogi	/íípxooki/	to button up buttons, to lace

¹ There is one example of the cluster /tx/ found in the text The Return of Wolf Woman (Parks et al 1978). It is *akucéešitxupáariraciš*. I have glossed it as:

/aku-céeša-ita-xupáari-raci-š/
REL.S-wolf -3POS.A-medicine-APPROX-DET.D
'the one who had wolf medicine'

This is the only such example I have and it is very unusual for the /a/ in the 3rd person possessive pronominal prefix to be deleted. It may be a typo in the text.

<u>Cluster</u>	<u>Word</u>	<u>Phonemic</u>	<u>Gloss</u>
ph	áap ^h iru	/áap ^h iru/	occipital joint
tx	No Example	----	----
th	bát ^h agi	/pát ^h aki/	to knead
kc	nagcúa	/rakcúa/	mink
kš	mirágshia	/wirákšia/	frying pan
kh	ók ^h adaa	/ók ^h ataa/	to put clothes on
ck	ciícgá	/ciícka/	grouse
cc	náxbicci	/náxpícci/	bear
ch	obxíc ^h e	/opxíc ^h e/	to stub
šp	mishbá	/wišpá/	ash tree
št	garíshda	/karíšta/	young
šk	íshgee	/iškee/	to consider
šh	níshha	/riš ^h á/	to dance
xp	axbiruwáca	/axpiruwáca/	eleven
xt	nagóxdi	/rakóxti/	to be light in weight
xh	giwáxhu	/kiwáx ^h u/	to ask questions
hp	iíhbe	/iíhpe/	magpie
ht	xúhdi	/xúhti/	mitten
hk	macidóhgee	/wacitóhkee/	needle
hc	máahci	/wáahci/	pine tree
hš	áhshu	/áhšu/	rope
hx	óhxaadi	/óhxaati/	white
?t	iirú?da	/iirú?ta/	to disapprove
?k	óo?ge	/óo?ke/	coup feather worn in hair
?c	mé?cirooga	/wé?cirooka/	Knife Clan
?x	iidarubú?xi	/iitarupú?xi/	freckles
?h	dó?hi	/tó?hi/	green/blue
?w	á?wi	/a?wi/	to be disheveled
?r	mirá?raaga	/wirá?raaka/	spark

If aspirates are to be treated as clusters, then the following triconsonantal clusters, shown in

Table 2E, can appear medially:

Table 2E - Hidatsa Triconsonantal Clusters

	šp ^h	xp ^h	ʔp ^h
	št ^h	xt ^h	ʔt ^h
ck ^h	šk ^h		ʔk ^h

Although Hidatsa allows the triconsonantal clusters shown in Table 2E, they are not very common. This is particularly true of the /xp^h/, /xt^h/, /ʔp^h/, /ʔt^h/, and /ʔk^h/ clusters which occur very infrequently in my data. The glottal stop plus an aspirated consonant form clusters that only occur at morpheme boundaries. Examples of triconsonantal clusters are shown in Table 2F.

Table 2F - Examples of Hidatsa Triconsonantal Clusters

<u>Cluster</u>	<u>Word</u>	<u>Phonetic</u>	<u>Gloss</u>
ck ^h	íck ^h aa	/íck ^h aa/	accurately
šp ^h	íšp ^h iru	/íšp ^h iru/	forearm
št ^h	nášp ^h iru	/rášt ^h iru/	grind something up, to
šk ^h	miraʔíšk ^h i	/wiraʔíšk ^h i/	tree, bark
xp ^h	idaxp ^h é	/itaxp ^h é/	move fast, to make someone
xt ^h	naxt ^h í	/raxt ^h íʔ/	crush a bone or dried meat
ʔp ^h	méʔp ^h i	/wéʔp ^h i/	grinder (for berries or corn)
ʔt ^h	iiúʔt ^h aa	/iiúʔt ^h aa/	to be belligerent
ʔk ^h	magshiaʔk ^h aa	/wakšiaʔk ^h aa/	same measurement, or age

2.2.2. HIDATSA VOCALIC INVENTORY. Hidatsa has five oral vowels and two diphthongs. Unlike most other Siouan languages, Hidatsa lacks nasal vowels. The Hidatsa vowel system is shown in Table 2G.

Table 2G - Vocalic Inventory (Short and Long) and Diphthongs

vowels	[-round]	[+round]
high	i(i)	u(u)
mid	e(e)	o(o)
low	a(a)	
diphthongs	ia	ua

The vowels /e/ and /o/ are relatively rare and usually long (historically /e/ has become /i/ and /o/ has become /u/). Length, as shown above, is phonemic. There are a number of minimal and near minimal pairs that constitute evidence of this (examples 5-8).

- (5) **i/ii**
 máashii /wáašii/ 'holy story'
 máashi² /wáaši/ 'to buy, to hire'
- (6) **e/ee**
 gáre /káre/ 'to stick into'
 garée /karée/ 'to vomit'
- (7) **a/aa**
 míra /wíra/ 'wood'
 míraa /wíraa/ 'goose'

2 These examples can also be contrasted with *mashí* (/wašii/) 'white man' which shows the contrast of *a/aa*.

- (8) **o/oo**
 nóogi /róoki/ 'to be enveloped, encased'
 nóhci /róhci/ 'armpit'
- (9) **u/uu**
 núuba³ /rúpa/ 'bone marrow'
 núbagi /rúpaki/ 'to scatter'

2.3. SYLLABLE STRUCTURE. The canonical syllable is (C)(^h)V(V)(C)(C). This structure has the following stipulations:

- 1) Preaspiration is lost word initially.⁴
- 2) Word-internal preaspiration is always a coda: Vh-CV.
- 3) Post-aspiration is the only consonant cluster allowed in an onset.⁵
- 4) Complex codas of CC are exceedingly rare. The only example I have is the Definite Past illocutionary ending /-št/.
- 5) Glottal stops (both phonemic and epenthetic) are never onsets, they can only form codas.

³ This is an old term that is not used by most modern speakers. The modern word is *aru*.

⁴ This can best be illustrated with the *suus* and *vertitive* prefixes (*h*)*ki*-. When this prefix is word initial, the preaspiration is lost. When it follows a pronominal prefix and is not word initial, the preaspiration remains.

⁵ Jones gives two examples that counter this: *pšúuki* 'to belch' and *pxíki* 'stubby'. These are the only examples he cites with complex consonant onsets that don't involve post-aspiration. I do not have these terms in my data.

- 6) The only VV combinations allowed in the nucleus are long vowels (V_oV_o) and the diphthongs [*ia*, *ua*] ($V^{+high}a$).
- 7) When the word final V is deleted (such as in the imperative) the onset C is resyllabified as the coda on the former penultimate syllable.

2.4. MORPHOPHONOLOGICAL SOUND CHANGES. Hidatsa has several morpho-phonological sound changes that have an effect on the word structure. These need to be explored more fully but a tentative description can be given here. These processes affect the phonological structure of the word.

2.4.1. VOCALIC ABLAUT. Hidatsa, like the other Siouan languages, has a process of ablaut that occurs with both verb and noun stems. The alternation is *i/a* (*ee/aa*; *e?e/a?a*).

Examples of this process is shown are shown with both nouns and verbs in (10a & b, 11a & b, and 12 a & b).

i --> a Ablaut

(10a)	<i>máshi</i> /wáši/ blanket 'blanket'	>	<i>másha?a</i> /waši-?a/ blanket-PL.D 'blankets'	Nominal ablaut
(10b)	<i>cácgic</i> 'he is noisy' /cácki-c/ noisy-DECL 'he is noisy'	>	<i>cácgac</i> /cácki-?a-c/ noisy-PL.D-DECL 'they are noisy'	Verbal ablaut

ee --> aa Ablaut

(11a)	<i>néec</i> /rée-c/ go-DECL 'he goes'	>	<i>náak</i> /rée-ak/ go-COOR 'he goes and...'	Verbal ablaut
(11b)	<i>gúreec</i> /kúree-c/ chase -DECL 'he chased it'	>	<i>gúraa?ac</i> /kúree-?a-c/ chase -PL.D-DECL 'they chased it'	Verbal ablaut

e?e --> a?a Ablaut

(12a)	<i>gúre?ec</i> /kúre?e-c/ carry-DECL 'he carries it'	>	<i>gúra?ag</i> /kúre?e-ak/ carry-COOR 'he carries it and...'	Verbal ablaut
(12b)	<i>giwé?ec</i> /kiwé?e-c/ tell-DECL 'he tells it'	>	<i>giwá?ag</i> /kiwé?e-ak/ tell-COOR 'he tells it and...'	Verbal ablaut

Ablauting words that end in a short /e/ undergo raising from /e/ to /i/ and follow the *i/a* pattern. This is shown in example (13) with the word *wa?iihe* 'desire' which ends in a short /e/ as a stem which is raised to /i/ and then ablauts before the definite plural marker.⁶

⁶ This is how Jones (1984c, 1992) and Matthews (1965) have analyzed this. One could also explain this as an example of e -> a ablaut, although this is not a historical pattern in the Siouan languages.

- (13) *iigĩre?ewa?iha?awareec*
 ii -kĩre?e-**wa?iibe**-?a -wareec
 INST-fly -desire -PL.D-NE
 they wanted to fly away. (Lowie II: 2)

Words that ablaut cannot be generalized in any way. At the level of Spell-Out, the grade of the stem is dependent on the morpheme that follows it. Historically, this phenomenon may at one time have been semantically based (Rankin 1995). Jones (1992:332) suggests that this semantic distinction may have had something to do with a stative/perfective (*a-grade*) verses an active/imperfective⁷ (*e-grade*) difference. Jones cites an example from Robinett's fieldwork⁸ (14a & b):

- (14a) *irá?aacic* **Verb with Ablaut**
iré?e-raci-c
 talk-APPROX-DECL
 'he kind of talks' (= 'his speech [state] is approximate')

- (14b) *iré?eracic* **Verb without Ablaut**
iré?e-raci-c
 talk-APPROX-DECL
 'he talks a little' (= 'his speaking [act] is approximate')

In (14b) we would expect the /r/ in the approximative to delete (see Section 2.4.2.4 below).

This suggests that the process of ablaut is not absolute. My own consultants have, on

⁷ This is not in reference to the active / stative pronominal system.

⁸ Cited as F. (Robinett) M. Voegelin.

several occasions, told me that in words with the *a-grade* ablaut are completed action and words with the *e-grade* are different in that the action is not finished. This aspectual difference may be unique to Hidatsa among the Siouan languages. This is an area of the grammar that needs much more work to determine exactly what is occurring.

Ablaut is a stem-final phenomenon. It is conditioned by a variety of suffixes that immediately follow the root (as in 10a & b and 11a & b) or stem⁹ that undergoes ablaut. Most Siouanists (Shaw 1980, Rood 1982, Rankin 1995, Graczyk, 1996) believe that some morphemes must simply be marked as ablaut-triggers whereas others have no effect on this process. This is the approach I adopt here. The suffixes that trigger ablaut in Hidatsa are all of the *a*-initial ones and the definite plural.¹⁰ They are shown below in Table 2H.

9 This includes stems with the both the direct and indirect causatives suffixed to them. In examples like these the causative morpheme undergoes ablaut. This can be seen in the singular versus plural form of 'to kill' (which is etymologically 'cause to die'): *dáheec* /tá-hee-c/ 'he killed it' and *dáhaa?ac* /tá-hee-?a-c/ 'they killed it' where the direct causative *hee-* ablauts to *haa-* in the plural. The approximative /racI-/ also undergoes *i* --> *a* ablaut.

10 Jones (1984n) argues that the underlying definite plural in Hidatsa is /-a?-/ and that the indefinite plural is /-o?-/ . Each of these plurals create an echo vowel after the glottal stop. The initial vowel is often merged with the vowel final stem. I will not address this argument in this dissertation and will represent the plurals with their surface structures of /-?a-/ and /-?o-/ . If Jones' approach is correct, then the rule for ablaut could be simplified by stating that all /a-/ initial suffixes trigger ablaut.

Table 2H - Ablaut Triggering Suffixes

-ak	(same subject / verbal coordinator)
-a-	(continuative)
-ahi-	(punctual)
-ʔa-	(definite plural)
-aara-	(imperative plural)
-aci-	(approximative with /t/ deletion)

Words that undergo ablaut are not predictable, therefore they must be lexically marked.

Stem final vowels can also distinguish lexical word class as shown in (15a & b).

(15a)	<i>niḥsha</i>	/riḥša/	dance, a (n)
(15b)	<i>niḥshi</i>	/riḥši/	dance, to

The verb *niḥshi* ‘to dance’ ablauts; however, when this word occurs as a noun it takes an /a/ stem final vowel. This difference is one of the word’s citation form (15a) and its stem form (15b). The stem is the bound form of the word, and it is this form that serves as the base to which other stems or suffixes are added. These suffixes may trigger *i* -> *a* ablaut. Words that end in the citation form occur when that stem is word-final or when no further suffixation is added. This is often the case with nouns, and serves as the perceived basis for a noun/verb distinction.

2.4.2. CONSONANT FRICATION. In addition to the more common vocalic ablaut, Hidatsa also has a sound symbolic fricative ablaut. In these sound shifts, there is a consonant frication (sometimes referred to as consonant ablaut) that expresses a semantic

spectrum or gradient of intensity in a series of related words. The consonants involved are $c > \check{s} > x$. The arrow indicates the intensity in the semantic direction. In examples (16a) and (16b) the consonant ablaut shows intensity of color terms.

(16a) *cíŋri* /*cíŋri*/ ‘yellow’ >
shíŋri /*šíŋri*/ ‘tan, brown’ >
xíŋri /*xíŋri*/ ‘brownish like leaves’

(16b) *cóoda* /*cóota*/ ‘cloudy gray’ >
shóoda /*šóota*/ ‘burro gray’ >
xóoda /*xóota*/ ‘moldy gray’

This process is semantically restricted in its productivity and it is not particularly common, but enough examples exist to show that it is a feature of the grammar. This process can be found in many other Siouan languages and was probably a feature of Proto-Siouan.

2.4.3. MORPHOPHONOLOGICAL PROCESSES. In addition to the sound changes mentioned in Section 2.2.1, Hidatsa has several other regular sound changes. These changes occur when morphemes are joined together in the word building process.

2.4.3.1. RELATIVE MARKER VOWEL MERGE. Hidatsa has two relative clause prefixes, *aku-* (specific relative marker) and *aru-*¹¹ (nonspecific relative marker). These two

¹¹ *Aru-* is also a nonspecific future marker and a partitive marker. The process described in this section with regard to the relative marker also occurs with future and partitive marker as well.

morphemes undergo a sound change when prefixed to a stem that begins with /k-/ and /r-/ respectively. The change can be shown as:

aku- > oo- / ___k

aru- > oo- / ___r

- (17a) oogiraxbic^hiŋgeesh
aku -ki -raxpic^hi'-hkee -š
REL.S-suus-bear -3.CAUS.I.sg-DET.D
'the one who became a bear' (Lowie 1939, IV: Title)

- (17b) ooraxbic^hi'cixbuhisha
aru -raxpic^hi'-cixpu-hiša
REL.N-bear -paw -INTEN
'the ones like bear paws' (Lowie 1939, IV: 7)

When these morphemes are prefixed to stems that begin with their medial consonant, that medial consonant is lost and the /a/ and /u/ merge to /oo/.

2.4.3.2. SHORT /i/ DELETION. Short /i/ is deleted at the right edge of a stem when it is concatenated with many, but not all, of the same morphemes that trigger ablaut.

Morphemes that trigger short /i/ deletion are shown in Table 2I.

Table 2I - Suffixes that Trigger Short /i/ Deletion

- ak (same subject / verbal coordinator)
- a (continuative)
- ahi- (punctual)
- aara- (imperative plural)

Examples (18a-d) show this process with these morphemes.

- | | |
|---|---|
| <p>(18a) iríacag
iríaci-ak
think-SS
'...he thought and...'</p> | <p>(18b) húaruwa
hú -a -ruwi -a
come-CONT-go.along-CONT
'coming along...'</p> |
| <p>(18c) maabáheeruhsha
maapi-áhi -hee -ruhša
day -PUNCT-3.CAUS.D.sg-CONCESS
'...even today...'</p> | <p>(18d) awáagara
awáaki-aara
sit -PLG
'you all sit'</p> |

Example (12b) also shows how this process doesn't work with short /u/, only short /i/.

2.4.3.3. CONSTRAINT AGAINST VVV. Hidatsa does not allow three vowels in a row at morpheme boundaries. When a suffix that begins with a vowel is affixed to a stem that ends with a long vowel (examples 19a & b) or a diphthong (example 19c), the stem vowel loses its final vowel. This process can be shown as:

Vowel Deletion

$$V_{a2} > \emptyset / V_{a1} V_{a2} + V_{a3}$$

This process takes place after stems that undergo ablaut have changed vowel quality. Both ablaut and vowel deletion can be seen in example (19a).

- (19a) **náaruwa** uʔúshiawareec
rée-a -ruwi -a uʔúšia-wareec
go -CONT-go.along-CONT arrive -NE
Going along, he got there. (Lowie 1939, I:1)

In (19b), we see a stem that does not undergo ablaut but its final stem vowel is deleted.

- (19b) **híag**
hĩ -ak
come-SS
he comes and... (Lowie 1939, III: 9)

In (19c) we see the final vowel in a diphthong being deleted.

- (19c) **p^híahiwareec**
p^hía -ahi -wareec
eat.up-PUNCT-NE
he quickly ate it up. (Lowie 1939, III: 64)

In words where information would be lost if the vowels contract, an epenthetic glottal stop is inserted between the two morphemes in order to maintain informational integrity. This is a common occurrence with the stative pronominal prefixes when they affix to a vowel

initial stem as in (20). In this example, an additional glottal stop is inserted to stop /r-/ deletion in the reflexive morpheme /ria/ as addressed below in 2.4.3.4.

- (20) miiʔadéʔriac
wii-ʔ-até -ʔ-ria -c
1B -ʔ-show-ʔ-REFL-DECL
I show myself.

2.4.3.4. /r/ DELETION IN THE APPROXIMATIVE.¹² Hidatsa has several morphemes with approximative force (Robinett 1955, Jones, 1992a). The phonological change described here applies to the morpheme /-racI-/ where the /I/ represents the ablauting stem vowel. This morpheme loses its initial /r/ when it occurs after a short vowel, as shown in (21).

- (21) iibiragáaci
ii -piraká-raci
INST-ten -APPROX
About ten (Lowie 1939, IV:1)

This rule is then followed by ablauting of the stem if it is lexically marked as such. In example (22), we see i --> a ablauting.

¹² Example (20) also shows that /r-/ deletion can occur in other environments. To stop this process an epenthetic glottal stop is inserted.

- (22) níɖaʔadiʔuudaaciru.
 ríʔa -ati -uuti -raci -ru.
 2.POSS.I-tent-base-APPROX-LOC
 beside your tent. (Parks et al 1978, WW: 62)

2.4.3.5. THE PUNCTUAL /-ahE-/. In addition to triggering ablaut the initial /a/ in the punctual morpheme also can undergo vowel mutation in certain environments. When the punctual morpheme follows a stem that ends in /u/ the initial /a/ becomes /u/ and a long vowel is created as shown in (23).

- (23) iruuhág
 iru -ahí -ak
 stand-PUNCT-SS
 ‘standing right up and...’ (Lowie 1939, III:69)

2.4.3.6. ACTIVE PRONOMINAL PREFIXES. The active set of pronominal prefixes undergo a variety of sound changes, only some of which are predictable. The active pronouns have the shapes shown in Table 2J.

Table 2J - Active Pronouns

1st person	ma-
2nd person	na-
3rd person	Ø-

This is the most common form of the active series. When these pronouns precede a vowel initial stem one of two sound changes happens. If the initial vowel is not stressed, these pronouns lose their vowel. Thus:

ma/na > m/n / ___V¹³

When the stem initial vowel is stressed, these pronominals undergo metathesis. Examples of these sound changes are shown in (24a & b) respectively.

(24a)	miccéec wa-iccée -c 1A-wake.up-DECL I wake up.	(24b)	áwat ^h iic árat ^h iic át ^h iic	I camp. you camp. s/he camps.
-------	---	-------	---	-------------------------------------

Other verbs that follow this pattern of metathesis are shown in Table 2K.

13 Underlyingly these morphemes are /wa-/ and /ra-/ and change to /w-/ and /r-/.

Table 2K - Verbs that Metathesize the Active Pronominal Prefixes

ágshua-	/áakšua-/	to spit on (something)
ágcixi-	/ákcixi-/	to jump (at him)
ágshia-	/ákšia-/	to catch it
áraxeexi-	/áraxeexi-/	to hold it; to grab it
áwaagi-	/áwaaki-/	to sit down
íbcaa-	/ípcaa-/	to bead it, to string beads
ígaa-	/íkaa-/	to see it
ígoogi-	/íkooki-/	to hang it up
íhbua-	/íhpua-/	to throw
íihiriihdi-	/íihiriihti-/	to be anxious
íshgee-	/íškee-/	to think
óbcaadi-	/ópcaati-/	to thread it
óhgashee-	/óhgašee-/	to put (it) back
oóbahdi-	/oópahdi-/	to stick (it) in; to plug (it) in
oócahdi-	/oócahti-/	to bury (it)
oógicahdi-	/oókicahti-/	to bury (it) again
óorabi-	/óorapi-/	to find something (you are looking for)
oóragi-	/oóraki-/	to follow
óoshee-	/óošee-/	to pour; to plant; to put in
úa-	/úa-/	to build a fire
úʔahdi-	/úʔahti-/	to laugh at

A number of these verbs also undergo additional changes, which can include the initial stem vowel lowering to /a/ and/or long vowels changing to short vowels. These are unpredictable and must be lexically marked.

With certain verbs, the vowels in the active pronominals are always long. This does not seem to be conditioned phonologically. Lastly, for some verbs, the first person pronominal is long and the second person pronominal is short. As stated above, this

variation must be lexically marked as it cannot be predicted. Further discussion of this variation in vowel length, along with examples, is given in 4.3.

2.4.3.7. ADDITIONAL MORPHOPHONOLOGICAL CHANGES. There are several other additional phonological changes which occur in Hidatsa. These have not been studied in detail and only some can be listed here. These changes occur in restrictive environments and may be idiosyncratic to the particular lexeme involved. These include:

(A) k Deletion

uka > ua / ___-k (mašuka + kaaša > mašuakaaša)
dog+DIMM = small dog

Compare this with the change discussed for the relative marker *aku-* in Section 2.4.3.1.

Here the consonant /k/ is deleted but the vowel sounds don't merge to /oo/.

(B) Monothongization

$V_a V_b > V_a V_a / \text{___} ?V$ (This occurs before the indefinite plural)
mata-aruwia 'my woman' > *mata-aruwii?o* 'our women'

(C) Vowel Raising and Shortening

ee --> i / ___PL.D (This occurs before the definite plural)
macée-sh 'the man' > *mací?a-sh* 'the men'

2.5. ACCENT. Accent is an area of Hidatsa phonology that needs much more work. I believe that Hidatsa has a pitch accent system similar to that found in Crow (Matthews

1981, Graczyk 1991, Wallace 1993). Given that it is outside the scope of this dissertation, I will only make some general comments on Hidatsa accent.

Accent in Hidatsa is phonemic. The position of the accent in the stem must be part of its lexical entry. Within a long vowel or diphthong, the accent may be placed on either mora.¹⁴ This accent placement is lexical and has semantic consequences as can be seen below (specifically 31a & b, 33a & b, and 38a & b). The following examples of minimal pairs (25a - 38b) demonstrate the lexicality of accent in general.

(25a) áashi - creek; stream /áaši/	(25b) aashí - horn /aaší/
(26a) accáa - to claim something as one's own /accáa/	(26b) áccaa - to be close or near /áccaa/
(27a) arahcági - to break something using the foot /arahcáki/	(27b) aráhcagi - severed by fire or /aráhcaki/ intense cold
(28a) árashgia - curly hair /áraškia/	(28b) aráshgia - smoked; tanned /aráškia/
(29a) arágidi - burned (as by a prairie fire) /arákiti/	(29b) aragídi - to step on and smear /arakíti/ something
(30a) aráwi - to be bitter (in taste) /aráwi/	(30b) árawi - to have a hunch /árawi/
(31a) caá - butte /caá/	(31b) cáa - raw, uncooked, unripe /cáa/
(32a) círia - buzzing, rattling, tinkling sound /círia/	(32b) ciríá - cold (of objects or /ciríá/ weather)
(33a) ií - animal hair /ií/	(33b) íi - mouth /íi/
(34a) irúbagi - spilled out /irúpaki/	(34b) írubagi - sprinkle on /írupaki/

¹⁴ Given this type of accent placement, we may want to consider these two separate vowels rather than a long vowel or a diphthong. This area of Hidatsa phonology needs further work to establish exactly what is occurring.

(35a) mǐri - (a) month /wǐri/	(35b) mirǐ - water /wirǐ/
(36a) naxbí - leather; skin; hide /raxpiǐ/	(36b) náxbi - upper leg /ráxpi/
(37a) núdi - to imprison /rúti/	(37b) nudǐ - to lash /rutǐ/
(38a) núu - to get; to earn /rúu/	(38b) nuú - to win /ruú/

Most morphemes, including noun and verb stems, are inherently accented. However, most affixes lack lexical accent. There is at least one affix that does have inherent accent: *ará-* ‘by fire, heat, or intense cold’. This is the only affix that is consistently accented in my data. Several other prefixes seem to carry accent when they are word initial: *rǎ-* ‘using the mouth, teeth, lips, tongue’ and *rú-* ‘using the hands or fingers’. If these prefixes are not word initial, the accent shifts. Graczyk (1991) shows that the accent placement in Hidatsa and Crow often correspond. However there are a number of examples where the accent differs. From this, we can conclude that while Hidatsa accent functions in a similar manner to that of Crow, it is not the same system.

2.6. CONCLUSION. As can be seen from this brief overview, there are many unanswered questions about Hidatsa phonology. I believe I have given enough of an overview for the reader to have a basic understanding of Hidatsa phonology. I have shown the phonemic inventory of Hidatsa and how those phonemes regularly change in certain environments. The basic sound changes discussed above are the most common in Hidatsa. Undoubtedly with further research we will find additional patterns. In addition, I have

provided the first discussion of Hidatsa syllabification. In comparison to many of the other Siouan languages, it is remarkably simple in the type of structures it allows. While the basics of the phonology have been worked out there are many other areas where an analysis remains problematic. This is especially true with regard to the suspected pitch accent system.

CHAPTER THREE NOUNS AND NOMINALIZATION

3.0. INTRODUCTION. As stated in Section 1.7., nouns are one of two open word classes in Hidatsa. Nouns in Hidatsa, like all of the Siouan languages, carry much less morphology than do verbs. This chapter will first describe the Hidatsa nominal in general (section 3.1.); section 3.2. will then describe the handful of derivational suffixes that can attach to Hidatsa nominals; section 3.3. will discuss number marking; and section 3.4. will sketch the Hidatsa determiner system. Section 3.5. will discuss the alienable and inalienable possessive prefixes and possessor-possessum relations. I will then discuss more elaborate nominal structures, specifically looking at nominal modification. Section 3.6. will examine noun-noun constructions; and section 3.7. will show examples of noun + verb compounding, which form noun-adjective structures. I will then examine Hidatsa nominalization strategies. Section 3.8. will describe partitive constructions; section 3.9. will describe Hidatsa relative clauses constructions with *aku-* and *aru-*; section 3.10. will describe nominalization through verb stripping; section 3.11. will briefly introduce the abstract third person *maa-* prefix (this will be described in greater detail in Section 5.2.3.), and section 3.12. will describe the instrumental prefix *ii-*. In section 3.13., I will examine oblique arguments formed with postpositional suffixes. A brief conclusion will follow in section 3.14.

3.1. HIDATSA NOMINALS. Although the noun can be an unanalyzable phonemic monosyllable like *míá* (/wíá/) ‘woman’ and *múá* (/wúá/) ‘fish’ (shown in (1a)), most

nouns are polysyllabic (shown in (1b)): *mirée* (/wirée/) ‘door’, *áwa* (/áwa/) ‘earth, ground’, *méecega* (/wéeceka/) ‘head lice’, *míra* (/wíra/) ‘wood’, *híra* (/híra/) ‘bone’, *macée* (/wacée/) ‘man’ and *naxbicí* (/raxpicí/) ‘bear’. Analyzable nouns are often the product of compounding: *maahguwirí* (/waahku-wirí/) ‘moon’ (lit. night-sun), *miragáasha* (/wira-káasha/) ‘twig’ (lit. wood-little), and *awaʔódi* (/awa-óti/) ‘sweatlodge’ (lit. cooked-earth) (shown in (1c)) or the product of derivation (discussed in Section 3.2.).

Hidatsa Monosyllabic Nouns

(1a)	<i>míá</i>	/wíá/	woman
	<i>múa</i>	/wúa/	fish

Hidatsa Polysyllabic Nouns

(1b)	<i>mirée</i>	/wirée/	door
	<i>áwa</i>	/áwa/	earth, ground
	<i>méecega</i>	/wéeceka/	head lice
	<i>míra</i>	/wíra/	wood
	<i>híra</i>	/híra/	bone
	<i>macée</i>	/wacée/	man
	<i>naxbicí</i>	/raxpicí/	bear

Hidatsa Compound Nouns

(1c)	<i>maahguwirí</i>	/waahku-wirí/	moon (lit. night-sun) ¹
	<i>awaʔódi</i>	/awa-óti/	sweatlodge (lit. cooked-earth)
	<i>miragáasha</i>	/wira-káasha/	twig (lit. wood-little)

(1c) provides examples of noun + noun compounding shown in *maahguwirí*

(/waahkuwirí/) ‘moon’; noun+stative verb compounding shown in *awaʔódi* (/awa-óti/)

1 Speakers varied as to whether this was a compound word (/waahkuwirí/) or two words (/wáahku wirí/). In the Lowie texts is always written as one word.

‘sweatlodge’, and noun+derivational suffix shown in *miragáasha* (/wirakáaša/) ‘twig’. All of these constructions will be elaborated upon below.

Although the distinction between nouns and verbs is not as clear in Hidatsa as it is in English, the word class of noun (or substantive) clearly exists. I define nouns as lexical items that serve as arguments of predications or complements of postpositions as well as other functions in which ‘nouns’ usually serve. The distinction between nouns and verbs is weaker in Hidatsa than in many better described languages. All nouns can serve as predicates. This is simply done by adding a predicate final marker such as the declarative *-c*. This process can be seen in (2a).

(2a) *macée* /wacée/
 ‘man’ (n.) --> *macéec*
 /wacéec/ ‘He is a man.’ (v.)

Since nouns in these constructions function as stative verbs, it follows that they take the stative pronominal series (discussed in Chapter 4) in constructions like (2b-2c).

<p>(2b) <i>miiwacéec</i> <i>wii-wacée-c</i> 1B -man -DECL I’m a man</p>	<p>(2c) <i>niiwacéec</i> <i>rii -wacée-c</i> 2B-man -DECL you’re a man.</p>
--	--

Although nouns can act as stative verbs in these constructions, they still most often function in clearly nominal roles. The nominal structure is shown in Table 3A.

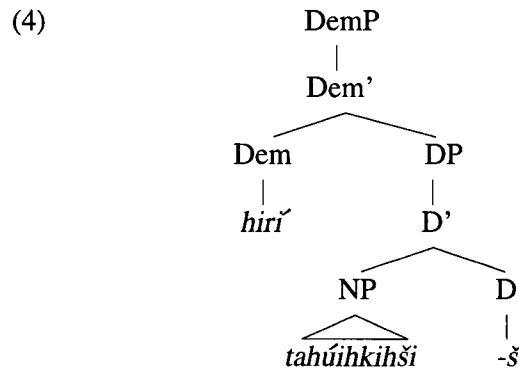
Table 3A - The Hidatsa Noun and Determiner Phrase

(Possessive Pronoun)-Root-(Derivational Suffixes)-(Plural)-(Determiner)

Strictly speaking, the template shown in Table 1 is a Determiner Phrase (DP), with the determiner cliticizing to the overall structure. The Hidatsa DP has a configurational syntax.

In addition, DPs can also have demonstratives co-occur with them as in (3). In this structure the DP is the complement of a Demonstrative head (Dem⁰) as shown in (4).

- (3) *hirí dahúʔihgihshish*
hirí tahu -ihkihši-š
 DEM thunder-nest -DET.D
 These the Thunder nests (This was the Thunder's nests). (Parks et al 1979, PA:7)



While this structure is not grammatical in English, it is quite common in Hidatsa as well as other Siouan languages.² In Hidatsa, demonstratives are optional prior to DPs. While not

² I would posit this structure for all Siouan languages. This is even true for languages like Omaha and Lakota where it is possible to have both constructions like that shown in (3) and [N [Dem-Det]]. In these types of constructions, I posit that the NP raises from its base generated position as a complement of DP to [SPEC, DEM P] giving the two possible orders found in these languages.

overly common, the only restriction on their co-occurrence is that the DemP and the DP must agree in specificity.

The root of the noun can be complex. Not included in the schema, represented in Table 3A, is how this complex root can be formed. Hidatsa nominals have a slot immediately following the noun for a postpositional attributive. Different types of attributives are seen above in examples (1c). These types of constructions will be elaborated upon in Sections 3.6. and 3.7.

3.2. DERIVATIONAL AFFIXATION. Hidatsa has a number of derivational affixes that can be suffixed to the noun. These suffixes are semantically restricted as to what nouns they can affix to, and are presumably listed as separate entries in the Hidatsa lexicon. These suffixes attach to the root before any plural marker or determiners. Following Jones' (1984:k) description of these affixes, I will review them, moving from those that are most productive and common in the language to those that are least productive and only found in a restricted number of constructions. Not all of the constructions presented below are accepted by all speakers. These discrepancies will be noted.

3.2.1. THE DIMINUTIVE SUFFIXES *-kaaša* AND *-hkee*. These suffixes serve as diminutives; *-hkee* is the equivalent to English 'small' or 'little' whereas *-kaaša* has an additional partitive sense of 'a small part of' or 'a little one from'. These diminutives can

be suffixed to a number of nouns. Examples of *-kaaša* are shown in (5a-f) and examples of *-hkee* from Jones (1984:k)³ are shown in (6a-e).

	<u>Base</u>			<u>-kaaša</u> ⁴		
(5a)	miři	/wiři/	stone	miřgaasha	/wiřkaaša/	gravel
(5b)	mirá	/wirá/	wood, tree	miragaasha	/wirakaaša/	stick
(5c)	sháagi	/šáaki/	hand	shágigaasha ⁵	/šákikaaša/	little finger
(5d)	icí	/iciř/	(his) foot	icígaasha ⁶	/icikaaša/	(his) little toe
(5e)	mía	/wía/	woman	míagaasha	/wíakaaša/	young woman
(5f)	mashúga	/wašúka/	dog	mashúgaasha	/wašúakaaša/	puppy

3 I have re-elicited all of these examples in order to confirm their grammaticality and forms.

4 The productivity of this suffix is an example of current dialectical variation between different families of speakers.

5 Many of my informants state that this word means ‘finger’ and not ‘little finger’. They note that there are no words for the individual fingers.

6 Like the word for ‘finger’, many of my informants state that this word means ‘toe’.

	<u>Base</u>			<u>-hkee</u> ⁷		
(6a)	mashúga	/wašúka/	dog	mashúgahgee	/wašúkahkee/	little dog
(6b)	macée	/wacée/	man	macéehgee ⁸	/wacéehkee/	little boy
(6c)	macidó	/wacitó/	awl	macidóhgee	/wacitónhkee/	needle
(6d)	aashí	/aaší/	horn	aashíhgee	/aašíhkee/	horn spoon
(6e)	híshi	/híši/	red	híshihgee ⁹	/híšihkee/	small red thing Jones (1984:k)

The contrast of these suffixes is clear in (5f) and (6a) but less so when contrasting (5e) with (6b). The word for ‘young boy’ or ‘young one’ is *maagarišhda* (/waakarišta/) and ‘young man’ is *shigáaga* (/šikáaka/). Neither is formed with the suffix *-kaaša*. This shows that this suffix is not totally productive with all nouns. Example (6e) shows that the suffix *-hkee* is not strictly nominal in nature as here it is affixed to a stative verb. The addition of this suffix nominalizes the stative verb and it can be employed like other DPs.

⁷ In addition to the examples in (4a-e), this suffix is found without a common base form in the word *xigíhgee* (/xikíhkee/) which means ‘a small mound’ whereas the word for ‘mound’ is *cée* (/cée/).

⁸ The preferred word for ‘little boy’ is ‘young boy’ which is *maagarišhdawacee* (/waakarištawacee/) which is from the generic term for ‘child’ (either male or female) (/waakarišta/), which is then compounded with the word for ‘man’ (/wacee/).

⁹ Although the meaning of this word is understood by all speakers, it was not accepted as “proper Hidatsa” by a number of speakers. This is probably due to dialectal variation between speakers with regard to the productivity of this morpheme.

3.2.2. THE ABSOLUTIVE SUFFIX *-hcaki*. This suffix forms an absolutive, which acts as the equivalent to English ‘only’ or ‘nothing but’. It limits the nominalization. In (7) and (8) it is suffixed to partitive nominal constructions.

(7) p^híag, wiráxahgida óhgasheewarec - aruhiruhcági.
 p^hée -ak, wiráxa-hkita¹⁰ ó¹¹ -hkašee -warec aru -hiru **-hcáki**.
 eat.up-SS kettle -LOC INES-put.back-NE PART-bone-**only**
 When he had eaten it, he put the bones back in the kettle. (Wicker 1978: 33)

(8) húbaaʔíhshaacish rushahsháaʔrug múaʔaruhiruhcági
 húpaa-íhša -raci -š ru -šahšáaʔ-ruk wúa-aru -hiru **-hcáki**
 soup -container-APPROX-DET.D INh-put.in -TEMP fish-PART-bone-**only**

káawarec.

káa -warec.

remain-NE

But when they dipped into the soup kettle (with their hands) only fish bones remained, they say. (Wicker 1978: 37)

Although Jones (1984:k) suggests these examples are perhaps syntactic in nature, I analyze them as lexically limiting the nominal they are suffixed to.

In addition to the constructions shown in (7) and (8), *-hcaki* can be added to numbers to indicate an absolutive meaning as in (9).

(9) núuba /núupa/ ‘two’ -->
 nuhcági /nuhcáki/ ‘to pull into two parts’

10 This locative means ‘in’.

11 This is an inessive meaning ‘into’. It is discussed in Section 4.2.1.

Jones (1984:k) and Matthews (1877:161) show that this suffix can also be added to pronominal constructions. In these constructions it indicates an absolutive state, as in 10).

(10) *í* /*í*/ 'he/she/it' -->
íhcagi /*íhcaki*/ 'alone', 'by oneself'

It can also be used derivationally to form stative verbs from nouns as in (11a-d).

(11a) *búxi* /*púxi*/ 'foam' -->
búxihcagi /*púxihcaki*/ 'foamy'

(11b) *caráa* /*caráa*/ 'grease' -->
caráahcagi /*caráahcaki*/ 'greasy'

(11c) *áwa* /*áwa*/ 'earth' -->
áwahcagi /*áwahcaki*/ 'dusty'

(11d) *íhxa* /*íhxa*/ 'dirt on sth.' -->
íhxahcagi /*íhxahcaki*/ 'dirty' Jones (1984:k)

3.2.3. THE SIMULATIVE SUFFIX *-hiša* (*like*). Although this affix is most often suffixed to stative verbs, it can also be suffixed to nouns. The resulting word is a denominal stative verb. The derivational nature of this suffix is shown in (12a-b).

(12a) *íri* /*íri*/ 'blood' -->
írihisha /*írihiša*/ 'blood-like, blood-colored'

(12b) *cagáck^{hi}/* /*cakáck^{hi}/* ‘flea’ -->
*cagáck^{hi}iisha*¹² /*cakáck^{hi}iiša/* ‘flax’ (like fleas, in
reference to the seeds)
Jones (1984:k)

3.2.4. NONPRODUCTIVE DERIVATIONAL SUFFIXES. In addition to the four affixes mentioned above, Hidatsa has a number of other derivational nominal suffixes that are seemingly nonproductive or limited in their productive use. These are clearly older suffixes that remain in fossilized constructions.

3.2.4.1. THE NOMINAL SUFFIXES *-ka* AND *-hka*. Jones (1984:k) claims that these suffixes, although not phonemically identical, may be allomorphs. The distribution seems to be:

-ka --> *-hka* / *i*___

These suffixes act to semantically limit the noun they are affixed to. Examples of *-ka* are shown in (13a-e) and examples of *-hka* are shown in (14a-d).

¹² Note that the suffix initial /h/ is deleted in (10b) and not (10a). Hidatsa often deletes medial syllables in longer words and /h/ is a particularly weak consonant in these types of environments. This process has not been formalized as it seems unpredictable.

The Nominal Suffix -ka

- (13a) ahbá /ahpá/ ‘external ear’¹³ -->
ahbáaga /ahpáaka/ ‘earlobe’
- (13b) aat^híru /aat^híru/ ‘upper arm’ -->
aat^híruga /aat^híruka/ ‘armband’
- (13c) éeri /éeri/ ‘belly’
hdaa /htaa/ ‘towards’ -->
eerihdága /eerihdáka/ ‘harness strap’
(across the belly)
- (13d) írú /írú/ ‘meat, flesh’ -->
írúga /írúka/ ‘dried meat’
- (13e) úa /úa/ ‘wife’ -->
úaga /úaka/ ‘sister-in-law’
(Jones 1984:k)

The Nominal Suffix -hka¹⁴

- (14a) áwa /áwa/ ‘land’
-heera /heera/ ‘middle’ -->
áwaheerihga /áwaheerihka/ ‘hillside’

13 This is the ear of an animal, it implies that the speaker has some type of animal power or is listening like an animal (i.e. like a coyote). The word for human ear is *ahgúxi* (/ahkúxi/). This derivation is an animal’s pinna or outer ear.

14 Note that the morphemes that /-hka/ suffix to in (12a-b) are not /-i-/ final. These examples undermine Jones’ claim for /-ka/ and /-hka/ being allomorphs. However, my consultants couldn’t identify any semantic difference between these two suffixes, so if they are allomorphs their distribution is unclear.

- (14b) adí /atí/ 'house, dwelling'
 -heera /heera/ 'middle' -->
 adéerihga /atéerihka/¹⁵ 'wall'
- (14c) íí /íí/ 'mouth' -->
 íihga /íihka/ 'chin'
- (14d) míá /wíá/ 'female' -->
 míhga /wíhka/¹⁶ 'female animal'
 (Jones 1984:k)

3.2.4.2. THE NOMINAL SUFFIX *-ca*. This suffix is semi-productive and usually occurs with numbers and indicates limited inclusiveness as in (15a-c).

- (15a) núuba /rúupa/ 'two' -->
 núubaca /rúupaca/ 'both'
- (15b) náawii /ráawii/ 'three' -->
 náawiica /ráawiica/ 'all three'
- (15c) iidóoba /iitóopa/ 'four' -->
 iidóobaca /iitóopaca/ 'all four'

This suffix may also occur with the pronominal *ée* 'every', in *éeca* 'everyone' and in words

15 Jones (1984:k) points out that in (12a & b) the *-i-* may indicate that *-heera-* ablauts, or that the final morpheme is actually (/ihka/) 'daughter'. This would undermine the proposal that *-hka* is an allomorph of *-ka*.

16 Jones (1984:k) points out that there may be some connection in Hidatsa between pre-aspiration and Siouan (Proto-Siouan) nasalized vowels. This explanation for the /h/ again, may undermine the proposal that *-hka* is an allomorph of *-ka*.

such as *éeriwirica*¹⁷ ‘diarrhea’. There are also examples where it is clearly productive as in example (16).

- (16) arucakícahšee rakapá.
 aru -caki -ca -hšee rakapá-Ø
 REL.N-good-INCL-only pick -IMPER
 “Pick only the good ones!” (Parks et al. 1978, PA:55)

3.2.4.3. THE NOMINAL SUFFIX *-t^ha*. This suffix may mean ‘chief or most important member of a group’. It is not productive and speakers no longer analyze it as an independent derivational suffix. Examples are shown in (17a-b) and possibly in (17c).

- (17a) *ici* /i*ci*/ ‘foot’ -->
icit^ha /i*ci*^ha/ ‘big toe, toes’

- (17b) *sháagi* /šá*aki*/ ‘hand’ -->
*sháagit^ha*¹⁸ /šá*aki*^ha/ ‘finger’

- (17c) *íi* /i*i*/ ‘hair, fur’ -->
íit^ha /i*i*^ha/ ‘furry, fuzzy’
 (Jones 1984:k, Boyle and Gwin 2006)

17 This word can be broken down as *éeri*+*wiri* = ‘belly+water’.

18 Jones (1984:k) glosses this word as ‘thumb’.

3.2.4.4. THE NOMINAL SUFFIX *-hpi*. This meaning of this suffix is unclear. Jones (1984:k) lists it in the examples shown in (18a-b) and possibly in (18c-d).

(18a) *dibíá* /tipiá/ ‘mud’ -->
 ðibíhbi /tipíhpi/ ‘swamp, bog’

(18b) *ishdá* /ištá/ ‘eye’ -->
 ishdáhbi /ištahpi/ ‘eyelash’

(18c) *hobí* /hopi/ ‘hole’ -->
 hohbí /hohpi/ ‘to hollow’

(18d) ---- ---- ---- -->
 nácoghbi /ráckohpi/ ‘hip’

(Jones 1984:k, Boyle and Gwin 2006)

3.2.4.5. THE SUFFIXES *-ci* AND *-ti*. Jones (1984:k) cites two additional examples of derivational suffixes but their limited distribution makes this claim difficult to sustain. It may be that they are relics of an old fossilized suffix, but this cannot be demonstrated with any certainty. These suffixes are very limited and only exist in a small number of constructions. They are shown in (19) and (20).

The Nominal Suffix *-ci*

(19) *áaba* /áapa/ ‘neck’ -->
 ábaci /ápaci/ ‘voice’

The Nominal Suffix -ti

- (20) *ici* /*ici*/ 'foot' -->
 *ici*đi /*ici*đi/ 'tracks, footprints'

3.3. NUMBER MARKING ON NOUNS. Plural formation is identical for nouns and verbs. Singular number is unmarked on both nouns and verbs; plural often remains unmarked on the noun (Matthews 1877:96), being reflected most often on the verb as subject-number agreement. There are three distinct plural markers in Hidatsa: the definite plural -aʔ-; the indefinite plural -ʔo-; and a collective plural -aapa-. The definite plural and collective plural trigger ablaut in both noun and verb stems that undergo this process.

As there is only one slot in the verb for plural marking, number can be ambiguous with regard to the DPs. Often the DP will be marked as plural in addition to the verb but this is not always the case. This ambiguity is shown in (21) where neither nominal is marked for plural number.

- (21) *waagari*šhda *aadi*hge *hiri*ʔawareec
 *waakari*šta *aati* -hkee *hiri* -ʔa -wareec
 child house-DIM make-PL.D-NE
 (the) children make tiny houses. (Lowie 1939, IV:1)

Plural marking on the verb most often agrees with the subject and if the object is plural, it is usually marked on the noun. In general, plural nouns which are not followed by attributive pronominal elements are not marked as plural unless they are possessed. Plural possessed nouns are always marked with the plural marker ambiguously pluralizing the possessor

and/or the possessed noun. Typically, both possessor and possessum are plural, and deviations from this semantic interpretation are context conditioned. Plurality of a subject is nearly always marked on the verb, whether the subject noun is marked as plural or not (Jones 1984:h).

When the indefinite plural appears on a noun, no final determiner is necessary (since by its nature it is indefinite). When the definite plural occurs on a noun it is often followed by the definite determiner *-š* or by the attributive demonstratives *-he* or *-ha*, although this is not necessary. Examples of plurality on nouns and possessed nouns can be seen in Table 3B.

Table 3B - Plural Marking in Hidatsa (Jones1984:n)

	<u>Singular</u>		<u>Plural</u>	
a)	madaʔahí /mataahiʔ/	my turnip	madaʔahiʔo /mataahiʔo/	our turnips ¹⁹
b)	mací /maciʔ/	my foot	maciʔo /maciʔo/	our feet
c)	madaʔahí /mataahiʔ/	my turnip	madaʔahiʔash /mataahiʔaš/	our turnips
d)	mací /maciʔ/	my foot	maciʔash /maciʔaš/	our feet
e)	céeshash /céešaš/	the wolf	céeshash /céešaš/	the wolves
f)	máhga(sh) /wáhka(š)/	my daughter	máhgaʔash /wáhkaʔaš/	my daughters
g)	nidáʔashi /nitáaši/	your (sg.) blanket	nidáʔashaʔash /nitáašaʔaš/	your (pl.) blanket

As Jones (1984:n) states, examples (a & b) establish the structure of the nominal indefinite particle, *-ʔo-*. Examples (c - h) exemplify the definite plural, *-ʔa-*, with both possessed and unpossessed nouns. Note that examples (c - d) display no change in their stem vowel *-i(i)*

¹⁹ To understand the indefiniteness of this a better English gloss would be “some turnips that belong to us”. Likewise b) *maciʔo* could be glossed as “some feet that are ours”, although this is semantically odd in English.

from singular to plural. These words can be contrasted with examples (g - h), in which the stem vowel is *-i-* in the singular and *-a-* in the plural. These are examples of Hidatsa ablaut as discussed in Section 2.4.1. where the definite plural was shown to trigger ablaut.

As stated above, the verb often agrees in number with the subject of its clause. This can be seen in (22).

- (22) Alex wíáakuʔo uuwáki akuhíraʔaš íkaac
 Alex wíá -aku -ʔo uuwáki aku -híri -ʔa -š íkaa-c
 Alex woman-DEM.S-PL.I quilt REL.S-make-PL.D-DET.D see -DECL
 Alex saw [that women [who made the quilt]]. (Boyle 2005)

In this sentence, the subject in the superordinate clause is singular and the superordinate verb agrees in number with it. In the subordinate relative clause, the subject is plural and the verb in that clause agrees in number with its subject.²⁰

3.4. DETERMINERS. Hidatsa has a number of determiners that suffix to the noun (examples are shown in (23a-f). These can be seen in Table 3C.

20 Note that the verb is marked with the definite plural. The relative clause is also marked for definiteness with the definite determiner *-š*. The subject of the relative clause is marked with the indefinite plural as heads of internally headed relative clauses cannot be marked as definite (Williamson 1987). The reason for this will be discussed at length in chapter 6.

Table 3C - Hidatsa Determiners

-Ø	/-Ø/	generic
-sh	/-š/	definite determiner
-wa	/-wa/	indefinite determiner
-ri	/-ri/	focus marker
-he	/-he/	attributive demonstrative
-agu	/-aku/	specific demonstrative

In Hidatsa, determiners are usually optional and most utterances avoid them (example 23a). They are used to code the informational status of the noun phrase as a referring expression. In addition to coding the informational status, when either subject or object noun phrases have determiners, speakers usually interpret the event as having occurred in the past (example 23b) as the utterance has at least one definite referent. Example (23b) shows the subject with the definite determiner, whereas the object is marked indefinite.

DPs with -Ø marking in the determiner slot.

- (23a) macée wía iigiracóobic
wacée-Ø wía-Ø ii -kiracóopi-c
man woman INST-kiss -DECL
(The) man kisses (the) woman. (Boyle 2005)

DPs with definite and indefinite determiners.

- (23b) macéeš wíawa iigiracóobic
wacée-š wía -wa ii -kiracóopi-c
man -DET.D woman-DET.I INST-kiss -DECL
The man kissed a woman. (Boyle 2005)

Like other languages, Hidatsa uses its determiners to track discourse information flow with regards to new and old information.

The focus marker *-ri* is used to bring a new noun in the discourse to prominence. An example is shown in (23c). Here a new DP is introduced into the discourse and it is immediately brought to prominence with the addition of the focus marker. It can now be used in a subject position.

DP with the focus marker

- (23c) nuxbáaga iháhdaari wiiguxdáabag
ruxpáaka iháh^{ta}a-**ri** wii-kux^{tí}-aapa-ak
people other **-FOC** 1B -help -PL.G -SS
The people of the other clans helped us; (Lowie 1939: IV-4)

Focus constructions will be further discussed in 5.7.4.

The demonstrative suffixes can also act as determiners. Examples (23d) show that demonstrative suffixes go in the same syntactic slot as other determiners. These function differently in the syntax than independent demonstratives whose structure was shown in example (4). Both NPs in (23d) take an attributive demonstrative.

DP with an attributive demonstrative

- (23d) maa[?]aah^{dúu}?ahe oogu^{ca}?ahe guashác
waa -aahtúu-^{?a} **-he** aku -kuucá-^{?a} **-he** kuašá -c
INDEF-head -PL.D-**DEM.A** REL.S-get -PL.D-**DEM.A** get.back-DECL
that's the way they got the skulls back. (Lowie 1939: IV-22)

Demonstratives in Hidatsa do not code for definiteness. Instead they code for specificity. In (23d) *the skulls* that are being discussed are specific skulls²¹ that the Waterbuster Clan got back. The other demonstrative is *agu-* /aku-/. An example of this demonstrative can be seen in (23e).

DP with an specific demonstrative

(23e) *míáʔagu áwagaac*
wíá -aku áwakaac
 woman-DEM.S 1A.see -DECL
 I saw that woman. (Boyle 2004)

3.5. POSSESSION OF NOUNS. Hidatsa has two sets of possessive pronominal prefixes. These reflect inalienable and alienable possession. Inalienable possessed pronouns prefix to a small closed set of words referring to body parts and nouns derived therefrom, many kinship terms, and certain articles of clothing, in addition to a few other nominals. Alienable possessed pronouns cliticize to the remaining class of nouns that are capable of being possessed. In rare cases, some nouns can take either the alienable or inalienable possessive prefix. In these instances, a semantic distinction exists between the two forms. An example of this can be seen with the word *áaciwiri* ‘milk’ in (24a-c).

21 These skulls refer to the Waterbuster Clan bundle, which is a holy object that had been sold to the Museum of the American Indian in New York.

(24a)	áaciiwiri áaciiwiri milk milk	(24b)	máaciiwiri wa-áaciiwiri 1.POSS.I-milk my mother's milk	(24c)	mataʔáaciiwiri ²² wata-áaciiwiri 1.POSS.A-milk my milk (beverage)
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3.5.1. INALIENABLE POSSESSIVE PRONOUNS. The inalienable possessive²³

markers are prefixes that attach to the noun. They are shown in Table 3D:

Table 3D - Inalienable Possessed Pronouns

ma-	/wa-/	'my'
ni-	/ri-/	'your'
i-	/i-/	'his, her, its'

Unlike the alienable possessed pronouns, which are clitics, the inalienable possessed pronouns are true affixes and as such undergo a series of phonological changes in certain environments.

When prefixed to a vowel initial stem, the inalienable possessive pronouns lose their vowel. Examples of this process are given in (25a-f).

²² My consultants state that (11b) and (11c) are forced interpretations. The word for cow's milk is *meteʔáaciiwiri* but to put the alienable pronoun *mata-* on this gives the interpretation of 'my cow's milk' with the cow having possession of the milk.

²³ Unlike many other Siouan languages (Crow, Lakota, among others), plurality is not marked in the pronominal system.

Inalienable Possessed Pronouns and Vowel Initial Stems

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(25a)	'nose'	abá /apá/	mabá /wapá/	nabá /rapá/	abá /apá/
(25b)	'food'	é?e /é?e/	mé?e /wé?e/	né?e /ré?e/	é?e /é?e/
(25c)	'mouth'	íí /íí/	míí /wíí/	níí /ríí/	íí /íí/
(25d)	'eagle plume worn in hair', ²⁴	ó?oge /ó?oke/	mó?oge /wó?oke/	nó?oge /ró?oke/	ó?oge /ó?oke/
(25e)	'wife's sister'	úaga /úaka/	múaga /wúaka/	núaga /rúaka/	úaga /úaka/
(25f)	'wrist'	í?uudi /í?uuti/	mí?uudi /wí?uuti/	ní?uudi /rí?uuti/	í?uudi /í?uuti/

When prefixed to consonant initial stems (with the exception of /r-/ initial stems), the inalienable possessed prefixes undergo no phonological change. Examples are given in (26a-e).

²⁴ This is a culturally sensitive word and possession would not be discussed. Possession is assumed so the set in (25d) is somewhat forced.

Inalienable Possessed Pronouns and Consonant Initial Stems

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(26a)	'foot'	cí /cí/	mací /wací/	nící /ricí/	ící /icí/
(26b)	'grandmother'	gúu /kúu/	magúu /wakúu/	nigúu /rikúu/	ígúu /ikúu/
(26c)	'back'	shída /šíta/	mashída /wašíta/	nishída /rišíta/	ishída /išíta/
(26d)	'sister-in-law' of a woman	dúush /túuš/	madúush /watúuš/	nidúush /ritúuš/	idúush /itúuš/
(26e)	'body'	xúa /xúa/	maxúa /waxúa/	nixúa /rixúa/	ixúa /ixúa/

Examples (27a-m) show that when prefixed to the following /r-/ initial stems, the third person possessive pronoun /i-/ is lost.

Third Person Pronoun loss in /r-/ Initial Stems

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(27a)	'calf of leg'	náaca /ráaca/	maráca ²⁵ /waráca/	niráca ²⁶ /riráca/	náaca /ráaca/
(27b)	'name'	náashi /ráaši/	maráshi /waráši/	niráshi /riráši/	náashi /ráaši/
(27c)	'lungs'	náaxu /ráaxu/	maráxu /waráxu/	niráxu /riráxu/	náaxu /ráaxu/
(27d)	'heart'	náada /ráata/	maráda /waráda/	niráda /riráda/	náada /ráata/
(27e)	'flank, thigh'	náat ^h iru /ráat ^h iru/	maráat ^h iru /waráat ^h iru/	niráat ^h iru /riráat ^h iru/	náat ^h iru /ráat ^h iru/
(27f)	'pelvis, hip'	nácoghba /ráckohpa/	marácoghba ²⁷ /waráckohpa/	nirácoghba /riráckohpa/	nácoghba /ráckohpa/
(27g)	'bicep'	náhshi /ráhši/	maráhshi /waráhši/	niráhshi /riráhši/	nahshi /rahši/
(27h)	'thigh'	náxbi /ráxpi/	maráxbi /waráxpi/	niráxbi /riráxpi/	náxbi /ráxpi/

²⁵ In examples (27a-e) the initial stem vowel is shortened in the 1st and 2nd person. I have no explanation for this.

²⁶ This can also be mistaken for 'watch out' which is *niiráca* (second person stative imperative). This minimal pair shows the importance of vowel length.

²⁷ A common form of this is *mácoghba* with the second syllable being deleted.

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(27i)	'tongue'	néeshi /réeši/	maréeshi /waréeshi/	niréeshi /riréeshi/	néeshi /réeši/
(27j)	'armpit'	nóhci nóhci	maróhci /waróhci/	niróhci /riróhci/	nóhci /róhci/
(27k)	'chewed food'	nóhshi /róhši/	maróhshi /waróhši/	niróhshi /riróhši/	nóhshi /róhši/
(27l)	'jaw'	nóorooba /róoroopa/	maróorooba /waróoroopa/	niróorooba /riróoroopa/	nóorooba /róoroopa/
(27m)	'windpipe'	nóodishga /róotiška/	maródishga /warótiška/	niróodishga /riróotiška/	nóodishga /róotiška/

There are also a set of /r-/ initial stems that inflect normally. These are shown in (28a-j).

Third Person Pronoun with no loss in /r-/ Initial Stems

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(28a)	'children'	náaga /ráaka/	maráaga /waráaka/	niráaga /riráaka/	iráaga /iráaka/
(28b)	'sister's husband'	ráadi /ráati/	maráadi /waráati/	niráadi /riráati/	iráadi /iráati/
(28c)	'spirit'	ráaxi /ráaxi/	maráaxi /waráaxi/	niráaxi /riráaxi/	iráaxi /iráaxi/

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(28d)	'shadow'	ráaxixi /ráaxixi/	maráaxixi /waráaxixi/	niráaxixi /riráaxixi/	iráaxixi /iráaxixi/
(28e)	'man's friend'	rágua /rákua/	máragua /wáarakua/	níragua /rírakua/	íragua /írakua/
(28f)	'right hand'	rabágua /rapákua/	marabágua /warapákua/	nirabágua /rirapákua/	irapágua /irapákua/
(28g)	'penis'	rĩ /rĩ/	marĩ /warĩ/	nirĩ /rirĩ/	irĩ /irĩ/
(28h)	'leg'	rīgi /riki/	márigi /wáriki/	nírigi /níriki/	írigi /íriki/
(28i)	'thigh'	rĩguudi /rĩkuuti/	marĩguudi /warĩkuuti/	nirĩguudi /rirĩkuuti/	irĩguudi /irĩkuuti/
(28j)	'son'	rĩsha /rĩša/	marĩsha /warĩša/	nirĩsha /rirĩša/	irĩsha /irĩša/

As Jones (1984:g) states, "if phonological conditions account for the difference between the set of items in (27) and (28), these conditions are unclear."

3.5.1.1. VARIATIONS IN INALIENABLE POSSESSION. There are several additional irregularities that occur with the inalienable possessed prefixes. Jones (1984:g) states that

there is variation in the third person form of the the words for ‘hand’ *shági*, (/šaki/) and ‘children’ *nági*, (/raaki/). Jones gives the following inflectional patterns (29a-b).

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(29a)	‘hand’	shági /šáki/	mashági /wašáki/	nishági /rišáki/	shági vs. ishági ²⁸ /šáki vs. /išáki/

My informants stated that the second form *ishági* (/išáki/) is the correct pronunciation.

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(29b)	‘children’	rága /ráaka/	marága /waráaka/	nirága /riráaka/	nága vs. irága /ráaka/ vs. /iráaka/

Again, my informants stated that the second form *irága* (/iráaka/) is the correct pronunciation. An additional variant exists for the word for ‘eye’. In this word, the variation exists in the first person form. This is shown in (29c).

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(29c)	‘eye’	íshda /íšta/	mášhda vs. míshda /wášta/ vs. /wišta/	níshda /rišta/	íshda /íšta/

This variation still exists and both forms are used and acceptable. It dates back to at least 1880 where it is recorded in the Hidatsa phrase book of C. H. Hall.

²⁸ Jones also give the additional possible variation of this word as *ishági* (/išáaki/) with a long medial vowel.

There is also a group of words that Jones (1984:g) noted should inflect with the inalienable possessive pronouns but that his consultants “felt to be somewhat peculiar semantically”. These can be seen in (30a-d).

	<u>Gloss</u>	<u>Stem</u>	<u>1st</u>	<u>2nd</u>	<u>3rd</u>
(30a)	‘tail’	<i>ciída</i> /ciída/	* <i>micíida</i> */wiciída/	* <i>nicíida</i> */ricíida/	<i>iciída</i> /iciída/
(30b)	‘brain’	<i>cuáda</i> /cuáda/	* <i>miicuáda</i> */miicúata/	* <i>niicuáda</i> */riicuáda/	<i>icuáda</i> /icuáda/
(30c)	‘rib’	<i>núuda</i> /núuda/	* <i>miirúuda</i> */wiirúuta/	* <i>niirúuda</i> */riirúuta/	<i>inúuda</i> /irúuta/
(30d)	‘intestines’	<i>shíiba</i> /shíipa/	* <i>miishíiba</i> */wiišíiba/	* <i>niishíiba</i> */riišíipa/	<i>ishíiba</i> /išíipa/

(Jones 1984:g)

My consultants, likewise found the first and second person forms of these words to be peculiar and not something that anyone would ever say. Third person forms were considered acceptable when referring to animals, but not people. As Jones noted these items are not usually thought of as being possessed by a human and their interpretation as part of the (human) body is somewhat forced (Jones 1984:g). This is the reason for the forms

being asterisked, native speakers would not use them. For my consultants this was even the case with anthropomorphic animal speakers, which was also what Jones found.²⁹

3.5.2. ALIENABLE POSSESSIVE PRONOUNS. Alienable possessive pronouns can be cliticized to any noun that can be possessed that does not take an inalienable possessed pronoun.³⁰ This is an open class. The alienable possessed pronouns are shown in Table 3E:

Table 3E - Alienable Possessed Pronouns

mada-	/wata-/	'my'
nida-	/rita-/	'your'
ida-	/ita-/	'his, her, its'

Their relationship to and derivation from the inalienable pronouns is clear:

alienable pronoun = inalienable pronoun + *ta*

²⁹ This is true even in mythological stories as can be seen in Lowie (1939, III:59).

heʔešáak šīpa áapi rúškiwareec
 heʔešáa-ak šīpa áapi rú -ški -wareec
 SC -SS intestines PL INh-pull.out-NE
 And then he pulled out his intestines with his hand, they say.

Here 'intestine' is clearly possessed but it has no possessive marker.

³⁰ This ignores the fact that some items can take either possessive pronoun, depending on the situational context.

3.5.3. THE SYNTACTIC STRUCTURE OF POSSESSIVE CONSTRUCTIONS. Both the inalienable and alienable pronominals cliticize or prefix to the DP respectively. When full DPs are used, the possessor DP precedes the possessum. In cases where a full DP possessor is present, the third person possessive pronoun is still prefixed to the item possessed. Example (31) shows both an overt DP possessor and the third person inalienable pronoun cliticized to a relative clause, which is also a full DP.

- (31) “dáadish idúu aguxubáash áruwia rágu?”
 táati -š i -túu aku -xupáa-š áruwi -a rá-kuʔu -Ø
 father-DET.D 3POSS.I-song REL.S-holy -DET.D 2A.teach-CONT 2A-give -IMPER
 héewa
 hée-wa
 say -DS

“You have taught (and given) him father's holy song”. (Parks et al 1978, PA:32)

Possessed nominals may occur either with or without an overt lexical possessor (shown in 32a-b).

- | | |
|--|--|
| <p>(32a) macée idawashúga
 wacée ita -wašúka
 man 3.POSS.A-dog
 man's (his) dog (Boyle 2002)</p> | <p>(32b) idawashúga
 ita -wašúka
 3.POSS.A-dog
 his dog (Boyle 2002)</p> |
|--|--|

As shown in (31) the possessor can occur with a determiner. The possessum can also take a determiner, which shows that unlike languages like English, the determiner and the

possessive pronoun do not occupy the same syntactic slot (shown in 33c). In this example, like that in (31), the determiner adds definiteness to the possessed item. Like most NPs in Hidatsa, the determiner is optional.

- (33c) madawashúgash
mata -wašuka-š
1.POSS.A-dog -DET.D
my dog (lit. ‘my the dog’) (Boyle 2002)

Number, if overtly marked on the possessed construction, is marked on the possessed nominal with one of the suffixal plural markers (as shown in 34).

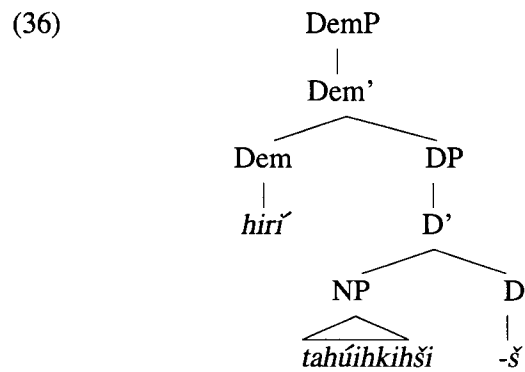
- (34) heʔesháag idaʔásh^huʔo bágishag gúuʔawareec
heʔešá-ak **ita** -ʔásh^hu-ʔo pá -kiši -ak kúa -ʔa -wareec
SC -SS **3.POSS.A-ROPE -PL.I** IN_p-turn-SS give-PL.D-NE
Then, twisting their rope on their thighs, they gave it to him. (Lowie 1939, I:46)

Graczyk (1991, 2006) argues that in Crow, the first and second person possessive prefixes are syntactic noun phrases, and that the third person has optional syntax. In the absence of a lexical possessor NP,³¹ the third person prefix has the syntax of a NP; otherwise, it is an agreement marker coindexing the person of the possessor. He further argues that when the possessive marker occurs without an overt possessor NP, i.e., when it is a syntactic constituent, it can be viewed as incorporated, since it appears as a morphological prefix to the head of the NP.

31 Graczyk (1991, 2006) refers to DPs as NPs.

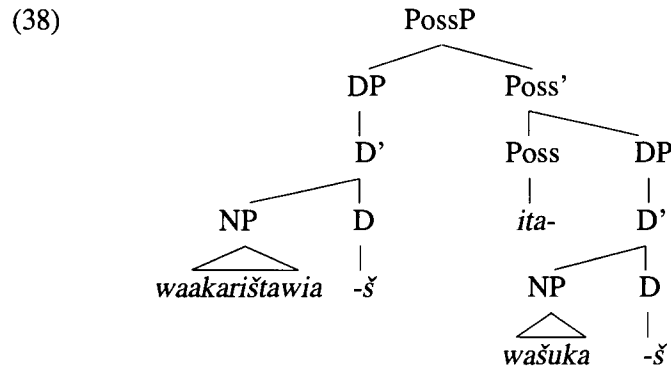
This type of analysis (i.e. the third person pronominal having optional syntax and the first and second person prefixes being treated as incorporated) is not allowed in the framework presented in this dissertation. Graczyk's analysis of Crow is relevant here, since Hidatsa and Crow share near identical possessive structures. Hidatsa allows possessed nouns to be followed by determiners and preceded by a variety of demonstratives. The analysis presented here follows from the structure posited above in (3 & 4) repeated here as (35 & 36).

- (35) *hirí dahúʔihgĩshish*
hirí tahu -ihkihši-š
 DEM thunder-nest -DET.D
 These the Thunder nests (These were the Thunder's nests) (Parks et al 1978, PA:7)



Given this structure, the possessive construction shown in (37) can be represented by the tree diagram shown in (38).

- (37) waagarišhdawiash idawashúgahgeesh
 waakarišta-wia -š ita -wašúka-hkee-š
 child -woman-DET.D 3.POS.A-dog -DIM -DET.D
 The little girl's little dog... (Lowie 1939, IV:58)



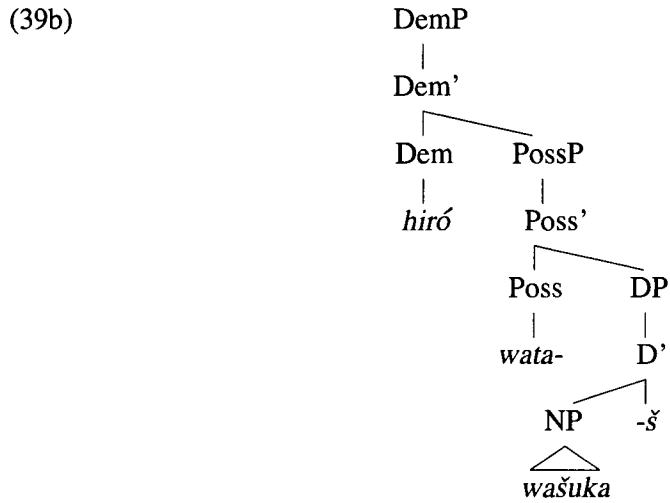
In the structure shown in (38), the possessor is a maximal projection. There is a co-indexing between the possessive pronoun and the possessor DP via a SPEC-HEAD relationship. In these constructions the POSS head, *ita-*, selects an DP possessum complement and a DP possessor specifier, which may or may not be overt.

This structure in (38) can also be generated within a DemP, like that shown in (36).

This type of structure accounts for the grammaticality of phrases such as that shown in (39a) which has the PossP within a DemP.

- (39a) híro madawashúgash
 hiró wata -wašúka-š
 DEM 1.POS.A-dog -DET.D
 that my dog...

The structure for this parallels that shown in (36) and is shown in (39b).



3.6. NOUN + NOUN COMPOUNDS. Noun + noun compounding is very productive in the word formation process in Hidatsa. Hidatsa has three types of noun-noun compounds. Jones (1984:1) describes these as 1) pseudo-nominal compounds, 2) possessive compounds, and 3) partitive compounds. He then further subdivides the partitive compounds into four subclasses: 1) partitive of material, 2) partitive of source, 3) partitive of whole, and 4) descriptive partitives. This semantic breakdown will be addressed below.

3.6.1. PSEUDO-NOMINAL COMPOUNDS. Jones (1984:1) called these constructions 'pseudo-nominal' because he analyzed the second noun as a denominal adjective, which occupies the normal, post positional slot for attributives. Normally attributives are stative verbs (see below in Section 3.7). The examples Jones (1984:1) cites for this category can be seen in (40).

- | | |
|--|---|
| <p>(40a) múacesha
wúa-ceeša
fish -wolf
pike (lit. wolf-fish)</p> | <p>(40b) múaraadashiiri
wúa-raata -šiiri
fish -heart-brown
bullhead (lit. brown hearted fish)</p> |
|--|---|

The second nominal in these compounds acts like a denominal adjective in the sense that it describes the first member of the compound. In this manner, it functions in a similar manner to stative verbs, and as stated above any noun can act as a stative verb. However, words of this type are clearly lexicalized. The second nominal is not taking the one postnominal slot for attributives. This is shown in (41) where the stative verb *ihdiá* (/ihtjá/) ‘big’ can be compounded to the example shown in (40a).

- (41) múacesha?ihdia
wúa-ceeša-ihdia
fish -wolf -big
big pike (Boyle 2005)

In (41), the stative verb *ihdiá* (/ihtjá/) ‘big’ fills the one attributive post nominal slot. If Jones’ analysis were correct, this subcategory of noun-noun compounds might be better placed in Section 3.7 with noun + verb compounds. However, it seems clear to me that while this type of compounds may have at one time had attributive interpretations, they no longer do so. These compounds have become lexicalized and speakers rarely bother to deconstruct them. As a result, they still have the postposition attributive slot open in order to add stative verbs as attributives to the noun.

3.6.2. POSSESSIVE COMPOUNDS. These compounds show a possessor-possessum structure. While this process is clearly productive in Hidatsa not all speakers agree as to whether the examples presented here represent “proper Hidatsa”. In these constructions the third person possessive pronoun is inserted between the two nominals. In constructions where the alienable pronoun, *ida* (/ita/), is employed they are quite easy to identify (as shown in examples (42a-c & 43a-c) taken from Jones (1984:1)).

(42a) awagooxidáhshua
 awa -kooxi-ítá -šua
 earth-bee -3.POS.A-spit
 spider web
 (lit. earth bee’s spit)

(43a) mashíí?idacagaaga
 wašíí -ita -cakaaka
 white.man-3.POS.A-bird
 chicken
 (lit. white man’s bird)

(42b) gaágshidap^hi
 kaákša-ita -p^hi
 potato -3.POS.A-bug
 potato bug
 (lit. potato’s bug)

(43b) mashíí?idagooxaadi
 wašíí -ita -kooxaati
 white.man-3.POS.A-corn
 sweet corn
 (lit. white man’s corn)

(42c) naxbícidawaacu
 raxpicci-ita -waacu
 bear -3.POS.A-berry
 sheepberry
 (lit. bear’s berry)

(43c) mashíí?idaraxbicci
 wašíí -ita -raxpicci
 white.man-3.POS.A-bear
 pig
 (lit. white man’s bear)

As can be gleaned from these examples, this process of word formation is an old one. The words in (42a-c) predate contact with Euro-Americans and the words in (43a-c) postdate

contact. This is still productive in contemporary Hidatsa, although not as much so today as it was in the 19th century when many new terms reflective of Euro-American culture were being introduced.

Jones (1984:1) states that this process can also happen with the inalienable possessive third person pronoun /i-/ as well. If this is the case, examples are difficult to find. This is probably due to the fact that so few nominals take the inalienable pronouns. In addition, the short /i-/ pronominal is likely to be lost due to vowel shortening and/or assimilation. The examples Jones (1984:1) cites are shown below in examples (44a-d).

(44a) abáari?ciida
 apáari?i -ciita
 porcupine-tail
 comb
 (lit. porcupine tail)

(44b) ceeshiisha
 ceeša-iiša
 wolf -teeth
 fang
 (i.e. canine tooth but
 lit. wolf's tooth)

(44c) icúuwashgaabe?e
 icúuwaška-aape?e
 horse -necklace
 horse collar
 (lit. horse's necklace)

(44d) naxbíccaadi
 naxpícci-caati
 bear -den
 bear den
 (lit. bear's den)

In all of these examples, the third person inalienable possessive pronoun /i-/ is lost or difficult to recover. However, the nature of the compounds is clearly one of possession and the item possessed by the preceding nominal can easily be viewed as inalienably possessed.

3.6.3. PARTITIVE COMPOUNDS. Partitive compounds involve some type of whole-part relationship. Although these are not all true partitives, Jones (1984:1) lists them as such. In these compounds the first noun refers to the whole and the second refers to the part or the first noun semantically limits the second noun. As stated above, Jones (1984:1) divides partitive constructions into four subtypes which I have followed here. These are: 1) partitive of material, 2) partitive of source, 3) partitive of whole, and 4) descriptive partitives.

3.6.3.1. PARTITIVE OF MATERIAL. These constructions use the first noun in the compound to limit the head or second noun. They form part-whole relationships with regard to the type of material from which the second noun is made. Examples are shown in (45a-d).

(45a) madóogi?aabe?
 watóoki-aape?
 shell -necklace
 a necklace of shell

(45b) maaʔíshu?ap^huhga
 waaʔíʃu-ap^huhka
 eagle -cap
 war bonnet
 (lit. cap of eagle feathers)

(45c) míracuhgadi
 wíra -cuhka-ati
 wood-flat -house
 wood frame house
 (lit. house of lumber) (Jones 1984:1)

(45d) náxbiduuxi
 náxpi-ituuxi
 hide -dress
 dress of leather

3.6.3.2. PARTITIVE OF SOURCE. These constructions also use the first noun of the compound to restrict the second or head noun. The first noun in the compound gives the source of the second noun. Examples are shown (46a-d).

(46a) áaciiwiri
 áacii -wiri
 breast-water
 water of the breast
 (i.e. breast milk)

(46b) ishdábeeri
 išťá-peeri
 eye -excrement
 goop of the eye

(46c) ishdáwiri
 išťá-wiri
 eye-water
 tears
 (lit. water from the eyes)

(46d) iřwiri
 iř -wiri
 mouth-water
 saliva
 (lit. water from the mouth)

(Jones 1984:l)

Jones (1984:l) also gives several examples where it is unclear whether the compound is a partitive of source or a possessive compound with the inalienable third person pronominal (as shown above in section 3.6.2). For this potential ambiguity to arise, the second noun must be capable of being possessed inalienably. Examples are shown in (47a-c).

(47a) shaagabxíđa
 šaaka-pxíťa
 frog -snot
 algae
 (lit. snot from a frog)

(47b) midéeraxbi
 mitée-raxpi
 cow -hide
 cow's hide

- (47c) gixáaʔiccaaʔaabeʔ
 kixáaʔicca-aʔ -aapeʔ
 Crow -PL.D-necklace
 choker
 (lit. a Crow³² necklace) (Jones 1984:l)

3.6.3.3. PARTITIVE OF WHOLE. These constructions clearly mark whole-part relationships. This type of compound is very productive in Hidatsa. Lexical items formed in this manner often show parallel constructions with the partitive morpheme *aru-* (discussed below 3.8.). These compounds do not require the *aru-* partitive morpheme, but it can often be inserted between the nouns in the compound. Examples of this type of construction are quite common and several are shown in (48a-d) (Jones 1984:l and Boyle and Gwin 2006).

- | | |
|--|---|
| <p>(48a) áacihbu
 áaci -hpu
 breast-tip
 nipple
 (lit. tip of the breast)</p> | <p>(48b) adíreedá
 atí -reeta
 house-edge
 outskirts of a village
 (lit. at the edge of the houses)</p> |
| <p>(48c) maaʔiduuxaara
 waa -iduuxi-aara
 INDEF-wear -arm
 sleeve
 (lit. the thing you wear on your arm)</p> | <p>(48d) naaxuk^heʔáhdú
 raaxuk^hee-áhdú
 saddle -head
 pommel
 (lit. the head of the saddle)</p> |

³² This is in reference to the Crow people, not the bird. It refers to a type of necklace they often wore.

3.6.3.4. DESCRIPTIVE PARTITIVES. In these compounds, the first noun further specifies the second. Examples are shown in (49a-d).

(49a) abáhobiruxbaaga
 apá -hopi-ruxpaaka
 nose-hole-people
 Arapahoe
 (lit. pierced nose people)

(49b) ceesharuxbaaga
 ceeša-ruxpaaka
 wolf -people
 Pawnee
 (lit. wolf people)

(49c) maabúgshaashi
 maapúkša-aaši
 snake -creek
 Snake Creek

(49d) méʔciʔaashish
 méʔci-aaši -š
 knife -creek-DET.D
 The Knife River (Jones 1984:l)

As can be seen from the above examples, this type of partitive construction is often used in proper names.

3.7. NOUN + VERB COMPOUNDING. The second type of noun compounding consists of a noun + a stative verb. This is very common in Hidatsa. In this type of compounding, the second part of the compound, the post-nominal attributive slot, is filled with a stative verb, examples of which can be seen in (50a-b).

(50a) mashúgahisha
 wašúka-hiša
 dog -red
 red dog

(50b) níshaʔihdia
 riša -ihtia
 dance-big
 big dance (Boyle 2004)

Hidatsa has a limited set of compounding strategies. It allows only one non-head element. If a speaker wishes to use more than attributive modifier, it cannot be done by adding additional stative verbs to the nominal. Only one such attributive can be added in the postnominal slot. Any additional modifications must take the form of relative clauses which would follow the the head noun as shown in (50c).

(50c) mashúgaʔihdia agumaráxabash aruígahishacish
 mašúk-ih̄tia aku -maráxaba-š aru -íika -hiši-raci -š
 dog -big REL.S-crazy -DET.D REL.N-looks.like-red-APPROX-DET.D

 bushiigesh guréec
 bušiike-š kurée-c
 cat -DET.D chase-DECL

The big crazy red dog chased the cat. (Boyle 2004)

3.8. PARTITIVE CONSTRUCTIONS WITH *aru-*.³³ In Hidatsa, partitive constructions can also be formed with the partitive prefix *aru-*. The structure of these constructions is noun + *aru* + noun and noun + *aru* + stative verb. These are both very productive processes in Hidatsa.

³³ The morpheme *aru-* can also function as a non-specific relative marker (discussed in Section 3.9.2.) and as a non-specific future tense marker (discussed in Section 4.7.1.). Although these morphemes have different meanings, they have been shown to have a common origin (Boyle 2006b).

3.8.1 NOUN + *aru* + NOUN CONSTRUCTIONS. In these constructions, *aru-* is used to help disambiguate the relationship between the two nouns that would otherwise have to be disambiguated in the discourse. This can be seen in (51a & b) (from Jones 1984:s).

- | | |
|---|---|
| <p>(51a) áaciwiricaraa (compound)
 áaciwiri-caraa
 milk -lard
 ‘lard of the milk’ (cream)
 or ‘lard-like milk’ (curdled milk)</p> | <p>(51b) áaciwiriarucaraa
 áaciwiri-aru-caraa
 milk -PAR-lard
 ‘lard of the milk’ (cream)</p> |
|---|---|

Both of these constructions occur in free variation in Hidatsa.³⁴ In constructions like that shown in (51b), *aru-* is glossed as a partitive morpheme. Without supporting context, (51a) is open to an attributive interpretation (lard-like milk; i.e. curdled milk), whereas (51b) is unambiguously partitive (lard of the milk). Thus, when context is insufficient to mark the partitive relationship, that relationship is marked morphologically by inserting *aru-* (Boyle 2002). Additional examples of this type of compounding can be seen in (52a-b).

³⁴ It is interesting to note that if one were to form a relative clause (which would be formed by two independent syntactic words) given the examples in (51a & b) we would have *áaciwiri arucáaa* ‘milk which is lard’. Although this is a valid syntactic construction, it was rejected by my consultants as not being a real word for semantic reasons (c.f. “a square circle”).

(52a) ahgúxi aruhobí
 ahkúxi aru -hopí
 ear PAR-hole
 ear canal
 (lit. hole of the ear)

(52b) aahtú ooráxbi³⁵
 aahtú aru -ráxpi
 head PAR-skin
 scalp
 (lit. skin of the head)

There are also constructions of just *aru-* + noun which also show a partitive relationship. This can be seen in (53). These types of constructions are lexical un-compounded nouns.

(53) aruwirí /aruwirí the juice (of something)

Jones (1984:s) states that “in that the partitive is always implied, these forms are perhaps best understood as elliptical partitive compounds with the first member of the compound to be inferred from context.” These words are completely lexicalized and they no longer have any transparency for speakers.³⁶

3.8.2. NOUN + *aru* + STATIVE VERB CONSTRUCTIONS. When *aru-* is prefixed to a stative verb it can form one of two constructions. The first construction is like those above,

35 Note that the examples in (51a & b) have one accent and those in (58a & b) have two. The first set of examples form one phonological word and those in the second set of examples form two phonological words. This indicates that those in (51a & b) have a tighter syntactic and semantic bond than those in (58a & b). Accent placement is the most important factor in determining the status of ‘word hood’. For more on this and the status of word in Siouan see Rankin, Boyle, Graczyk and Koontz (2003).

36 (53) is formed around the root *mirí-* (/wirí/) ‘water’ so it could literally mean ‘the water of something’ i.e. ‘juice’, however, speakers seldom see this.

one where the stative verb is to be understood as a partitive rather than attributive construction (as we might expect from an adjective + noun construction). An example of this can be seen in (54a-b).

(54a) cagáagihga aruciíri
 cakáakihka aru -ciíri
 egg PAR-yellow
 ‘the yellow part of the egg,
 ‘yolk’

(54b) ishdá arushéhbi
 ištá aru -šéhpi
 eye PAR-dark
 ‘the dark part of the eye,
 ‘iris and pupil’ (Jones 1984:s)

The second type of construction that *aru-* can form with stative verbs is that of a nominalized sentence, that is to say *aru-* can function as a relative marker (this will be elaborated upon in Section 3.9.2.). In these constructions, the partitive sense of *aru-* need not apply although, according to Jones, it often does. This can be seen in (55a & b).

(55) aruhišhi (/aruhišhi/)
 (a) ‘the red part’ OR
 (b) ‘red things’ (Jones 1984:s)

In these types of constructions, it may either have a partitive sense (as in 55a) or not convey this partitive sense (as in 55b). This must be determined from context.

3.9. NOMINALIZATION WITH /aku-/ AND /aru-/. A common strategy for forming nominals is the formation of relative clauses. Relative clauses in Hidatsa are nominalized clauses that may but need not modify a head noun. Hidatsa has two relative clause markers

agu- (/aku-/) and *aru-* (/aru/) (these will be discussed in depth in Chapter 6). These markers prefix to a verb and from this construction is derived a nominal. This nominalized clause may act like any other nominal. They can, and often do, serve as complements of DPs. The first of these markers, *aku-*, marks a specific entity and speakers prefer to use it for animate items. The second marker, *aru-*, is a nonspecific marker and is often used for inanimate objects or entities. However, the overriding attribute of these markers is specificity, not animacy. This can be seen below in examples (56a) and (56b).

(56a) mashúga aguʔawágash magíʰaac
 mašúka **aku** -awáka-š ma-kíá-tʰaa -c
 dog **REL.S-1A.see** -DET.D 1A-fear-NEG-DECL (Boyle 2003)
 I am not afraid of *that dog* that I see.

(56b) mashúga aruʔawágash magíʰaac
 mašúka **aru** -awáka-š ma-kíá -tʰaa -c
 dog **REL.N-1A.see** -DET.D 1A-fear-NEG-DECL (Boyle 2003)
 I am not afraid of *a dog* that I see.

3.9.1. CONSTRUCTIONS WITH /aku-/. In Hidatsa, the relativizer /aku-/ indicates that a specific entity is being modified by the relative clause (RC). In Hidatsa, /aku-/ can prefix to either stative verbs (which Jones labels as adjectives in these types of constructions) or nouns as well as intransitive and transitive active verbs.³⁷ The relative marker *aku-* can

³⁷ Hidatsa has an Active / Stative verb system (rather than Nominative / Accusative or Ergative / Absolutive). For a description of the differences in these types of systems see Dahlstrom 1983, Mithun 1991, Dixon 1994 or Rankin 1997. This Active / Stative system will be discussed in Chapters 4 and 5.

prefix to a stative verb shown in (57), to an intransitive active verb shown in (58), and to a transitive active verb shown in (59).

- (57) *aku-* plus an adjective (stative verb) derives a noun which means ‘an adjective one’ or ‘one who/which is adjective’. Thus:

<u>from</u>			<u>is derived</u>		
hishí	/hiší/	‘to be red’	aguhishí	/akuhiší/	‘one which is red’
ihdíá	/ihtíá/	‘to be big’	agu-ihdíá	/aku?ihtíá/	‘one which is big’

- (58) *aku-* plus an intransitive agentive verb derives an agentive noun. Thus:

<u>from</u>			<u>is derived</u>		
níiri	/riíri/	‘to walk’	aguriíri	/akuriíri/	‘one who walks’ or ‘a walker’
cíxi	/cíxi/	‘to jump’	agucíxi	/akucíxi/	‘one who jumps’ or ‘a jumper’

- (59) *aku-* plus a agentive transitive verb also derives an agentive noun. As with derivations from stative verbs, these agent nouns are actually nominalized relative clauses. Thus:

<u>from</u>			<u>is derived</u>		
náhci	/riíhci/	‘to bite’	aguráhci	/akuráhci/	‘one who bites something’ or ‘a biter’

In the above examples, the relative marker *aku-* seems to prefix to a verb, but it really prefixes to a clause. Although this cannot be seen in (57-59) it is clearly evident in (60a-c), where the *aku-* is prefixed to the left of the inflected verb.

	<u>relativized patient</u>		<u>relativized agent</u>
(60a)	aguʔawágcixi aku -awákcixi REL.S-1A.attack ‘the one whom I attacked’		aguwiʔágcixi aku -wi-ákcixi REL.S-1B.attack ‘the one who attacked me’
(60b)	aguʔarágcixi aku -arákcixi REL.S-2B.attack ‘the one whom you attacked’		aguriʔágcixi aku -ri -ákcixi REL.S-2B.attack ‘the one who attacks you’
(60c)	aguʔágcixi aku -ákcixi REL.S-attack ‘the one whom he attacks’		aguʔágcixi aku -ákcixi REL.S-attack ‘the one who attacks him’ (Jones 1984:r)

Jones correctly claims that these examples show *aku-* formations are not just agentive nouns or nominalized adjectives but nominalized relative clauses and that *aku-* prefixes to an entire clause which can contain subjects and objects.³⁸

³⁸ I will show evidence in 5.3. that the pronominal markers are actual arguments and not agreement marking. Relative clauses with full DP arguments will be discussed in chapter 6.

Derivations with *aku-* frequently are used to subcategorize or further specify a preceding noun. They form restrictive relative clauses. Since I will later claim that relative clauses in Hidatsa are internally headed, this is not surprising since all IHRCs must, by definition, be restrictive (Chapter 6). This subcategorizing characteristic can be seen in example (61):

- (61) [macéesh icúuwishga agurúshiish] cagíc
 [wacée-š icúuwiška aku -rúšii-š] cakí-c
 [man -DET.D horse REL.S-buy-DET.D] good-DECL
 The horse that the man bought was a good one. (Boyle 2004)

In this example, *icúuwishga* (/icúuwiška/) ‘horse’ is the head of the RC, which is further restricted or specified by the nominalized clause *agurúshiish* (/akurúšiiš/) ‘that (he) bought’. This is characteristic of the relative marker *aku-*.

3.9.2. CONSTRUCTIONS WITH /*aru-*/. As stated above, constructions with *aru-* form partitives. In relative constructions, *aru-* is also used to mark non-specific entities (as shown above in (56b) above. RCs with *aru-* can also show locative and temporal notions as well as manner adverbial constructions.

3.9.2.1 RELATIVE CLAUSES WITH /*aru-*/. When *aru-* is added to intransitive and transitive active verbs they always form nominalized sentences and never noun + noun compounds as seen in the partitive compounds. These can be the roots of manner adverbials as in (62) as well as common manner words such as (63):

(62) aruwariáhi
aru -wa-iriáhi
REL.N-1A-breathe
'the way I breathe' (Jones 1984:s)

(63) ooríri
aru -ríri
REL.N-walk
'his gait' (i.e. 'how he walks')
(Jones 1984:s)

It is clear that this prefix creates relative clauses (this will be further detailed in chapter 6).

Many of the clauses that are created with *aru-* become lexical items in their own right (as shown in 62 & 63). This process also occurs with transitive active words as in (64), the word for Thanksgiving:

(64) cícgihdia oorúdish
cíckihitia aru-rúuti-š
turkey REL-eat -DET.D
'the turkey that is eaten' or 'Thanksgiving' (Jones 1984:s)

This is clearly a relative clause. The head noun is *cícgihdia* (/cíckihitia/) and the nominalized verb is marked with a determiner, making the whole construction a DP. This word also has a secondary temporal reference (i.e. Thanksgiving) which is quite common with *aru-* constructions. Many names for specific temporal events are relative clauses formed with *aru-*.

3.9.2.1. LOCATIVE CLAUSES. Constructions of *aru-* + stative verbs can serve as locatives that tell *place where* as in example (65):

(65) náaruwa [wirawáhu [arushiibigáadigua]] hírawa
 ráa-ruw -a [wira -wáhu [aru -šiipi -káati -kua]] híraw-a
 go -continue-CONT [woods-inside [REL.N-thick-EMPH-LOC]] sleep-CONT

wáagirug uʔúshiawareec
 wáaki -ruk uʔúšia-wareec
 be.there-TEMP arrive -NE

Going along in the woods where it is very thick, he (First Worker) arrived while Spotted Tail) was still sleeping. (Lowie 1939, I:54)

This is a *place where* construction and not just a simple relative clause or partitive construction since the nominalized clause is used in conjunction with the Locative *-kua*. A more exact translation could read:

...in the woods, in the place where it was thick...

However, it must be kept in mind that this construction modifies the ‘inside of the woods’ and not ‘the place’, so this would seem to be a separate use of *aru-* from those given above (additional descriptions of oblique locatives are given below in section 3.13.).

3.9.2.2. TEMPORAL CLAUSES. The *aru-* + stative verb can also serve as *time when* clauses, i.e. temporal clauses. This is particularly common in temporal names such as those of months, one of which is shown in (66):

- (66) máagada aruʔoodiwířish
 wáakata aru -ooti-wíři -š
 plum REL.N-ripe-heavenly.orb-DET.D
 ‘the plums that are ripe month’ or ‘August’

As previously stated, it is not uncommon for Siouan languages (as well as many other languages of the world) to have morphemes that codify both the temporal and locative notions. Since Hidatsa is so parsimonious in much of its morphology, the overlapping notions encoded in this one morpheme are not surprising.

3.10. NOMINALIZATION THROUGH VERB STRIPPING. The final strategy that Hidatsa has for the nominalizations of verbs is verb stripping. In these constructions, the verb is stripped of any of the final illocutionary or clause final markers that signal a predicate (Chapter 4 & 5). Although not common, Hidatsa can form nouns without either of the relative markers. These nominalizations are predicative elements (verbs) that appear in citation form. They have the same distribution as DPs, and they can take nominal prefixation. Examples (67-69) show verbs that have been stripped of their clause final marking. More importantly, they are also functioning as arguments.

- (67) **miigaak^húra** waawagáarug
wii-kaak^húra waa-wakáa-ruk
 1B -growl 1A -voice -COND
 When I voice a growl, (Lowie 1939, IV:16)

(68) móohcaaraci **wúua** cacgáaciwareec
 wóohcaa-raci **wúua** cacká-raci -wareec
 coyote -APPROX howl noisy-APPROX-NE
 The coyotes were howling noisily. (Parks et. al. 1978 WW:17)

(69) “nida?iigidéhe gura?á” háa?awareec
 rita **-ii -ki -tée-hee** kura?áa hée-?a -wareec
 2.POS.I-INST-**suus-die** -3.CAUS.D.sg carry.IMPER say-PL-NE
 “Carry your weapon”, they said. (Lowie 1939, I:47)

In example (69), the word for ‘weapon’ is a nominalized form of the verb *iigidéhe* (/iikitéhe/) ‘instrument that causes death’. This word also takes possessed morphology and, as shown above, this is a common test for nominal status.

3.11. THE ABSTRACT THIRD PERSON *maa-*. The prefix *maa-* is an abstract third person pronominal. In verbal constructions *maa-* serves as the abstract impersonal pronoun ‘something’. It fills the same verbal slot as incorporated nouns. These constructions of *maa-* + verb are often lexicalized. When stripped of their verbal endings they can serve as nominals and *maa-* often serves as a substitute for nouns in noun-stative verb constructions. This is a very productive word formation process in Hidatsa. Examples of this can be seen in (70a-d)

maa + stative verb

	root	gloss	+ maa-	gloss
(70a)	cígua /cíkua/	to be sweet	maacígua /waacíkua/	something sweet, (i.e. sugar)
(70b)	garíshda /karišta/	to be young	maagarišhda /waakarišta/	something young, (i.e. child)
(70c)	xubáa /xupáa/	to be holy	maaxubáa /waaxupáa/	something holy
(70d)	ariídi /ariíti/	to be hungry	maa?ariídi /waa-ariíti/	famine

As pointed out by Jones (1984:p), many of these types of constructions have undergone a semantic narrowing such as (71).

- (71) maahiíshi
waa-hiíši
INDEF-red
bullberry (lit. something red) (Boyle and Gwin 2005)

The prefix *maa-* can also prefix to active transitive verbs. In these constructions, it acts as an abstract third person pronominal object (shown in (72a-c)).

maa + active transitive verb

	root	gloss	+ maa-	gloss
(72a)	báca /páca/	to string	maabáca /waa-páca/	something strung (i.e. a string of beads)
(72b)	báxu /páxu/	to tan	maabáxu /waa-páxu/	something tanned (i.e. a tanned hide)
(72c)	nagábaa /rakápaa/	to stew	maaragábaa /waa-rakábaa/	something stewed (i.e. stew, gravy) (Jones 1984:p)

When any of the above constructions are possessed, the possessive pronoun prefixes to the left of the word. This shows that these *maa-* constructions are lexical items as they are possessed like any other alienable noun. An example of this is shown in (73).

(73) harúg cǐdabuushish sheʔeri híahag
 ha -rúk cǐita -puuši-š šeʔe -ri híi -ahi -ak
 SC-DS spotted-tail -DET.D DEM-FOC come-PUNCT-SS

idawaaragcísh girushgág p^héewareec
 ita -waa -rakcí-š kirušk -ák p^hée-wareec
 3.POS.A-INDEF-roast -DET.D dig.out-SS eat -NE

Then that Spotted Tail, coming quickly, dug up his roasted (prairie dogs) and ate them up. (Lowie 1939, III:49)

The prefix *maa-* can also be prefixed to active intransitive verbs. In these constructions, *maa-* acts as a non-specific third person subject as shown in (74a-b).

maa + active intransitive verb

	<u>root</u>	<u>gloss</u>	<u>+ maa-</u>	<u>gloss</u>
(74a)	abáari /apáari/	to grow (for plants)	maaʔabáari /waa-apáari/	something that grows (i.e. plants, weeds)
(74b)	nagabiñxe /rakapiñxe/	to flap in the wind	maaragabiñxe /waa-rakapiñxe/	something that flaps (i.e. a flag)

(Jones 1984:p)

3.12. THE INSTRUMENTAL NOMINALIZER *ii-*. The instrumental *ii-* prefixes to verbs. These constructions can then be used either as predicative elements or as nouns. This prefix can attach to 1) active transitive (with objects) and intransitive verbs, and 2) transitive verbs with *maa-* formations. This prefix expresses the relationship between two elements, the first of which is a nominal, and the second of which can be an underlying clause. Examples with the nominalizer *ii-* are shown in (75-77)

ii + active transitive verbs with objects

	<u>ii-word</u>	<u>gloss</u>
(75a)	ahiʔiip ^{hi} /ahiʔ -ii -p ^{hi} / turnip-INST-dig	an instrument with which one digs turnips (i.e. a turnip digger)

<u>ii-word</u>	<u>gloss</u>
(75b) araʔiʔrut ^{hi} /ara-iʔ -rut ^{hi} / hair-INST-tie	an instrument with which one ties one's hair (i.e. a hair ribbon)
(75c) miréeʔiirushgi /wirée-ii -ruški/ door -INST-open	an instrument with which one opens a door (i.e. a key) (Jones 1984:q)

The prefix *ii-* can also be prefixed to intransitive verbs but these types of constructions are rare.

ii + active intransitive verbs

<u>ii-word</u>	<u>gloss</u>
(76a) iʔʔagooshi /iʔ -akooši/ INST-whistle	a whistle
(76b) maaʔiidáwua /waa -ii -táwua/ INDEF-INST-ring (Jones 1984:q)	a bell

maa- + ii- + transitive verbs

<u>ii-word</u>	<u>gloss</u>
(77a) maaʔiʔcigiidi /waa -iʔ -(na)ckiiti/ INDEF-INST-clip	an instrument with which one clips something (i.e. scissors)
(77b) maaʔiihobihe /waa -ii -hopihe/ INDEF-INST-drill (Jones 1984:q)	an instrument to make holes in something (i.e. a drill)

These types of constructions are very old in Hidatsa as the instrumental prefix *ii-* can be traced back to Proto-Siouan, and while it is still productive in Hidatsa it is not overly common.

3.13. OBLIQUE ARGUMENTS. Hidatsa has a number of postpositions that mark oblique arguments. Like other languages, obliques in Hidatsa are not core arguments. They are not valency bound by the predication. As such they serve as peripheral arguments. This status is coded by postpositions. Oblique arguments are coded in one of three ways: 1) by the applicative prefixes on verbs (See Section 4.2.1.); 2) by the instrumentals of means, which are also prefixed to the verb (see section 4.2.2.); and by postpositions on nouns. This area of the grammar needs further study but some preliminary observations can be made.

Matthews (1877:120) list seven postpositions (*-du/-ru*, *-ha*, *-hta*, *-ka*, *-kóá*, *-kuhao*, *-kuo*, and *-ta*). Several of these are variations of the same morpheme. However, Matthews was correct in his assumption that the number of postpositions is small in Hidatsa compared to languages like Lakhota (Pustet 2006). The postpositions are presented below in Table 3F:

Table 3F - Hidatsa Postpositions

Postposition morphemes	Gloss
-ha	towards, in the direction of, at a nearby place
-hta(a)	near, along, in the direction of, facing ³⁹
-húka	inside
-ka	in, at
-kúá	at, in, into
-kuhaa	at a distant place, from (non-visible), away
-ru	in, during, through

Many of these postpositions can also be found as prefixes on the following verb, creating a classic mismatch between the morphology and the syntax. However, this is the exception. Examples of the locative postpositions can be seen in (78-85).

-ha: towards, at a near place

- (78) heʔesháag áagaha wiráʔuawareec
 heʔešáa-ak áaka-**ha** wirá-ua -wareec
 SC -SS top -LOC fire -make.fire-NE
 Then he built a fire on top. (Lowie 1939, II:17)

³⁹ This morpheme seems to have two phonological variants but I am unsure of any conditioning factor. It is also possible that they are two separate morphemes. However, if this is the case they both have GOAL semantics. Examples of both the *-hta* and *-htaa* are given.

-hta: near, along

- (79) nahawíá hahgadóog awánda riheeʔigucgiwareec
rahawí-a⁴⁰ hahka -tóok awá -hta rí -hee -ikucki -wareec
three -MUL about -SPEC ground-GOAL place-3.CAUS.D.sg-measure-NE
About three times he made motions towards the ground as if he were throwing
something. (Lowie 1939, I:7)

-htaa: in the direction of, facing

- (80) hii “hirí awáhe awashidáhdáa ráheeric. hii
hii hirí awá-he awa-šitá -hta -a rá-hee -ri -c. hii
CONJ make land-DEM.A land -north-GOAL-CONT 2A-make-2.FUT-DECL CONJ
wíhgi úuwahdaa wahéewic” héewarec wacéeruwácaheeri⁴¹
wíhki úuwa-htaa wa-hée -wi -c” hée -warec wacéeruwácaheeri.
1.PRO south-GOAL 1A -make-1.FUT-DECL say-NE One Man

Then he said, “You can make the land to the north, and I will make that to the south.” (Parks et al 1978, LM:16)

-húka: inside

- (81) heʔesháaag awahúga rax^háarug éeca aruhiruhcáagiwareec
heʔešáa-ak awa -húka rax^háa -ruk éeca aru -hiru -hcáaki-wareec
SC -SS ground-LOC scrape.off-TEMP all REL.N-bone-only -NE
And then when he scraped inside, it was all just bones. (Lowie 1939, II:50)

40 The multiplicative morpheme in Hidatsa is discontinuous. In 'rahawí-a' the MUL is the [...h...-a...] combination.

41 The name One Man, wacéeruwácaš, breaks down as: wacéé-ruwáca-š = man-one-DET.D.

-ka:in, at

- (82) heʔesháag wíragaasha rúuba ahdúga bahcagahéewareec
heʔešá-ak wíra -kaaša rúupa ahtú -ka pa -hcaka -hée -wareec
SC -SS wood-little two house-LOC INp-stick.in-3.CAUS.D.sg-NE
Then he (Sun) stuck two little sticks in the rear of the house. (Lowie 1939, 1:82)

-kua: at, in, into

- (83) heʔesháag girúxbag ráag girugág awashí
heʔešá-ak ki -rú -xpi -ak ráa-ak ki -ru -kí -ak awaší
SC -SS INCEP-INh-get.down-SS go -SS INCEP-INh-pack-SS cave

wiréeradígua aʔahgíwareec
wiréera-atí -ku aʔah -kí -wareec
enter -house-LOC carry-pack-NE

Then, pulling him (Day-Sun) down and carrying him on his back First Worker entered the pit-house. (Lowie 1939, 1:64)

-kuhaa: at a distant place, from (non-visible), away

- (84) heʔesháag idiŋgibish sheʔehdá ahbaaxíguhaag awánda
heʔešá-ak ita -íkipi-š šeʔe -hta⁴² ahpaaxí-kuhaa-k awá -hta
SC -SS 3.POSS.A-pipe -DET.D DEM-GOAL cloud -LOC -COOR ground-GOAL

ríheeʔigucgiwareec
rí -hee -ikucki -wareec
place-3.CAUS.D.sg-measure-NE

Then, with his pipe he made motions as if he were throwing from the clouds to the ground. (Lowie 1939, 1:6)

42 This DEM-GAOL combination can best be glossed as 'this way'.

-ru: in, through

- (85) heʔesháag widéeʔaashish cihbaadí ruwáadaru báhciwareec
heʔešáa-ak witée -aaši -š cihpa -atí ruwáata-**ru** páhci-wareec
SC -SS buffalo-horn-DET.D prairie.dog-house center **-LOC** stick-NE
And then he stuck the buffalo horn in the middle of the prairie-dog houses.
(Lowie 1939, III:7)

3.14. CONCLUSION. In this chapter, I have given an extensive description of the Hidatsa nominal showing how the various nominal prefixes and suffixes can attach to nouns or onto verbs in order to create nouns. I have also given a theoretical structure for the Hidatsa DP which shows how the possessive pronominal prefixes enter into the syntactic structure. This provides a uniform treatment of all of the possessive prefixes and disallows the third person prefix from having optional syntax. In addition, I have shown how the Hidatsa DP can be dominated by a DemP. This treatment should be able to be applied to other Siouan languages.

CHAPTER FOUR

THE HIDATSA VERB: DERIVATIONAL AND INFLECTIONAL MORPHOLOGY

4.0. INTRODUCTION. This chapter will examine the Hidatsa verb complex, specifically looking at derivational and inflectional morphology. This morphology includes both prefixes and suffixes. Section 4.1. discusses Hidatsa word formation and the lexicon. Section 4.2. details the derivational prefixes. Section 4.3. describes the active - stative pronominal system. Section 4.4. describes the inflectional and derivational suffixes. Section 4.5. describes the causative morphemes; section 4.6. describes negation; section 4.7. describes the specific future suffix morpheme and compares it to the nonspecific future prefix. Section 4.8. describes number marking; section 4.9 describes the progressive positional verbs, and section 4.10. describes the clause final and matrix clause final illocutionary markers. Section 4.11. will include a brief conclusion.

4.1. WORD FORMATION AND THE HIDATSA LEXICON. Hidatsa is an agglutinating polysynthetic language with productive incorporation. As such, the line between morphology and syntax, and morphology and lexical word formation is not always clear. This makes it sometimes difficult to determine the actual ordering of affixes in the Hidatsa verbal complex. In addition, Hidatsa has a number of morphemes that serve several different functions but have the same phonological shapes. Sometimes these functions differ depending upon whether they are affixed to a stem that functions as a noun or a verb. As stated in Chapter 3, any noun stem can serve as a stative verb; conversely many, if not all, verbal stems can be nominalized. Many of the syntactic processes

discussed in chapters 4, 5, and 6 are also productive word building processes in the lexicon. This is to say the derivational processes that take place in the lexicon are remarkably similar to or the same as many of the generative processes which take place in the syntax. In this chapter, I will describe the inflectional and derivational morphology that can exist as affixes on the verb. In chapter 5, I will claim that the inflectional morphology projects phrase level categories and as a result, I claim that much of the “word” building process is syntactic. Some of these syntactic affixes were introduced in chapter 3, most notably the partitive morphemes *aru-*, the indefinite argument *maa-*, and the instrumental *ii-*. This syntactic morphology is one of the main strategies Hidatsa employs in building new words. However the same processes can be seen occurring in the lexicon prior to a word’s insertion into the syntactic derivation. An example of the lexical Hidatsa word formation process is shown in (1).

- (1) *maaʔarat^{hi}ʔaguxarua*
 waa -arat^{hi} -aku -xarua
 INDEF-step.up-REL.S-flow
 escalator [lit. stairs that flow] (Boyle & Gwin 2006)

Here we have a recently coined word.¹ In this compound, there is the verb *xárua* (/xárua/) ‘to flow’ which has been nominalized as a relative clause using the specific relative prefix *agu-* (/aku-/). The other verb *arat^{hi}* (/arat^{hi}/), is itself a compound of the instrumental *ara-*

1 This word was coined by Martha Birdbear when asked how to say ‘escalator’ in Hidatsa by a child in her second grade class in Mandaree ND during the fall semester of 2006. It was coined on the spot as the language had never needed this term before. Later that afternoon she told it to several other Hidatsa teachers, and they accepted and understood it as the term for ‘escalator’.

‘by foot’ and a bleached stem, that no longer carries any meaning. This compound means ‘to step up’. This verb incorporates the indefinite pronominal *waa-* to give the meaning to *waaʔarat^{hi}* as ‘something stepped upon’ i.e. ‘a stair’. The word for stair, *waaʔarat^{hi}*, is then compounded with the relative clause, *aguxarua*, ‘that which flows’ to create a new lexical item, the word for ‘escalator’.

Constructions like that shown in (1) demonstrate that the morphology in Hidatsa can be used both derivationally to form new lexical items and inflectionally in the syntax (which will be discussed in Chapter 5). This is an area of study that needs much more work. This is true of both Hidatsa specifically and Siouan in general. When used in word formation what is seemingly inflectional morphology is in actuality derivational morphology (for an extended look at this in Siouan see Rankin et al 2003).

4.2. DERIVATIONAL PREFIXES. Hidatsa has a number of derivational prefixes. These include a set of general instrumentals (INST), a second set of instrumentals of means, the inceptive (INCEP) and possessive reflexive *suus* marker, and a stativizer, which derives stative from active verbs.

4.2.1. GENERAL INSTRUMENTALS (APPLICATIVES). Hidatsa has three prefixes which function as applicatives but historically they have been called general locatives.² These prefixes can be found in all of the Siouan languages. Robinett (1955:160) and

2 For a general discussion of these markers in Siouan see Helmbrecht (2006).

Matthews (1965:58-60) list only the *í(i)*- instrumental,³ but Hidatsa also has two others, *ó(o)*- and *á(a)*-. Jones (1984:e) also adds *ák*- or a long vowel variation *áak*- in addition to the others.⁴ The *ó(o)*- and *á(a)*- sets are less transparent and are more semantically bleached than the *í(i)*- prefix. The *ó(o)*- and *á(a)*- sets are no longer productive in any meaningful way but fossilized forms clearly exist. Their meaning is shown in Table 4A.

Table 4A - The Applicative Prefixes in Hidatsa

<u>Prefix</u>	<u>Gloss</u>	<u>Meaning</u>
<i>á(a)</i> -	'on, onto, on account of, unto'	Supressive
<i>í(i)</i> -	'onto, at, on account of, with, by means of'	Instrumental ⁵
<i>ó-</i>	'in, into'	Inessive

Table 4B gives examples of stems with the locative prefixes:

3 Grazcyk claims that *ii* 'instrumental' and *i(i)* 'locative' are historically different morphemes that have fallen together in many of the Siouan languages (Grazcyk PC). See footnote number 5 for comments regarding Hidatsa.

4 I believe that Jones (1984e) misanalyzed *á(a)k*- as being part of this set. This morpheme is really a lexicalized forms of the verb *é?e*- 'to have'. This verb has been suffixed with the same subject switch reference marker *-ak* which triggers ablaut in the verb giving the form *é?aak*. The glottal stop has then been lost and total vowel assimilation to /a/ occurs coupled with vowel shortening to give the form *áak* or *ák*. This formation was commonly used in serial verb constructions and prefixed to another lexical verb. This form was thus mistakenly analyzed by Jones as a prefix that patterned with the *á(a)*- applicative.

5 There may actually be two different *íi*- prefixes in Hidatsa: one that is an applicative encoding the meaning 'onto', 'at', or 'on account of' and one that is an instrumental encoding the meaning 'with' or 'by means of'. At one time, these may have been differentiated by vowel length, but this is no longer the case.

Table 4B - Derivations with Locative Prefixes

<u>Stem</u>	<u>Gloss</u>	<u>Locative Stem</u>	<u>Gloss</u>
shúa /šúa/	to spit	áagshua /áakšua/	to spit on (something)
úʔaa /úʔaa/	to climb	iʔuʔaa /iʔuʔaa/	to climb (something)
báhda /páhta/	to stop, close	óobahda /óopahta/	to plug up, to cork up

When these prefixes are attached to a stem they attract the accent. Verbs that are derived with the locative prefixes are inflected with metathesized⁶ pronominal prefixes: 1st *aw-* and 2nd *ar-*.

Locative prefixes often increase the valency of the verb, making some locative stems ditransitive, as in (2):

- (2) harúg wik^háʔ oobahda raagíwareec
 ha-rúk wik^háʔ oo -pahta raakí-wareec
 SC-DS grass LOC-plug PROG-NE
 And then he corked it (the hole) up with grass. (Lowie 1939, III: 66)

In this example, the inessive meaning of this applicative is clear - a hole is being plugged up with grass. In many cases, the meaning is not so obvious. The semantic notion of ‘something to plug up’ and the syntactic notion of an oblique receptacle are part of the

⁶ Historically, the applicatives occur to the left of the active pronominals *wa-* and *ra-* giving the proto-language the forms *awa-* and *ara-*, *iwa-* and *ira-*, and *owa-* and *ora-*. These have been leveled with the initial vowel often being changed across the board to /a/ and reanalyzed as irregular stems with metathesized pronouns instead of productive meaningful applicative constructions. For modern examples of these verbs see Table 2K in Chapter 2.

implied subcategorization frame of the inessive applicative. As such, no overt mention of such things is necessary.

4.2.2. INSTRUMENTAL VERBAL PREFIXES. Hidatsa, like all other Siouan languages, has a set of instrumental prefixes that combine with verb roots to form verb stems. As cognates of these prefixes are found in all of the other Siouan languages, they must have been a feature of the proto-language. These prefixes are semantically restricted as to which verbs they can occur with and few, if any, verbs can occur with all of them. The pronominal subjects and objects (detailed below in Section 4.3.) precede the instrumental prefixes. Table 4C shows the instrumental prefixes⁷ found in Hidatsa:

Table 4C - Hidatsa Instrumental Prefixes

<u>Instrumental Prefix</u>	<u>Gloss</u>
ará- /ará-/	by fire, heat, or intense cold
ara- /ara-/	by foot
ha- /ha-/	by blade or edged tool (cutting)
ná- /rá-/	by mouth, using the mouth, teeth, lips or tongue
naga- /raka-/	by force, by striking
nú- /rú-/	by hand or fingers, by pulling motion towards the subject
bá- /pá-/	by pressure, squeezing, poking, pushing, or motion away from the subject

The instrumental prefixes can be grouped semantically into four general categories. They show 1) the body part with which the action is performed: *ara-* (/ara-/) ‘by foot’, *ná-*

⁷ All examples of verbs with instrumental prefixes in section 4.2.2. are taken from Gwin and Boyle 2006.

(/rá-/) ‘by mouth, or using the mouth, teeth, lips, or tongue’, and *nú-* (/rú/) ‘by hand or fingers’; 2) the instrument with which the action is performed: *ha-* (/ha-/) ‘by blade or edged tool (cutting)’; 3) the manner in which the action is performed: *naga-* (/raka-/) ‘by force, by striking’, *bá-* (/pá-/) ‘by pressure; and 4) the external cause: *ará-* (/ará-/) ‘by fire, heat, or intense cold’. The use of the instrumental prefixes answers the question: how was it done?

4.2.2.1. *ará-* ‘BY FIRE, HEAT, OR INTENSE COLD’. This prefix always draws the stress or accent from the stem to itself. Derivations with this prefix are impersonal and intransitive (Jones 1984:e). Transitives are formed with the direct causative, *-hee-*, (discussed in Section 4.5.) and are seen in *arádaahee* (/arátaahee/) ‘to shoot off a gun or firecracker’ and *arásharuhee* (/arášaruhee/) ‘to scald’. Examples of the *ará-* prefix are shown in (3):

Words with the Instrumental *ará-* ‘by fire, heat, or intense cold.

(Boyle and Gwin 2006)

(3)	<i>arábagi</i>	/arápaki/	to be spattering (in cooking)
	<i>arábci</i>	/arápci/	to darken in the sun
	<i>aráda</i>	/aráta/	to snap or crackle in a fire
	<i>arádaahee</i>	/arátaahee/	to shoot off a gun or firecracker
	<i>arádarahe</i>	/arátarahe/	to scorch
	<i>arádaxbi</i>	/arátaxpi/	to pop in a fire
	<i>arágiccee</i>	/arákiccee/	to singe leg feathers
	<i>arágici</i>	/arákici/	to singe
	<i>arágidee</i>	/arákitee/	to start (prairie) fire
	<i>arágidi</i>	/arákiti/	to burn (as by a prairie fire)
	<i>aráhcagi</i>	/aráhcaki/	to sever by fire or intense cold

aráhcixi	/aráhcixi/	to shrivel up from heat
aráhcugi	/aráhcuki/	to be overcooked
aráhcuk ^h e	/aráhcuk ^h e/	to be made hard by fire, to be over cooked
arák ^h uhe	/arák ^h uhe/	to cure meat
arásharuhee	/arášaruhee/	to scald
aráshbia	/arášpia/	to char
aráshgia	/aráškia/	to smoke, to tan
aráxahe	/aráxahe/	to burn, to ignite
aráxiria	/aráxiria/	to fry, to sizzle
aráxiwi	/aráxiwi/	to boil away
aráxudi	/aráxuti/	to explode

4.2.2.2. *ara-* ‘BY FOOT’. This instrumental is used with actions performed with the feet or some part of the foot. Most of the verbs formed with this instrumental are transitive but some are intransitive. Jones (1984:e) suggests that historically this prefix may have been a noun with the meaning of ‘foreleg’ as it or a cognate seems to be found in many words that involve the leg. The proposed stem would be *ná(a)-* (*/ra(a)-/*). These include *náaca* (*/ráaca/*) ‘calf of the leg’; *náahshe* (*/ráahše/*) ‘to spread the legs’; *náaru* (*/ráaru/*) ‘inner thigh’; *naát^hiru* (*/raát^hiru/*) thigh; *náxbi* (*/ráxpi/*) ‘upper leg, rump’; *náčgohba* (*/ráckohpa/*) hip, pelvis; semantically this shifts to other body parts as in *náhshi* (*/ráhši/*) ‘biceps, upper arm’; *iráshba* (*/irášpa/*) ‘shoulder’; *áara* (*/áara/*) ‘arm, foreleg of a quadruped’ among others.

Verbs that include this instrumental include those shown in (4).

Words with the Instrumental *ara-* ‘by foot’. (Boyle and Gwin 2006)

(4)	arabáabi	/arapáapi/	to have a chapped foot
	áabagi	/áapaki/	to scatter with the foot
	arabée	/arapée/	to kick something
	arabúbi	/arapúpi/	to stretch something with the foot

aracáadi	/aracáati/	to climb
aracádaa	/aracátaa	to smash with the foot
aracáraa	/aracáraa/	to undo with one's feet
aracgáadi	/arackáati/	to tiptoe
aracgábi	/arackápi/	to press, to pinch or grip with the toes
aracgúbi	/arackúpi/	to flex something using the foot
araciaríri	/araciaríri/	to drag the feet while walking
aracídi	/aracíti/	to kick off the bed covers
aracúuxi	/aracúuxi/	to crush with the foot
aradáa	/aratáa/	to break something brittle with the foot
aradáhshi	/aratáhši/	to slap or tap the foot
aradáhxi	/aratáhxi/	to walk with small steps, to prance, to stalk
aradohdí	/aratohti/	to shake with the foot
aragídi	/aarakíti/	to step on and smear something
aragíria	/arakiíria/	to push with the foot
aragíshi	/arakiíši/	to squish with the foot, to lose one's footing, to slip
arahcági	/arahcáki/	to break something off using the foot
aráhdabi	/aráhtapi/	to run into, to run over something, to trample
árahdahdi	/árahtahti/	to step on something and hurt the foot
arahdíhshi	/arahtiíhši/	to touch something with the foot
arahdíwi	/arahtiíwi/	to twist the ankle
arahgábi	/arahkápi/	to scratch with the toenails
arahgíci	/arahkíci/	to misstep, to miss with the foot
arahshági	/arahšáki/	to step on and split
arahshíbi	/arahšípi/	to free the foot
arahshúa	/arahšúa/	to bend something using the foot
arahshúgi	/arahšúki/	to step in to the water
arahxáhbi	/arahxáhpi/	to scrape by kicking
arahxúa	/arahxúa/	to kick something over; to run over something and knock it down
arasháhshi	/arašáhši/	to put on one's shoe, to step into
arashgú	/araškú/	to kick loose, to kick open
arashúdi	/arašúti/	to lose one's footing, to slip while climbing
arashúugi	/arašúuki/	to erase marks with the foot
arat ^h i	/arat ^h i/	to step on and break
arawíri	/arawíri/	to turn with the foot

araxáñbi	/araxáñpi/	to kick things out of the way
araxooxĩ	/araxooxĩ/	to smooth off with the foot, erase marks with the foot
araxúhxi	/araxúhxi/	to break by stepping on
araxúudi	/araxúuti/	to break through with the foot

4.2.2.3. *ha-* ‘WITH AN EDGED TOOL, BY CUTTING’. This prefix is not very productive. Examples of it are shown in (5).

Words with the Instrumental *ha-* ‘with an edged tool, by cutting’.

(Boyle and Gwin 2006)

(5)	habádi	/hapáti/	to saw or file
	habúxi	/hapúxi/	to slit
	hacáa	/hacáa/	to cut (e.g. cloth), cut with scissors
	hacúudi	/hacúuti/	to lance
	hagáci	/hakáci/	to butcher
	hagágashgi	/hakákaški/	to cut into strips
	hak ^h ák ^h aarihge		
		/hak ^h ák ^h aarihke/	to sharpen very sharp
	haxáxe	/haxáxe/	to file (with a rasp)

4.2.2.4. *ná-* (/rá-/) ‘BY MOUTH, USING THE TEETH, LIPS, OR TONGUE. This instrumental prefix can have the additional meaning of using the nose to sniff. Examples are shown in (6).

Words with the Instrumental *ná-* ‘by mouth, using the teeth, lips, or tongue’. (Boyle and Gwin 2006)

(6)	nábee	/rápee/	to tear with the teeth
	nácgishi	/ráckiši/	to suck on

nácibi	/rácipi/	to lick
nácoobi	/rácoopi/	to smack the lips
nácugi	/rácuki/	to suck
nádaa	/rátaa/	to crack with the teeth
nádabi	/rátapi/	to hold visibly between the teeth
nádahxi	/rátahxi/	to gnaw on
nádaxi	/rátaxi/	to eat meat from the bone
nágoobi	/rákoopi/	to chew, gnaw, or nibble a hole in something
nágshi	/rákši/	to choke
náhbi	/ráhpi/	to take a bite of
náhcagi	/ráhcagi/	to chew something off
náhci	/ráhci/	to bite
náhdihshi	/ráhtihši/	to taste
náhshdaa	/ráhštaa/	to chew
náshdu	/ráštu/	to chew on something
náshuudi	/ráhuuti/	to swallow
náxdua	/ráxtua/	to chew on something with vigor ⁸
náxubi	/ráxupi/	to drink it all up
náxugi	/ráxuki/	to suck up

4.2.2.5. *naga-* (/raka-/) ‘BY STRIKING, BY FORCE’. This is the most phonologically and semantically complex of the instrumental prefixes. This instrumental can also prefix to either active or stative verbs. Robinett (1955:160, 165) lists this instrumental as *ka-* ‘with hammer, or fist’. Jones (1984:e) states that the underlying structure of this morpheme is /rka-/.

4.2.2.5.1. THE PHONOLOGY OF *naga-* (/raka-/). When this prefix occurs word initially it has four allomorphs: *naga-* (/raka-/), which occurs before stems that begin with stops, or the sonorant /-w/ (shown in 7); *nak-* (/rak-/), which occurs before fricatives and affricates,

⁸ Note the consonant ablaut between this word and /rášdu/.

with the exception of /x/, and the glottal sonorant /-h/ (shown in 9); *nah-* (/rah-/), which occurs before the velar fricative /-x/ (shown in 11) and; *na-* (/ra-/), which occurs before the alveolar sonorant /-r/ and consonant clusters where the first C is a fricative or affricate (shown in 13).

The allomorph *naga-* (/raka-/) occurring before stops and the sonorant /-w/.

(Boyle and Gwin 2006)

(7)	nagabádi	/rakapáti/	to contract a illness
	nagábcí	/rakápci/	to cut up in small pieces
	nagabíhxi	/rakapíhxi/	to flutter, to flap, to float, to rise
	nagabúshi	/ragapúši/	to swell, to; puff up
	nagádaa	/rakátaa/	to break something to pieces
	nagadahší	/rakatahší/	to pat
	nagadahxí	/rakatahxi/	to knock on
	nagadáraa	/rakatáraa/	to be shaking or vibrating
	nagadíá	rakatiá/	to smooth, to stretch
	nagadíhe	/rakatihe/	to smooth out
	nagadóhdi	/rakatóhti/	to shake out, to brush off
	nagagíbi	/rakakípi/	to cut or scrape off a chunk
	nagagíci	/rakakíci/	to go past; go too far
	nagawíiri	/rakawíiri/	to stagger, to sway

There is one exception to this rule where the allomorph *naga-* (/raka-/) occurs before the velar fricative /x/. This is shown in (8).

(8)	nagaxúhxi	/rakaxúhxi/	to break in two
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The allomorph *nag-* (/rak-/) occurring before fricatives and affricates (with the exception of /x/) and the sonorant /h/. (Boyle and Gwin 2006)

(9)	nak ^h áati	/rakháati/	to pound in
	nak ^h úci	/rakhúci/	to swing
	nak ^h úuri	/rakhúuri/	to blow
	nagcáa	/rakcáa/	to shatter
	nagcádaa	/rakcátaa/	to smash
	nagcági	/rakcági/	to chop, to cut down, to split open
	nagcárua	/rakcárua/	to slide, to skate
	nagcíá	/rakcíá/	to be heavy
	nagcídi	/rakcídi/	to clear up (as of weather)
	nagcíhge	/rakcíhge/	to put in a row
	nagcúdi	/rakcúdi/	to braid
	nagcúuxi	/rakcúuxi/	to crush the hand
	nágibi	/rákibi/	to shave a stick
	nágsha	/rágša/	to break up in a garden
	nagshági	/rakšági/	to split
	nagshíá	/rakšíá/	to trap
	nagshíihaa	/rakšíihaa/	to gush out
	nágshua	/rákšua/	to dent
	nagshúdi	/rakšúdi/	to slip and drop
	nagshúgi	/rakšúgi/	to slosh
	nagshúugi	/rakšúugi/	to clear a field

There are three exceptions to this rule where the allomorph *nag-* (/rak-/) occurs before the stop /t/. These are shown in (10).

(10)	nágdahdi	/ráktahti/	to shake something
	nagdáree	/raktáree/	to pound in, to get stuck
	nagdíwi	/raktíwi/	to ricochet

The allomorph *nah-* (/rah-/) occurring before the velar fricative /-x/.

(Boyle and Gwin 2006)

(11)	nahxáa	/rahxáa/	to sweep
	náhxagi	/ráhxaki/	to get whiff of
	náhxara	/ráhxara/	to thresh
	náhxawi	/ráhxawi/	to make fringes
	nahxíbi	/rahxípi/	to skin
	nahxíshi	/rahxíši/	to hoe
	nahxóogi	/rahxóoki/	to paddle, row, or stir
	nahxúa	/rahxúa/	to knock down, to knock over
	nahxúhxi	/rahxúhxi/	to scrape, to shave
	náhxudi	/ráhxuti/	to break through

There is one exception to this rule where the allomorph *nah-* (/rah-/) occurs before the stop /k/. This is shown in (12).

(12)	náhgici	/ráhkici/	to strike and miss
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The allomorph *na-* (/ra-/) occurring before the alveolar sonorant /-r/ and consonant clusters where the first C is a fricative or affricate.

(Boyle and Gwin 2006)

(13)	nácgaaði	/ráckaati/	to squirt out
	nacgíbi	/rackípi/	to slice, to pare
	nacgíidi	/racgíiti/	to clip off
	nack ^{hí}	/rack ^{hí} /	to do quill work
	nacgúbi	/rackúpi/	to bend under weight, to be arched
	naraá	/raráa/	to quiver, to shake
	násht ^{hí}	/rášt ^{hí} /	to pound
	nashk ^{hí}	/rašk ^{hí} /	to weave, to knit, to lace, to splice

There are three exceptions to this rule where the allomorph *na-* (/ra-/) occurs before the stop /t/ or the velar fricative /x/. These are shown in (14) and (15) respectively.

- | | | | |
|------|----------------------|------------------------|--------------------|
| (14) | nát ^h i | /rát ^h i/ | to beat someone up |
| | nát ^h agi | /rát ^h aki/ | to hurt someone |
| (15) | naxt ^h ĩ | /raxt ^h ĩ/ | to crush |

In (14), we would expect the prefix to be *naga-* (/raka-/) since the prefix occurs before a stop. Example (15) may not be an exception to the rule as the stem begins with a consonant cluster that is fricative initial. This rule has a higher ranking than the *nah-* (/rah-/) before the velar fricative /x/. If this rule were to occur it would violate the phonological constraint or *CCCC.

As stated above (Section 4.2.2.), the pronominal prefixes precede the instrumentals. When the active pronominal prefix and the instrumental *naga-* (/raka-/) occur, much of this instrumental is lost in the first and second person inflections. This is shown below in (16a-c) where *nacgĩbi* (/rackĩpi/) ‘to slice’ is contrasted with a verb that begins with the *ná-* (/rá-/) prefix, *náčgabi* (/ráckapi/) ‘to nibble’.

Contrasting *naga-* (/raka-/) with *ná-* (/rá-/) (Boyle 2005)

- | | | |
|-------|-------------------------------|---------------------------|
| | <u><i>naga-</i> (/raka-/)</u> | <u><i>ná-</i> (/rá-/)</u> |
| (16a) | maacgĩbic | maráčgabic |
| | wa-a-ckĩpi-c | wa-rá-ckapi-c |
| | 1A-INf-slice-DECL | 1A-INm-nibble-DECL |
| | ‘I sliced it’ | ‘I nibbled it’ |

(16b)	naacgíbic ra-a-ckípi-c 2A-INf-slice-DECL 'you sliced it'	narácgabic ra-rá-ckapi-c 2A-INm-nibble-DECL 'you nibbled it'
(16c)	nacgíbic ra-ckípi-c INf-slice-DECL 'he/she sliced it'	nácgabic rá-ckapi-c INm-nibble-DECL 'he/she nibbled it'

4.2.2.5.2. THE SEMANTICS OF *naga-* (/raka-/). The general semantics of *naga-* (/raka-/) is 'by force'. However, this is only a generalization. Jones (1984:e) breaks up the semantics of this prefix in the manner shown below. In many of the forms cited in (7-15), the instrumental prefix provides a sense of repetitive action. Examples of this semantic notion from the forms cited above are shown in (17):

***naga-* (/raka-) verbs with a sense of repetitive action.** (Boyle and Gwin 2006)

(17)	nagabiñxi	/rakapiñxi/	to flutter, to flap, to float, to rise
	nagadahší	/rakatahší/	to pat
	nagadahxí	/rakatahxi/	to knock on
	nagadáraa	/rakatáraa/	to be shaking or vibrating
	nagadóhdi	/rakatóhti/	to shake out, to brush off
	nagcíhge	/rakcíhke/	to put in a row
	nagcúdi	/rakcúti/	to braid
	nágibi	/rákipi/	to shave a stick
	náhxawi	/ráhxawi/	to make fringes
	nahxíbi	/rahxípi/	to skin
	nahxíshi	/rahxíši/	to hoe
	nack ^{hí}	/rack ^{hí} /	to do quillwork
	nagshúgi	/rakšúki/	to slosh

It can also give the sense of action which produces pieces through the act of force, as in (18):

***naga-* (/raka-/) verbs with a sense of action to produce pieces.**

(Boyle and Gwin 2006)

(18)	nagábcí	/rakápci/	to cut up in small pieces
	nagádaa	/rakátaa/	to break something to pieces
	nagcáa	/rakcáa/	to shatter
	nagcádaa	/rakcátaa/	to smash
	nagcági	/rakcági/	to chop, to cut down, to split open
	naxt ^h í	/raxt ^h í/	to crush

It can also add the sense of a sudden or a forceful act, as shown in (19):

***naga-* (/raka-/) verbs with a sense of sudden or forceful act.**

(Boyle and Gwin 2006)

(19)	nahxúa	/rahxúa/	to knock down, to knock over
	náhxudi	/ráhxuti/	to break through
	nágshua	/rákšua/	to dent
	nagshúdi	/rakšúti/	to slip and drop
	nak ^h áadi	/rak ^h áati/	to pound in

Several forms also indicate a generalized force or weight, as shown in (20):

naga- (/raka-/) verbs which indicate generalized force or weight.

(Boyle and Gwin 2006)

(20)	nacgúbi	/rackúpi/	to bend under weight, to be arched
	nagadiá	/rakatía/	to smooth, to stretch
	nagcía	/rakcía/	to be heavy

An extension of some of these uses describes the action of the air, wind, or weather in general, as shown in (21):

naga- (/raka-/) verbs which describes the action of air, wind, or weather.

(Boyle and Gwin 2006)

(21)	nagabúshi	/ragapúši/	to swell up, to puff up
	nak ^h úuri	/rak ^h úuri/	to blow
	nagcídi	/rakcíti/	to clear up (as of weather)

4.2.2.6. *nú-* ‘BY HAND OR WITH FINGERS’. This prefix is used in ‘by hand’ or ‘with fingers’ constructions. It can also indicate *pulling motion* or *motion towards the subject*.

Any stem with this prefix indicates that the action was done with the hand or fingers.

Examples of this instrumental are shown below in (22).

Words with the Instrumental *nú-* ‘by hands, with fingers’. (Boyle and Gwin 2006)

(22)	núbagi	/rúpaki/	to scatter something
	núbubi	/rúpupi/	to stretch something
	núbuci	/rúpuci/	to split a seam
	núcaa	/rúcaa/	to crumble something
	núcadaa	/rúcataa/	to squash something

núcaraa	/rúcaraa/	to unravel something
núcarua	/rúcarua/	to pull, to drag
núcgishi	/rúckiši/	to squeeze liquid out, to wash
núcgubi	/rúckupi/	to fold, to bend
núcuuxi	/rúcuuxi/	to crush
núdaa	/rútaa/	to crack something open
núdaadi	/rútaati/	to apply pressure with the hand
núdabi	/rútapi/	to be tight
núdahxi	/rútahxi/	to fiddle with, to tamper with
núdaree	/rútaree/	to grab and squeeze
núgaraa	/rúkaraa/	to tear open
núgidi	/rúkiti/	to pluck
núgiria	/rúkiria/	to steer
núhdabi	/rúhtapi/	to hold tight
núhdihshi	/rúhtihši/	to touch
núhdiiwi	/rúhtiiwi/	to snatch away
núhdishagigišgi		
	/rúhtišakikiški/	to test by touching
núhduxi	/rúhtuxi/	to snap
núhgabi	/rúhkapi/	to scratch something
núhi	/rúhi/	to lift something
nuhshíá	/rúhšíá/	to take something apart
núhxa	/rúhxa/	to pull down
núhxagi	/rúhxaki/	to grab something softly
núshdua	/rúštua/	to rub between the palms
núshga	/rúška/	to open
núshidi	/rúšiti/	to lose one's grip
núshudi	/rúšuti/	to miss a catch, to drop something
núshuugi	/rúšuuki/	to wash something
nút ^h abi	/rút ^h api/	to tighten, to squeeze
nút ^h i	/rút ^h i/	to tie
núwiiri	/rúwiiri/	to twist, to wind, to wring
núxaa	/rúxaa/	to spread something out flat
núxaadi	/rúxaati/	to rake
núxp ^h i	/rúxp ^h i/	to take down
núxudi	/rúxuti/	to open up

4.2.2.7. *bá-* (/pá-/) ‘BY PRESSURE, PRESSING, OR SQUEEZING’. This instrumental prefix can also carry the connotations of ‘poking’, ‘nudging’, ‘pushing’, or ‘motion away from the subject’. This prefix loses its vowel in the 1st and 2nd person forms of roots beginning with a single consonant as shown in example (23) as opposed to roots that begin with two consonants where the vowel is retained, as shown in (24).

Loss of vowel in the instrumental prefix *bá-* (/pá-/). (Boyle and Gwin 2006)

(23)	1 st person	mabcáadic	/wapcáatic/	‘I poke at it’
	2 nd person	nábcaadic	/rápcaatic/	‘you poke at it’
	3 rd person	bácaadic	/pácaatic/	‘he/she/it pokes at it’

Retention of vowel in the instrumental prefix *bá-* (/pá-/). (Boyle and Gwin 2006)

(24)	1 st person	mabacgúbic	/wapackútic/	‘I fold it’
	2 nd person	nábacgubic	/rápackupic/	‘you fold it’
	3 rd person	bácgubic	/páckupic/	‘he/she/it folds it’

Examples of this prefix are shown in (25):

Words with the Instrumental *bá-* (/pá-/) ‘by pressure, pressing, or squeezing’. (Boyle and Gwin 2006)

(25)	bábaadi	/pápaati/	to tap
	bácaa	/pácaa/	to lace up, to string up, to push through
	bácaadi	/pácaati/	to poke at, to stab at
	bácadaa	/pácataa/	to mash, to smash, to crush
	bácarua	/pácarua/	to push
	bácgiidi	/páckiiti/	to be constricting

bácgishi	/páckiši/	to press out liquid or fluids
bácgubi	/páckupi/	to fold up, to roll up
bádaa	/pátaa/	to break, burst, or pop by pushing
bádaadi	/pátaati/	to poke, to tap
bádahdi	/pátahti/	to roll, to roll over
bádaree	/pátaree/	to get a shot, to pin, stab, stick, or stitch something
bágidi	/pákiti/	to scrape by pushing along
bágiria	/pákiria/	to push, to push away
bágishi	/pákiši/	to pet, rub, or wipe
báhdahee	/páhtahee/	to tip over
báhdihshi	/páhtihši/	to touch, to nudge
báhshua	/páhšua/	to bend by pushing
báshahshi	/páshahši/	to poke into
báshdu	/páštu/	to crumble, to crumple
báshgi	/páški/	to push something out
báshga	/páška/	to break free, breakout or dislodge
báshgia	/páškia/	to crumple
báxdagi	/páxtaki/	to poke, to nudge
báxdua	/páxtua/	to crumble, to crumple with force

4.2.3. THE *gi-* (/ki-/) INCEPTIVE AND COMPLETIVE, AND THE *hgi-* (/hki-/)
INCHOATIVE, REPETITIVE, *SUUS* AND VERTITIVE MARKER. The morpheme *gi-*
or (*h*)*gi* (/ki-/ or /hki-/) has several different functions. It can be used both derivationally
and inflectionally. That is to say, it can be used in the productive word formation process
in Hidatsa and it can also play a role in the morpho-syntax. The multiple functions and
morphological nature (derivational and inflectional) of this morpheme have historically
made an analysis difficult. Often this morpheme was analyzed as a single morpheme with
multiple functions (Matthews 1877:103-4, Robinett 1955:160, Jones 1984:e). Here I
present a description of its uses. This will show that there are multiple morphemes with the

phonological shape of /ki-/ or /(h)ki-/. The *gi-/ki-/* morpheme, which marks inceptive or completive action precedes the pronominals and the *(h)gi-/ (h)ki-/* morpheme which signals veritive (action back to a place), repetitive action, entry into a state, or can act as a *suus* marker follows the pronominals. These homophones will be described below.

When this *(h)gi-/ (h)ki-/* morpheme occurs word initially, after a pause, or after a stative pronoun (*mii-* first person, *nii-* second person) it loses its preaspiration. This is one of the reasons that it has been confused with the *gi-/ki-/* morpheme. However, Robinett (1955:164) shows that these prefixes occur in different morphological slots, both before and after the pronominal prefixes (26a-b) as well as twice, shown in (26c). Given the item and arrangement framework that she was working in, she concludes that the morphemes are one and the same and that they have various possibilities with regard to location within the verbal template. She gives all of these possibilities the same gloss.

- | | |
|---|--|
| <p>(26a) giwixiʔeec
 ki -wii-xiʔee-c
 INCEP-1B -old -DECL
 I'm getting old.</p> | <p>(26b) miigixiʔeec
 wii-ki -xiʔee-c
 1B -STATE-old -DECL
 I'm getting old.</p> |
| <p>(26c) giwiiigixiʔeec
 ki -wii-ki -xiʔee-c
 INCEP-1B -STATE-old -DECL
 I'm getting old.</p> | |

What this shows (as reflected in the morphemic glosses) is that this perceived single morpheme is really at least two different morphemes. This is clear from its position with

relation to the pronominal prefix. The different semantic roles of these morphemes will be discussed below. Since they do have different semantics and are clearly not functioning as a single morpheme, the gloss that Robinett gives is inadequate. The glosses should be those shown in (26d-f).

- | | |
|---|--|
| <p>(26a) giwixiʔeec
 ki -wii-xiʔee-c
 INCEP-1B -old -DECL
 I'm beginning to be old.</p> | <p>(26b) miigixiʔeec
 wii-ki -xiʔee-c
 1B -STATE-old -DECL
 I'm getting old.</p> |
|---|--|

- (26c) giwiigixiʔeec
 ki -wii-ki -xiʔee-c
 INCEP-1B -STATE-old -DECL
 I'm beginning to get old.

Many of the functions of these morphemes are also found for the cognates in many of the Siouan languages⁹ (Hollow 1965, Mixco 1998 for Mandan, Quintero 2005 for Osage, Rood and Taylor 1996 for Lakhota, and Rankin 2005 for Quapaw, among others).

4.2.3.1. *gi-* (/ki-/) AS AN INCEPTIVE AND COMPLETIVE MARKER. When positioned before the pronominal prefix, the *gi-* (/ki-/) morpheme signals either inceptive or completive action, depending on context (Jones 1984:e). This marker can occur with either active or stative verbs as shown in (27a-b).

⁹ In the Mississippi and Ohio Valley languages, the *gi-* /ki-/ can also serve as a dative/benefactive marker.

(27a) giwiraĥcáac
 ki -wi-rahcáa -c
 INCEP-1B-be careful-DECL
 I'm beginning to get careful. (Robinett 1955:164)

(27b) giwapáĥcagic
 ki -wa-páĥcaki-c
 INCEP-1A-cut -DECL
 I'm starting to cut it. (Jones (1984:e))

While both examples are glossed as inceptives, given the correct pragmatic context, they could also be interpreted as having completive meanings. That is to say (27a) could be glossed as *'I got careful'* and (27b) could be glossed as *'I finished cutting it'*.

4.2.3.2. *hgi-* (/hki-/) AS AN INCHOATIVE MARKER. This *hgi-* (/hki-/) occurs after the pronominal prefix. When used with a stative verb and some non-motion intransitives, *hgi-* (/hki-/) has the semantics of 'entry into a state of being'. This use of inchoative is not to be confused with the inchoative aspect found in some Indo-European and Balto-Finnic languages. Jones (1984:e) labels this mutative. I have glossed it as INCHO. Examples are shown in (28a-b).

Stative verb *ari'* 'to be frostbitten'

(28a) miigi?ariċ
 wii-ki -ariċ -c
 1B -INCHO-frostbitten-DECL
 I'm getting (I got) frostbitten. (Jones 1984:e)

Active intransitive verb *giá-* ‘to fear’

- (28b) mahgigiác
wah-ki -kiá -c
1A -INCHO-fear-DECL
I’m getting (I got) scared. (Jones 1984:e)

4.2.3.3. *hgi-* (/hki-/) AS A REPETITIVE MARKER. When prefixed to a transitive verb where the object is not possessed by the subject, the *hgi-* (/hki-/) marker acts as an iterative and denotes a single repetition of the action. This was commented upon in Jones (1984:e) and Robinett (1955:160). An example is shown in (29).

- (29) mahgibáhçagic
wah-ki -páhçaki-c
1A -REPT-cut -DECL
I re-cut it, I cut it again. (Boyle 2004)

4.2.3.4. *hgi-* (/hki-/) AS A *SUUS* MARKER. When prefixed to a transitive verb where the object is possessed by the subject, the *hgi-* (/hki-/) marker acts as a *suus* marker; that is, as a reflexive possessive. Jones (1984:e) calls this a middle voice, but this is not to be confused with the traditional definition of middle voice as an agentless active sentence (as in English). This morpheme denotes action upon something of one’s own. This use of *hgi-* (/hki-/) as a *suus* marker is quite common in all of the existent Hidatsa texts. 30 a & b provide examples of the *suus* marker, while example (30b), where the *suus* marker is present, can be contrasted with (30c), where the *suus* marker is absent.

(30a) mará mahgirahxugic
 wa -ará wah-ki -rahxuki-c
 1.POS.I-hair 1A -suus-comb -DECL
 I combed my hair. (Jones 1984:e)

(30b) ará girahxugic
 ará ki -rahxuki-c
 hair suus-comb -DECL
 he/she combed his/her (own) hair. (Jones 1984:e)

(30c) ará rahxukic
 ará rahxuki-c
 hair comb -DECL
 he/she combed his/her (someone else's) hair. (Jones 1984:e)

4.2.3.5. *hgi-* (/hki-/) AS A VERTITIVE MARKER. When used with motion verbs or verbs which imply motion, the *hgi-* (/hki-/) prefix serves as a vertitive¹⁰ marker. It denotes motion back to the source of the original motion. Example (30a), which doesn't have the vertitive marker, can be contrasted with (30b) which does.

motion verb without *hgi-* (/hki-/)

(30a) mahúuc
 wa-húu -c
 1A -come-DECL
 I came. (Jones 1984:e)

motion verb with *hgi-* (/hki-/)

(30b) mak^húuc
 wa-ki -húu -c
 1A -VERT-come-DECL
 I came back. (Jones 1984:e)

¹⁰ The term vertitive was first coined for the use of this morpheme by Robert Hollow (1965) for Mandan. It has this function in most, if not all, of the Siouan languages and the term is now used by most scholars in the field of Siouan studies.

4.2.4. THE STATIVIZER /i-/. This prefix derives stative verbs from active verbs in addition to decreasing the valency of the verb to create intransitives from transitives. Verbs with the stativizer refer to the state that results from an activity. Examples are shown in (31).

Active Stem		Derived Stative Stem	
(31) núxuxhi /rúxuxhi/	‘to break’	iruxuxhi /irúxuxhi/	‘to be broken’
núxdi /rúxti/	‘to open up’	irúxudi /irúxuti/	‘to burst open’
núshgi /rúški/	‘to open’	irúshgi /irúški/	‘to come open’
núbubi /rúpupi/	‘to stretch something’	irúbubi /irúpupi/	‘to be stretchable’

These verbs inflect with the stative pronominals. Each example of an active stem is contrasted with a derived stem in (32a-b).

Active Stem	Derived Stative Stem
(32a) mabahdáac wa-pahtáa -c 1A -tip.over-DECL I tipped it over. (Jones 1984:e)	(32b) mibahdáac mi-i -pahtáa -c 1B-STAT-tip.over-DECL I tipped over. (Jones 1984:e)
nábahdaac rá -pahtaa -c 2A-tip.over-DECL you tipped it over. (Jones 1984:e)	nibahdáac ri -i -pahtáa -c 2B-STAT-tip.over-DECL you tipped over. (Jones 1984:e)
bándaac páhtaa -c tip.over-DECL he/she tipped it over. (Jones 1984:e)	ibahdáac i -pahtáa -c STAT-tip.over-DECL he/she tipped over. (Jones 1984:e)

4.3. THE ACTIVE - STATIVE PRONOMINAL SYSTEM. In this section I will describe the inflection of active and stative verbs. Hidatsa is an active/stative language.¹¹ This means that the first and second person pronominal subjects of *stative* verbs are formally identical to the pronominal objects of *active* transitive verbs, while the pronominal subjects of *active* transitive and intransitive verbs are marked identically to each other. The terms ‘**A-set**’ and ‘**B-set**’ refer to the pronominal prefixes that encode the subjects of active and stative verbs respectively. Third person pronominal subjects and objects are phonologically null.

¹¹ This is opposed to a nominative/accusative or ergative/absolutive language. Active / Stative languages are sometimes referred to as Split-S systems. For an overview of the differences see Dixon 1994 (chapter 4).

Although most verbs can be classified as active or stative based upon their semantic properties, there are some verbs where this is not possible. As a result, verbs must be marked as active or stative as part of their lexical entry. Although Hidatsa is an SOV language when full DPs are involved, this is not the case with the pronominals.

Hidatsa pronominal order is OSV for active transitive verbs¹² as shown in example (33):

Inflection of an active verb showing OSV order (Boyle 2002)

(33)	marikíc	∅-wa-rikí-c	3B-1A-hit-DECL	I hit him/her/it.
	niiwarikíc	rii-wa-rikí-c	2B-1A-hit-DECL	I hit you.
	miirarikíc	wii-ra-rikí-c	1B-2A-hit-DECL	You hit me.
	narikíc	∅-ra-rikí-c	3B-2A-hit-DECL	You hit him/her/it.
	miirikíc	wii-∅-rikí-c	1B-3A-hit-DECL	He/she/it hit me.
	niiirikíc	rii-∅-rikí-c	2B-3A-hit-DECL	He/she/it hit you.
	rikíc	∅-∅-rikí-c	3B-3A-hit-DECL	He/she/it hit him/her/it

4.3.1. PLURAL FORMATION. As shown in Chapter 3, Table 3B, Hidatsa verb stems form their plurals in the same manner as nouns. This can be done with either the definite plural suffix /-ʔa-/ or the indefinite plural suffix /-ʔo-/. This will be discussed further below in section (4.4.). There are no plural pronominals in Hidatsa. To show the concept of first person plurality (we/us), the verb stem must be prefixed with the first person pronominal and suffixed with a plural morpheme. Second person person plurals are formed in the

12 The one exception to this statement is the verb *kúʔu-* ‘to give’ which retains an older historical pronominal ordering of 1-2-V (first person - second person - verb). This exception is also found in Crow, and there too, it is the only verb that does not have the pronominal order OSV.

same manner using the second person pronominals. Third person plurals have only an overt plural suffix as there is no third person pronominal.

4.3.2. PRONOMINAL INFLECTION FOR STATIVE VERBS. Statives form an open class of verbs in Hidatsa. Lexical items that are considered adjectives in many other languages are stative verbs in Hidatsa. In addition, nouns can all be inflected to form stative verbs. The stative pronominals are shown in Table 4D, and an inflected verb in (34a-c):

Table 4D - B-Set (Stative) Pronominal Inflections

1 st person	mii-	/wii-/
2 nd person	nii-	/rii-/
3 rd person	∅-	/∅-/

Stative verbal paradigm (consonant initial stem) (Boyle 2002)

(34a) miixiʔeec	(34b) niixiʔeec	(34c) xiʔeec
wii-xiʔee-c	rii -xiʔee-c	∅ -xiʔee-c
1B -old -DECL	2B-old -DECL	3B-old -DECL
I am old.	you are old.	he/she is old.

When the stative verb stem is vowel initial, an epenthetic glottal stop is inserted between the pronominal and the verb stem. This is shown in (35a-c):

Stative verbal paradigm (vowel initial stem) (Boyle 2002)

(35a)	miiʔiháac wii-iháa -c 1B -different-DECL I am different.	(35b)	niiʔiháac rii-iháa -c 2B-different-DECL you are different.	(35c)	iháac Ø -iháa -c 3B-different-DECL he/she is different.
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The vast majority of stative verbs are intransitive. However there is a small set of transitive stative verbs. In these examples, both the pronominal subject and object are of the B-set.

A partial paradigm to illustrate this is shown in example (36a-d).

Stative transitive verbal paradigm (Boyle & Gwin 2005)

(36a)	niiwiik ^h áciic rii -wii-k ^h ácii -c 2B-1B -understand-DECL I understand you.	(36b)	miiriik ^h áciic wii-rii-k ^h ácii -c 1B -2B-understand-DECL you understand me.
(36c)	miik ^h áciic wii-k ^h ácii -c 1B -understand-DECL I understand him.	(36d)	k ^h áciic k ^h ácii -c understand-DECL he/she understands him/her.

Note that the pronominal affix order is OSV, just like other transitive Hidatsa verbs.

4.3.3. PRONOMINAL INFLECTION FOR ACTIVE VERBS. Active verbs are classified into a number of different inflectional paradigms. I show the five variations below. Additional minor paradigms exist but further research in this area is needed. Active

verbs can be either intransitive or transitive, although active intransitive verbs are a restricted closed class. There are also ditransitive verbs, but there is no dative pronominal in Hidatsa; as a result, indirect objects must be fully specified DPs or, if they are unspecified, they must be understood from context. The causative suffix also increases the valency of a verb. This will be discussed below in Section 4.5. Previous work on the active pronominals is scarce. Both Robinett (1955) and Jones (1984:d) include only the pronouns themselves. Matthews (1873 & 1877) gives the most extensive description. He lists ten different verbal classes with regard to how the pronominals affix to the verb stem. Two of these are causative constructions (one for the direct causative (Class IX) and one for the indirect causative (Class X)). Another pattern, (Class V), are verbs with the indefinite *maa-*. The form of these pronominal prefixes depends upon the verb, and can thus be assigned to other classes. In addition, there are two possible conjugation classes (II and VI) that may no longer exist. I believe that both of these classes are being regularized and no longer constitute independent inflectional classes.

I will divide the active pronominals into five basic classes. Many of these classes have subclasses where they deviate from what is expected. There are few overarching patterns or phonological environments, so we must assume that these verbs are lexically marked.

The basic active pronominal paradigm is shown in Table 4E. This is the basis for all of the active pronominal paradigms.

Table 4E - A-Set (Active) Pronominal Inflections

1 st person	ma-	/wa-/
2 nd person	na-	/ra-/
3 rd person	∅-	/∅-/

The second person active pronominal often attracts stress. This may or may not be an artifact of elicitation.¹³ Below, I give a description of the different active verbal paradigms

4.3.3.1. CLASS I: ACTIVE VERBS. These verbs take the A-set of pronominal prefixes shown in Table 4E without any phonological changes. These active subject prefixes attach to verb stems that are consonant initial. This inflection class is the largest, and accounts for the majority of active verbs. Examples are shown in (37a-b).

giráshi- (/kiráši-/) ‘to love’

(Boyle & Gwin 2005)

(37a) magiráshic
wa-kiráši-c
1A-love -DECL
I love her/him.

báhçagi- (/páhçaki-/) ‘to cut’

(Boyle & Gwin 2005)

(37b) mabahçagic
wa-pahçáki-c
1A -cut -DECL
I cut it.

¹³ The fact that elicitation may artificially force stress onto the second person pronoun has been commented on in Jones (1984:d) and Harris and Voegelin (1939). Graczyk (2006, PC) states that with regards to Crow “in most active verb paradigms, the accent does shift to the left in second person forms”. According to Graczyk, this is not an artifact of elicitation. This may be the case for Hidatsa as well but more research needs to be done.

nagiráshic
 ra -kiráši-c
 2A-love -DECL
 you love her/him.

nabahcágic
 ra -pahcáki-c
 2A-cut -DECL
 you cut it.

giráshic
 kiráši-c
 love -DECL
 he/she loves her/him.

bahcágic
 pahcáki-c
 cut -DECL
 he/she cut it.

When the verb stem is vowel initial, the active subject prefixes lose their vowel and only the consonant is prefixed to the stem. Examples are shown in (38a-b).

iccée- (/iccée-/) ‘to wake up’

(Boyle & Gwin 2005)

(38a) miccéec
 w(a)-iccée -c
 1A -wake.up-DECL
 I just woke up.

niccéec
 r(a)-iccée -c
 2A -wake.up-DECL
 you just woke up.

iccéec
 iccée -c
 wake.up-DECL
 he/she just woke up.

ú?aa- (/ú?aa-/) ‘to climb’

(Boyle & Gwin 2005)

(38b) mú?aac
 w(a)-ú?aa -c
 1A -climb-DECL
 I climb.

nú?aac
 r(a)-ú?aa -c
 2A -climb-DECL
 you climb.

ú?aac
 ú?aa -c
 climb-DECL
 he/she climbs.

There are exceptions to this pattern. In these exceptions, the initial stem vowel is deleted and the complete active subject pronominal is then added to the now consonant stem. An example of this is shown in (39). Note that in the third person, the verb stem retains its initial vowel.

iishi- (/iishi-/) ‘to throw (it) away’ (Boyle & Gwin 2005)

(39)	mashić		nashić		iishić
	wa-(ii)ši	-c	ra-(ii)ši	-c	iiši
	1A-throw.away-DECL		2A-throw.away-DECL		throw.away-DECL
	I throw it away.		you throw it away.		he/she throws it away.

4.3.3.2. CLASS II: ACTIVE VERBS. These verbs take the A-set of pronominal prefixes shown in Table 4F. In this Class, one or both of the pronominals have a long vowel. Examples are given in (40-2). In my data, this class of active verb pronominal only prefixes to consonant initial stems.

Table 4F - A-Set (Active) Pronominal Inflections with long vowel(s)

	<u>CLASS IIa</u>	<u>CLASS IIb</u>	<u>CLASS IIc</u>
1 st person	maa- /waa-/	ma- /wa-/	maa- /waa-/
2 nd person	na- /ra-/	naa- /raa-/	naa- /raa-/
3 rd person	∅- /∅-/	∅- /∅-/	∅- /∅-/

CLASS IIa: Active Pronominal Prefixes

díria- (/tíria-/) 'to run' (Boyle & Gwin 2005)

(40)	maadíriac	nádiriac	díriac
	waa-tíria-c	rá -tíria-c	tíria-c
	1A -run -DECL	2A-sing-DECL	sing-DECL
	I run.	you run.	he/she runs.

CLASS IIb: Active Pronominal Prefixes

baáhi- (/paáhi-/) 'to sing' (Boyle & Gwin 2005)

(41)	mabaáhic	naabaáhic	baáhic
	wa-paáhi-c	raa-paáhi-c	paáhi-c
	1A-sing-DECL	2A-sing-DECL	sing-DECL
	I sing.	you sing.	he/she sings.

CLASS IIc: Active Pronominal Prefixes

gíiri- (/kíiri-/) 'to search, to seek' (Boyle & Gwin 2005)

(42)	maagíiric	naagíiric	gíiric
	waa-kíiri-c	raa-kíiri-c	kíiri -c
	1A -seek-DECL	2A -seek-DECL	seek-DECL
	I seek it.	you seek it.	he/she seeks it.

There are several exceptions to this pattern. In (43), the stem vowel is lost and the Class IIc pronominal inflections are prefixed to the consonant initial stem.

irĩgshi- (/irĩgši-/) ‘to get after someone’ (Boyle & Gwin 2005)

(43)	maarĩgshic	naarĩgshi-c	irĩgshic
	maa-(i)rĩkši-c	raa-(i)rĩkši-c	irĩkši -c
	1A-get.after-DECL	2A -get.after -DECL	1A-get.after-DECL
	I get after someone.	you get after someone.	he/she gets after someone.

In addition, there are several verb stems that begin with /raa/ in which the stem vowel is shortened in the second person forms. These modified verb stems then take the Class IIa prefixes. An example is shown in (44).

náagi- (/ráaki-/) ‘to sit’ (Boyle & Gwin 2005)

(44)	máaragic	náragi-c	náagic
	wáa-ra(a)ki-c	rá-ra(a)ki-c	ráaki-c
	2A -sit -DECL	2A-sit -DECL	sit -DECL
	I sit.	you sit.	he/she sits.

4.3.3.3. CLASS III: ACTIVE VERBS. These verbs take the A-set of pronominal prefixes shown in Table 4G. In this Class, both of the pronominals have aspiration after the vowel, which is short. An example is given in (45). In my data, this class of active verb pronominal usually prefixes to stems that begin with /k-/. This active prefix class is the one used for verbs that take either the /ki-/ *suus*, vertitive, repetitive, or state prefix shown in section 4.2.3.2-5.

Table 4G - A-Set (Active) Pronominal Inflections with final aspiration

1 st person	mah-	/wah-/
2 nd person	nah-	/rah-/
3 rd person	∅-	/∅-/

gúreʔe- (kúreʔe-) ‘to carry something’ (Boyle & Gwin 2005)

(45)	mahgúreʔec	nahgúreʔec	gúreʔec
	mah-kúreʔe-c	rah-kúreʔe-c	kúreʔe-c
	1A -carry -DECL	2A -carry -DECL	carry -DECL
	I carry (it).	you carry (it).	he/she carries (it)

There do not seem to be any generalizations that can be made regarding the above three classes of prefixes in an attempt to subsume them under one general phonological rule as to where and when they occur. There may be several phonological rules at work but this remains unclear. Because of this, I believe that these verb stems must be lexically marked as to which active pronominal set is used.

4.3.3.4. CLASS IV: ACTIVE VERBS. As stated in Section 2.4.3.6., the active subject pronominals also undergo metathesis with many stems that have initial stress. Most of these stems are ones which have the applicative prefixes as part of their lexical entry (discussed in 4.2.1). An example of a verb with the inessive prefix is shown in (46b). However, not all members of this class of verbs have an applicative prefix. An example of such a stem is shown in (46a). The pronominal prefixes of this class are shown in Table 4H, with examples in (46a-b).

Table 4H - A-Set (Active) Pronominals with Metathesis

1 st person	aw-	/aw-/
2 nd person	ar-	/ar-/
3 rd person	Ø-	/Ø-/

ádii- (/áti-/) ‘to camp’ (Boyle & Gwin 2006)

(46a)	áwadiic	áradiic	ádiic
	áw-atii -c	ár -atii -c	átii -c
	1A-camp-DECL	2A-camp-DECL	camp-DECL
	I camp.	you camp.	he/she camps.

oócahdi- (/ócahti-/) ‘to bury (it)’ (Boyle & Gwin 2006)

(46b)	awócahdic	árocahdic	oócahdic
	aw-ó(o)cahti-c	ár -o(o)cahti-c	oócahti-c
	1A -bury -DECL	2A -bury -DECL	bury -DECL
	I bury (it).	you bury (it)	he/she buries (it).

As can be seen in (46b), in some examples the stem vowel is shortened. In some of these stems, the vowel is lowered to /a/ as shown in (47a) and it is lowered and shortened in the first and second person in (47-b).

ígaac- (/íkaa-/) ‘to see it’ (Boyle & Gwin 2006)

(47a)	áwagaac	arágaac	ígaac
	áw-íkaa-c	ár-íkaa-c	ígaac-c
	1A-see -DECL	2A-see -DECL	see -DECL
	I see it.	you see it.	he/she sees it.

óoshee- (/óošē-/) ‘to pour, to plant, to put in’ (Boyle & Gwin 2006)

(47b)	awásheec	arásheec	óosheec
	aw-óošēe-c	ar-óošēe-c	óoshee-c
	1A -pour -DECL	2A -pour -DECL	pour -DECL
	I pour (it) in.	you pour (it) in.	he/she pours (it) in.

4.3.3.5. CLASS V: ACTIVE VERBS. These are verbs that use the causative morphemes for person marking. These verbs are lexicalized with regard to the causative pronominal. The causative pronominal and the verb root form a verb stem that can take additional suffixes including causative markers. For this reason, it is best to view these verbs as another active pronominal variation and not as a true causative construction. An example of this class can be seen in (48) and a causative form of this class of verb is shown in (49).

xabihee- (/xapíhee-/) ‘to lose something’ (Boyle & Gwin 2005)

(48)	xábiwaac	xábiraac	xabiheec
	xápi-waa-c	xápi-raa-c	xapí-hee-c
	lose -1A -DECL	lose-2A -DECL	lose-3A -DECL
	I lose it. / I lost it.	you lose it. / you lost it.	he loses it. / he lost it.

(49)	xabiheewaac
	xapí -hee-waa -c
	lose-3A -1.CAS.D-DECL
	I made him lose it.

Since this class of active verb is using a lexical causative rather than the causative morpheme, it is glossed as 1A, 2A, 3A and not as CAUS.

4.3.3.5. CLASS VI: ACTIVE VERBS. This is a small class of verbs that take the active pronominal as a final suffix. These verb are not to be confused with the causative paradigm shown in Class V as the first and second person suffixes are short and the third person is null and hence not that of a causative construction. These stems take the active subject pronominals shown in Table 5. An example of this inflectional paradigm is shown in (50).

awahéet^hee- (/awahéet^hee-/) ‘to donate’ (Boyle & Gwin 2005)

(50)	awahéet ^h ewac	awahéet ^h eerac	awahéet ^h ec
	awahéet ^h ee-wa-c	awahéet ^h ee-ra-c	awahéet ^h e-c
	donate -1A-DECL	donate -2A-DECL	donate -DECL
	I donate.	you donate	he/she donates.

4.3.3.6. CLASS VII: MOTION VERBS. Motion verbs are a small subset of verbs that take active pronominals. Taylor (1976: 287) postulated that historically most of the Siouan languages had four basic motion verbs. More recent work by Cumberland (2005: 290-91, 2006) has shown that the pattern that exists in the Siouan languages with regards to the motion verbs is much more complex. The motion verbs show: 1) motion from a point; 2) progression of motion to a new destination; 3) arrival at that destination; 4) motion from the destination point back to the original point of departure; 5) progression back to the original point; and 6) arrival back at the original point of departure. The two sets differ depending on narrator perspective. In Hidatsa, the verbs of motion have lost the departure series

found in many other Siouan languages.¹⁴ Cumberland (2006) divides these verbs into notions of movement away from, or movement towards the actor/speaker's base. The Hidatsa verbs of motion are shown in Table 4I. The verb *rEE-* 'to go' ablauts between *ree-* and *raa-* depending on whether it's followed by an ablaut triggering suffix.

Table 4I - Hidatsa Verbs of Motion

<u>Movement</u>	<u>progress from</u>	<u>arrive (there)</u>
me away from my base	rEE-	hii-
me towards my base	k ^h uu-	kii-
you towards my base	huu-	hii-
you away from my base	----	kii-

An example of these verbs is shown in (51), which is the opening line in the first Lowie text.

14 The departure series are also lacking in Crow and Mandan as well as Omaha-Ponca and Quapaw (although they are found in the other Dhegiha languages Kaw and Osage) (Cumberland 2006). Taylor (1976: 293-5) states that this series is also missing from the Ohio Valley (based on data from Biloxi) branch of Siouan as well. If this is the case, the departure series of motion verbs may not be original to Proto-Siouan but rather an innovation in the Mississippi Valley languages.

(51) *ĩcihgawaahirish* *asharuwĩwareec* *heʔesháag* *wiriʔéeraga* “dooshha
*ĩcihkawaahiriš*¹⁵ *aši* -a -ruwĩ -wareec *heʔešá-ak* *wiri-éeraka* *toošʰa*
 first worker go.around-CONT-go.along-NE SC -SS sun -DEM how

adáʔakʰuuʔiidoog” *iriácag* *réewareec*
atá -a -**kʰuu** -ʔii -took *iriáci-ak* **rée**-wareec
 appear-CONT-**come.back**-HAB-SPEC think-SS **go** -NE

First Worker was traveling around. He wondered “How does that Sun come up over (the horizon)” and he went on. (Lowie 1939, I:1)

In this line, *wiriéeraga* ‘sun’ is traveling back towards his home base (i.e. the horizon).

This movement employs the ‘progress towards my base’ perspective using the verb *kʰuu-* ‘come back’. In the same line, *ĩcihgawaahirish* ‘First Worker’ is traveling away from his

home base, and uses the verb *rEE-* ‘go’. Cumberland’s discovery of how these verbs function allows new insight into the structure of Siouan narratives. The way in which these verbs are used helps the listener determine what is happening with regard to the action.

They also help in keeping the action of different characters separate, as different characters have different perspectives in the narratives as to their movement and hence employ different motion verbs.

These motion verbs are suppletive and a leveling has taken place among them so that they all inflect in the same manner. In addition, several other verbs indicating motion also follow this inflectional pattern. Although these verbs indicate motion, they are not part of the motion verb system. Jones (1992: 327) claims that the inflection paradigm for all of these verbs is based on the inflectional paradigm of *rEE-* ‘to go’. He argues that

¹⁵ *ĩcihka-waa-hiri-š* = first-INDEF-make-D.DET = ‘First Worker or First Maker’

historically it had the structure of *rVhV*- with both vowels being vowels that ablaut. The paradigm for it is given in (52).

(52) The paradigm of *ree-* ‘to go’ (Boyle & Gwin 2006)

	<u>Singular</u>	<u>Plural</u>
1 st	maaréec	maaháʔac
2 nd	naráac	naráhaʔac
3 rd	néec	náahaʔac

Jones argues that the *-h-* has been lost throughout the singular and that *-r-* has been lost in the 1st person plural. Speakers have reinterpreted the resulting paradigm as a suppletive conjugation with a special set of personal markers. These reanalyzed person markers have, in turn, been generalized to a small set of verbs that Jones refers to as “motion verbs per se”. These are the verbs that inflect like the motion verbs but are not part of the motion verb system. An example of this type of verb is *náagua* - ‘to go home’. Its inflectional paradigm is shown in (53).

(53) The paradigm of *náagua-* ‘to go home’ (Boyle & Gwin 2006)

	<u>Singular</u>	<u>Plural</u>
1 st	maagúac	maagúaʔac
2 nd	naráguac	naráguaʔac
3 rd	naagúac	naagúaʔac

4.3.3.7. OTHER ACTIVE VERBS. There are also a small number of verb stems that are irregular. These stems often undergo stem vowel mutation (i.e. *míʔeeri-* ‘to get in’

míriwaaric ‘I get in’, *míraaric* ‘you get in’, and *míreeric* ‘he/she gets in’) or some type of pronominal vowel change. These forms are unpredictable and generally singular. That is to say they are novel and don’t form any type of recognizable class.

4.3.4. OTHER HIDATSA VERBAL PREFIXES. In the above sections of this chapter, I have described the verbal prefixes. Outside of the prefixes described above is the slot for incorporated nouns or the indefinite *maa-* (described above in section 3.11). On the far left edge of the Hidatsa verb is the slot for the relative (*/aku-/* and */aru-/*) (described in section 3.9), partitive (*/aru-/*) (described in section 3.9), and nonspecific future tense marker (*/aru-/*) (described in 4.6). The *aru-* and *aku-* morphemes are mutually exclusive. Given these additional markers, Hidatsa can be said to have eight different prefix slots. The breakdown is shown in Appendix A.

4.4. DERIVATIONAL AND INFLECTIONAL SUFFIXES OF THE HIDATSA VERB.

Hidatsa has a number of derivational and inflectional suffixes. As expected, the derivational suffixes occur closer to the verb stem than the inflectional suffixes. Unlike the preverbal elements, the postverbal elements follow a strict syntactic ordering. Many of these elements are verbs that have lost their status as distinct grammatical words and have merged with the greater phonological verb stem. Some, like the punctual */-ahi-/*, the desiderative */-hti-/*, the approximatives */-(r)aci-/*, */-raa-/*, and the frequentive */-kša-/* have lost their person and number marking. The causatives retain distinct first and second person forms */-waa-/* and */-raa-/* respectively and the third person retains distinct forms for singular */-hee-/* and plural */-haa-/*. The incomplete aspect retains distinct forms for first */-ri+waa-/*,

second /-ri+raa-/, and third person /-ri+hee-/ which are possibly derived from a causative construction. The durative aspect has only forms for singular /-ʔii-/ and plural /-ʔiiru-/, whereas the specific future (the rightmost element in this group) still has a complete paradigm for first person singular /-wi-/ and plural /-wi+haa-/, second person singular /-ri-/ and plural /-ri+haa-/, and third person singular /-hi-/ and plural /-haa-/, as well as a set of future question markers, which are /-wihi-/ first person, /-rihi-/ second person, and /-hi-/ third person.

It is not entirely clear exactly where the line between derivational and inflectional morphology lies. The punctual, desiderative, and causatives can be added to stems to derive new stems. These are clearly examples of derivational morphology. The suffixes that follow these are inflectional and as such play a role in the syntax. I will claim in chapter 5, that these suffixes function syntactically in the sentence building process. Below, I will describe each of these morphemes and their different paradigmatic forms.

4.4.1 THE PUNCTUAL MORPHEME *-ahi-* (/ahE-/). This suffix is the innermost to the verb stem. Robinett (1955:161) and Jones (1984:j) call it the ‘momentaneous’ suffix.¹⁶ It indicates action that happens suddenly or instantaneously. It also adds emphasis to the verb. The morpheme /ahi-/ combines with verbal stems to form a derived stem. The formation of the derived stem is highly irregular and therefore verbs in the punctual form are best viewed as individually listed in the lexicon.

¹⁶ I call this morpheme Punctual following Graczyk’s description of its Crow cognate.

When it occurs after a long /ii/, an epenthetic glottal stop is inserted between the morpheme boundaries as shown in (54).

The Punctual marker /ahi-/ after a long /ii/

- (54) **hfiʔahic**
 hĩ -**áhi** -c
 drink-PUNCT-DECL
 he/she drank it all at once. (Robinett 1955:168)

If the verb stem ends in a short /i/ or /e/ the final vowel is deleted. This process is shown in (55a-b) with the short vowel /i/ being deleted from the stem.

The Punctual marker /ahi-/ after a short /i/

- | | |
|--|--|
| <p>(55a) magiragabic
 wa-kirakapi-c
 1A -pick.up -DECL
 I pick it up. (Boyle 2004)</p> | <p>(55b) magiragab áhic
 wa-kirakapi-áhi -c
 1A -pick.up -PUNCT-DECL
 I pick it up real fast. (Boyle 2004)</p> |
|--|--|

This morpheme also causes ablaut if the stem is one that undergoes this process. This includes many stems ending in long /ee/. This is shown in (56).

The Punctual marker /ahi-/ after a long /ee/

- (56) harúg waagarišhdaʔash éeca sheʔehgúa **raáhaʔawareec**
 ha -rúk waakarišta-ʔa -š éeca šeʔe -hkúa **ree-áhi** -ʔa -wareec
 SC-DS child -PL.D-DET.D all DEM-LOC go -PUNCT-PL.D-NE
 Then all the children went over to that place. (Lowie 1939, IV:13)

In addition, (56) and (57) show the prohibition against VVV. This happens when the stem final vowel is a long /aa/ or a diphthong. Here (and in (56)) when /ahi-/ is added, the VVV combination is reduced to VV.

The Punctual marker /ahi-/ after a long /aa/

- (57) **awaga áhaʔac**
awakáa-áhi -ʔa -c
 1A.see -PUNCT-PL.D-DECL
 We caught sight of him. (Robinett 1955:168)

When added to a stem with a short /a/, the /ahi-/ retains its initial vowel and a long /aa/ is created as shown in (58).

The Punctual marker /ahi-/ after a short /a/

- (58) naahgĩrug cĩdabuushish **garáahag** réewareec
 raa-hkiĩ -ruk cĩtapuušiš **kara-áhi** -ak rée-wareec
 go -be.back-TEMP spotted tail run -PUNCT-SS go-NE
 When he (First Worker) got back Spotted Tail suddenly got up and ran away.
 (Lowie 1939, II:63)

When /ahi-/ is added to stems that end in short or long /u/ the initial vowel in /ahi-/ is raised to /u/ with the prohibition against super long vowels still being observed. This process with a short /u/ is shown in (59).

The Punctual marker /ahi-/ after a short /u/

- (59) *ĩcihgawaahirish ĩhgi wát^he éehgaag iruuhíwareec*
ĩcihkawaahiriš ĩhki wát^hee éehkee-ak iru -ahí -wareec
First Worker 3.PRO.sg already know -SS stand-PUNCT-NE
First Worker himself, knowing (how it was done), stood up. (Lowie 1939, I:10)

The punctual morpheme is also lexically marked for stress, with stress usually falling on the initial syllable of the morpheme. The exception to this is when /ahi-/ follows a stem vowel that ends in either long or short /u/. In these examples, the stress shifts to the second syllable in the punctual morpheme. This process of accent shift is seen in (59).

4.4.2. THE REFLEXIVE MORPHEME *-ria-* (/ria-/). Although Hidatsa has independent pronouns, which can be used emphatically or reflexively, the true reflexive morpheme is *-ria-*. It is not inflected for person, like some other suffixes. It agrees in person with the verb's pronominal prefix. This is shown in (60) and marks unintentional action to oneself.¹⁷

- (60) *mé?ecci?hda mabáhcagiriac*
wé?ecci-hta wa-báhcaki-ria -c
knife -INST 1A-cut -REFL-DECL
I cut myself with a knife. (Boyle 2004)

As example (60) shows, the reflexive morpheme does not need to occur with the independent pronouns in order to have a reflexive reading.

¹⁷ Intentional action to oneself is shown with the direct causative.

4.4.3. THE DESIDERATIVE MORPHEMES *-hdi-* (/htE-/). This is a desiderative which has the meaning of ‘would like to,’ ‘want to,’ or ‘be inclined to’. These meanings can be seen in (61) and (62).

(61) úuxi rárudihdic
úuxi rá-ruti-**hti** -c
antelope 2A-eat-**DES**-DECL
You like to eat antelope. (Boyle 2004)

(62) miháawihdic
mi-háawi-**hti** -c
1B-sleep -**DES**-DECL
I’m sleepy, I want to sleep. (Robinett 1955:170)

This morpheme also undergoes ablaut when it is followed by a ablaut triggering suffix, as shown in (63).

(63) úuxi rárudihdaʔac
úuxi rá-ruti-**hti** -ʔa -c
antelope 2A-eat-**DES**-PL.D-DECL
You (all) like to eat antelope. (Boyle 2004)

4.4.4 THE APPROXIMATIVE(S). Hidatsa has three general aspectuals. The first is the approximative. Hidatsa has six different morphemes with approximative force (Jones 1992a:324). These six morphemes can be further reduced to three types of approximative

aspect. All of these morphemes have the meaning of imperfective action while sometimes expressing that it was “kind of,” “almost,” or “nearly” doing or being something.

4.4.4.1. THE APPROXIMATIVE *-(r)aci-* (*/-racI-/*). As stated in Section 2.4.3.4., this morpheme has two allomorphs depending on the stem vowel. If the verb stem that the approximative suffixes to ends in a CV, then the initial */-r-/* of the approximative is deleted leaving the allomorph */-aci-/*. The approximative also undergoes *a*-grade ablaut when a morpheme that triggers the process follows it but Robinett (1955:165-6) gives examples where it also undergoes *e*-grade ablaut as well. This approximative is an imperfective aspectual marker that adds the semantics of ‘kind of’ or ‘like’. It can occur with both active transitive and intransitives and stative verbs. The imperfective sense can be seen in (64) with an active intransitive verb and the “kind of,” or “like” sense can be seen in (65) with a stative verb.

- (64) *iiki?awáhkua ríraaca*
ii -ki -awá -hkua ríri -raci -a
 CONJ-INCEP-ground-LOC walk-APPROX-CONT
 Then he moved along the ground like that (Parks et al 1978, PA: 64)

- (65) *shíbišaacic*
šípiša-raci -c
 black -APPROX-DECL
 It’s kind of black. (Boyle 2004)

4.4.4.2. THE APPROXIMATIVE *-ree-* (/rAA-/). This approximative also undergoes *a*-grade ablaut when followed by a morpheme that properly conditions it. It is an imperfective which shows that an action has almost occurred. It can occur with both active and stative intransitive verbs. I have no examples of this morpheme with active transitive verbs.¹⁸ Jones (1992a: 333-4) suggests that this is grammatical form of the verb *née-* ‘to go’, although this is certainly not a recent innovation as Matthews (1877:104-05) describes this morpheme in his work. Examples are shown in (66) and (67).

- | | | | |
|------|--|------|---|
| (66) | máabireec
wáapi -ree -c
daylight- APPROX -DECL
It’s almost daylight. (Boyle 2004) | (67) | gágixireec
kákixi- ree -c
round- APPROX -DECL
“It’s almost round. (Matthews 1877: 105) |
|------|--|------|---|

4.4.4.3. THE APPROXIMATIVE *-raa-* (/rEE-/). This approximative can occur with active transitive, active intransitives, and statives. This approximative follows the *e*-grade pattern of ablaut. Jones (1992: 335) states that there are no direct cognates in other Siouan languages with this morpheme. It may be that this is really an allomorph of *-ree-* and that it undergoes both grades of ablaut like /-racI-/. Examples of this morpheme are shown in (68) and (69)

- (68) níiriraac
ríiri **-raa** -c
walk-**APPROX**-DECL
He/she is almost walking. (e.g., a child) (Jones 1992:336)

¹⁸ Jones (1992a:333) states the same conclusion.

- (69) miirárigiraac
 wii-ra-riki-**raa** -c
 1B-2A-hit- **APPROX**-DECL
 You almost hit me. (Jones 1992:336)

4.4.4.4. THE APPROXIMATIVE *-riwaa-* (/riwaa-/), *-riraa-* (/riraa-/), *-rihee-* (/rihee-/).

This approximative marks action that is almost complete. It is formed from *-ri-* + the direct causative, however, like the Class V active pronouns shown in Section 4.3.3.5., it is lexical in nature and no longer a true causative construction. That is to say, although this morpheme is formed with the causative, it is done in the lexicon, not in the syntax where the causative normally functions. These approximatives are thus marked for person. The paradigm is shown in Table 4J.

Table 4J - The Approximative *-ri* + *caus*

1 st person	<i>-riwaa-</i>	/riwaa-/
2 nd person	<i>-riraa-</i>	/riraa-/
3 rd person	<i>-rihee-</i>	/rihee-/

Jones show the following three examples (1992a:335) of the active verb *pahcági-* ‘to cut’ in (70a); the same active verb plus the direct causative in (70b); and this active verb plus the approximative in (70c).

Active Verb

(70a) mabahcágic
wa-**pahcági**-c
1A -cut -DECL
'I cut it.' (Jones 1992a:335)

Active Verb + Causative

(70b) bahcágheec
pahcáki-hee -c
cut -3.CAUS.D.sg-DECL
'He made him cut it.' (Jones 1992a:335)

Active Verb + Approximative

(70c) mabahcágariwaac
wa-**pahcáka-riwaa** -c
1A -cut -1.APPROX-DECL
'I almost cut through it.' (Jones 1992a:335)

Example (70d) shows that this approximative can also coexist with the causative morpheme.

Active Verb + Causative + Approximative

(70d) miibahcágaraariwaac
wii-pahcáka-**raa** -**riwaa** -c
1B -cut -2.CAUS.D-1.APPROX-DECL
'You made me almost cut through it.'

This example shows that the approximative is lexical in nature and not a true causative in the syntax. Like the active pronouns of Class V, this example shows that this approximative morpheme, although historically formed from the causative, has become a lexical entry in its own right and is no longer analyzable as a separate morpheme in the

syntax. In the syntax, the causative functions as a vp shell which occurs inside the [AspP] generated by the aspectual markers.

4.4.5. THE FREQUENTIVE *-gsha-* (/kša-/). The second aspectual in Hidatsa is the habitual iterative marker. Examples are shown in (71a-c).

- | | | | |
|-------|-----------------------------------|-------|-------------------------------------|
| (71a) | maréʔegshac | (71b) | niréʔegshac |
| | wa-réʔe -kša -c | | ri -réʔe -kša -c |
| | 1A -speak-FRE-DECL | | 2B-speak-FRE-DECL |
| | I talk all the time. (Boyle 2005) | | You talk all the time. (Boyle 2005) |

- (71c) iréʔegshac
iiréʔe¹⁹-kša-c
speak-FRE-DECL
He/she talks all the time. (Boyle 2005)

4.4.6. THE HABITUAL *-ʔii-* (/ʔii-/), *-ʔiiruu-* (/ʔiiruu-/). The third aspectual marker is the durative iterative marker. It has a singular and plural form, shown in (72a) and (72b) respectively.

- (72a) huúʔiic
huú-ʔii-c
come-HAB-DECL
He/she always comes. (Boyle 2005)

19 Note that the verb *iiréʔe-* ‘to speak, to talk’ is an irregular verb with the active first person pronoun and a stative second person pronoun.

- (72b) *íikaawaʔiieʔiiruuc*
 ii -*íkaa-waʔiie* -*ʔiiruu* -c
 INST-see -desire -HAB.PL-DECL
 They always want to see them. (Lowie 1939, IV:16)

4.5. CAUSATIVE CONSTRUCTIONS. There are two causatives in Hidatsa: the ‘direct causative’ *-hee-* and the ‘indirect causative’, *-hkee-*. These morphemes suffix to the verb stem that they causativize. When they combine with a verb stem, they subcategorize for an additional argument. Causatives in Hidatsa must be analyzed as verbs and not as derivational affixes as they have syntactic scope over the verb they causativize and they inflect for the person of the causer.

The direct causative shows that the agent is directly responsible for bringing about the effect of the action. This relationship is less clear with the indirect causative. With the indirect causative the actor has less direct control over the action but is nevertheless responsible for bringing about the action.

Like other Siouan languages, the causatives in Hidatsa correspond closely to the active and stative verb classes. The direct causative most often combines with stative verbs, and the indirect causative most often combines with active verbs. The causativization of active verbs is more likely to involve less direct causation, since they already have agentive subjects. Examples of direct and indirect causatives can be seen in examples (73a-b) and (74a-b) respectively.

Direct Causatives

(73a)	<u>Stem</u>		<u>Gloss</u>
	shibísha-	/šipiša-/	'black'
	<u>Causative</u>		<u>Gloss</u>
	shibíshahee	/šipišahee-/	'to blacken'

(73b)	<u>Stem</u>		<u>Gloss</u>
	dée-	/tée-/	'to die'
	<u>Causative</u>		<u>Gloss</u>
	déehee-	/téehee-/	'to kill'

Indirect Causative

(74a)	<u>Stem</u>		<u>Gloss</u>
	núudi-	/rúuti-/	'to eat'
	<u>Causative</u>		<u>Gloss</u>
	núudihgee-	/rúutihkee-/	'to feed'

(74b)	<u>Stem</u>		<u>Gloss</u>
	íгаа-	/íkaa-/	'to see'
	<u>Causative</u>		<u>Gloss</u>
	íгааһgee-	/íkaahkee-/	'to show something'

4.5.1. THE DIRECT CAUSATIVE. The direct causative is lexically marked for person.

First and second person do not distinguish singular and plural. The third person direct

causative undergoes e --> a ablaut to show plural. This is independent of being followed by the definite plural morpheme. The direct causative paradigm is shown in Table 4K.

Table 4K - The Direct Causative

1 st person	-waa-	/-waa-/
2 nd person	-raa-	/-raa-/
3 rd person singular	-hee-	/-hee-/
3 rd person plural	-haa-	/-haa-/

The third person direct causative also undergoes ablaut when followed by any other morpheme that triggers this process. Thus, the underlying form of the third person direct causative is *-hEE-*.

4.5.2. THE INDIRECT CAUSATIVE *-khi-* (*/-ghi-/*). The indirect causative is inflected for person by using the first and second person direct causative morphemes, which follow the base form of the indirect causative *-hki-*. The paradigm for the indirect causative is shown in Table 4L.

Table 4L - The Indirect Causative

1 st person	-hkiwaa-	/-hkiwaa-/
2 nd person	-hkiraa-	/-hkiraa-/
3 rd person	-khEE-	/-khEE-/

In the third person, the indirect causative can undergoes e --> a ablaut when followed by any morpheme that can trigger this change. It is not followed by the direct third person causative.

4.6. NEGATION *-t^haa-* (/t^haa-/). Negation in Hidatsa is straightforward. It is signaled with the morpheme *-t^haa-*. The negative morpheme has scope over the preceding verb complex onto which it suffixes. Examples of negation from the Hidatsa texts are shown in (75-76) and a simple inflected verb is shown in (77a-c).

(75) xaré^haaɡ
 xaré **-t^haa** -ak
 rain **-NEG-SS**
 It didn't rain; (Lowie 1939, IV: 22)

(76) ii-ahú^haaʔc; iigoʔshdáacaʔc
 ii -ahú **-t^haa** -aʔ -c ii -koʔštá-raci -aʔ -c
 INST-many-**NEG-PL.D-DECL** MUL-few **-APPROX-PL.D-DECL**
 They aren't very many; they are very few. (Parks et al, PA: 84)

<p>(77a) maaréet^haac maa-rée-t^haa -c 1A -go -NEG-DECL I don't go. (Boyle 2003)</p>	<p>(77b) naréet^haac na-rée-t^haa -c 2A-go -NEG-DECL you don't go. (Boyle 2003)</p>
---	--

(77c) neet^haac
 nee-**t^haa** -c
 go **-NEG-DECL**
 he/she doesn't go. (Boyle 2003)

4.7. FUTURE TENSE. Unlike other Siouan languages, Hidatsa has two future tense markers. These distinguish specific future and nonspecific future time. The nonspecific future is unique to Hidatsa (Boyle 2006a) among Siouan languages. It is shown with the prefix *aru-*. The specific future markers have a full paradigm and are inflected for person and number. There is also a series inflected for person that is used in question formation.

4.7.1. THE NONSPECIFIC FUTURE. Although clearly innovated after the Hidatsa-Crow split, the use of the *aru-* as a nonspecific future marker clearly goes back to at least the mid 1800s. Matthews (1877:93) lists it as an adverb of time. Although a prefix, its distribution is mutually exclusive with the specific-future marker. An example is shown in (78b). This is contrasted with a non-future construction in (78a) and a specific future construction in (78c). Note that there is no difference in the English gloss with regards to (78b & c), however a specific time is implied in (78c) which is not implied in (78b).

Non-Future Construction

(78a) miiháawic
 wii-háawi-c
 1B -sleep -DECL
 I sleep. (Boyle 2006a)

Future Construction with nonspecific *aru-*

(78b) aruwiiháawic
 aru -wii-háawi-c
 FUT.N-1B -sleep -DECL
 I'll sleep. (Boyle 2006a)

Future Construction with Specific Suffix

(78c) wiiháawiwic
 wii-háawi-wi -c
 1B-sleep -1.FUT.S-DECL
 I'll sleep. (Boyle 2006a)

4.7.2. THE SPECIFIC FUTURE. As stated above the specific future can be inflected for person and number. In addition, there is a series of specific future morphemes used in question formation. These suffixes are shown in Table 4M.

Table 4M - The Specific Future Suffixes

	Singular	Plural	Question
1 st person	-wi-	-wiha-	-wihi-
2 nd person	-ri-	-riha-	-rihi-
3 rd person	-hi	-ha-	-hi-

As is shown in (78c) the personal pronoun is still prefixed to the verb so in these constructions the subject is redundantly marked. In addition, in formations with the plural future the plural marker is still suffixed after the future, as shown in (79).

The Future Plural with the Definite Plural

- (79) "...rárahihiha?ac" héewareec
 rá-rahi-**riha** -ʔa -c hée-wareec
 2A-go -2.FUT.S.pl-PL.D-DECL say-NE
 ...you all can go" he said. (Lowie 1939, II:3)

In causative constructions, the future tense marker agrees in person and number with the causative subject, not the subject of the lexical verb, as shown in (80).

The Future Plural Agreeing with the Causative

- (80) “gidáwaawihaʔac”
ki -tée -waa -wiha -ʔa -c
INCEP-kill-1CAUS.D -1FUT.S.pl-PL-DECL
“we will kill her”. (Lowie 1939, IV:38)

When used with transitive verbs, the future agrees with the subject. This is shown in (81).

The Future Plural Agreeing with the Subject of the Transitive Verb

- (81) niiʔawágaawic
rii-awákaa-wi -c
2B-1A.see -1FUT.S-DECL
I will see you.

4.8. NUMBER MARKING. Hidatsa has three morphemes that mark plurality. Hidatsa nouns and verbs are only marked for plural (versus singular); unlike some Siouan languages, there is no dual marker. Hidatsa has a definite plural, -aʔ-, an indefinite plural, -oʔ-, and a collective plural, -aapa-. When suffixed to a verb, the plural marker can agree with either the subject or the object. If only one DP is plural and the DPs are not marked for plural (i.e. the plural morpheme is only on the verb), which DP is plural must be determined from context. Examples of plural marking are given in (82-86).

In (82), the subject is marked with the indefinite plural, in addition to the matrix clause being marked with the plural imperative marker.

Plural Agreement with the Imperative Plural

- (82) "miaʔó adáarag ruwaʔígaara"
wia -ʔó atáar -ak ruwa-íkaa -ara
women-PL.I come.up-SS some-look-PL.IMPER
"Some of you women, come up and look at it!" (Lowie 1939, III:9)

In (83), the second person pronoun is pluralized showing the meaning of 'you all'. In this example, the definite plural is used since the reference is definite. Here the plural agrees with the subject.

Definite Plural Agreeing with the Subject and Future Plural

- (83) "maawabáahirug ráhgirish^hirihaʔac"
waa-wapáahi -ruk **ráh**-ki -riš^hi **-riha -ʔa -c**
1A -sing -COND **2A** -suus-dance-**2.FUT.S.pl-PL.D-DECL**
"When I sing, you all will do your own dance." (Lowie 1939, III:12)

In (84), the definite plural agrees with the object and gives the stative first person pronominal the meaning of 'us'. Note that the plural marker does not agree with the subject of the causative verb. There is no structural difference between this example and that shown in (83). The plural number must be determined from context.

Plural Marker agreeing with the Object (Determined from Context)

- (84) "maawidabásh wiireec^háaʔac"
waa -witapá-š **wii**-reeca -háa **-ʔa -c**
INDEF-lie -DET.D **1B** -not.be-3.CAS.D.pl-**PL.D-DECL**
"That liar is annihilating us." (Lowie 1939, II:4)

In (85), neither the subject nor the object are marked for plural on either of the DPs. The definite plural on the verb shows that at least one of the DPs is plural. In this case, both DPs are plural even though neither is marked for it on the nominals, themselves.

Plural Marker agreeing with both Subject and Object

- (85) maagaríshda aadihge hirá?awareec
 waakarišta aatí -hkee hirí -ʔa -wareec
 child house-DIM make-PL.D-NE
 the children make tiny houses. (Lowie 1939, IV:1)

Lastly, in (86), the group plural *-aapa-* is used. In this example it pluralizes the subject, but in a different context it could pluralize the object, in which case it would mean ‘he/she helped us all’.

Group Plural agreeing with Subject (Determined from Context)

- (86) wiiguxdáabac
 wii-kuxtı́ -aapa-c
 1B -help -PL.G -DECL
 They helped me.

4.9. POSITIONAL VERBS. Hidatsa employs a set of positional verbs to mark progressive aspect. These are usually used with animate subjects, although some of them can be used with inanimate subjects as well. When used as progressive aspect markers they are often cliticized to a verb stem but they can also be phonologically independent of the lexical verb. When they are cliticized to a lexical verb, they are always preceded by a

continuative *-a-*, which triggers ablaut in the preceding stem.²⁰ These verbs are often irregular or suppletive throughout the Siouan language family and Hidatsa is no exception to this. When used as progressive markers, these verbs will inflect for person and number if they are lexically independent. As they are cliticized to the right edge of the verb, they often take final illocutionary force markers. The five Hidatsa positionals are shown in Table 4N and their selectional restrictions are given in Table 4O.

Table 4N - The Hidatsa Positionals

	Standing	Lying	Moving	Sitting	Unseen
Stem	/wahkú-/	/waakí-/	/hahkú-/	/rahkú-/	/waak ^h í-/
1s	mawahgú-	mawaagí-	awahahgú-	marahgú-	mawaak ^h í-
2s	nawahgú-	nawaagí-	nahahgú-	narahgú-	nawaak ^h í-
3s	mahgú-	maagí-	hahgú-	nahgú-	waak ^h í-
1pl	awahgúʔa-	maagáʔa-	awahagáʔa-	-----	mak ^h íʔa-
2pl	arahkúʔa-	nawaagáʔa-	arahahgáʔa-	-----	nak ^h íʔa-
3pl	ahgúʔa-	gáa-	hahgáʔa-	-----	-----

Table 4O - The Hidatsa Positional Semantic Restrictions

Stem	Shape	Uses
/wahkú-/	Standing	upright or tall objects (trees, buffalo, humans)
/waakí-/	Lying	long objects, people lying down or remaining still, reptiles, euphemistically dead (can be used with nonliving entities) (arrows, arms, lizards, dead trees)
/hahkú-/	Moving	moving, things scattered (corn, stones, houses, etc.)
/rahkú-/	Sitting	round objects, small animals and birds, people sitting
/waak ^h í-/	Unseen	subjects that are incorporeal or can't be seen (i.e. hiding), sounds.

²⁰ An example of this is shown in example (102) below.

Examples of these positional verbs are shown in (87 - 90).

The Progressive Marker *wahgú-* (/wáhú-/) [standing]

- (87) arucagíca nagabawángu.
aru -cakí-ca nakapi-a -wáhku -Ø
REL.N-good-INCL pick -CONT-PROG.st-IMPER
Kept picking only the good ones. (Parks et al 1978, PA: 58)

The Progressive Marker *wáagi-* (/wáaki-/) [lying]

- (88) heʔesháag daawaagaʔic^heéwareec
heʔešá-ak te -a -waaki -a -ic^heé -wareec
SC -SS die-CONT-PROG.ly -CONT-wake.up-NE
Then as he was dying there, he woke up. (Lowie 1939, I: 31)

The Progressive Marker *hahgú-* (/hahkú-/) [moving]

- (89) hii “hée guhgác,” héewa gigíraag áshahahgúwarec
hii hée kuhká -c, hée -wa ki -kíree-ak áša -hahkú -warec.
CONJ yes its.ready-DECL say -TEMP INCEP-fly -SS around-PROG.mo-NE
Then he said, “It’s ready,” and he was flying around with them.
(Parks et al 1978, PA: 65)

The Progressive Marker *rahgú-* (/rahkú-/) [sitting]

- (90) heʔšáarahgu hii náag hii maabiwiri éeraga idaxíccee
heʔ -šáa-**rahku** hii née-ak hii maapiwiri éeraka ita -xíccee
DEM-do -**PROG.si** CONJ go -SS CONJ sun DEM 3.POS.A-land

wadúwarec
watú -warec
there.is-NE

Being that way, he went and the sun's landmark was there. (Parks et al 1978, CR: 7)

The Progressive Marker *waak^hʔ-* (/waak^hi-/) [unseen]

- (91) idíibuuxoʔo xágahaag waabáahag
ita -ípuuxi-ʔo xákaa -hee -ak waa -páahi-ak
3.POS.A-rattle -PL.I move -3.CAS.D.sg-SS INDEF-sing -SS

iicackawaak^hʔwarec
ii -cacki -a -**waak^hʔ** -wareec
INST-be.noisy-CONT-**PROG.un** -NE

From out of sight came noise from them moving their rattles and singing.

(Lowie 1939, I: 34)

Although these verbs mark progressive aspect in Hidatsa, they can still be used as independent verbs with their full lexical content (i.e. *to sit, to stand, to lie, to move, or to be unseen*).

4.10 CLAUSE FINAL AND MATRIX CLAUSE FINAL ILLOCUTIONARY

MARKERS. Hidatsa has two types of non-superordinate clause structures: those that take

the form of temporal, conditional, or relative clauses and are clearly subordinate to the matrix or superordinate clause, and those that form co-subordinate constructions (Olson 1981, Van Valin 1985). Co-subordinate constructions are clauses that form chains which act like coordinate clauses, but the aspect, tense, number, and illocutionary force are only marked on the final or matrix clause. These co-subordinate structures are not subordinate in the same way that the temporal, conditional, or relative clauses are. As a result of this structural split, Hidatsa has two types of clause final markers: those that suffix to internal clauses,²¹ and those that suffix to matrix clauses. In older Hidatsa, there were two registers of speech and the interclausal markers varied with selectional register (Boyle 2006b).

4.10.1. INTERCLAUSAL FINAL MARKERS IN OLDER HIDATSA. The clause markers that are not the matrix clause final suffixes are more limited in number than those that can suffix to the matrix clause. These suffixes serve to 1) track subject continuity between clauses (in the old switch-reference (SR) system); 2) to conjoin clauses as coordinators; or 3) to mark true subordination which is usually done through temporal or conditional clauses. The non-matrix clause final suffixes for older Hidatsa (circa the Lowie texts: 1911-1939) that are discussed in this section are shown in Table 4P.

²¹ Relative clauses will be discussed in Chapter 7. Although they are also a type of subordinate clause, they act like DPs in the larger clause and are thus omitted from the discussion presented here.

Table 4P - The Older Hidatsa SR and Clause Connective System: -ak, -ruk, and -wa Suffixes

	Conversational markers	Narrative markers
1) Same Subject	-ak	-ak
2) Different Subject	-wa	-ruk
3) Temporal Marker		
Completed Action	-wa	-ruk
4) Temporal Marker		
Future Action	-ruk	-ruk
5) Conditional Marker	-ruk	-ruk
6) Continuative Marker	-a	-a

Switch-reference is a grammaticalized system that helps track subject continuity between clauses and sentences. Although this system is no longer functional in contemporary Hidatsa, it played an important role in older Hidatsa and will thus be briefly discussed here. As stated above, the SR systems functioned differently in the two registers of speech. Hidatsa is unusual among the Siouan languages in the degree to which it has grammaticalized this split in speech registers.²² The registers of speech are most notably marked by the final illocutionary force markers, -c (declarative) in the conversational register of speech and -wareec (narrative ending) in the narrative register of speech (which will be discussed below in Section 4.10.2). An additional feature of the narrative register of speech is that all dialog between characters in the stories is in the conversational register of speech. The narrative register of speech is used to tell the *máashii* /wáášii/, which are considered by many Hidatsa to be holy stories.

²² A nearly identical system to that shown here also exists in Crow, the language most closely related to Hidatsa. For a detailed analysis of this system see Graczyk (2006).

4.10.1.1. SWITCH REFERENCE. Switch-reference is a device for referential tracking where one of a set of morphemes is affixed (usually suffixed) onto a verb in order to indicate something about the identity of a noun phrase (Haiman and Munro 1983: ix). These markers help to track the identity of a subject from one clause to the immediately following clause. In Hidatsa, these morphemes are suffixed onto the clause-final, but not matrix-final verb. As shown above in Table 16, the SR morphemes in the narrative register of speech are *-ak* for the same subject (SS) marker, and *-ruk* for the different subject (DS) marker. In the conversational register they are *-ak* (SS) and *-wa* (DS). Examples from the narrative register of speech are shown in (92 - 94).

Switch-Reference in the Narrative Register - Same Subject and Different Subject Marker

- (92) **harúg**²³ rushhihawahgurug cǐdabushish garáag réewareec
harúk ruš^hih-awahku-**ruk** cǐtapušiš karáa-**ak** rée-wareec
 SC twitch-there -DS Spotted Tail run -SS go -NE
 Then when (First Worker) twitched, Spotted Tail ran away again (they say).
 (Lowie 1939, III: 34)

In (92), the initial subject has changed from that of the previous sentence. This is shown with the sentence connective word that ends in a DS marker at the beginning of the sentence. In example (92), the subject of the initial clause is not the same as the subject of

23 Hidatsa also extends its SR system to apply across sentences as well as within them. Here, the SR markers suffix to a variety of semantically bleached stems. Like the interclausal system, these SR markers track subject continuity. In the case of the sentence connective (SC) words, this continuity is tracked between sentences rather than clauses. This has also been documented in Mandan (Mixco 1997), and Crow (Graczyk 2006).

the second clause. This switch in subjects is signaled by the DS marker *-rug /-ruk/*. This subject is then maintained in the matrix final third clause.

In (93), there is a series of clauses with the same subject although no overt subject is expressed. The subject continuity is shown by the SS SR marker.

Switch-Reference in the Narrative Register - The Same Subject Marker

(93) **harúg raag** ixbashée áraxex**ag** aʔak^h**úag** wirawahúga
harúk ree-**ak** ixpa -šée áraxee**x-ak** aʔak^h**ú-ak** wira -wahúka
 SC go -SS wing-by hold -SS bring -SS woods-inside

aʔagrúuce**bag** réewareec
 aʔak -rúu-**ceep-ak** rée-wareec
 carrying-in -have-SS go -NE

Then holding him (the goose chief) by the wing, he (First Worker) carried him inside the woods, (they say). (Lowie 1939, II:5)

In (94), there is no overt subject expressed. Speakers track the subject of the three clauses through the change of the SR markers. The DS and SS morphemes allow people listening to the story to follow the action even though there are no subject DPs overtly stated in the utterance.

Switch-Reference in the Narrative Register - Same Subject and Different Subject Marker

(94) **harúg** ágcixir**ug** gará**ag** réewareec
harúk ákcixi-**ruk** karáa-**ak** rée-wareec
 SC jump -DS run -SS go -NE

Then (First Worker) jumped, and (Spotted Tail) ran away (they say).

(Lowie 1939, II:37)

The SR system works in a similar manner in the conversational register of speech.

This can be seen in example (95):

Switch-Reference in the Conversational Register of Speech

(95) giruwáč^hihgaag úuwaca wahgiragap^hág
ki -ruwáč^hi -hkee -ak úuwaca wah-kirakap^há-ak
suus-as.one -3.CAS.I-SS money 1A -collect -SS

wadawaa?aahtúu?ash wahguuciwaawáahag
wata -waa -aahtúu-?a -š wah-kuuci -waa -wá-aha -ak
1.POS.A-INDEF-head -PL.D-DET.D 1A -get -INDEF-1A -want-SS

wiihiirahbá?awa ruxbáaga iháhdaari wiiguxdáabag
wii -hiirahpá-?a -wa ruxpáaka iháhntaa-ri wii-kuxti-aapa-ak
1B -difficult -PL.D -DS people other -FOC 1B -help -PL.G-SS

waa?oorishhihirag waarúushaag uuwáca giragap^hág
waa -aru -riš^hí -hiri -ak waa -rúu-šaa²⁴ -ak uuwáca kirakap^há-ak
INDEF-PAR-dance-make-SS INDEF-INh-put.down-SS money collect -SS

We_i gathered together; we_j collected money; we_j wanted to get our skulls; it was difficult for us_j; the people of the other clans_j helped us_j; they_j had dances; they_j collected money; (Lowie 1939, V:4)

In (95), the initial subject is 'we' which refers to the Waterbuster Clan. It then changes to 'people of the other clans'. This change is signaled by the DS marker -wa. The new subject is also marked with the focus marker -ri, (Section 3.4.) which acts to indicate new

²⁴ This verb means to *put down*, *set down*, or *leave*. It is lexicalized and means to *collect money*. This comes from the custom of people coming up and putting money or other items of worth on a blanket. This verb's literal translation would be 'they set things (i.e. money) down'.

information in the discourse. The sentence then continues on with this new subject until it ends with a verb having a final illocutionary marker.

4.10.1.2. TEMPORAL AND CONDITIONAL CLAUSES. As shown in Table 16, the suffixes *-rug* /*-ruk*/ and *-wa* /*-wa*/ also have other functions in addition to their SR capabilities. The morpheme */-ruk/* can also serve as a conditional clause marker in both the narrative register of speech as shown in (96) and the conversational register of speech as shown in (97):

The Conditional Marker *-ruk* in the Narrative Register

- (96) haruk^hí waahguwirišh sheʔerú agiwahgúwareec
 haruk-hí waahku -wirišš šeʔe-rú aki -wahkú-wareec
 SC -CONJ Nightlike-Sun-DET.D DEM-LOC with.others-stay -NE
- waacagihisherug idacak^héewareec
 waa -cakí -hiše -ruk itacak^hée-wareec
 INDEF-good-have-COND like -NE

And then Moon decided to stay with them. **Since** he (Sun) was having such a good time, he (Moon) found he liked it also. (Lowie 1939, I:76)

The Conditional Marker *-ruk* in the Conversational Register

- (97) "dáheerug aruʔishíac"
 "tá -hee -ruk aru -išíac"
 "die-3.CAUS.D.sg-COND FUT.N-bad -DECL"
 "If he kills him, it will be bad." (Lowie 1939, I:49)

These examples of conditional *-rug /-ruk/* are potentially ambiguous with regard to their function. In both examples there is a switch in subject, so the conditional use of this morpheme is easily confused with its DS use. However, in (97), the example of *-rug /-ruk/* occurs in the conversational register of speech where the DS marker is *-wa*.

In addition to marking conditional clauses in both registers of speech, *-rug /-ruk/* is used as a temporal marker of completed action in the narrative register of speech. This is shown in (98).

The Temporal Marker of Completed Action *-ruk* in the Narrative Register

- (98) maabiwiriš wat^heeréerug ŋcihgawaahirish ihgi wat^hee éehgaag
 waapi-wiriš wat^hee-rée-ruk ŋcihkawaahiriš ihki wat^hee éehkee-ak
 Day -Sun already-go -TEMP First-Worker himself already know -SS

iruuhiwareec
 iruuhi-wareec
 lift.up-NE

When the Day-Sun had already gone, First Worker himself, knowing now (how it's done), (he) stood up (they say). (Lowie 1939, I:10)

There are few examples of *-rug /-ruk/* being used in this manner in the Lowie and Parks et. el. texts. Like the examples above (89 and 90) the subject changes in the clauses that occur between the *-rug /-ruk/* morpheme but I do not believe that this is required.²⁵

²⁵ This belief is based on how the SR system in Crow functions. In Crow when *-duk* (the cognate of *-ruk*) is used as a temporal element, the subject need not change. However, given that we have no definitive examples in Hidatsa, we cannot state this with certainty.

In the conversational register of speech, the temporal marker of completed action is *-wa*. This is shown in (99).

The Temporal Marker of Completed Action *-wa* in the Conversational Register

(99) áadawa óogciawa ahbáaxhi áraxhaawa hishaʔí heʔesháag
áata **-wa** óokcia-**wa** ahpáax^hi árax^haa **-wa** hišaʔ-í heʔešá-ak
morning-**DET**I night **-DET**.I clouds burn **-TEMP** red -until SC -SS

xaréec
xaréec-c
rain -DECL

for a day and a night **when** the clouds burned red; and thereafter, it rained.

(Lowie 1939, V:14)

The first two occurrences of *-wa* in (99) are clearly indefinite articles as they are suffixed to nouns. The third occurrence of *-wa* is suffixed to a verb and serves as a temporal marker. It is clearly not a DS marker as the predicates *árax^haa* ‘burn’ and *hiša-* ‘red’ have the same subject, namely *ahpáax^hi* ‘clouds’.

The morpheme */-ruk/* also can serve in a temporal role in the conversational register of speech. In (100), *-rug /-ruk/* functions as a temporal marker of future action.

The Temporal Marker of Future Action *-ruk* in the Conversational Register

- (100) maaʔahdúuʔahe xubáaʔawa wiréerirug wireeʔúudiru
waaʔaahtúaʔahe xupáa-ʔa **-wa** wiréeri-**ruk** wiree-úuti -ru
the skulls holy -PL.D-DS enter **-TEMP** door -base-LOC

aruʔiiʔawáagic
aru -ii -awáaki-c
PART-INST-sit -DECL

The skulls are holy, **when** one enters, one should sit down by the door.

(Lowie 1939, V:18)

This example shows unequivocally that *-rug /-ruk/* was not always a DS marker. This text is told in the conversational register where *-wa* is used as the DS marker, and there is no change in subject between the clauses linked with *-rug /-ruk/*. Like example (98), the gloss also shows a temporal notion.

The morpheme *-rug /-ruk/* also can be used in this manner in the narrative register of speech as shown in (101).

The Temporal Marker of Future Action *-ruk* in the Narrative Register

- (101) "miráaba xírirug arágarug rárahuric" háaʔawareec
"wirá -(a)apa xíiri **-ruk** aráka **-ruk** rá -rahu -ri -c" hée -ʔa-wareec
"wood-leaf brown-TEMP 2A.see-TEMP 2A-come-2.FUT-DECL" say-PL.D-NE
"**When** you see the leaves are brown, when you see them, you must come," they
said. (Lowie 1939, I:86)

Lastly in this set of medial clause final markers, the continuative marker *-a* is suffixed to clauses that share the same subject. This bond is syntactically tighter than that

formed by the SS marker. The continuative suffix forms clause chains. It can either occur clause finally or it can chain clauses to form one phonological word. Examples of both are shown in (102)

The Continuative Marker

- (102) náaruwa uʔúshiawareec
 rée-**a** -ruwi -**a** uʔúšia-wareec
 go -**CONT**-go.along-**CONT** arrive -NE
 Going along, he got there. (Lowie 1939, I:2)

Although the exact conditions when the continuative can conjoin two predicates into one phonological word are still unknown, the process occurs most often with motion verbs and positional verbs. Examples of both types of formations are found throughout both the Lowie (1939) and Parks et al (1978) texts, as well as my own field notes. The continuative marker serves this function in both registers of speech and occurs in both the older texts and contemporary Hidatsa.

4.10.1.3. INTERCLAUSAL FINAL MARKERS IN CONTEMPORARY HIDATSA.

Contemporary Hidatsa has simplified the system discussed in Section 4.10.1. The medial clause final suffixes for contemporary Hidatsa are shown in Table 4Q.

Table 4Q - The Contemporary Hidatsa System: -ak, -ruk, and -wa Suffixes

	Conversational markers	Narrative markers
1) Clause Coordinator	-ak	-ak
2) Temporal Marker	-wa	-wa
3) Conditional Marker	-ruk	-ruk
4) Continuative Marker	-a	-a

The older system found in the Lowie texts has been reanalyzed by modern speakers into a pattern that clearly reflects English constructions. The SS marker *-ak* has been leveled so that it patterns after the coordinating conjunction *-k*, which was (and still is) used to conjoin nouns (Ns) and DPs. In contemporary Hidatsa, the *-k* is used to conjoin Ns and NPs and the old SS marker, *-ak*, is used to conjoin verbs and verb phrases. This occurs even when the subjects of the clauses are different, as can be seen in (103). This shows that it has lost its function as a SS marker and is now only a verbal coordinator.

The Coordinating Verbal Conjunction -ak

- (103) awágawag radíriac
awákawa-**ak** ra-tíria-c
1A.walk -**COOR** 2A-run-DECL
I walked and you ran. (Boyle: 2003)

Example (104) offers definitive proof that the verbal coordinator is still *-ak*. Here, the first of the two conjoined verbs undergoes ablaut .

The Coordinating Verbal Conjunction -ak with Ablaut

- (104) cagáaga gíraag ookíáciac
cakáaka kíree-**ak** ook^híacia-c
bird fly -**COOR** soar -DECL
The bird flew and soared. (Boyle: 2005)

This vowel change offers good evidence that the verbal coordinator is –ak and not to be confused with the nominal coordinator –k.

In contemporary Hidatsa, the marker -wa is used to mark temporal clauses, as shown in (105) and the marker -ruk is used to mark conditional clauses, as shown in (106).

The Temporal Marker -wa

- (105) mǎa réeʔawa Alex igáac
wǎa réeʔa-**wa** Alex ikáa-c
woman leave-**TEMP** Alex see -DECL
Alex saw when the woman left. (Boyle: 2004)

The Conditional Marker -ruk

- (106) xarééʔapuhga óowiataa réesharug riishígiihda arugáreec
xarééʔap^huhka óowia-t^haa réeša-**ruk** rii -šíikihta aru -káree-c
rainbow point -NEG not -**COND** 2.POSS.I-finger PART-rot -DECL
Don't point at rainbows or your fingers will rot off. (Traditional Hidatsa saying)

As Table 17 shows, the old SR system that existed in Hidatsa is no longer present. It has been reanalyzed and a total leveling has taken place with regard to the two registers of speech. The only difference that still exists between the registers of speech is in the

sentence final illocutionary marker (discussed below in Section 4.10.2). These sentence final markers are the most salient features distinguishing between the traditional narratives and conversational registers of speech.

4.10.2. SENTENCE FINAL ILLOCUTIONARY MARKERS. Hidatsa, like all of the Siouan languages, has a large number of sentence final illocutionary markers. These suffixes have been much discussed in the literature, most notably in Matthews (1965:97-105) but also in Matthews (1877:104-16), Robinett (1955:161, 172-5), Jones (1984i & 1984j), Zwicky (1985), Palmer (1986), and Boyle (2000)²⁶ among others. While several of these markers are extremely common (such as the declarative and the question marker) many of them are rarely used (past definite plural) or only used in a certain discourse context (narrative ending).

4.10.2.1. THE COMPLEX REPORTATIVE MARKERS. The sentence final markers can be divided into two groups. The first group is the Complex Reportatives, which include the narrative ending, opinion, and reportative singular and plural markers. These four

²⁶ Matthews (1877) lists three of the sentence final markers and two of the medial clause markers; Robinett (1955) lists ten of the sentence final markers and three of the medial clause markers; Matthews (1965) lists six of the sentence final markers and three of the medial clause markers; Jones (1984i & 1984j) lists thirteen of the sentence final markers and two of the clause final markers. Zwicky (1985) is a critical commentary on Matthews' (1965) analysis of these markers (clitic vs. affix) and Boyle (2000) is a response to Zwicky (1985). Given the large number of sentence final markers listed in this section and the even greater number found in some of the other Siouan languages (most notably in Lakhota (Rood and Taylor 1996)), it would come as no surprise that more of these suffixes than are described here exist in Hidatsa.

illocutionary markers denote that the truth value of the utterance is not known. They are made up of one of four stems and a simple sentence final marker. At one point historically, they were independent verbs that became cliticized to the main verb structure. The narrative ending stem indicates knowledge handed down from the elders (and assumed to be true), the reportative stems indicate that someone else said the utterance (and the truth value is not known), and the opinion stem indicates that the speaker is stating an opinion (but its truth value is not known for certain). These four stems are shown in Table 4R.

Table 4R - Reportative Stems

-waree-	/-waree-/	Narrative Ending
-gigee-	/-kikee-/	Opinion
-rahee-	/-rahee-/	Reportative singular
-rahaa-	/-rahaa-/	Reportative plural

In the vast majority of examples, these four stems take the declarative final *-c*. However, it is possible to have other clause final markers follow them as well. A minimal pair can be seen in (107a) where the narrative ending is followed by the common declarative marker *-c* and (107b) where it is followed by the emphatic marker *-shgi /-ški/*.

The Narrative Ending Marker with Declarative Final *-c*

(107a) *ńcihgawaahirish asharuńwareec*
ńcihkawaahiriš aši -a -ruwĩ -waree-c
 First Worker go.around-CONT-go.along-NE -DECL
 First Worker traveled around. (Lowie 1939, III:1)

The Narrative Ending Marker with Emphatic Final -ški

(107b) *ícihgawaahirish ásharuwiwaréeshgi*

ícihkawaahiriš²⁷ áši -a -ruwi -warée-ški
Coyote Chief go.around-CONT-go.along-NE -EMPH
Coyote Chief was always traveling. (Wicker 1978:1)

Other markers besides the declarative and the emphatic that can follow the complex reportatives include the past definite singular (-/št/) and plural (/ -aha/). The non-speculative (/ -tooreš/), and speculative marker (/ -tóok/) cannot follow these complex reportatives due to their semantics. In addition, neither can the imperatives (/ -Ø/, / -ara/, / -ka/) nor question (/ -ʔ/) or permission (/ -ahka/) final markers follow the complex reportatives because of similar semantic reasons.

An example of the opinion marker is shown in (108). Its illocutionary force is to show that something is believed to have happened.

The Opinion Marker

(108) “*máaruwari wiʔisíiíhaaʔagigeec*”

wáa -ruwa-ri wii-išíí-haa -ʔa -kikee-c
INDEF-some-FOC 1B -bad-3.CAS.D.pl-PL.D-OPIN -DECL
“Something must have made it bad for us.” (Wicker 1978:50)

The reportative singular is shown in (109).

²⁷ First Worker is also sometimes called Old Man Coyote, or (as in this story) Coyote Chief. Some Hidatsa claim that First Worker is not the same as Old Man Coyote, whom they claim is a Lakhota mythological character.

The Reportative Marker - Singular

- (109) awashidáhgidaa awariáhdáa iiwáhgarat^hĩc
awašitáa-hkita -a awariá-htaa ii -wáh-karat^hĩc
north -towards-CONT ridge -GOAL INST-1A.climb -DECL

heeraheec

hee-**rahee-c**

say-**REPOR-DECL**

“I climbed north towards the ridge” he said. (Wilkinson 1977:28)

In this example, the reportative shows that the character is reporting an event that happened, namely his saying that he would climb towards the ridge. The reportative morpheme also agrees with the number of the person reporting, not the subject of the complement clause. This number agreement can be explicitly seen in (110), which shows the plural reportative.

The Reportative Marker - Plural

- (110) macée?aheri iiwagiracoobirahaac
macée-ʔa -heri ii -wa-giracoobi-**rahaa** -c
man -PL.D-DEM INST-1A-kiss -**REPORT.PL-DECL**
The men said “I kissed her”. (Boyle 2005)

4.10.2.2. THE SIMPLE SENTENCE FINAL ILLOCUTIONARY MARKERS. For a sentence to be grammatical in Hidatsa it must have one of the sentence final markers shown in Table 4S.

Table 4S - Matrix Clause Final Suffixes

-c	Declarative	-ški	Emphatic
-tóok	Speculative	-tooreeš	non-speculative
-št	Past definite singular	-aha	Past definite plural
-ʔ	Question	-ahka	Permission
-Ø	Imperative singular	-ara	Imperative plural
-ka	Imperative - Moderate		

The declarative -c is by far the most common sentence final marker as shown in (111).

The Declarative Marker

- (111) múaʔsh cawéeric
wúa-aʔ -š cawéeri-c
fish-PL.D-DET.D hot -DECL
The fish were hot. (Wicker 1978:32)

This is the marker that is found on the vast majority of Hidatsa sentences. It serves as a simple period and signals the sentence is terminated as a straightforward truthful utterance.

The emphatic marker is *-shgi* /-ški/. It signals a statement of emphatic force. An example is shown in (112).

The Emphatic Marker

- (112) maaréeracishgi
waa-rée-raci -ški
1A -go -APPROX-EMPH
I will follow him! (Parks et al 1978, WW:72)

The speculative marker -dóog (/tóok/) is often, though not always, marked for accent in the complex phonological word. Lexically, it must be marked with an underlying accent, but other phonological rules can sometimes override this inherent accent. Exactly when this happens is unclear and beyond the scope of this dissertation. The speculative marker acts as an internal question marker addressed by the speaker to him/her self. For this reason it patterns with the question particles with regard to not being able to come after the complex reportatives. It is often given the English translation of “I wonder...”. An example is shown in (113).

The Speculative Marker

- (113) “xaréé húudoog ii dahúuragidoog”
 xaréé húu **-took** ii tahúuraki**-took**
 rain come-**SPEC** CONJ thunder **-SPEC**
 “I wonder if there’s a storm and if that’s thunder?” (Parks et al 1978, CR:118)

The non-speculative marker serves as an emphatic statement of fact. Its illocutionary force is greater in its certainty than the simple declarative. When this clause final marker is used, it indicates that there is no doubt in the speakers mind as to the truth value of the statement. An example is given in (114).

The Non-Speculative Marker

- (114) ihgásh shég deháa?dooresh,
 ihká -š šék te -háa **-tooreš**,
 mother-DET.D DEM die-3.CAS.D.pl-**NON.SPEC**
 They have killed my mother; (Parks et al 1978, WW:46)

The past definite markers indicate that a definite event has occurred. As Hidatsa only distinguishes formally between future/non-future tense, the past definite markers serve to firmly place an event in the past. Like the non-speculative marker, it indicates a certainty in the mind of the speaker with regards to the event in question. It also indicates that the event happened. An example is shown in (115) which is the continuation of the example sentence given in (114).

The Past Definite - Singular

- (115) mǎʔeeca éecagaadi waadéhaaʔshd
 wǎ -eeca éca-kaati waa -té -haa -št
 woman-all all -AUG INDEF-die-3.CAS.D.pl-**PAST.DEF.sg**
 the women, all of them have been killed. (Parks et al 1978, WW:46)

The past definite plural, like the singular, indicates a certainty in the mind of the speaker with regard to the event in question. It indicates that the event happened more than one time in the past. An example is shown in (116).

The Past Definite - Plural

- (116) mǎsh iigiracóobaʔaha
 wǎ -š ii -kiracóopi-ʔa -aha
 woman-DEF.D INST-kiss -PL.D-**PAST.DEF.pl**
 They did kiss the woman. (Boyle 2005)

The question marker is -ʔ. Questions are also often signaled by a question word somewhere in the sentence. Since Hidatsa is an *wh-in-situ* language, this question word is

in the syntactic slot of the nominal being questioned. However, when a question word is not used, the simple glottal final marker indicates a question on its own, as shown in (117).

The Question Marker

- (117) “hiri ráhe?”
hiri rá -hee -ʔ
DEM 2A-make-Q
“Did you make this?” (Parks et al 1978, LM:71)

Question formation will be dealt with in detail in Chapter 6.

Hidatsa also has a request marker that is used to ask permission or form polite requests as shown in (118) and (119).

The Permission (Polite Request) Marker

- (118) macéesh wíaha iigiracóobiʔahga
wacée-š wíá -ha ii -kiracóopi-**ahka**
man -DET.D woman-DEM INST-kiss -**PERM**
May the man kiss the woman? (Boyle 2005)

- (119) mirée warúshgiʔahga
wirée wa-rúški-**ahka**
door 1A -open -**PERM**
May I open the door? (Boyle 2005)

While all of the above markers are phonologically simple in their interaction with the stem that they attach to, the simple imperative has several different allomorphs. The

simple imperative is signaled by a loss of the final vowel. Thus, long vowels become short and diphthongs become single vowels. Final short vowels are deleted except in the cases where the stem ends in a consonant cluster (including pre and post-aspiration) or when the final consonant is an /h-/. These are shown in Table 4T.

Table 4T - Phonological Environments of the Simple Imperative

1) Long vowels become short vowels:

VV --> V

2) Diphthongs become simplified:

ia --> i

ua --> u

3) Short vowels are deleted:

CV --> C

except in the environments of VhV# or CCV#

Examples of these processes are shown in (120-2). In (120), the verb *kuraʔáa* ‘to carry’ shows rule 1 (long vowel reduction).

Simple Imperative (Long Vowel Reduction)

- (120) "nidaʔiigidáhe guraʔá" háaʔawareec
 rita -ii -ki -téc-hee kuraʔáa-Ø hée-ʔa -wareec
 2.POS.I-INST-suus-die-3.CAS.D.sg carry **IMPER** say-PL.D-NE
 “Carry your weapon,” they said. (Lowie 1939, I: 47)

In (121), the verb *fiwía* ‘to cry’ shows rule 2 (diphthong reduction)

Simple Imperative (Diphthong Reduction)

- (121) góowiriiwi
kóowi-riiwia-Ø
end -2A.cry-**IMPER**
Stop crying. (Parks et al 1978, PA:17)

In (122), the verbs *ráapa* ‘pass by’ and *awáaki* ‘sit’ show rule 3 (short vowel deletion).

Simple Imperative (Short Vowel Deletion)

- (122) "náab gúaru awáag" háaʔarug awáagiwareec
ráapa -Ø kúa -ru awáaki-Ø" hée -ʔa -ruk awáaki-wareec
pass.by-**IMPER** DEM-LOC sit -**IMPER**" say-PL.D-DS sit -NE
"Pass by! Sit down over here!" they said. He (First Worker) sat down.
(Lowie 1939, I:38)

Example (123), show the short vowel deletion rule being blocked in a -VhV environment

and (124) shows the short vowel deletion rule being blocked in a -CCV environment.

Simple Imperative (Short Vowel Deletion Blocked)

- (123) “na iháadaha”
naa-Ø iháa -hta -ha -Ø
go -**IMPER** different-GOAL-ADV-**IMPER**
“Go! get away!” (Parks et al 1978, WW:19)

Simple Imperative (Short Vowel Deletion Blocked)

- (124) “heʔsháhic rícuuga éhgu ráaguawíheerug
heʔše-áhi -c rí -cuuka éhku ráakua -wíhee-ruk
DEM-PUNCT-DECL 2POS.I-younger.brother DEM 3.go.home-want -COND

giwáhxu” héewarec.

ki -**wáhxu-Ø**” hée-warec.

INCEP-want -**IMPER** say-NE

Now, ask your brother if he wants to go home,” she told the girl.

(Parks et al 1978, WW:19)

In addition to the simple imperative, Hidatsa also has an imperative that is used for groups. It is inherently plural and implies a command to a group. This is shown in (125) where the first imperative is the simple imperative²⁸ and the second imperative is the group imperative.

Group Imperative Marker - (Plural)

- (125) "guashéet^ha" "awáagaara"
kua -šée -t^haa awáaki-**ara**
DEM-do -NEG.IMPER sit -**IMPER.PL**
"Don't do that! (All of you) sit down! (Lowie 1939, II:3)

²⁸ An utterance with the simple imperative may or may not be plural. Sentences in the simple imperative cannot be marked for plural as the plural markers are -ʔa (definite plural) and -ʔo (indefinite plural). Given the short vowel deletion rule to form the simple imperative, this would leave -ʔ as the utterance final marker and as shown above the -ʔ is the question morpheme. Thus, Hidatsa uses the group imperative when it must indicate plural number.

Hidatsa also has an imperative of moderate force used for polite commands. This is often used with children and example is shown in (126).

Moderate Imperative

- (126) guashéet^haaga
kua -šée -t^haa-ka
DEM-do -NEG-**IMPER.M**
Don't do that! (Boyle 2005)

4.11. CONCLUSION. As I have shown above, Hidatsa has a large number of verbal prefixes and suffixes. Unlike Crow,²⁹ the language most closely related to Hidatsa, the ordering is firmly fixed with regard to the ordering of these affixes. This description draws on previous research and recent fieldwork in order to provide a solid foundation for further work on the language. As I have shown, Hidatsa has affixes which are marked for person and others which are not. The exact mechanism for this will be further explored in Chapter five. The prefix and suffix tables are shown in Appendix A.

²⁹ For an overview of the problem with variation in the ordering of affixes in Siouan see Rankin et al. (2002).

THE UNIVERSITY OF CHICAGO

HIDATSA MORPHO-SYNTAX AND CLAUSE STRUCTURE

VOLUME TWO

A DISSERTATION SUBMITTED TO
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CHAPTER FIVE THE INTERNAL STRUCTURE OF THE HIDATSA CLAUSE

5.0. INTRODUCTION. In this chapter, I will examine the morphological and syntactic structure of the verb phrase and the sentence in Hidatsa. Hidatsa can best be described as an agglutinating language with many polysynthetic features. As such, the syntax, I will argue, must have access to parts of the internal structure of the word. Given this approach, I will implicitly argue against the strong version of the lexicalist hypothesis as proposed by Selkirk (1982), Di Sciullo & Williams (1987), Anderson (1992), and Di Sciullo (2005) among others. However, I will also show that some of the affixation in Hidatsa enters into the derivation fully inflected. These inflected affixes include many of the prefixes such as the active and stative person markers, the instrumental and the locative prefixes, and the *suus*, vertitive, and repetitive *-(h)ki-* as well as the inceptive and completetative *-ki-*. Following Stump (2001), I will argue that these are examples of paradigmatic morphology. They enter into the syntactic derivation, along with the lexical predicate, fully formed. Following Chomsky (1993, 1995) I will assume that these inflected forms have their features checked via the processes of move and merge within the larger syntactic derivation. Additional affixation, most notably many of the suffixes, cannot be accounted for in this manner. Following Julien (2002) and Grimshaw (2005) I will show that many of these suffixes act as functional heads within the parameters of X-bar theory.

Section 5.1 will describe the lexical prefixes of Hidatsa with the exception of the pronominal prefixes (discussed in section 5.3), the partitive and relative markers (discussed

in chapter 6), and the *waa-* indefinite argument marker (discussed in section 5.2 along with incorporated nominals).

Section 5.2 will argue for the configurational nature of Hidatsa. I will show that overt DPs are lexical arguments and that Hidatsa has a VP by examining evidence from: 1) word order restrictions; 2) subject and object asymmetries and the scope relationship of auxiliaries and adverbials over conjoined verbs; and 3) incorporation data.

In section 5.3, I will argue that the pronominal prefixes also serve as lexical arguments specifically analyzing data from coordinate structures. I will show that the pronominal argument, hypotheses put forward by Jelinek (1984) and Baker (1990) do not apply to Hidatsa as it is a configurational language. The typological analyses presented here for Hidatsa will show that the analysis presented by Nichols (1986) and Van Valin (1985) are not complete. In their analyses, they claim that head-marking languages must be non-configurational. Evidence from Hidatsa shows that head-marking languages can also be configurational.¹ Given this evidence from Hidatsa and other languages, I claim that there is no connection between head-marking and configurationality.

Section 5.4 will demonstrate that the Hidatsa pronominal prefixes do not show overt case. Following Van Valin (1985, 1987), I will argue that the pronominal prefixes show semantic macro-roles, namely those of Actor (A) and undergoer (U). This argument can be extended to other Siouan languages, counter to the claim put forward by many scholars who have tried to show that the pronominal prefixes reflect overt case (Williamson

¹ Graczyk (1991) shows that this analysis is also correct for Crow.

1987, Van Valin 1985,² Legendre and Rood 1992, Wallace 1993, and West 2003 among others). Following Graczyk (1991), Wallace (1993), Rood and Taylor (1998) and Rankin (1997) among others, I will show that the type of pronominals that are prefixed to the verb must be lexically marked as part of the subcategorization frame of the verb. I will show that verbs are lexically specified as +/- Actor Subject and +/- Transitive. This approach will account for all of the possible combinations that are seen in the Siouan languages in general and in Hidatsa in particular. The verb complex is then checked for covert case at the functional nodes of subject and object agreement through the process of Move.

Section 5.5 will detail causative constructions. I will show that causatives are vP shells that incorporate the lexical VP.

Section 5.6. will detail how the additional suffixes serve as functional heads. With the exception of the causative they must agree with the person and number of the lexical verb, if such agreement is shown.

Section 5.7 will describe how complex multi-clause sentences are constructed. I will show that Hidatsa has a co-subordinate structure in its multi-clause sentences. Special attention will be given to how the switch-reference (SR) system functions in a Minimalist framework using ideas about coordinate structure put forward by Johannessen (1998). I will show that these markers join coordinate phrases (CoorP). I will claim that the SS markers conjoin VPs and the DS markers conjoin AgrPs. Following Rizzi (1997, 2004) I will adopt the view that CP is made of four functional nodes. These are [FORCE P

² It should be noted that Van Valin concludes that a GB analysis of the pronominals being overtly case marked cannot be sustained.

[TOPIC P [FOCUS P [TOPIC P]]]. This structure accounts for topicalization, focus constructions and rightward dislocation.

Section 5.8 will provide a brief conclusion.

5.1. HIDATSA LEXICAL PREFIXES. As stated in chapter 4, many of the verbal prefixes are derivational in the sense that they derive new verbs from more basic verbal roots. The applicative and instrumental prefixes are all lexicalized and although some of the prefixes are productive to a limited extent; many of them cannot be decomposed into their more historical primitive parts. As a result these prefixes must be viewed as part of the lexicon. Although they subcategorize for an additional argument, this cannot be a syntactic process as it is not truly productive. Verbs with these prefixes enter into the syntactic derivation fully formed.

5.1.1. APPLICATIVES. The applicatives should be seen from a diachronic perspective as postpositions that have been selected by their head, the verb stem. These applicative stems are ditransitive and allow for a goal and a theme object as seen in (1) with the verb *óopahiti*- ‘plug’:

- (1) aadóŋo aruʔác^ha éeca widéʔeeri óobahdag ashíwareec
 aatí -ʔo aru -ác^ha éeca wité -eeri **óopahiti**-ak aší -wareec
 house-PL.I REL.N-be.near all buffalo-chips **plug** -SS go.around-NE
 Plugging in buffalo chips in all their nearest houses, he (First Worker) went around.
 (Lowie 1939: III-10)

In this example, the additional argument is *witēʔeeri* ‘buffalo chips’. As shown in this example, the applicative prefixes increase the valency of the verb. These prefixes were discussed in Section 4.2.1. and have been shown to have limited productivity. Due to this limited productivity they are clearly derivational and must be listed in the lexicon as special forms of a verb.

5.1.2. INSTRUMENTALS. The instrumental prefixes, likewise, must be lexical as none of them are fully productive. Speakers must know which stems occur with which prefix. These prefixes also increase the valency of the verb although in a very specific manner. The instrumentals serve not only as a derivational morpheme that increases the argument structure, they also serve as the semantic instrumental argument. That is to say, by employing these different instrumentals, speakers do not add any additional argument as the prefix itself serves as the *means of argument*. This additional *means of argument* can be seen in (2) where the instrumental *ru-* ‘by hand’ is used:

Instrumental ‘by hand’ *ru-*

- (2) harúg wat^hée ahíruxabag raxbic^hísh guʔurúg ruudíwareec
 ha -rúk wat^hée ahí -ru -xapi-ak raxpic^hí-š kuʔu-rúk ruutí-wareec
 SC-DS immediately turnip-IN_h-peel -SS bear -DET.D give -DS eat -NE
 Immediately then when she peeled turnips and gave them to the bear, she (the bear)
 ate them. (Lowie 1939: IV-48)

The other instrumentals function in a similar manner. They add the specific ‘by means of’ argument associated with that specific instrumental. Further examples of the instrumentals are shown in (3-6).

Instrumental ‘by striking’ *raka-*

- (3) heʔesháag ícihgawaahirish ragawiráhiwareec
 heʔešá-ak ícihkawaahiriš **raka**-wir -áhi -wareec
 SC -SS First Worker **INs** -knock.down-PUNCT-NE
 Then he knocked First Worker down. (Lowie 1939: I-28)

Instrumental ‘by foot’ *ara-*

- (4) haag ashush arabéewareec
 hee-ak aš^hu -š **ara** -pée -wareec
 say-SS rope-DET.D **INf**-be.destructive-NE
 he said while kicking the rope. (Lowie 1939: I-57)

Instrumental ‘by pressure’ *pá-*

- (5) heʔesháag idaʔáshuʔo bágishag gúuʔawareec
 heʔešá-ak ita -ʔáš^hu-ʔo **pá** -kiši-ak kúa -ʔa -wareec
 SC -SS 3.POS.I-rope -PL.I **INp**-turn-SS give-PL.D-NE
 Then, twisting their rope on their thighs, they gave it to him. (Lowie 1939: I-46)

Instrumental 'by mouth' *rá-*

- (6) "hóo" háag girahág iirahcacagag p^hiáhiwareec
hóo háa-ak ki -rah -ák ii -**rá** -hcacak³-ak p^hia -áhi -wareec
all.right say-SS INCEP-get.up-SS INST-**INm**-bite.off -SS eat.up-PUNCT-NE
Saying, "All right," getting up and biting it off quickly, he quickly ate it up.

(Lowie 1939: III-64)

5.1.3. THE *ki-* PREFIXES. Like the applicatives and instrumentals, the *ki-* series of prefixes must also be viewed as lexical. These prefixes are derivational and only productive with a certain subset of verbs. As a result they must enter into the syntactic derivation with the verbal root as fully formed stems. This generalization accounts for both the outer *ki-*s (the inceptive and completative) and the inner *ki-*s (the *suus*, repetitive, mutative (entering into a state), and the vertitive). Although historically these prefixes were probably productive inflections, they no longer are. Here we see an example of productive inflections becoming grammaticalized into derivational morphology. This type of grammaticalization is a common process in the Siouan languages (Jones 1992b, Rankin 2004).

5.2. CONFIGURATIONALITY. Previous scholarship on Hidatsa has either ignored the question as to whether a VP with internal asymmetry exists (Jones 1979a, 1983, 1992a & b as well as unpublished work) or assumed it without looking for direct evidence (Matthews

3 This stem is reduplicated which adds a sense of 'chomping' to the verb. This would be similar to the difference in German of *essen* 'to eat' and *fressen* 'to devour'.

1965).⁴ I will show that Hidatsa is strongly configurational and hence has a VP with an internal asymmetrical relationship between its subject and object. I will argue that within the VP there is a constituent, V', that includes the verb and object but excludes the subject. Although some common tests that provide evidence of a V' constituent in English such as clefts and *do so* constructions have no parallels in Hidatsa, other tests strongly support that Hidatsa is a configurational language with a V'.

The term *configurationality* is used in a variety of way in the literature by different researchers. In this dissertation, I will adopt the definition as it is most commonly used by Siouanists (Van Valin 1985, West 2003, and Williamson 1984) whose work is most relevant here. A 'configurational' language is one that has a VP with an internal structure where there is an asymmetrical relationship between the subject and object. This is shown in the syntactic structure with a bar-level (V'). Non-configurational languages, by contrast, are said to lack internal hierarchy in their VP. Subjects and objects are sisters in the tree structure. Both Williamson and Van Valin state that Lakhota has no V' and that its clause structure is flat. In their analyses, there is no hierarchical asymmetry between subject and object. Subjects, objects, and verbs c-command each other. This mutual c-command

⁴ Analysis prior to Matthews (1965) include Robinette (1955) , Harris and Voegelin (1939 - see Lowie 1939 for this analysis) and Mathews (1877). These early descriptions make no reference to the notion of VP and as a result are excluded from consideration here.

among subjects, objects, and verbs accounts for the free word order and other apparent lack of asymmetries between subjects and objects in Lakhota.⁵

I will show that Hidatsa is a configurational language with an internal hierarchy in its VP. There are two main arguments for this: Hidatsa has a fixed SOV word order except in topicalization and focus constructions and there is evidence for subject/object asymmetries.

5.2.1. HIDATSA AS AN SOV LANGUAGE. One typically found feature of non-configurational languages is overtly case-marked nominals. This case-marking allows DPs to be freely moved in the sentence and yet still have their functional roles be interpreted in the overall structure. A often cited example of a language with free word order and case-marked DPs is Latin; through a rich case-marking system, the role of nominal arguments can be easily determined.

Hidatsa has no such system. Lexical DPs are not marked for case and hence, word order is the most significant factor in distinguishing subjects from objects. Canonical unmarked word order is SOV. The only exceptions to this rule of word order are found in marked cases such as topicalization and focus constructions. Examples of canonical SOV word order are shown in (7) and (8).

⁵ Graczyk (1991) and Wallace (1993) argue that Crow is a configurational language and West (2003) argues that Assiniboine is a configurational language (i.e. they have a V') whereas Van Valin (1979, 1985, 1987) and Williamson (1984, 1987) argue that Lakhota is a non-configurational language (i.e. they have no V'). The other Siouan languages have not been analyzed for configurationality along these lines.

SOV Word Order

- (7) buushiḡesh washúgash éegaac
puušiḡke-š mašúka-š éekaa-c
cat -DET.D dog -DET.D see -DECL
The cat sees the dog. (Boyle 2002)

- (8) mashúgash buushiḡesh éegaac
mašúka-š puušiḡke-š éekaa-c
dog -DET.D cat -DET.D see -DECL
The dog sees the cat. (Boyle 2002)

The subject in (7) is *buushiḡesh* ‘the cat’ and in (8) it is *mashúgash*, ‘the dog’. Word order alone determines the DP subject.

Hidatsa is also a Wh-*in-situ* language. As such, the question word replaces the DP being questioned. Given the statement in example (7) the questions in (9) and (10) ask two different things.

- (9) dáabawa washúgash éegaa Question of subject
táapa-wa mašúka-š éekaa-Ø
what-DET.I dog -DET.D see -Q
What saw the dog? (Boyle 2002)

- (10) buushiḡesh dáabawa éegaa Question of object
puušiḡke-š táapa-wa éekaa-Ø
cat -DET.D what-DET.I see -Q
What does the cat see? (Boyle 2002)

Word order is used to determine what DP in the sentence is being questioned.

In sentences with multiple DPs, oblique arguments are marked with postpositional locatives. The word order is SO with additional locative and instrumentals following the O but preceding the V. In addition, the subject is often, but not always, marked with a focus marker.⁶ An example of a sentence with multiple DPs is shown in (11).

- (11) macéesh raxbiccísh habúxida awatíí néedaru díheec
wacée-š naxpiccí-š hapúxi-ta awatíí néeta-ru tí -hee -c
man -DET.D bear -DET.D spear -INST river edge-LOC die-CAUS.D.3sg-DECL
The man killed the bear with a spear by the river. (Boyle 2002)

In addition to the above generalities, there are significant constraints on word order: SVO, VSO, and VOS orders are not possible and OVS is highly marked and only used in stylized speech. In all constructions objects always proceed verbs.⁷ Lastly adverbial adjuncts regularly proceed the VP. Given these word-order restrictions, it seems highly unlikely that Hidatsa is a non-configurational language.

5.2.2. SUBJECT AND OBJECT ASYMMETRIES SHOWN BY COORDINATION

DATA. Additional evidence that shows that Hidatsa is a configurational language comes from 1) word order restrictions and subject/object asymmetries that are observable in the

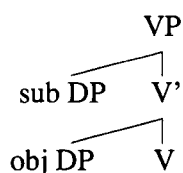
⁶ The distribution and exact usage of the focus marker *-ri* is an are of Hidatsa grammar that requires more research. It is most often suffixed to subjects but this is not its only function.

⁷ Objects can be shifted to the right through rightward dislocation but this is a violation of canonical word order and also highly stylized speech.

form of argument sharing; 2) scope of verbal enclitics over coordinated verbs; and 3) adverbial and auxiliary scope over both conjuncts in a verbal coordinate structure.

I propose that the structure of VP, with full lexical DP arguments, is that shown in example (12):

(12) Internal structure of VP in Hidatsa



This structure assumes the VP internal subject hypothesis (as proposed by Sportiche 1988, Koopman and Sportiche 1991 and Burton and Grimshaw 1992 among others). The subject would then move out of its VP internal position to [SPEC IP].⁸ In this position, abstract case is checked.

5.2.2.1. COORDINATION DATA AND ARGUMENT SHARING. Coordination data are especially good at revealing subject and object asymmetries in a language. When verbs in two conjuncts share an argument, an asymmetry exists between subjects and objects.

Consider the example in (13a):

⁸ Although I will assume an expanded (exploded) INFL, I will use the term IP until the functional heads that make up INFL are necessary in the analysis presented below.

- (13a) Alex wíá igáa réec
 Alex wíá ikáa-a⁹ rée-c
 Alex woman see -CONT leave-DECL
 ‘Alex saw the woman and left.’ (Boyle 2004)

Like its English gloss, the subject of the second clause must be the same as the subject of the first clause. The object is not available to be the subject of the second verb. The subject is generated in [SPEC, VP] of both verbs. In coordinate structures *Across-the-Board* (ATB) movement occurs when the subject moves to [SPEC, IP]. The subject is then positioned outside of the VP whereas the object is generated as sister to the initial V only, and as such, it is not an accessible subject for the second verb. If Hidatsa were a non-configurational language we would expect no structural difference between subject and object and either of them would be able to be the subject of the second verb, since they would share the same structural relationship to the verb. This is not the case in Hidatsa. ‘Woman’ *míá* cannot be the subject of the second verb even though semantically it could be. The object of the first conjunct is not available to the second conjunct’s subject position and this lack of availability for subject position of the second conjunct shows a clear asymmetry between subjects and objects. This sentences can be bracketed as shown in (13b):

- (13b) Alex [wíá igá]a réec
 Alex [wíá ikáa]-a rée-c
 Alex [woman see] -CONT leave-DECL
 ‘Alex [saw the woman] and left.’ (Boyle 2004)

⁹ In contemporary Hidatsa the continuative morpheme *-a* acts as a coordinate conjunction. In the older form of Hidatsa found in the Lowie (1939) texts, the continuative morpheme *-a* acts as a same-subject switch-reference marker. The analysis presented in this section is for contemporary Hidatsa.

Since the object is not available to be the subject of the second conjunct, the verb and object must be treated as forming a single constituent. This constituent is V'. If the sentence shown in (13a & b) was an example of only verb coordination, then there would be no motivation to disallow *wíá* 'woman' as the subject of the second conjunct. However, *wíá* 'woman' is not an accessible subject for the second verb, therefore the examples in (13a & b) must be one of VP coordination.

It should also be noted that no other 3rd person may be understood as the subject, even though 3rd person pronominals (in the absence of a full DP) are null. For a null 3rd person to be the subject of the second conjunct the sentence would be that shown in (14):

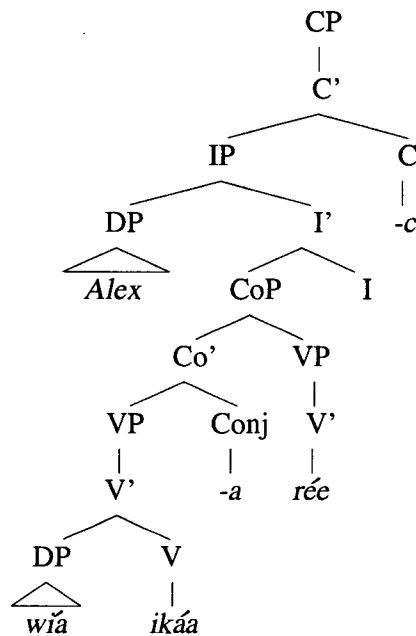
- (14) Alex *wíá* *igáac* *háasha* *réec*
 Alex *wíá* *ikáa-c* *hááša* *rée-c*
 Alex woman see -DECL but.then leave-DECL
 'Alex_i saw the woman. But then he_j left.' (Boyle 2004)

This example shows that for contemporary Hidatsa to form sentences with different subjects, the first sentence needs to be completely ended with a declarative marker (-c). The disjunct coordinator *hááša* is used to introduce the second sentence. When a declarative marker is used, it terminates the events of that sentence. The pragmatics of *hááša* signal that the new sentence has a different subject than the previous one. The subject of the second sentence is never interpreted as having the same subject as that of the first sentence.¹⁰

¹⁰ The pragmatics of sentential coordination is a problematic area of grammar in all of the Siouan languages.

In (13a & b), the subject must be structurally higher than the object. The object of the first verb is part of the conjunct structure as it is sister to the initial verb. The subject¹¹ of the first clause is not included in the conjunct as it has moved to [SPEC, IP]. This asymmetry from example (13) is shown in (15).

(15) Hidatsa Coordinate Structure¹²



11 Following McNally (1992) and Johannessen (1998), I assume that subjects in coordinate structures are base generated in both VPs. These subjects are co-indexed with each other and across the board (ATB) movement occurs. The subject then ultimately moves to [SPEC, IP] or more formally [SPEC AGR P].

12 CoP is a Conjunction Phrase. Johannessen (1998) shows that conjunctions act as heads and project to the phrasal level. CoP may represent the conjunction of any identical categories. CoP has the features of whatever type of phrases it coordinates.

In this structure, the I node has scope over both VPs although there is nothing overt in it. Some of the functional categories that can exist in the I node will be detailed below.

5.2.2.2. SCOPE OF VERBAL ENCLITICS. Hidatsa has a large number of post-verbal enclitics that project functional heads. These include negation (*-t^haa-*) [NEG P]; three aspectuals which include the approximatives (*-raa-*, *-ree-*, *-(r)acI-*, *-riwaa-*, *-riraa-*, and *-rihee-*) [APPROX P]; the frequentative (*-kša-*) [FREQ P]; the habituals (*-ʔii-* and *-ʔiiruu-*) [HAB P];¹³ the futures (*-wi-*, *-ri-*, *-hi-*, *-wihaa-*, *-rihaa-*, *-haa-*, *-wihi-*, *-rihi-*, *-hi-*) [TP]; and the plurals (*-ʔa-*, *-ʔo-*, *-aapa-*) whose phi features are checked at [Agr P]. Examples of several of the functional nodes can be seen in (16-19).

(16) Hidatsa Habitual Aspect
 macéesh húuʔiic
 wacée-š húu -ʔii -c
 man -DET.D come-HAB-DECL
 ‘The man comes (again and again).’

(17) Hidatsa Future Tense
 macéesh húuhic
 wacée-š húu -hi -c
 man -DET.D come-3.FUT-DECL
 ‘The man will come.’

13 As a group, I label the three different aspects as [AspP] as it is rare to find more than one in an utterance. However, it is possible, in which case, they could be exploded out into their individual functional names.

- (18) Hidatsa Negation
 macéesh húut^haac
 wacéé-š húu -t^haa -c
 man -DET.D come-NEG-DECL
 ‘The man won’t come.’

- (19) Hidatsa Plural Number
 macéesh húu[?]ac
 wacéé-š húu -ʔa -c
 man -DET.D come-PL.D-DECL
 ‘The men come.’

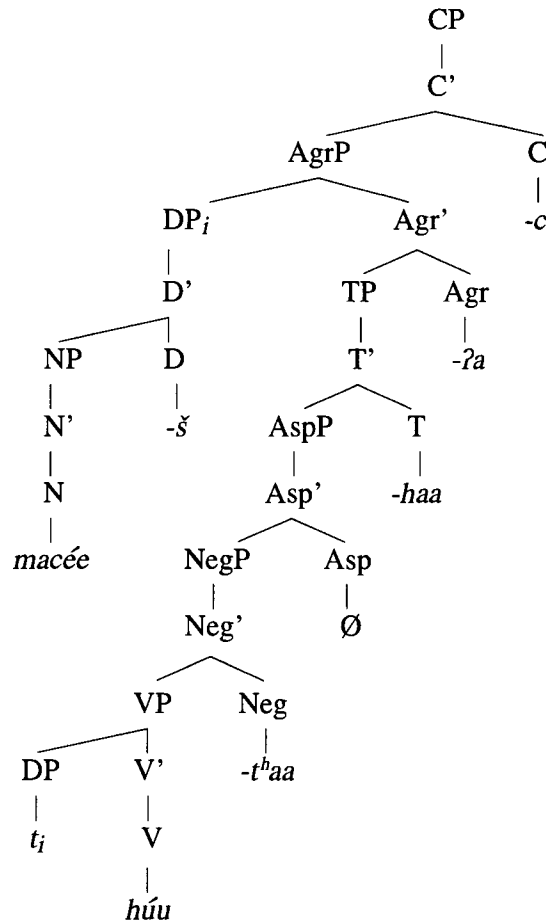
As stated above, it is possible to have many of these functional nodes present in one word as shown in example (20).

- (20) Hidatsa Complex Verb
 macéesh hú^haahaa[?]ac
 wacéé-š húu -t^haa -haa -ʔa¹⁴ -c
 man -DET.D come-NEG-3.FUT.PL-PL.D-DECL
 ‘The men won’t be coming.’

These functional nodes are built through the operations of Merge to produce the structure shown in (21).

¹⁴ Note that in constructions with the future plurals, the plural morpheme is still used, showing a redundancy in the system.

(21) Proposed Structure for Functional Nodes in the Hidatsa IP



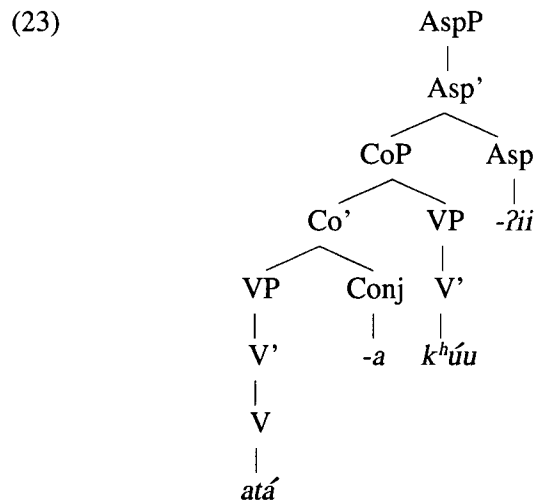
In (21) the DP has moved out of its VP internal position to [SPEC, AGRP] where its features are checked. The verb then moves through the functional nodes where the overt morphology is added. Plural number is added at [Agr] where the phi-features of the verb are checked. In addition, this is also where active/stative pronominals are checked (as will be shown below).

Given the above structure, we can now examine how these enclitics interact with the structure of conjoined verbs, giving more evidence for the configurational nature of

Hidatsa. If these enclitics have scope over both verbs, then this relationship offers additional evidence for the enclitics forming a hierarchical constituent in addition to the notion of VP with an internal structure (i.e. a V'). If there were no VP with an internal structure and Hidatsa had a flat non-configurational nature, we would expect the enclitics to have scope over only the verb which they are cliticized to. This is not the case. The verbal enclitics must have scope over the entire conjoined structure. An example of this scope relationship can be seen with the Habitual singular marker *-ʔii*, in (22), showing how scope works in the language.

- (22) “doosha wiriʔéeraga adáʔa k^húuʔiidoog”
 “toos^ha wiri-éeraka atá -a k^húu -ʔii -took”
 “how sun-DEM appear-CONT come.up-HAB.sg-SPEC
 “How does the Sun always appear and come up?” (he wondered) (Lowie 1939: 1-87)

This sentence cannot read ‘How does the sun appear and always come up?’. The habitual aspect marker has scope over both conjuncts. It must read ‘always appear and always come up’. This relationship can be seen in the diagram in (23).



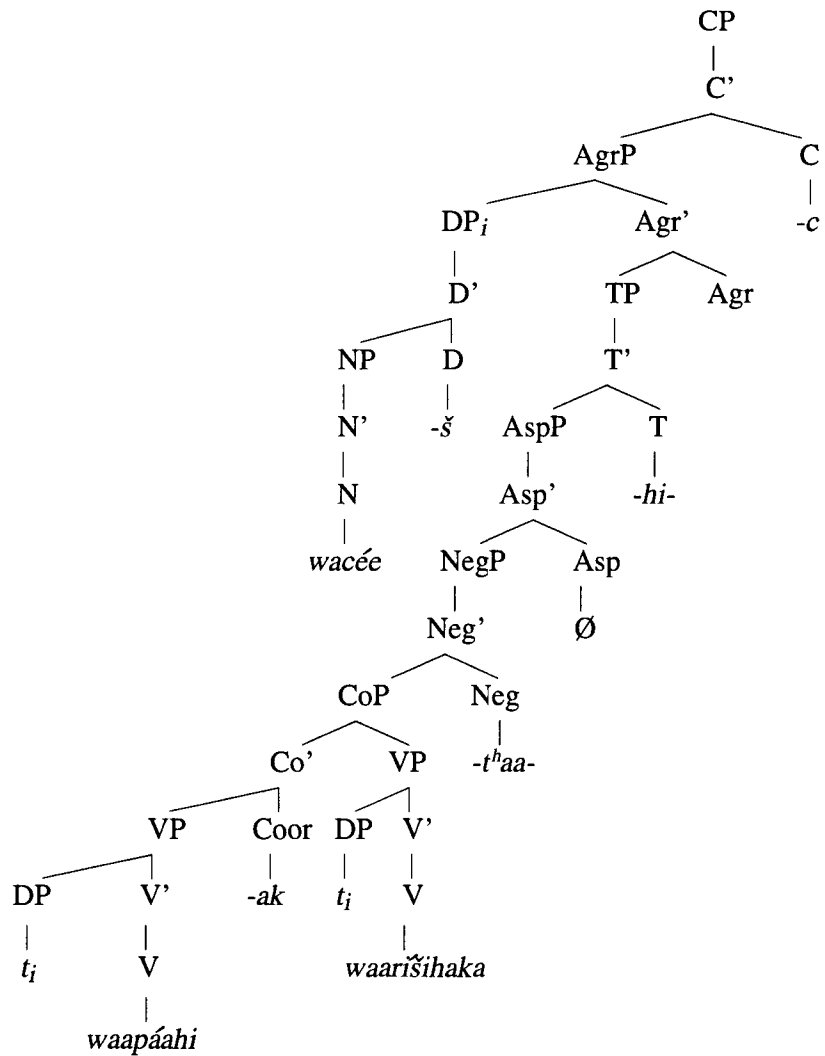
In this diagram the aspectual *-ʔii* is the head of a functional projection [Asp P] (Aspect Phrase), which c-commands the conjoined VPs.

Similar evidence of conjoined structures can be seen with negation. Example (24) shows two verbs, both of which are negated and in the future tense.

- (24) macéesh waabáahaʔag waariʃihagat^haahic
 wacéé-š waa -páahi -ak waa -rih̄ši -haka-t^haa-hi -c
 man-DET.D INDEF- sing-COOR INDEF-dance-able-NEG-3.FUT-DECL
 The man will not be able to sing and dance.

In this sentence, both conjoined verbs are negated and marked for future tense, yet these features are only marked on the second verb in the coordinate structure. These functional projections of negation and tense have scope over both verbs in the conjoined structure. This relationship is shown in the diagram in (25).

(25)



In Hidatsa, verbal enclitics can take scope over two or more conjuncts. Although it is sometimes the case that multiple verbs will have enclitics (with the exception of the sentence final marker), this is not required. In examples where the verbs both have an enclitic, the structure would be conjoined at a higher node in the tree structure. These types of examples show that other types of phrases can be conjoined as well as VPs. It is always the case that conjuncts are two (or more) like structures. That is to say, that if the first

conjunct has aspect, the second will also show aspect and this conjoined structure would be a conjunction of [Asp P]. These structures provides further evidence to support my claim that there is internal structure in what is traditionally labeled as IP. This internal structure again shows the existence of asymmetrical relationships and hence, provides evidence that Hidatsa is a configurational language. This asymmetry exists not only in VP, as shown here, but also in DPs and NPs (as has been shown in Chapter 3). In Section 5.5, I will show that asymmetries extend to vP and, in Section 5.6, I will show that they exist in the functional heads that make up IP. Without the existence of asymmetries in the syntactic structure of Hidatsa it would be difficult to explain a number of phenomena. The syntax (and the semantics that are read off of them) are regulated by these geometrical considerations. This configurationality can capture the fact that syntactic structures stand in a fixed order in Hidatsa as well as providing a motivated reason for movement (detailed in this chapter in the form of topicalization and focus constructions), illocutionary force marking (as shown in Section 5.7.4), and relative clause constructions (as detailed in Chapter 6).

5.2.2.3. SCOPE OF AUXILIARIES OVER VERBAL CONJUNCTS. Additional evidence of VP as a constituent is seen with the scope of auxiliaries over verbal conjuncts and their interaction with the functional heads. Hidatsa auxiliaries include the modal¹⁵ verb *-haka-* ‘be able to’ as well as a set of verbs that are known as ‘positional verbs’.

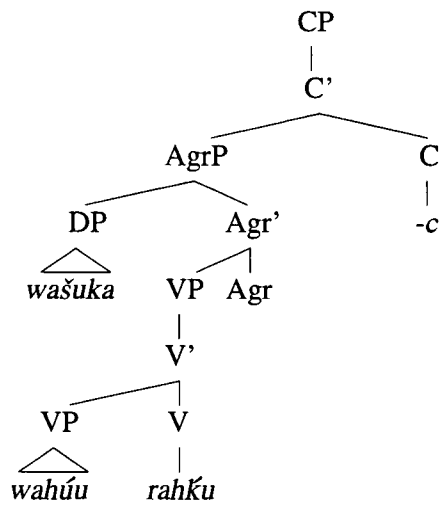
¹⁵ Crow has a number of modal verbs (Graczyk 991:261-67) which do not seem to have cognates in Hidatsa. Neither Jones nor Matthews (1965) report any modal auxiliaries for Hidatsa. The modal verb *-haka-* ‘be able to’ is the only such verb I have in my corpus of data; however, more work needs to be done in the area.

Historically the positional verbs are ‘sit’, ‘stand’, and ‘lie’ (Rankin 1977: 273-5, 2004). Matthews (1965: 159-61) states that these positionals have very limited selectional restriction: they usually require human subjects. These verbs form a natural subclass within the language. In Hidatsa, these verbs function in a similar manner as auxiliaries do in many other languages. As shown in Chapter 4, these verbs are: *wahkú* (standing, be there), *waakí* (lying down, remaining still, being there, come back, or euphemistically dead), *rahkú* (sitting), *háhku* (moving, continue), and *waak^hí* (for people not in sight and therefore their posture remains unknown, be invisible) (Matthews 1965:160). These are used to mark progressive or ‘ongoing’ aspect. Although these verbs can be cliticized to the main verb in rapid speech, they most often are independent words. They are the final verb in the clause or series of clauses and when not used as independent lexical verbs (i.e. to sit, to stand, to lie, etc.) they have scope over all previous verbs in the utterance. They function in a similar manner to English auxiliaries. An example of a simple sentence is shown in (26):

- (26) mashúga wahúu rahgúc
 wašúka wahúu rahkú-c
 dog bark PROG-DECL
 The dog is barking. (Boyle 2005)

They add progressive aspect, but are best analyzed as verbs that take VP complements, in a similar manner to English auxiliaries. The syntactic structure of example (26) is shown in (27).

(27)

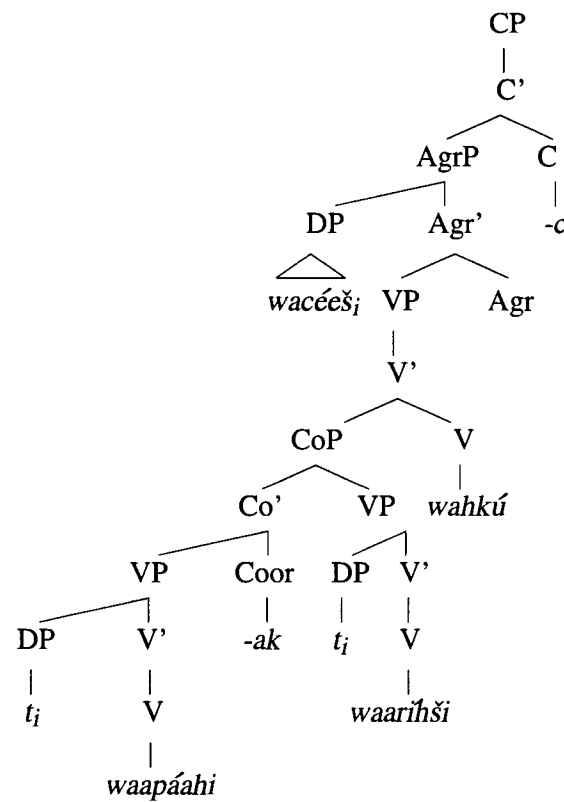


In conjunct constructions, the progressive verb has scope over both of the conjoined verbs as in (28).

- (28) macéesh waabáahaag waarihshi wahgú
wacée-š waapáahi-ak waarihši wahkú-c
man -DET.D sing -COOR dance PROG -DECL
The man is dancing and singing. (Boyle 2005)

The syntactic structure is shown in (29).

(29)



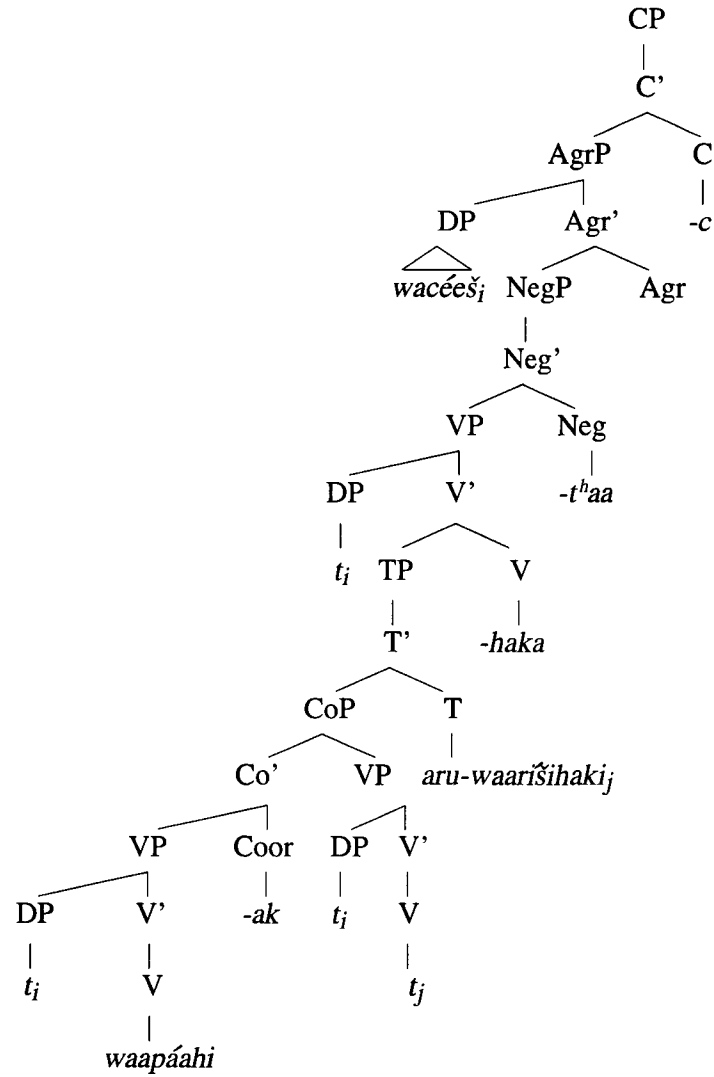
The modal auxiliary *-haka-* ‘be able to’ also serves as an auxiliary verb with scope over both conjuncts as is shown in (30).

- (30) macéesh waabáaha?ak aruwaarišihagat^haac
 wacéé-š waapáahi-ak aru -waarihši-haka-t^haa -c
 man -DET.D sing -COOR FUT.N-dance -able -NEG-DECL
 The man will not be able to sing and dance. (Boyle 2005)

In addition to the modal auxiliary, this example also uses the nonspecific future prefix *aru-*. In 4.7.1, I detailed the use of the nonspecific future and claimed that it is in complementary distribution with the specific future morphemes. The *aru-* (and *aku-*) morphemes are

unusual in Hidatsa. In Chapter 6, I will show that these morphemes are marked as +strong. This strong feature causes the verb to move in the overt syntax, where the *aru-*nonspecific future morpheme is prefixed to the verb rather than suffixed in a concatenating manner. This can be seen in (31).

(31)



The tense still has scope over both conjuncts as it has scope over the conjoined phrase. As a result both verbs receive future tense readings. The temporal interpretation is not that shown in (32) but that shown in (33):

- (32) *The man is not able to sing (now) and will not be able to dance (in the future).
(33) The man will not be able to sing or dance (in the future).

The reason for only the second of the VP conjunct's moving is the shortest movement constraint. Given principles of economy, this analysis shows that it is the smallest constituent possible moving the smallest distance possible in the syntactic derivation. This notion explains why it is only the second conjunct that overtly moves in the syntax.

In addition, this analysis proposes that the subjects of the lower coordinate conjuncts undergo across the board movement to the specifier of the modal verb, which in Hidatsa acts as a raising verb. The subject then ultimately moves to [SPEC, AGR P] where its features are checked. This analysis not only explains the unusual morpheme ordering of the nonspecific future but also offers more evidence for the configurational nature of Hidatsa.

While the structure shown in (31) may seem like a violation of the Coordinate Structure Constraint (CSC), it is not. Following Johannessen 1998, Fox 2000, Pesetsky 2000, and Ruys 2000 (among others), I take the CSC to be a constraint that applies only to phrasal and not to head movement. As such, examples like (31) are not violations of the CSC, as it is only the V head that overtly moves to T.

Furthermore, example (31) is similar to constructions of partial agreement of Conjunction Phrases (CoPs) detailed in Johannessen (1996). Although she examines coordinate NPs in which only one of the conjuncts shows agreement with the verb, her analysis can also account for the example shown in (31) with regard to why both conjuncts are interpreted as having a future tense reading. She states that the only relevant relation between elements in the CoP is one of specifier-head agreement. Since a conjunction, the head of the CoP, must be considered a functional category, the specifier-head agreement involves the unification of features, so that the head projects the features of its specifier (Johannessen 1996:669). The features of the specifier are present at the maximal level, since this is a projection of the head, thereby bestowing ordinary lexical features on the CoP (i.e. the lexical features of whatever two like elements are conjoined). The conjunct in the complement position takes no part in agreement and offers no syntactic features to CoP itself. In head final languages, agreement is found on the second conjunct (which is in [SPEC CoP]). This explains why the features found on the second conjunct in CoP (in this case tense) are distributed to the other conjuncts in CoP (i.e. the coordinated conjunct found in the complement of CoP). This accounts for why both conjuncts are interpreted as having future tense.

Coordinate structures like (31) are examples of unbalanced coordination. Although only the second conjunct is marked for tense, it is really the entire CoP that receives tense. As I stated in 4.7.1, the nonspecific future marker *aru-* and the specific future markers are in complementary distribution. With the specific future markers there is clearly no violation of the CSC as the morphemes of the various functional heads attach to the verb in a

concatenating manner via the process of merge. The nonspecific future *aru-*, however, behaves differently. Construction like this, with tense as a prefix, are clearly marked. This marked construction is a reflection of the nonspecific future morpheme having a “strong” feature. This strong feature forces movement and hence extraction from the coordinate structure, seemingly causing the violation of the CSC. Johannessen (1996, 1998) provides argumentation that this is head movement and that it can occur in a variety of languages with both DP coordinate structures and VP coordinate structures. She shows that in these types of coordinate structures, it is only the conjoined X in the specifier position that can be extracted (in the case of (31) the V in the [SPEC CoP]). A CoP acts as a single phrase and has the features of whatever type of phrase it coordinates. Because of this, both VPs in CoP are tensed, however the actual tense morpheme is only realized on the second conjunct (the one in [SPEC CoP]). In the specific future constructions this is shown with a suffix, but in the nonspecific future construction, this is shown with a prefix due to the overt movement.

5.2.2.4. SCOPE OF ADVERBIALS OVER VERBAL CONJUNCTS. Adverbials in Hidatsa can also be shown to have scope over conjoined structures. Unlike the aspectual enclitics and auxiliary verbs, adverbs precede the coordinate structure as stated above. An example of an adverbial is shown in (34):

- (34) maagaríshda **wat^hée** aradáhxiʔag iréʔec
 waakaríšta **wat^hée** aratáhxi-ak iréʔe-c
 child **now** walk -COOR talk -DECL
 The child **already** walks and talks. (Boyle 2006)

In this example, both conjuncts share the adverb *wat^hée* ‘already/now’. This sentence cannot have an interpretation of the adverb referring to *aratahxi* ‘walk’ only. It must have scope over both conjuncts. This analysis shows that the adverb c-commands both verbs, not just the first of the conjuncts as we would expect if the language didn’t have a VP and were non-configurational. The adverb has scope over all of the verbs in the coordinate structure. For the adverbial to have scope over only one of the conjuncts the structure would have to change. For the adverbial to have scope over only the second conjunct the adverbial must come between the verbs as in (35).

- (35) maagarishda aradáhxi?ag **wat^hée** iré?ec
 waakarišta aratáhxi-ak **wat^hée** iré?e-c
 child walk -COOR **now** talk -DECL
 The child walks and **already** talks. (Boyle 2006)

For the adverbial to have scope over only the first conjunct, the first clause must be brought to a close with a final illocutionary suffix as in (36).

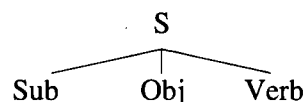
- (36) maagarishda **wat^hée** aradáhxic iré?ec
 waakarišta **wat^hée** aratáhxi-c iré?e-c
 child **now** walk -DECL talk -DECL
 The child **already** walks. (and) She talks. (Boyle 2005)

As can be seen from the examples in (34-36), the scope of adverbials show further evidence that there is a VP in Hidatsa. These structures lends further strength to the argument that Hidatsa is a configurational language.

5.2.3. INCORPORATION. Incorporation data also provides evidence of a hierarchical structure within the VP. Hidatsa allows nouns, verbs, and postpositions to incorporate. I will limit this section to noun incorporation¹⁶ as that provides the best evidence for a subject-object asymmetry. Hidatsa, like most languages in the world, only allows objects to incorporate. The incorporated object must be generic, although occasionally for very common actions a noun marked with the indefinite determiner *-wa* can be incorporated (Boyle 2002). In addition to allowing NPs to incorporate, Hidatsa also has an unspecified object morpheme *waa-* that often fills the verbal slot where full NPs are incorporated.

5.2.3.1. NOUN INCORPORATION AND CONFIGURATIONALITY. Noun incorporation (NI) can offer additional evidence for an asymmetrical relationship in VP between subjects and objects. If a language is non-configurational, its sentence structure is flat as shown in (37):

(37)



Assuming that NI is syntactic and not lexical in nature, either the subject or object nominal head could be incorporated into the verb, since they mutually c-command each other. In

¹⁶ Verb incorporation will be discussed in Section 5.5. and although this section will only deal with causative constructions, the argumentation can easily be extended to other types of verb incorporation. For a discussion of postposition incorporation see Graczyk 1991. Although Graczyk (1991) deals specifically with Crow, many of the same arguments are valid for Hidatsa.

this section, I will argue that NI occurs in Hidatsa and that it is a syntactic process. In addition, I will show that it can not take place with subjects and therefore the structure shown in (37) is not applicable to Hidatsa. The fact that subjects can not undergo NI provides further evidence that Hidatsa is a configurational language.

In Hidatsa, the process of NI is a productive one. Example (38a) shows the incorporation of an object.

(38a) macée iídagidiheec
wacée iítaki -ti -hee -c
man rabbit-die-CAUS.D.sg-DECL
‘(a) man kills (a) rabbit.’ (Boyle 2002)

If the structure posited in (37) was the one that existed in Hidatsa, we should also be able to have the example shown in (38b) with the same or at least a similar interpretation to the English gloss in (38a).

(38b) iídagi wacéediheec
iítaki wacée-ti -hee -c
rabbit man die-CAUS.D.sg-DECL
* ‘(a) man kills (a) rabbit.’ (Boyle 2002)
‘(a) rabbit kills (a) man.’ (Boyle 2002)

This is not possible. Example (38b) means ‘(a) rabbit kills (a) man’. It cannot be interpreted as meaning ‘(a) man kills (a) rabbit’.¹⁷ Examples such as (38a & b) show that

¹⁷ Note that while this example is syntactically well-formed, it was rejected by most speakers as being semantically ill-formed as rabbits don’t hunt and kill men.

only the object can incorporate. Baker (1988) attributes this restriction of allowing only objects to incorporate to an asymmetry in the structure of the language. This asymmetry is one in which the subject is structurally higher than the object. In the structure shown in (37), no such asymmetry exists.

While it will become clear that examples like (38a) are ones of syntactic incorporation, many authors have asserted that they are really ones of compounding (Mithun 1984, Di Sciullo and Williams 1987, Rosen 1989, Anderson 1992 among others). These scholars consider the example shown in (38a) to be lexical in nature. Sadock (1980, 1986, 1991) offers several tests that distinguish syntactic from lexical incorporation.

For NI to be syntactic in nature, it must be productive (Sadock 1991:83-5). NI can not exist solely in frozen syntactic constructions that are usable with only a limited range of lexically specified words. In Hidatsa, NI is a productive mechanism of word-formation. Examples are found throughout the Lowie (1939) and Parks et al (1979) texts as well as numerous ones from my own field work.

Sadock (1991:91-99) also shows that for NI to be truly syntactic in nature, elements that modify the noun that has been incorporated must be allowed to occur outside the verb. An example of this can be seen in (39).

- (39) aruʔihdíash ídagidiheec
 aru -ihtíá-š íitaki -ti -hee -c
 REL.N-big -DET.D rabbit-die-CAUS.D.sg-DECL
 'He killed (a) rabbit that was big.' (Boyle 2002)

Mithun (1984), Rosen (1986) and Anderson (1992) among others, view these types of constructions as “headless” relative clauses (these constructions will be elaborated on in Chapter 6). Sadock states that these types of example by themselves do not settle the question as to whether or not NI is indeed syntactic. However, the ungrammaticality of (40) does show that the incorporated element in (39) is in fact syntactic.

- (40) * *ńdagi aru?ihdíash ńdagidiheec*
ńtaki aru -ihtíá-š ńtaki -ti -hee -c
 rabbit REL.N-big -DET.D rabbit-die-CAUS.D.sg-DECL
 ‘A rabbit that was big he killed a rabbit’ (Boyle 2002)

Example (40) is expected to be ungrammatical in Hidatsa if NI is a syntactic process. This is because the object *ńtaki* ‘rabbit’ is overt in both its original position, as the head noun of the relative clause (where we would expect only a trace), and again, as the object noun that is incorporated into the verb. If the NI structure in (39) were lexical, then (40) might be grammatical as the incorporated noun would not be a true object.

Sadock (1991:86-8) states that a third test for syntactic NI is referentiality. That is to say, it must be possible to reference the incorporated noun. If the incorporated noun + verb is a lexical element only, then that noun must be non-referring; it can play no further role in the discourse unless it is reintroduced with full categorical status. Again, this is not the case in Hidatsa as can be seen in example (41):

- (41) harúg wat^hée ahíruxabag raxbic^hiśh guḥurúg ruutiwareec
 ha -rúk wat^hée ahí -ru -xapi-ak raxpic^hiś kuḥu-rúk ruuti-wareec
 SC-DS immediately turnip-INh-peel -SS bear -DET.D give -DS eat -NE
 Immediately she peeled turnips and gave them to the bear, she (the bear) ate them.

heḥeshág p^hiag iiḥiruuhág maarishhiwareec
 heḥeśáa-ak p^hi-ak ii -iruuh -ák waa -riś^hi -wareec
 SC -SS eat -SS INST-stand.up-SS INDEF-dance-NE
 And then, eating them up (and) standing up, she danced. (Lowie 1939, IV:48-9)

In this example, *ahí* ‘turnip’ is incorporated into the verb stem *ruxapi-* ‘to peel with hand’.
 It is also the object in the following two clauses *kuḥu-* ‘give’ and *ruuti-* ‘eat’ and in the first
 clause in the next sentence as well.

A similar example is shown in (42), again with the object *ahí* ‘turnip’ incorporated.

- (42) idaagúsheḥeri ahí^hag aḥak^hiáguḥuru
 ita -akú -ś^heḥe-ri ahí -p^hi-ak aḥak-hí -a -kuḥu-ru
 3.POSS.I-younger.sister-DEM -FOC turnip-dig-SS with-arrive-CONT-give -TEMP

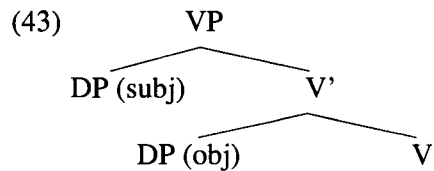
rúxabihgaag ruudiḥiwareec
 rú -xapi-hkee -ak ruuti-ḥi -wareec
 INh-peel -3.CAUS.I.sg-SS eat -HAB.sg-NE

That younger sister, digging turnips (and) bringing them for her (the bear) she (the
 bear) having made her (the younger sister) peel them, always ate them.

(Lowie 1939, IV:27)

As in (41), the incorporated noun is referenced in the clauses that follow the incorporated structure. As Sadock shows, these three tests support the syntactic nature of incorporation in Hidatsa.

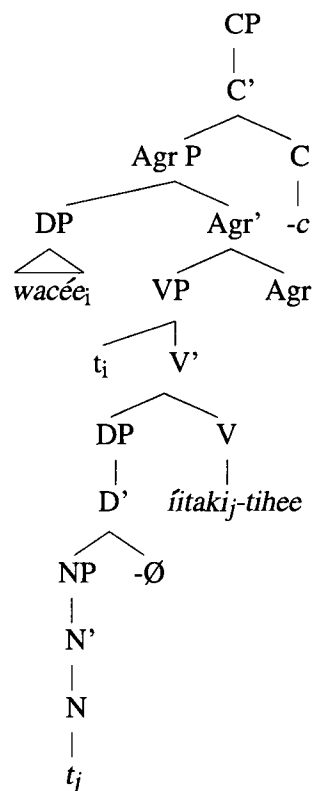
NI is a syntactic process in Hidatsa and as such, it offers evidence for a VP internal structure which does not include the subject, namely V'. In languages that allow the incorporation of objects but not subjects an asymmetry must exist between these constituents. Assuming the VP internal subject hypothesis, this structure can be diagrammed as in (43):



Given this structure, incorporation is a simple example of head movement where the object noun raises into the verb. The subject DP also moves out of its VP internal position in [SPEC, VP] to [SPEC AGRP] to have its features checked. This process is shown with example (38a (repeated as 44a)) in (44b):

- (44a) macée iídagidiheec
 wacée iítaki -ti -hee -c
 man rabbit-die-CAUS.D.sg-DECL
 'man kills rabbit.' (Boyle 2002)

(44b)



In the structures in (43 & 44)), the V c-commands the DP object but not the subject. As a result the subject is not available to be incorporated. This restriction on elements that can incorporate offers more evidence for V' as an internal part of the structure for VP.

In addition to providing evidence for an internal asymmetry in VP (namely the existence of V'), noun incorporation also provides evidence against the lexicalist hypothesis as Sadock (1991) has shown. In addition, Baker (1988:80) states that “the productivity and the referential transparency of noun incorporation suggests that it is a syntactic process, rather than a lexical one.” In examples of Hidatsa noun incorporation, it is clear that a syntactic process is occurring. Part of a syntactically lower element (the N in the object DP) has adjoined to a higher lexical element (the verb) in the syntax. Examples

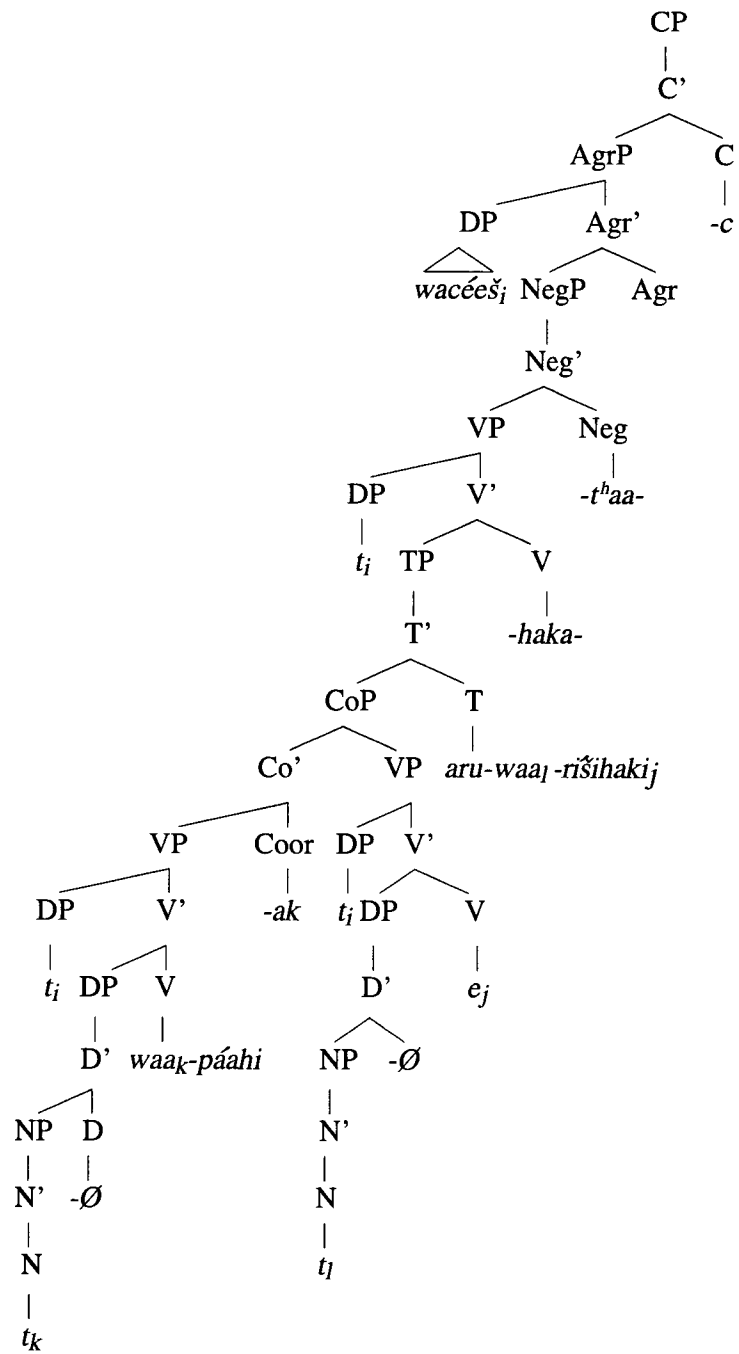
of noun incorporation in Hidatsa shows that the syntactic process must have access to the internal elements of the word.

5.2.3.2. UNSPECIFIED *waa-* AS INCORPORATED OBJECT. In the previous section, I have claimed that NI is very productive in Hidatsa. When the unspecified argument *waa-* is used, it is obligatory. This *waa-* is used frequently, serving as a generic noun. It is indefinite and often nonreferential. When *waa-* is used another noun can't be incorporated. Incorporated nouns and the unspecified morpheme *waa-* are in complementary distribution. As such, it fills an argument slot of the verb with regard to theta marking. Like lexical nouns it is generated as an object complement of the verb. It is then incorporated into the verb. This can be seen in example (30) repeated here as (45).

- (45) macéesh waabáahaʔag aruwaaríshihagat^haac
 wacée-š waa -páahi-ak aru -waa -ríhshi-haka-t^haa -c
 man -DET.D INDEF-sing -COOR FUT.N-INDEF-dance-able -NEG-DECL
 The man will not be able to sing and dance.

The structure for this entire sentence can be seen in (46). In this sentence, the indefinite *waa-s* are generated as complements of V and are then incorporated by their respective verbs. The second verb then raises to T where it takes the prefix *aru-*. Across-The-Board (ATB) movement of the subject then occurs from the lower [SPEC, VP] positions to the auxiliary [SPEC, VP]. The subject then moves to [SPEC, AGR P] where it's features are checked. As shown above in Section 5.2.2.3., this movement is motivated and I have proposed nothing out of the ordinary regarding the syntactic structure of language.

(46)



The type of evidence presented in the section above is expected in a configurational language and it would be difficult to explain it in a non-configurational account. Although on the surface, it may seem that Hidatsa is a non-configurational language that patterns after Lakota, this is clearly not the case.¹⁸ The structure I have argued for in (46) is one that can only exist in a configurational language. The evidence clearly shows that Hidatsa is configurational in its structure.

5.3. THE PRONOMINAL PREFIXES. I have argued above that Hidatsa is configurational and that lexical DPs serve as the arguments. I will now extend this argument to the pronominal prefixes. I will show that in the cases of the first and second person pronominals they too are arguments. As the third person pronouns are null, I will argue that when there is no overt lexical DP to serve as an argument, there is a null third person *pro* which serves as the argument.

The pronominal prefixes in Siouan have always proved somewhat problematic from a theoretical perspective (Williamson 1979, Van Valin 1985, 1987, Graczyk 1991, West 2003). The perennial question with regard to these affixes is whether they are agreement markers or the actual arguments subcategorized for by the verb. In the past, this question has often been linked to the question of configurationality.

Most of the work on these two interrelated questions has been done on Lakota and Dakota (Boas and Deloria 1941; Legendre and Rood 1992; Rood and Taylor 1992; Shaw

¹⁸ West (2003) claims that Nakoda (a language closely related to Lakota) is configurational. This may call into question the claims of nonconfigurationality with regard to Lakota (see Van Valin 1977 and 1985, and Williamson 1984 and 1987).

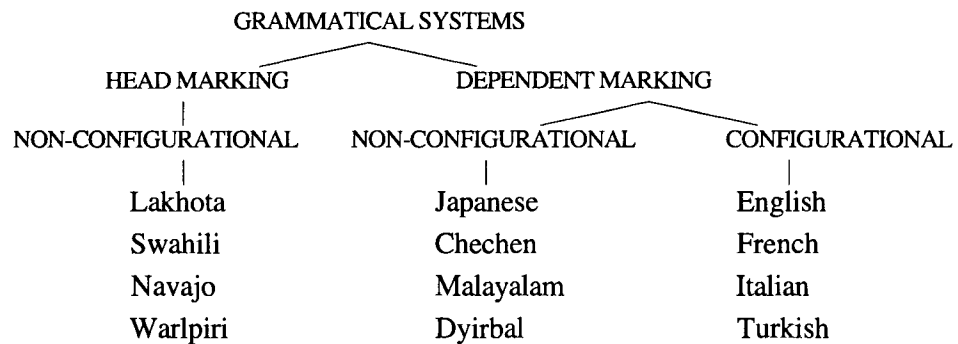
1980; Van Valin 1977, 1985, 1987; and Williamson 1979, 1984), but additional work has been done on the closely related Assiniboine (Cumberland 2004; Levin 1961; Schudel 1997; West 2003) as well as Crow (Graczyk 1991 and Wallace 1993). Although in Chapter 4 I presented the verb with its prefixes and suffixes in a templatic form, a templatic analysis is not optimal for a generative analysis, since speakers must generate utterances based on rules (i.e. principles and parameters) that are acquired and not on templates that are memorized. So while it is a convenient visual representation, it is not meant here as a theoretical claim.

Jelinek (1984) has argued that one primary feature of non-configurational languages is that the subject and object affixes of the verb are pronouns rather than agreement markers. These pronominal affixes function as the syntactic arguments and fulfill the subcategorization frames projected by the verb. In addition, any full NP arguments in these languages are adjuncts to the clause. As adjuncts, these NPs are not syntactically constrained and can occur in any order with regard to each other and the verb. This is known as the pronominal argument hypothesis (PAH). This type of analysis is the one that many researchers working on Lakota have posited, most notably Van Valin (1977, 1985, 1987) and Williamson (1979, 1984). For many in the field of Siouan linguistics, this assumption has been extended to the other languages rather uncritically (the exceptions being Graczyk (1991) and Wallace (1993) for Crow and West (2003) for Assiniboine). Most scholars of the languages treat the pronominal prefixes as arguments but often vacillate on terminology, describing them as verbal arguments but also calling them agreement markers. These include Boas and Deloria (1941) for Dakota, Mixco (1998) for

Mandan, and Einaudi (1974) for Biloxi. With the exception of Lakhota and Crow very little research has been done regarding the question of configurationality and the nature of the pronominal prefixes in these languages.

I have argued that Hidatsa is a configurational language. In Chapter 3, I showed that it is head-marking with regard to possessed nouns. In this section, I will extend this description by showing that the verbs are also head-marking by demonstrating that the pronominal prefixes can be the actual arguments of the verb. However, I will also argue that the PAH does not apply to Hidatsa as it is a configurational language. Nichols (1986) and Van Valin (1985) have argued that languages can be classified according to their propensity for being either a head-marking or a dependent-marking language. Van Valin (1985:406) states that these typological issues can be summarized as shown in (47):

(47)



In this section, I will show that Hidatsa represents another type of language not shown here, namely a head-marking configurational language. As such, the relationship posited

by Nichols (1984) and Van Valin (1985) between nonconfigurationality and head marking is rejected.

5.3.1. THE SYNTACTIC STATUS OF THE PRONOMINAL AFFIXES. In this section I will make three claims: 1) the 1st and 2nd person pronominals are syntactic arguments and not agreement morphology; 2) in the absence of a DP, there is a null 3rd person *pro* that serves in the same manner as the 1st and 2nd person pronominals; and 3) lexical DPs in Hidatsa function as syntactic arguments and not as adjuncts or appositives coreferential with a null 3rd person pronominal. The explicit argument presented here is that when there is a lexical DP there is no null 3rd person argument generated.

Evidence for the first claim comes from the fact that when a verb is inflected with the bound pronominals no independent pronouns are necessary. This can be seen in the transitive paradigm presented in (48a-g).

(48)	(a) marigǽc	∅-wa-riki'-c	3B-1A-hit-DECL	I hit him/her/it.
	(b) niiwarigǽc	rii-wa-riki'-c	2B-1A-hit-DECL	I hit you.
	(c) miirarigǽc	wii-ra-riki'-c	1B-2A-hit-DECL	You hit me.
	(d) narigǽc	∅-ra-riki'-c	3B-2A-hit-DECL	You hit him/her/it.
	(e) miirigǽc	wii-∅-riki'-c	1B-3A-hit-DECL	He/she/it hit me.
	(f) niirigǽc	rii-∅-riki'-c	2B-3A-hit-DECL	He/she/it hit you.
	(g) nigǽc	∅-∅-riki'-c	3B-3A-hit-DECL	He/she/it hit him/her/it
				(Boyle & Gwin 2006)

The bound pronominals are sufficient to fill the argument structure projected by the verb.

In the above paradigm, I have assumed that the order of constituents is object-subject and

that it does not change when null third person pronominals occur. All of the utterances presented in (48a-g) constitute grammatical sentences.

Although independent pronouns exist in Hidatsa, they are always syntactically optional and they cannot occur independently from the bound pronominals. The independent pronouns are only used for contrastive or emphatic purposes. Since the independent pronouns are not syntactically required, they are best viewed as appositives that are coreferential with the bound pronominals. Example (49) shows the independent pronoun used as emphatic in the discourse.

- (49) “**mí**g aruwaagúat^haac.”
 “**wík** aru -waakúa -t^haa -c.”
 1.PRO FUT-1A.go.home-NEG-DECL
 “(as for me), I will not go home” (Parks et al 1978, WW:45)

In (50) we see both the second and first person independent pronouns used. In this example, they are used to form a contrast between the actors in the discourse.

- (50) “gúaruhaag **rihgi** awashitáhdaa ráheerug, **wihgi** úuwahdaa
 “kúa-ruha -ak **rihki** awa -šitá -hta -a rá -hee -ruk, **wihki** úuwa -htaa
 LOC-from-SS 2.PRO land-north-GOAL-CONT 2A-make-DS 1.PRO south -LOC
 wahéewic.” “hóo” háag
 wa-hée -wi -c. hóo háa-ak
 1A -make-1FUT.S-DECL yes say-SS

“From there you make the land to the north, and I will make that to the south,” (said Lone Man, and First Creator said), “All right.” (Parks et al 1978, LM:20)

As appositives, the independent pronominals are adjuncts. Because of this they usually occur clause initial (as in 49 & 50). However, because they are adjuncts they are freer with regard to word order restrictions. Example (51) shows the independent pronominals from (50) moved from their clause initial position to a clause internal position.

- (51) “gúaruhaag awashitáhdaa **ríhgi** ráheerug, úuwahdaa **wíhgi**
 “kúaruha -ak awa -šitá -hta -a **ríhki** rá -hee -ruk, úuwa -htaa **wíhki**
 LOC-from-SS land-north-GOAL-CONT **2.PRO** 2A-make-DS south -LOC **1.PRO**

wahéewic.” “hóo” háag
 wa-hée -wi -c. hóo háa-ak
 1A -make-1FUT.S-DECL yes say-SS

“From there the land to the north you make (it), and from the south I will make (it),”
 (said Lone Man, and First Creator said), “All right.” (Boyle 2006)

Bound pronominals can also be used with full lexical DPs. In these cases, the pronominals fill the argument structure of the clause as can be seen in (52).

- (52) macéesh wiiguréc
 wacée-š **wii**-kurée -c
 man **1B** -chase-DECL
 ‘The man chased me.’ (Boyle 2004)

In this example, the verb *kurée* ‘chase’ projects two argument positions. One is filled by the DP ‘man’ *macée* and the other is filled by the first person stative pronoun ‘me’ *mii*-. The DP *wacée* ‘man’ is the subject of the sentence in (52) and not an appositive adjunct that

is coreferential with a null 3rd person *pro*. As shown in Section 5.2.1, word order is very important in Hidatsa which is a SOV language. If *wacée* ‘man’ were an appositive adjunct that was coreferential with a null 3rd person *pro*, then we would expect that it wouldn’t be constrained by word order, but this isn’t the case. For *wacée* ‘man’ to be moved to a clause final position would be a highly marked construction (only found in stylized narrations), and it wouldn’t be grammatical in isolation as shown in (53).

- (53) * *wiiguréec macéesh*
 wii-kurée -c wacée-š
 1B -chase-DECL man
 * ‘Chased me the man .’ (Boyle 2004)

If a 3rd person *pro* was to be used in this type of utterance, it would have to be one such as that shown in (54).

- (54) *wiiguréec*
 wii-kurée -c
 1B -chase-DECL
 ‘He chased me.’ (Boyle 2004)

In this example, the subject is a 3rd person *pro*. Here both the subject and object of the sentence are filled by pronominals. The subject is a 3rd person *pro* and the object is the stative 1st person pronominal. Examples like those presented in (52-54) show that argument slots can equally be filled by a full DPs or by pronominal prefixes, but that when

an overt DP is present, it is the argument and not a 3rd person *pro*. In these types of constructions DPs are not appositive adjuncts.

Additional evidence for treating the bound pronominals as arguments comes from coordination evidence. Hidatsa joins DPs with the clitic conjunction *-k*,¹⁹ as can be seen in (55)

- (55) máabiwiriĥeg wáahguwirihe ruxbáagawareec
wáapiwiriĥ-he -k wáahkuwiri-he ruxpáaka-warec
sun -DEM-COOR moon -DEM people -NE
‘The sun and the moon are people. (Parks et al 1978, OMC:9)

In addition to these types of coordinate structures, the bound pronominals can occur as conjuncts in coordinate DPs where they conjoin with a lexical noun (or DP) as shown in (56).²⁰

- (56) macéeg waráaĥc
wacée-k wa-rée-ĥa-c
man -COOR 1A -go -PL-DECL
The man and I went. (Boyle 2002)

19 If this conjunction is suffixed to all of the NP conjuncts there is a nonspecific inclusive reading of the them, if it is suffixed to only the first NP conjunct there is a specific non-inclusive reading. For more on the semantics of Hidatsa DP/NP conjunction see Boyle 2005c.

20 This is an example of true coordination. Example (56) is not a comitative construction as that would be shown with the comitative morpheme *-ta* (with) on the NP *macée* ‘man’.

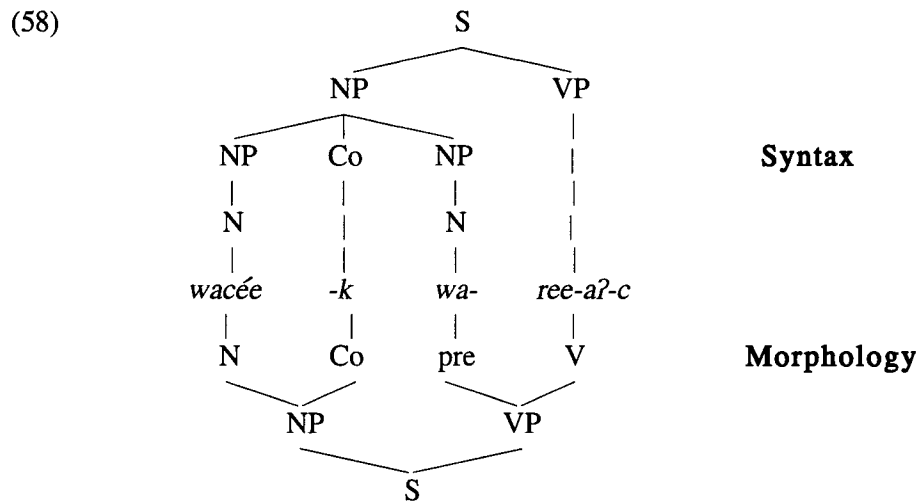
It has long been argued in the literature on coordination that a constraint exists which states that coordinate structures conjoin two categories of the same syntactic and semantic class. In example (56), we have a conjunction of a DP and a pronominal prefix. If the prefix is not an argument then we would have an example of a conjunction of a lexical DP and an piece of agreement morphology. This type of conjunction would violate the above stated constraint on coordination. If however, we view the pronominal prefix as the syntactic and semantic argument of the verb, then examples such as (56) become easy to explain as just the coordination of a DP and a pronoun (albeit a bound one).

Since Hidatsa does have independent pronouns, as shown in (49 & 50), the fact that the free pronouns are not used in constructions like that shown in (56) is strong evidence that the bound pronominals are syntactic arguments and the independent pronouns are not. I have claimed that the pronominal prefixes are arguments. Given this, (56) presents an example of a bracketing paradox. The pronominals are either clitics (stative pronouns) or prefixes (active pronouns). As such they cannot exist as independent units. They must phonologically prefix to the verb.²¹ As a result we have different structures in the syntax and the morphology. This bracketing paradox is shown in (57a & b).

(57a)	[DP1 - and DP2] V	Syntactic Representation
(57b)	[DP1 - and] [DP2-V]	Morphological Representation

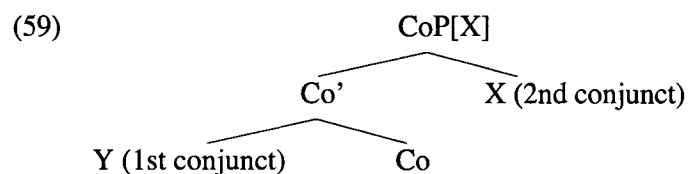
²¹ I will argue below in Section 5.4. that the prefixes are lexically attached to the verb and enter into the derivation as a complete unit with the verb. The features of the subject are then checked at AGR.

The bracketing paradox, however, may best be visually represented in an Autolexical schema (following Sadock 1985, 1991 among others) as shown in (58).

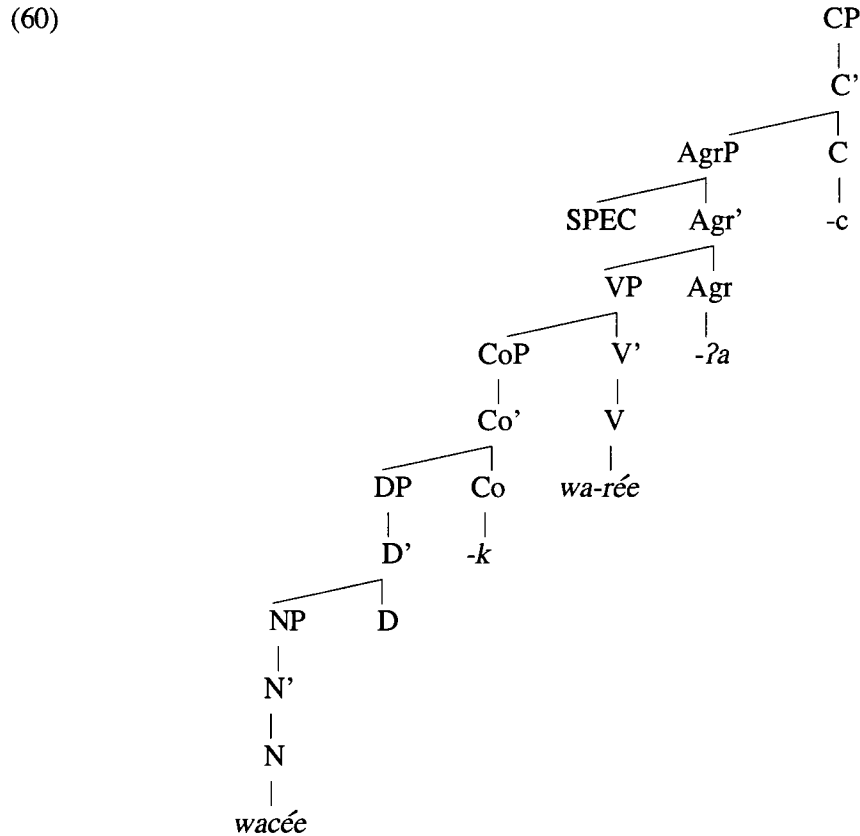


In the above example, we can see the true nature of the bracketing paradox. This paradox is a mismatch between the morphological and syntactic components of the grammar. These types of mismatches are common in polysynthetic languages.

The syntactic representation for coordinate structures posited for head-final languages (Johannessen 1996, 1998) is shown in (59):



Given this analysis of coordinate structures, we can represent example (56) in a syntactic tree as shown in (60).



This is an example of unbalanced coordination. I argue in Section 5.4. that verbs are lexically marked as to what subject prefix they can take (active or stative). There, I claimed that they come into the derivation fully inflected with the verb. There is not a *pro* in the [SPEC CoP]. If this were the case then the pronominal prefix would be an agreement morpheme and throughout this dissertation I argue that it is an actual argument.²² It is also

²² This type of analysis has been posited for similar features in Irish by Legate (1999).

incorrect to assume that the *wa-* is base generated in the [SPEC CoP] position and then lowered down to affix to V in a postsyntactic rearrangement of the morphology.²³ If this were the case (61) should be grammatical but it is not.

- (61) macéeg Márysh warigíʔac
 wacée-k Máry -š wa-rikí-ʔa -c
 man -COOR Mary-DET.D 1A-hit -PL.D-DECL
 *The man and I hit Mary. (Boyle 2007)

If the second conjunct in the CoP (*wa-*) was lowered from [SPEC CoP] then (61) should be grammatical but the only translation for this sentence is (62):

- (62) ‘We hit the man and Mary’.

This might lead us to believe that conjunction structures with bound pronominals can only exist as subjects of intransitive verbs, but this is not the case as is shown in (63). Here we see an object between the coordinate structure.

- (63) macéeg wáahdi waráhbíʔac
 wacée-k wáahti wa-ráhpí -ʔa -c
 man -COOR car 1A-get.in-PL.D-DECL
 The man and I get in the car. (Boyle 2007)

²³ An analysis of this type was proposed by Embick and Noyer (2001) and modified by Hankammer and Mikkelsen (2005) using a Distributed Morphology framework.

Syntactically, (61) and (63) have the same structure, but (61) is rejected by speakers. One possible explanation for this may be that the low animacy of *wáhti* ‘car’ allows for a split reading, whereas when an animate noun is used like *Márysh* ‘Mary’ it gets wrapped in as the second conjunct by default. This leads to such a strong dispreferred interpretation that it is rejected as ungrammatical, not on syntactic grounds but based on semantics or pragmatics. It is possible to make (61) grammatical. This is shown in (64).

- (64) *wacéeg wíg Marysh warigiŋac*
wacée-k wík Mary -š wa-rikiŋa -c
 man -COORD 1.PRO Mary-DET.D 1A-hit -PL.D-DECL
 The man and I, we hit Mary. (Boyle 2007)

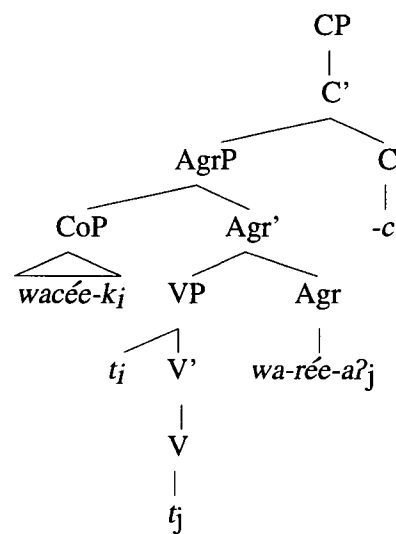
In this example, the coordinate structure is *wacéek wík* ‘the man and I’ but here it is an adjunct and not the true subject. The subject of the verb is filled by the first person active marker *wa-* in conjunction with the plural *-ŋa* which gives the reading of ‘we’. If the independent pronominal *wík* is moved, so that it follows *Maryš* as in (65), then the sentence again becomes ungrammatical.

- (65) **wacéeg Marysh wíg warigiŋac*
 **wacée-k Mary -š wík wa-rikiŋa -c*
 *man -COORD Mary-DET.D 1.PRO 1A-hit -PL.D-DECL
 *The man and Mary, I, we hit. (Boyle 2007)

This ungrammatically is syntactic as well as semantic or pragmatic in nature. This is further evidence that the pronominal prefixes are actual arguments and that they are inserted into the derivation with the verb.

Given the data presented above, we can now see what occurs once (60) is base generated. In the initial structure shown in (60), the subject is the CoP, which is made up of only the first conjunct and the coordinator (through the process of merge). The verb, includes the first person active subject pronominal in addition to the phi-features of [+plural], (although the verb, at this point in the derivation it has one argument - the 1st person active pronominal). Although the complete subject is [*wacée-ak wa-*] ‘man and I’, this can not exist as an independent syntactic unit due to the morphophonological constraints of the language. Example (65) shows the derivation after movement.

(65)



In (65) the subject has moved from the VP subject internal position in [SPEC VP] to [SPEC AgrP]. This is simple A-movement. In addition, the verb has raised via head-to-head movement from V to Agr. Given the *Principle of Full Interpretation* (Chomsky 1993, 1995), the CoP's features are now checked and licensed through spec-head agreement. The selectional features of the CoP are satisfied as it now has access to the second conjunct. At this point in the derivation the phi-feature of [+ plural] is also satisfied. No SPEC position is base generated in the CoP as there is nothing to fill it. The selectional features of the CoP are not met until the subject moves to [SPEC, AgrP] where it has access to the second conjunct and the verb moves to Agr. This analysis, may seem unusual at first but it is quite straight forward.

My second claim is that in the absence of a DP, there is a null 3rd person *pro* that serves in the same manner as the 1st and 2nd person pronominals. Evidence for this claim comes from the fact that a verb can occur without any overt pronominals or DPs and these types of constructions constitute a complete and grammatical utterance. This can be seen in (66):

- (66) nigíc
 Ø-Ø-rikí-c
 3B-3A-hit-DECL
 He/she/it hit him/her/it (Boyle 2002)

Unlike Italian (Rizzi 1982, 1986) and many other pro-drop languages, there is no overt 3rd person agreement on the verb. In Hidatsa, in the absence of either a 1st or 2nd person

bound pronominal or an overt DP, the default is a null 3rd person. I argue that in sentences like (66) there is a null 3rd person pronominal whose reference is recoverable from context.

In addition to serving as arguments for the verb, null 3rd person pronominals can serve as antecedents for reflexives and reciprocals, as shown in (69) and (70) respectively.

- (69) *igúbahdaa diriáag ísha adéʔriawa*
ikúpa -htaa Ø-tiriá-ak íša Ø -atéʔ -ria -wa
other.side-GOAL 3A-run -SS again 3A-show-REFL-TEMP
He ran to the side and again revealed himself. (Parks et al 1978, PA:45)

- (70) *ihgigúxdíʔac*
ihki -Ø -kúxti-ʔa -c
3.RECIP-3A-help -PL.D-DECL
'They helped each other' (Boyle 2005)

In these examples, the 3rd person *pro* subject is the antecedent of the reflexive in (69), and of the reciprocal in (70).

A lexical DP can also serve as the antecedent for a series of null pronominals in conjoined clauses as shown in (71).

(71) *íroʔ wacée aguʔishdáreeshaʔash ráak^haag, giwírigiirag*
íroʔ wacée aku -ištá-reeša -ʔa -š ráak^ha-ak, kiwírikiir -ak
 DEM.PL man REL.S-eye-not.exist-PL.D-DET.D return-SS go.back.in-SS

wúaʔash rihaag waaʔooruudáʔash gígshag
wúa-ʔa -š riha -ak waa -aru -ruutiʔa -š kíkš -ak
 fish -PL.D-DET.D cook-SS INDEF-REL.N-eat -PL.D-DET.D prepare-SS

The blind men arrived and came back in and they cooked the fish, and prepared the things to eat... (Wicker 19-21: 1978)

Example (71) consists of four clauses conjoined with the same subject marker *-ak*. The null 3rd person *pros* of the last three clauses are coreferential with *íroʔ wacée aguʔishdáreeshaʔash* (the blind men), the subject of the first clause.

The above examples show that it is a reasonable hypothesis that null pronominals fill a variety of grammatical roles and that all of these roles fill the exact same slots as do lexical DPs. In these cases, the null pronominal's reference is recoverable from the discourse.

These null 3rd person *pros* contrast with the indefinite *waa-*. The null 3rd person pronominal's reference is established in the discourse and indefinite DPs are marked with an indefinite determiner. This is not the case with indefinite *waa-*, which must be expressed overtly as shown above in Section 5.2.3.2. The indefinite *waa-* fills an argument slot of the verb. Like the overt 1st and 2nd person pronominals, the indefinite *waa-* can be a member of a coordinate structure as in (72).²⁴

²⁴ Note that in (72) we have another bracketing paradox similar to those shown in (57a & b).

- (72) heʔeshahak^há widéeg waagóowic
 heʔešahak^há [witée -k waa] -kóowi-c
 at.that.time [buffalo-COOR INDEF]-gone -DECL
 At that time the buffalo and things (i.e. other game animals) were gone. (Boyle 2005)

We see a similar pattern to (72) when the null 3rd person is used, as shown in (73).

- (73) macéeg díriaʔac
 [wacée-k Ø]-tíria-ʔa -c
 [man -COOR 3A]-run-PL.D-DECL
 The man and he run. (Boyle 2007)

This can also be contrasted with full DP arguments as in (74).

- (74) macéeg miá díriaʔac
 [wacée-k wíá] tíria-ʔa -c
 [man -COOR woman] run -PL.D-DECL
 The man and woman run. (Boyle 2007)

The example in (72) shows that null 3rd person *pros* contrast with the overt indefinite prefix *waa-*, and (73) shows that the null 3rd person *pro* can also contrast with an overt DP. In addition to this evidence, I have shown that the null 3rd person *pros* have the same referential and syntactic function as fully specified lexical DPs as well as the bound indefinite pronominal *waa-*. Given this evidence, I conclude that 3rd person null pronominals should be viewed as having the same syntactic status as the 1st and 2nd

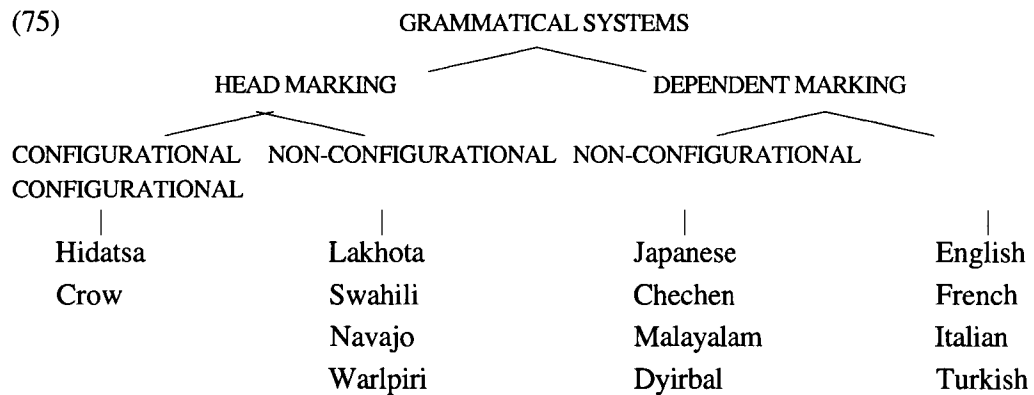
person bound pronominals; that is to say, they are arguments subcategorized for by the verb.

My third claim is that lexical DPs function as syntactic arguments and not as adjuncts or appositives coreferential with a null 3rd person pronominal. Although the claim has been made (Jelinek 1984, 1989; Van Valin 1985; Baker 1990 among others) that in languages with pronominal arguments, it is the bound pronominal affixes that are the syntactic arguments and that lexical DPs that are coreferential with the bound pronominals are adjuncts or appositives, this is not the case in Hidatsa. Lexical DPs should be viewed as normal and unmarked. That is to say, they are not used for emphatic or contrastive meaning nor are they to be viewed as focused or topicalized items. This use is in contrast to the overt unbound pronominals. While I have posited that the null 3rd person pronominals are indeed arguments, I have also posited that when overt DPs occur, there is no 3rd person *pro*. The two are mutually exclusive. In languages with pronominal arguments, the DPs are adjuncts and word order is free. This is one of the hallmarks of non-configurational languages. This is not the case with Hidatsa where word order plays an extremely important role. This evidence leads me to conclude that overt DPs (along with the pronominal prefixes) can be simple syntactic subjects or objects. Following Alexiadou and Anagnostopoulou (1998) either the overt subject and object or the overt active and stative pronominals can bear theta-roles. In the absence of fully specified lexical DPs, the null 3rd person *pro* replaces the overt DP and serves as a theta-bearing argument.

In addition, if the overt DPs were adjuncts or appositives and not lexical arguments, this would prove problematic for constructions that involve incorporation of such object

DPs. As shown above in Section 5.2.3, incorporation of objects is not an uncommon occurrence in Hidatsa. Following Sadock (1980, 1991) and Baker (1988) I view incorporation in Hidatsa as a syntactic word building process rather than a lexical one. Based on this presumption, elements that incorporate must be genuine syntactic formatives. If they are not, the motivation for this type of movement is lost.

In Sections 5.2. and 5.3. I have argued that Hidatsa is a configurational language. In addition I have shown that both overt DPs and the pronominal prefixes are syntactic arguments subcategorized for by the verb. I have also argued that when there is no overt DP, then the verb employs null 3rd person *pros* to fill the role of the lexical argument. These conclusions contrast with the language typology shown in (47). Hidatsa (and Crow) are configurational head-marking languages. As such, the typology shown in (47) needs to be reworked to that shown in (75).



Work over the last twenty years has shown that Hidatsa and Crow are not the only examples of head-marking configurational language. Additional languages that fit into this

category include the Mayan languages as well as a number of Austronesian languages. Given these revelations, we must now conclude that there is no link between head-marking and configurationality. Languages can either be head-marking or dependent-marking and either configurational or non-configurational. These two parameters have no bearing on one another.

5.4. THE HIDATSA PRONOMINALS AND OVERT CASE-MARKING. The Siouan pronominal prefixes have been traditionally analyzed as showing overt case marking. In this section, I will show that this analysis is problematic for a number of reasons. I will then propose an alternative analysis that claims the pronominal prefixes are not overtly marked for case, but that they receive abstract case in the same manner as overt DPs. Following Van Valin (1985, 1987), I argue that the pronominal prefixes show semantic macro-roles, namely those of Actor (A) and undergoer (U) and that verbs are lexically marked regarding the pronominal prefixes. These are examples of paradigmatic morphology (following Stump 2002). The verbs enter into the derivation with the pronominal prefixes as part of their lexical entry. Following arguments put forth by Alexiadou and Anagnostopoulou (1998) I propose that these pronominal morphemes include a nominal element. This element is [+D, +interpretable phi-features]. Assuming that the pronominal morphology has the same status as pronouns in languages like English, these [D] features are checked through the process of V-raising or head movement to [AGR P] (Chomsky 1995). Furthermore, all verbs in Hidatsa are specified as +/- Actor

Subject and +/- Transitive. This approach will account for all of the possible combinations that are seen in the Siouan languages in general and in Hidatsa in particular.

A variety of scholars have analyzed the pronominal prefixes as showing overt case (Williamson 1987, Legendre and Rood 1992, Wallace 1993, West 2003 among others).

This case marking has been analyzed as a nominative/accusative system with the A (or active) set of pronouns in transitive sentences analyzed as nominative case marked subjects and the B (or stative) set in these constructions analyzed as accusative case marked objects.

An example of a transitive verb is shown in (76a & b).

(76a) *niiwarigíc*
rii-wa-riki'-c
2B-1A -hit -DECL
I hit you. (Boyle & Gwin 2006)

(76b) *miirarigíc*
wii-ra-riki'-c
1B -2A-hit -DECL
You hit me. (Boyle & Gwin 2006)

In these examples, we see a seemingly clear-cut difference in the subject and object pronominals. This difference follows a nominative/accusative system; that is to say, subjects are marked differently than objects in transitive sentences. It is important to note that in these transitive examples the pronominal order is O-S-V whereas the word order for clauses that contain full DPs is S-O-V. This difference in argument order is one of several difficulties in maintaining the traditional analysis of overtly case marked pronominals.²⁵

25 Although the O-S pronominal order is problematic in Hidatsa in a nominative/accusative case analysis, we could argue that the object pronominal in transitive sentences moves out of its complement position in the VP and clitic climbs as has been proposed for some clitics in Romance (see Rizzi, 1982; Kayne, 1989, 1992; Sportiche 1996, and Haegeman 2006 among others).

In intransitive constructions, the single argument has been analyzed as either an unaccusative or an unergative following Perlmutter (1978) and Burizo (1986) among others.²⁶ Unaccusative subjects are viewed as subject arguments of predicates which have a deep object as their only argument. These arguments are generated as objects that then move into the subject slot in order to fulfill the requirements of the Extended Projection Principle (Chomsky 1981). In Hidatsa, these would be intransitives that take the B (stative) set of pronominals as shown in (77a&b).

- | | |
|---|--|
| <p>(77a) miiʔihdíác
wii-ihtíá-c
1B -big -DECL
I am big. (Boyle & Gwin 2006)</p> | <p>(77b) niiháćgic
rii-háćki-c
2B-tall -DECL
You are tall. (Boyle & Gwin 2006)</p> |
|---|--|

Unergative subjects are viewed as subject arguments of predicates which have a deep subject as their only argument. In Hidatsa, these would be intransitives that take the A (active) set of pronominals as shown in (78a & b).

- | | |
|--|---|
| <p>(78a) maaréec
waa-rée-c
1A -go-DECL
I go. (Boyle & Gwin 2006)</p> | <p>(78b) magáac
wa-káa -c
1A -laugh-DECL
I laugh. (Boyle & Gwin 2006)</p> |
|--|---|

²⁶ For a discussion on some of the problems with terminology with regard to unaccusative and unergative see Pullum (1991:147-158).

This analysis has been proposed for Lakhotá (Legendre and Rood, 1992; and Williamson 1979²⁷ and 1984), Crow (Wallace 1993) and Assiniboine (West 2003). In this analysis, the unergative verbs license an external argument, which is the usual position for subjects. Subject features would then be checked when the verb moves to the Agr node. Unaccusative verbs license an internal argument, which is the usual position for objects. This argument is promoted to subject position to fulfill the requirements of the EPP. Additionally, according to Burzio's generalization (1986), unaccusative verbs cannot assign accusative case to their arguments. The argument must thus move in order to be assigned case.

However, this analysis is problematic as there is no motivation as to why the unaccusative arguments are assigned objective (accusative) case. In addition, this analysis cannot account for predicates that take both a stative subject and a stative object as shown in (79a & b).

- | | |
|---|---|
| <p>(79a) <i>niiwiik^háciic</i>
 <i>rii -wii-k^hácii -c</i>
 2B-1B -understand-DECL
 I understand you.</p> | <p>(79b) <i>miiriik^háciic</i>
 <i>wii-rii-k^hácii -c</i>
 1B -2B-understand-DECL
 you understand me. (Boyle & Gwin 2006)</p> |
|---|---|

²⁷ Williamson (1979) is presented in a relational grammar framework which was first proposed by David Perlmutter and Paul Postal in the early 1970s. As the above description is presented in a minimalist framework, the work of Williamson (1979) doesn't follow this analysis exactly.

In these double stative verbs, there are two pronominals which, according to the above hypothesis, are unaccusative. It is not possible for both pronominals to be generated in the complement of V.²⁸ Clearly another approach must be taken.

As was shown in chapter four, DPs are not overtly morphologically case marked for grammatical function and it is not tenable to believe that the pronominal prefixes are either. Van Valin (1985, 1990) describes the pronominal prefixes in Lakhota as being marked as Actor (A) and Undergoer (U), which corresponds to the A and B set of pronominals respectively. These are semantic macroroles, each of which subsumes a number of particular semantic or thematic roles (Van Valin 1985:408). *Actors* include prototypical agents and perceivers whereas *Undergoers* include roles such as patients and experiencers.²⁹ Although verbs that take A pronominals are generally predictable, this is not always the case. In addition, there is not total uniformity as to which verbs are so marked in the Siouan languages. Because of this unpredictability and lack of uniformity, I view verbs in Hidatsa to be lexically marked as to what type of pronominal they take for a

28 Williamson (1979) proposed that these double statives begin as an initial object and an oblique argument which are then obligatorily advanced to subject and object position respectively (Williamson 1979:361). The motivation for this argument in Lakhota is scant. It is based on reflexivization and “the claim that semantic roles universally determine initial grammatical relations (and) the fact that English represents most of these arguments in an oblique phrase provides evidence that the objects of these predicates are initial obliques”. As this argument does not carry over to Hidatsa and the analysis proposed by Williamson is confined to a relational grammar analysis, it will not be pursued here.

29 An overview of active-stative languages is presented in Dixon (1994), Dahlstrom (1983), Merlan (1985), Tuite, Agha, and Graczyk (1985), Van Valin (1990) and Mithun (1991) among others. A more detailed analysis of active-stative languages in a RRG framework is presented in Van Valin and LaPolla (1997).

subject.³⁰ Grimshaw (1990) refers to this type of representation of the lexical argument structure as *a-structure*. This term refers to the lexical representation of grammatical information about a predicate. The *a-structure* of a lexical item is thus part of its lexical entry (Grimshaw 1990:1).

All verbs in Hidatsa have as part of their lexical entry, or subcategorization frame, the following information:

V [+/- Transitive]
[+/- Actor subject]

I view active pronominals (*actors*) as the marked class as they are a more restrictive class than the statives (*undergoer*).³¹ Stative verbs include all predicate nominals and predicate adjectives (stative verbs) in addition to a large number of predicates with experiencer subjects. Although verbs that take active subject pronominals are very common and are often used, they are a small minority of possible predicates in the language. As such, they are the marked class and stative subjects are clearly the default pronoun, thus the subcategorization for the subject references the *Actor* subject (i.e. the marked category).

³⁰ This approach has been followed by most scholars working on the Siouan languages including Graczyk (1991) and Wallace (1993) for Crow, Rood and Taylor (1998) for Lakhota, West (2003) and Cumberland (2005) for Assiniboine and Quintero (2004) for Osage among others. In addition, Rankin (1997) examines the active-stative split from a diachronic perspective and concludes that Proto-Siouan clearly fit into this language type and the verbs in all of the daughter languages must be lexically marked.

³¹ Graczyk (1991) takes a similar approach, although he states that the verbs are marked as + active or + stative with regard to their subjects.

This underlying lexical semantic structure of the verb projects the argument structure of the pronouns. This type of subcategorization frame can explain the examples shown in (76-79) as can be seen in Table 5A.³²

Table 5A - Hidatsa Verbal Subcategorization Frames

riki-:	[+ transitive] [+A]	‘hit’
ihíá-:	[- transitive] [-A]	‘big’
hácki-:	[-transitive] [-A]	‘tall’
rée-:	[-transitive] [+A]	‘go’
káa-:	[-transitive] [+A]	‘laugh’
khácii-:	[+transitive] [-A]	‘understand’

Grimshaw (2005:80-82) states that this type of argument structure is predicted by the semantic structure of the verb. These are *structural arguments* and they are to be viewed differently than *content arguments*. *Content arguments* are those based specifically on the semantics of the predicate, whereas *structural arguments* are more general in nature

³² Objects are always -A. As a result, there is no need to make specific reference to the necessary pronoun.

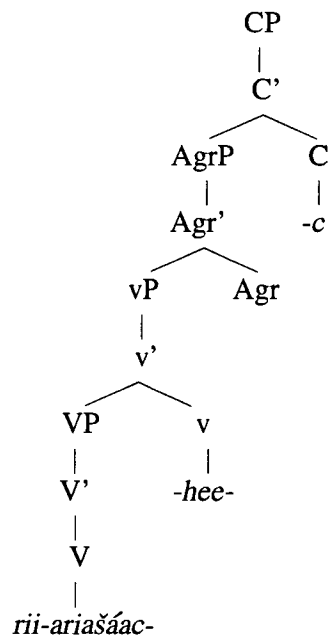
following the semantic macro-roles proposed by Van Valin (1985, 1990). In addition, Grimshaw states that structural arguments are obligatory, which follows from the necessity of each predicate being subcategorized for +/- Actor subject in addition to the transitive status of the verb. Since the pronominal prefixes do not represent overt case, these features must be checked in the derivation by the process of *move*. This occurs when the verb complex moves to have the argument features checked at the functional head [Agr]. This explanation accounts for all of the data without having to appeal to anything that has not already been proposed in the general literature.

5.5. CAUSATIVE CONSTRUCTIONS AS vP. The causative has been described in Section 4.5 as a verb and not as a piece of derivational morphology. Given this, I analyze causatives as light verbs. The VP core still contains the lexical core but the vP shell allows the structure to subcategorize for an additional argument. This structure also accounts for the fact that it is the argument of the causative in the vP that is the subject of the entire clause. The causative constructions, like lexical verbs, have their arguments morphologically attached as they are inserted from the lexicon. The subject of the causative then has its features checked at AGR. Both the direct and indirect causative are projections of vP. The direct and indirect causatives are mutually exclusive. As a result, only one can be generated in vP depending on the semantics of the predication. Like light verbs in English, causative constructions take VP complements as shown in (80)

- (80) “nii?ariasháac^hee^c”
 rii -ariašáac-hee -c
 2B-suffer -3.CAUS.D.sg-DECL
 “He made you suffer.” (Lowie 1939, I:45)

This structure can be seen in (81). In this structure, the vP is lexically marked for a third person subject. It is the causative that moves to AGR to have its subject features checked.

(81)



5.6. FUNCTIONAL HEADS AND AGREEMENT MORPHOLOGY. This ideas presented in this section build upon the work of Rohrbacher (1994), Speas (1994, 1995) and Alexiadou and Anagnostopoulou (1998) who distinguish verbal morphology into two types: strong and weak. Strong inflectional morphology has its own individual listing in the lexicon. As a result, this morphology is available to the computational component of

the syntax. Weak inflectional morphology does not have independent lexical entries and is inserted into the syntactic derivation already attached to its host as part of the lexical entry. Examples of weak verbal morphology are found in the three suffix positions closest to the verb setm. These include the punctual, the desiderative, and the reflexive.³³ These are all part of the lexical entry for the verb and don't project functional projections. Causatives are generated in vP. As these verbs add an additional argument to the clause, I treat them in the same manner as I do the pronominal prefixes. That is to say, the pronominal prefix on the causative is the subject argument of the clause.

Following Pollock (1989), Rice (1989) and Julien (2001, 2002) among others, I treat the other inflectional morphemes as functional heads that project maximal projections. These are examples of strong verbal morphology. These projections concatenate with the verb as it moves upwards through each functional projection. These functional heads include negation which has scope over the vP and VP. Above negation are the functional heads that include aspect, tense and number. Many of these can be marked for either person, number or a combination of these. The future also has a special question particle. These morphemes agree in person and number with the subject of either the VP or if there is a causative construction, then with vP. Unlike the pronominal prefixes and the causatives of vP, these are not arguments. They are inflectional agreement. These features are checked at AGR when the verb complex moves to that position through the derivational process.

³³ I treat the reflexive as part of the lexical entry of the verb. As a bound piece of morphology, binding conditions don't hold. Even if the reflexive is a syntactic head, one could argue that it would be governed by the argument positions.

5.7. MULTI-CLAUSE STRUCTURES. In this section, I will examine multi-clause sentences in more detail. Above, I have detailed how the Hidatsa clause works as well as touching on how coordinate structures are generated. Below I will demonstrate that Hidatsa clauses form co-subordinate chains. Given this type of structure I will show how switch-reference (SR) systems work in a Minimalist framework. I will then describe true subordination, which is found almost exclusively in temporal and conditional clauses (relative clauses will be discussed in Chapter 6). Lastly, I will examine focus, topicalization, and rightward dislocation of sentential elements.

5.7.1. CO-SUBORDINATION AND CLAUSE CHAINING. In traditional grammar two types of juncture have been recognized. These are coordination and subordination. Van Valin (1985:383-84) states that these two notions may be characterized in terms of the features [+/- embedded] and [+/- dependent]. Coordination is [- embedded, - dependent] (the linked clause is neither embedded in nor dependent on the non-linked clause), whereas subordination is [+ embedded, + dependent] (the linked clause functions as an argument of the main clause and is dependent upon it for certain obligatory grammatical categories such as tense or illocutionary force). Van Valin points out that there is another logical combination of these features, namely [- embedded, + dependent] (where the linked clause is not embedded in the non-linked clause but is nevertheless dependent upon it in certain respects). This is termed co-subordination (Olson 1981, Van Valin 1985, Foley and Olson 1985, and Graczyk 1991, among others).

Co-subordinate clauses form the majority of multi-clause sentences in Hidatsa discourse as reflected in the Lowie (1939) and Parks et al (1978) texts. These clauses cannot stand alone as complete sentences, but they are not semantically dependent upon any other clause. Since co-subordinate structures do not terminate with a sentence final illocutionary clitic, they are not marked for sentence type (declarative, speculative, interrogative, imperative, etc.). The sentence type of all co-subordinate clauses in a series is determined by the sentence type of the final clause in the series. An example of clause-chaining can be seen in (82).

- (82) wáara rúhbaabiragadoog hiráhawiabiragadoog shiahgágua
wáara rúhpa-a -piraka-took³⁴ hiráhawi-a -piraka-took šiahká -kua
year two -MUL-ten -SPEC three -MUL-ten -SPEC DEM.PL-LOC
- waaʔaahdúuʔahe waʔíihuʔawa xaré^{haag} awáʔeeca waaʔúucag
waaʔaah^{túuʔahe} wa -íihuʔa-wa xaré -t^{haag} -ak awá-eeca waa -úuci -ak
the.skulls INDEF -sell -DS rain -NEG-SS year-every INDEF-dry.up-SS
- hucíʔihdiag awáʔeeca³⁶ giʔishíawa wiribaadáʔash
hucí -ihtia -ak awá-eeca ki -išía-wa wiripaataáʔas³⁷
wind -large -SS year-every INCEP-bad-DS the Water Busters

34 When attached to a noun this morpheme means ‘about’. When attached to a predicate it is a final illocutionary marker.

35 *wata-waa-aahtúuʔa-š* = 1.POS-INDEF-head-PL-DET.D = our skulls

36 This sentence is also postposed. Its proper order should be *awáʔeeca hucíʔihdiak*.

37 *wiri-pa-atiʔ* = water-INh-break = Water Buster or *wiri-pa-ataa-aʔ-š* = water-INh-break-PL-DET.D = The Water Busters

giruwác^hihgaag ruwaʔarugúuci íshgaag
ki -ruwác^hi-hkee -ak [ruwa -aru -kúuci] íškaa -ak
 suus-as.one -3.CAUS.I.sg-SS some-REL.N-get select-SS

giruwácihgaag heʔesháaʔahgu ruxbáaga éec^hiri guxdág
ki -ruwáci-hkee -ak heʔe -šáa-ahku³⁸ ruxpáaka éeca-hiri kuxtá -ak
 suus-as.one -3.CAUS.I.sg-SS DEM-like-PL.continue people all -DEM help -SS

heʔesháaʔahgu úuwaca ahuragap^hág waaʔaahdúuʔahe
 heʔe-šáa -ahku úuwaca ahu -rakap^há -ak waaʔaahdúuʔahe
 DEM-like-PL.continue money a.lot-to-collect -SS the.skulls

ooguucáʔahe guashác
 [aku -kuucá-ʔa -he] kua -šá -c
 REL.S-get -PL.D-DEM DEM-like-DECL

About twenty or thirty years ago they_i sold the skulls; it_j didn't rain; every year it_j dried up; every year (it_j) a big wind blew; because it_j began to get bad, the Water Busters_k gathered their own members together; they_k selected someone to get them; they_k gathered their own members together; together they_k all helped; continuing, they_k collected money; that's the way they_k got the skulls back. (Lowie 1939, V:22)

(82) consists of a series of eleven clauses (the verbs are underlined and the clause final markers are in bold; subject indication is shown with subscripts in the English translation).

The verbs of the co-subordinate clauses are marked with *-ak* (SS) or *-wa* (DS), while the final clause in the sentence is marked with the final illocutionary declarative marker *-c*.

Although the clauses are coordinate in nature, they are all syntactically dependent on the

³⁸ *-ahku* is the third person plural form of the verb 'continue' it is a suppletive form. This construction forms a temporal adverbial meaning 'it went on like that' but it doesn't act like a predicate as it has no clause final marker. This is an example of verb stripping, which is a derivational process in Hidatsa. As a temporal element, I treat this type of clause as an adjunct to VP.

final illocutionary marker. Without this final marker, the sentence would be ungrammatical. This passage comes from the story of how the Waterbuster clan got back their sacred bundle (Lowie 1939:V). Each clause details a different event in the story of retrieving the sacred object. The sentence also has two relative clauses that serve as arguments (these are bracketed). From a discourse perspective all of the clauses are of equal importance and they all contribute to the narrative; however, as stated above, none of them are grammatical on their own except for the final clause which is marked with an illocutionary marker. The clause final markers in this narrative are switch-reference markers and they track subject continuity throughout the sentence (and larger discourse).

5.7.2. SWITCH-REFERENCE. As discussed in 4.10.1.1, switch-reference is a discourse method for tracking subject continuity. It was first formally defined by Jacobsen (1967), although it has now been well documented in the world's languages (Austin 1981, Wiesemann 1982, and Haiman & Munro 1983, among others).³⁹ In example (73), there are examples of both same-subject markers (-*ak*) and different-subject markers (-*wa*). The subject changes from an indefinite someone -*waa*, to an existential 'it' which refers to the weather, to the 'Waterbuster Clan'. As I will show below clauses marked with the SS marker -*ak* are conjoined at a lower syntactic level in the derivation than those marked with the DS marker(s) -*wa* and -*ruk*.⁴⁰

39 In addition to Hidatsa (Boyle 2005b), switch-reference systems have been documented in other Siouan languages, including Mandan (Mixco 1997, 1998), Crow (Graczyk 1987, 1991, 2006), and Biloxi (Graczyk 1999).

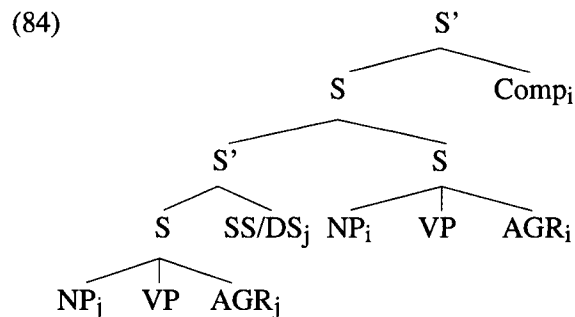
40 The DS marker varies depending on register of speech as shown in Chapter 4.

Finer (1984, 1985) presents the first of two analyses of switch-reference in a generative derivational framework (early principles and parameters).⁴¹ He analyzes the same subject markers as A'-anaphors that must be bound by the Infl/Comp of the matrix clause, and the different subject markers as A'-pronominals that must be free of the same Infl/Comp.⁴² The analysis proposed by Finer is represented in (83).

(83) Finer's Analysis of SR Markers (Finer 1984:66)

SS = + anaphor, - pronominal
 DS = - anaphor, + pronominal

According to Finer, the SR markers set up binding relationships between subjects and the SR markers. He proposes the structure shown in (84).



41 Tsujimura (1987) presents an alternative analysis in a Categorical Grammar framework, which is beyond the comparative scope of the analysis presented here.

42 In (75) Finer treats Infl/Comp as the joint head of S'.

This diagram illustrates the strict locality of switch-reference. Finer views SR as a system of subordination. According to Finer (1980:70-80), it is only the clause immediately superordinate to the switch-reference marker that determines if the clause final marker is a SS or DS marker.⁴³

Stirling (1993) argues that while switch-reference is a type of anaphoric linkage across clause boundaries Finer's analysis cannot adequately account for a variety of the world's SR systems. Her account is formalized in the framework of Unification Categorical Grammar, combined with Discourse Representation Theory.⁴⁴ Stirling (1993:8) points out that Finer's definition of SR systems is very constrained. In addition to adopting the notion that SR is a syntactic phenomenon that can be accounted for with Binding Theory, he further stipulates that the relationship between the two clauses is restricted to hierarchical adjunction. As stated above, it is a subordinate relationship. Syntactic relationships that involve complementation, coordination, and inter-sentential relationships are excluded.

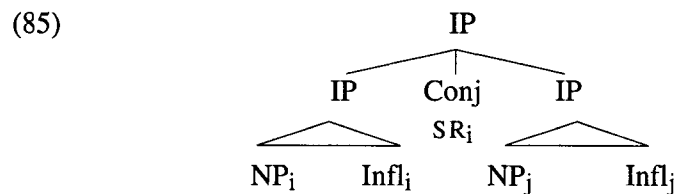
Stirling (1993:11) also notes that because SR has the formal property of being marked on the verb, but the functional property of tracking the reference of NPs in the clause, it is said to violate the *Principle of Categorical Iconicity* (Haiman 1983; Haiman & Munro 1983: ix), whereby a distinction is normally marked on the category to which it

43 Finer (1985) does not claim that this analysis holds for all of the world's SR systems. Some cannot be accounted for by binding theory and therefore must be accounted for by some other set of grammatical principles.

44 Stirling treats SR as "a kind of clause-level agreement, which normally marks the clause it occurs in as syntactically and semantically dependent, and indicates whether there is continuity or discontinuity between the eventuality described by the marked clause and that described by the controlling clause." (1993:123).

applies semantically. The violation of this principle is not problematic for Stirling. She claims that a clause is associated with a *structured eventuality index* which contains three parameters: *the Protagonist* (defined as the agentive subject), *the Actuality* (realis or irrealis), and *the Location*. The SS constrains the matrix and embedded clauses to agree in their eventuality parameters; the DS morpheme indicates disagreement in at least one of the eventuality parameters.

The second analysis of SR systems in a Chomskian model is Broadwell (1997). He claims that SR markers need not be bound by arguments as they are A'-anaphors. They are only sensitive to A'-status and command relationships. Configurations in which SR markers occur are limited to those in which the SR marker of a subordinate clause is m-commanded by an A'-position in the matrix clause. He further claims that SR does not occur between coordinate clauses, which had been suggested by Roberts (1988). Roberts (1988) proposes the structure shown in (85).



As Broadwell points out, this is a problematic structure. In this representation the SR marker bears the index of the first conjunct. Binding of the SR marker is not possible from a structural point of view. Theoretically, command cannot hold between conjoined

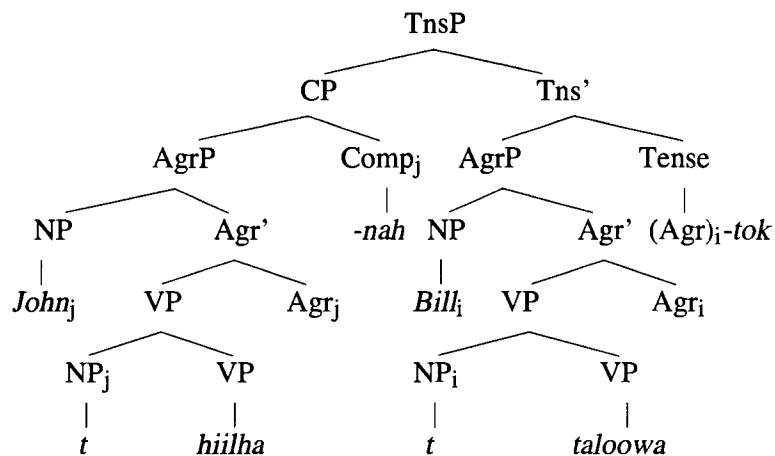
elements of this structural type.⁴⁵

Broadwell then documents SR in Choctaw, illustrating how it functions with example (86).

- (86) Johnat hiilhanah Billat taloowatok.
 John-at hiilha -nah Bill-at taloowa-tok
 John-NOM dance:L-DS Bill-NOM sing -PT⁴⁶
 John danced and Bill sang. (Broadwell 1998:40)

He then proposes the structure shown in (87).

- (87) SR in Choctaw (Broadwell 1997:41)



This structure preserves the c-command relationship between the Agr/Tense of the main clause and the SR marker. This structure adequately explains the mechanism of SR in

45 Command cannot hold in conjuncts given the ungrammaticality of examples like *I saw John_j and himself_i (Broadwell (1998:38).

46 Here NOM = nominative, L = 1 grade, DS = different subject, PT = past tense.

Choctaw. However, it still violates the *Principle of Categorial Iconicity*. Here the SR distinction is marked on the category Comp, which is attached to the verb, but it applies semantically to the reference of the NP arguments. This is unimportant to Broadwell. He states that SR occurs in clause-chaining environments like that shown in (86 & 87). However, Broadwell views clauses conjoined with SR markers as purely subordinate in nature (as shown in (87), and not as co-subordination as proposed by Van Valin.

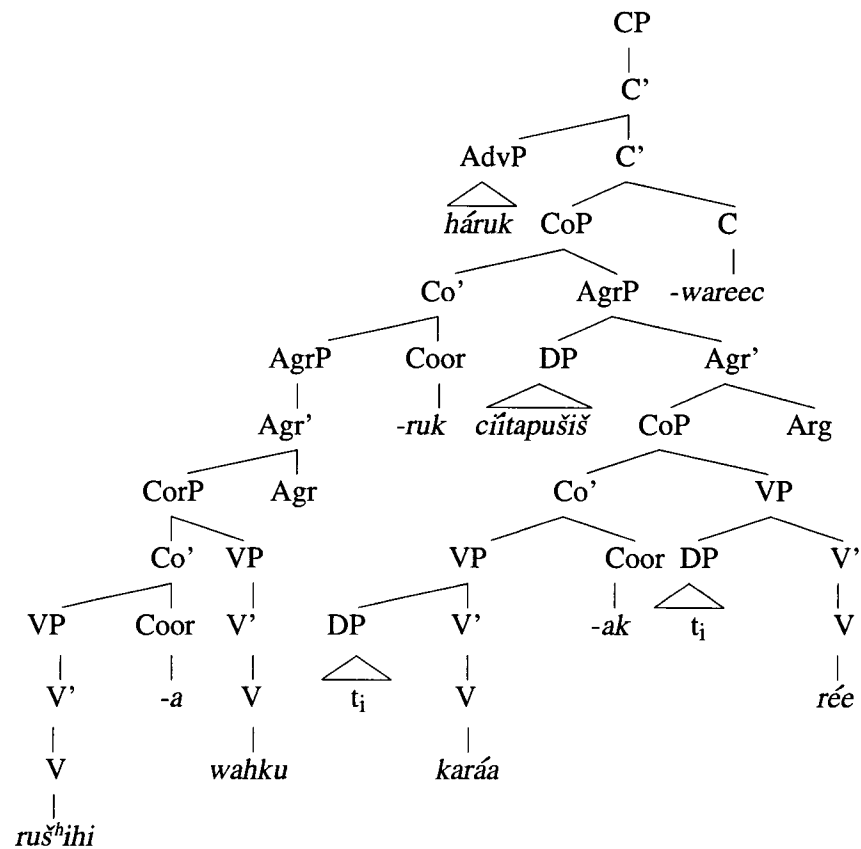
As I have shown in (82), these clause chain environments are exactly where we see SR markers in older forms of Hidatsa. If we view these clause chains as co-subordinate, the SR system can easily be explained as the coordination of two categories where the SS markers conjoin [VP]s and DS markers conjoin [Agr P]s. This type of structure still sets up the correct command relationships and it does not violate the *Principle of Categorial Iconicity* as the SR markers are treated as different types of conjunction having nothing to do with reference marking at all. An example of both types of SS markers (the continuative *-a-* and the SS *-ak*) as well as a DS marker (*-ruk*) is shown in (88)

- (88) harúg rushihawahgurug cídabushish garáag réewareec
 ha -rúk ruš^hihi-a -wahku -ruk cíta-puši -š karáa-ak rée-wareec
 SC-DS twitch -CONT-be.there-DS tail -spotted-DET.D run -SS go -NE
 Then (First Worker) was there and gave a start, Spotted Tail ran away.
 (Lowie 1939, III: 34)

Taking a view of these as co-subordinate clauses into account, the structure of (88) is shown in (89). In this structure, the coordinators do not need to be marked as either A'-anaphors or A'-pronominals. They need no argument reference at all. The coordinators

m-command each of the clauses they coordinate. This view of coordination and switch-reference simplifies the theoretical structures as well as showing that they obey the *Principle of Categorial Iconicity*. Given this view of co-subordinate structures, SR systems should no longer be viewed as ‘exotic’ (Haiman & Munro 1983: ix-x; Finer 1985: 35) or ‘weird’ (Haiman 1983: 105).

(89)



In this structure, we see the overt subject DP in the final two clauses undergoing ATB movement to [SPEC, Agr P]. In this position it c-commands the coordinate VPs. The initial two clauses have no overt subject DP. These have a null third person pronominal

prefix (*pro*). The features of this argument are checked at Agr when the verb moves through the derivation where the verb affixes to the DS coordinator. The argument reference of the initial two clauses moves no further in the derivation. It is therefore not accessible to the final two clauses as a possible subject.⁴⁷ SR systems function as different types of coordination, with SS markers conjoining VPs and DS markers conjoining AGRPs. However, all of these clauses are still syntactically dependent on the final clause which is suffixed with an illocutionary marker. It is this final marker which makes the entire sentence grammatical. The sentential adverbial *háruk*, which carries a SR marker as well, has been placed as an adjunct to CP. Its exact placement will be discussed below in Section 5.4.7.

Although contemporary Hidatsa no longer has a functional SR system, the clause system is still a co-subordinate one. The final verb still carries the illocutionary force marker, without which the sentence is ungrammatical. In addition, the clauses still form chains of CoPs. As a result, the analysis presented above also accounts for contemporary Hidatsa discourse as well.

5.7.3. TEMPORAL AND CONDITIONAL SUBORDINATION. The work presented in this section on temporal and conditional clauses must be viewed as extremely preliminary. This is due to the relative scarcity of examples in the Hidatsa texts (Lowie 1939, Wicker 1978, and Parks et al 1979) and the fact that I have done very little field work on these types of clauses. As a result, the claims that I make in this section are only initial ones. As

⁴⁷ This type of structure can also account for the examples provided in Broadwell (1998) for Choctaw.

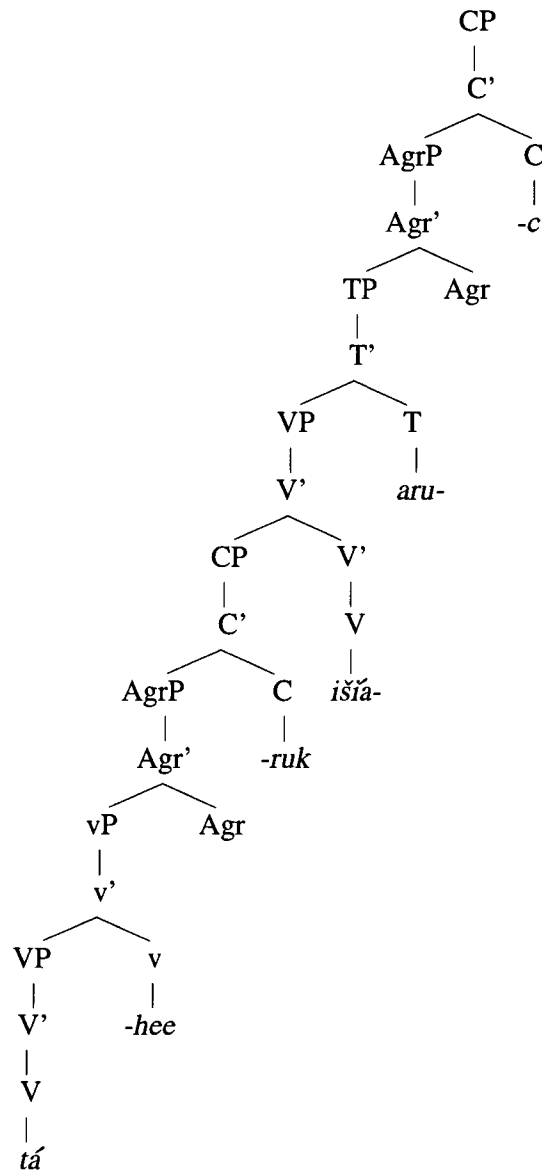
discussed in Chapter four, Hidatsa has several ways of forming true subordinate clauses, that is clauses that are [+ embedded, + dependent]. These clauses often function as adjuncts. The final marker on these clauses functions in a similar manner to the sentence final illocutionary markers. That is to say, these subordinate clauses form CPs. These clauses are outside of the SR system in older forms of Hidatsa.

The conditional marker *-ruk* forms an adjunct structure. The *-ruk* marks a clause as irrealis. An example is shown in (90).

- (90) "dáheerug aruʔishíac"
"tá -hee **-ruk** aru -išíá-c"
"die-CAS.D-COND FUT-bad -DECL"
"If he kills him, it will be bad." (Lowie 1939, I:49)

In this sentence the conditional clause forms an adjunct to the matrix predicate *išíá* 'bad'. A tentative analysis of the structure is shown in (91).

(91)



In this example, the adjunct clause is a causative (vP) which has a VP complement. These are part of a larger CP which I have shown as an adjunct of the matrix V'.⁴⁸ The matrix

48 An alternative analysis of the conditional clause position in the sentence would be to have it as an adjunct of CP higher in the syntactic structure. Further work needs to be done on these types of structures to determine exactly where they attach in the overall syntax.

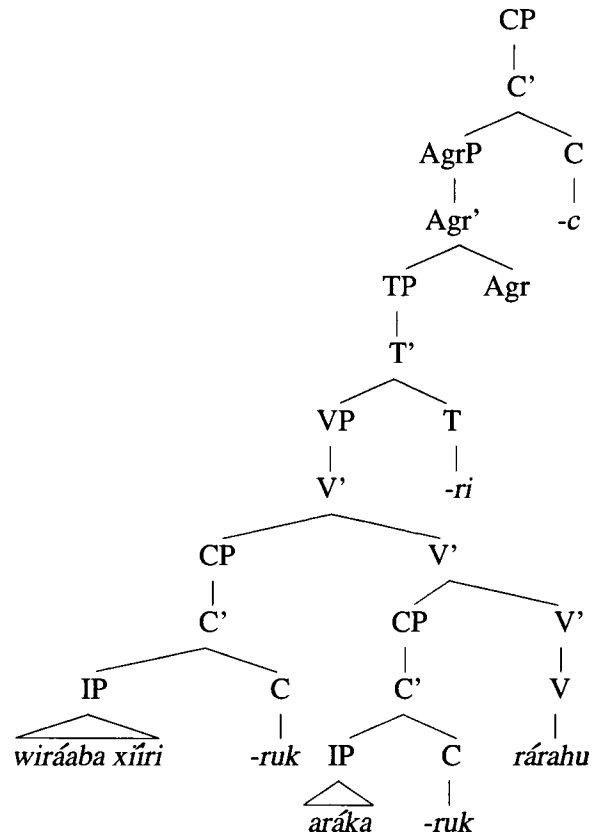
VP then raises to T, where it acquires the nonspecific future prefix. Subject features, including number, are checked at AGR.

Temporal clauses function in a similar manner to conditional clauses. I also treat them as adjuncts although more work must be done to determine their exact status. An example of a conditional clause is shown in (92).

- (92) "miráaba xíirug arágarug rárahuric"
"wirá -(a)apa xíiri **-ruk** aráka **-ruk** rá -rahu -ri -c"
"wood-leaf brown-TEMP 2A.see-TEMP 2A-come-2.FUT-DECL"
"When you see the leaves are brown, when you see them, you must come,"
(Lowie 1939, I:86)

In this example, I have treated both temporal clauses as adjuncts of V' and as such I have represented them as sisters of V' The structure of this example is shown in (93).

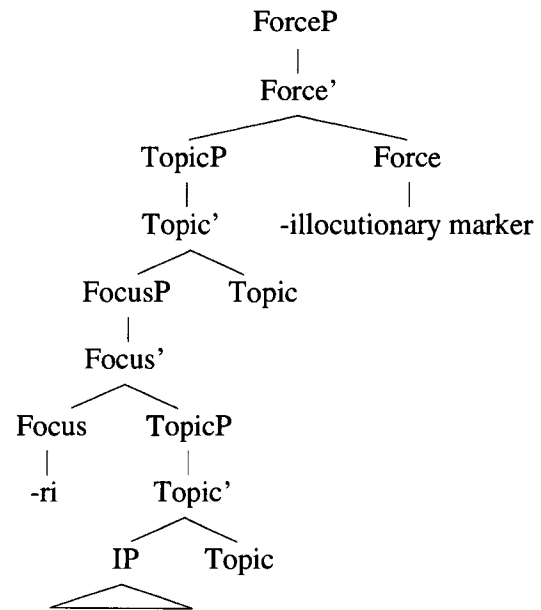
(93)



5.7.4. TOPICALIZATION, FOCUS AND THE EXPANSION OF CP. Hidatsa allows some movement of constituents in its syntactic structure. This movement is done after the majority of the derivation has been built through the processes of movement and merge. Traditionally, [SPEC, CP] would serve as the landing site for topicalization or focus constructions. Rizzi (1997) proposes that, like the expanded IP model proposed by Pollock (1989), CP can also be best seen as a number of functional nodes, originally [Topic [Focus [Topic [IP]]]]. In addition, Rizzi (1997, 2000) claims that above this structure is a functional head called Force [FORCE P]. Force expresses the illocutionary force of main clauses or the clause type of subordinate clauses. As has been shown throughout this

dissertation, Hidatsa sentences must have a final illocutionary force marker to be grammatical. The analysis presented by Rizzi allows us a deeper understanding of Hidatsa syntax. The final illocutionary force marker isn't projected from a general CP, it is a projection of a ForceP.⁴⁹ This would then give us the structure shown in (94) for an expanded CP in Hidatsa.

(94) The Expanded Hidatsa CP



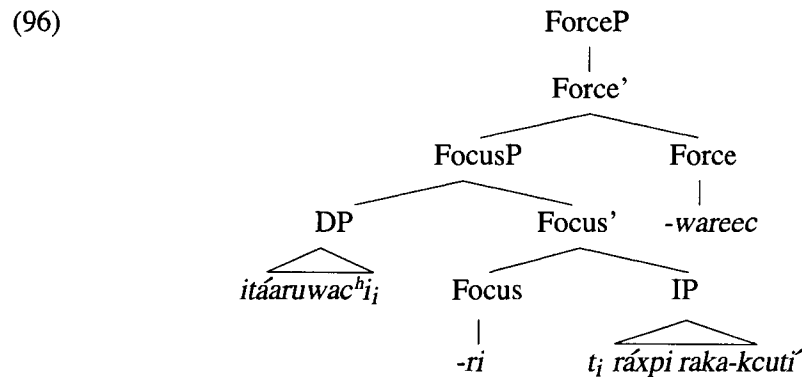
Given this type of suprastructure we can now account for the movement of constituents that we see in the Hidatsa texts. The focus particle shows that the nominal which it is cliticized to is one of prominence. This marker is often used to mark subjects in sentences with multiple DPs. The focus particle is usually restricted to animate DPs, but certain exceptions exist. One such example can be seen in (95), which on the surface seems to be a typical

⁴⁹ Subordinate clauses (conditional, temporal, and relative) would also have their final marker as a projection of [FORCE P].

SOV sentence. In this sentence the compound *itáaruwac^{hi}*⁵⁰ is the subject, and it is marked with the focus marker *-ri*.

- (95) harúg idáaruwac^{hi}iri ráxpi ragcudíwareec
 ha-rúk itáa -ruwac^{hi} -ri ráxpi raka-kcutí-wareec
 SC-DS arrow-someone-FOC thigh INs -whip-NE
 Then one of the arrows whipped his thigh. (Lowie 1939, III:36)

Given the expanded notion of CP shown in (94), the example in (95) has the structure shown in (96).



In (96), the subject is raised to [SPEC, FOCUS P]. This brings the non-animate subject to prominence. The verb *raka-kcutí* is an active transitive verb; as such it requires an animate subject, which *itáa* ‘arrow’ usually isn’t. This unusual subject requires a focus marker which alerts speakers that this DP is important to the discourse. The exact functions of this

⁵⁰ This is a compound of an inanimate noun with the pronominal *-ruwac^{hi}*, which makes it animate. In this text, the arrow is consciously hitting a character (First Worker) on the thigh in order to wake him up.

focus particle are not entirely clear. In my elicited data, it is used to mark subjects in sentences with more than two DPs. In the Hidatsa texts (Lowie 1939, Wicker 1978, and Parks et al 1979), it is often used to bring new DPs in the discourse to prominence and make them available to be subjects without having previously been mentioned. Clearly, more work needs to be done on this particle.

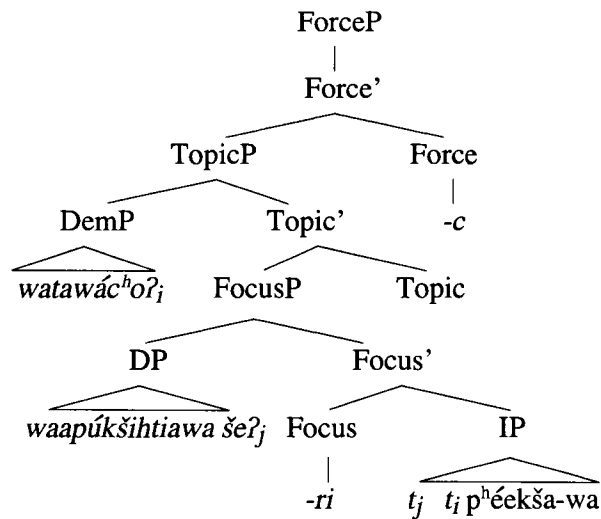
Example (97) shows a much more marked word order. Canonically, Hidatsa is an SOV language. This word order is quite rigid, but it can be broken in certain types of discourse genres. Example (97) shows an OSV word order.

- (97) madawác^hoʔo waabúgshihdiawa shéʔri p^héegshác⁵¹
 wata -wác^ho -ʔo waapúkši-htia-wa šéʔ -ri p^hée -kšá -c
 1POSS-relative-PL.I snake -big -DET DEM-FOC eat.up-FREQU-DECL
 There is a big serpent which always eats up our relatives. (Parks et al 1978, PA:14)

The diagram in (98) shows the structure of (97). In this structure, the subject [DEM P] moves to [SPEC, FOCUS P] where it cliticizes to the focus marker *-ri*. The object then moves to the [SPEC, TOPIC P]. This subject and object movement allows the subject to be marked with the focus morpheme, but it also allows the object to be topicalized for discourse purposes.

51 In the Packs Antelope text, this clause is the first of three. It was reelicited by me as a simple sentence for this example.

(98)

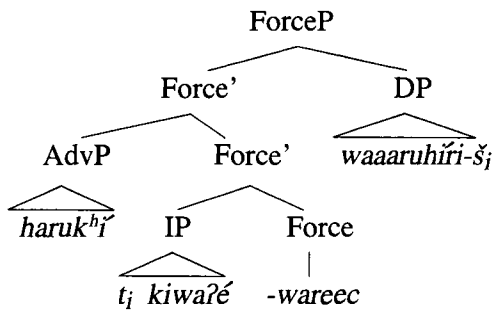


In Hidatsa discourse, it is also possible to observe rightward dislocation. In example (99), the object DP has been shifted to the right. In addition, there is also a sentence connective temporal adverbial.

- (99) harukʰí giwaʔéwareec waaʔaruhířish
ha-ruk-hí kiwaʔé-wareec waa -aru -híři-š
SC-DS-later tell -NE INDEF-REL.N-do -DET.D
And then he (Day-Sun) told him (Moon) what he had done. (Lowie 1939, I:74)

In (89), a similar temporal adverbial was shown as an adjunct of CP. In (100), the adverbial still occupies an adjunct position, only here it is an adjunct to [FORCE P]. The dislocated subject is shown in [SPEC, FORCE P]. This accounts for why the sentence final illocutionary force marker is not in the last position in the sentence. This is shown in (100).

(100)



Note that in this structure [SPEC FORCE P] occurs to the right, whereas other SPEC positions occur to the left. This is an extremely marked position as these dislocated subjects are marked constructions.⁵² More work needs to be done on the restrictions of this type of movement.

The proposals of Rizzi for an expanded CP allow us to account for a number of phenomena in Hidatsa discourse. The expanded CP explains the syntactic workings of focus marking, the reordering of arguments, and rightward dislocation. Without this expanded set of projections, the examples presented in (95, 97, & 99) would be very problematic to account for.

5.8. CONCLUSION. In this chapter I have presented a theoretical overview of the Hidatsa VP and clause structure. I have argued that Hidatsa syntax must have access to many of the internal morphemes of the word. While the verbal prefixes are predominantly derivational, most of the verbal suffixes are syntactic. These morphemes project functional heads that are added to the verb in the syntactic derivation through the processes of merge and move.

⁵² An alternative analysis may be to have this type of movement occur after PF.

I have shown that Hidatsa is a configurational language, and as such, I have argued that overt subject and object DPs are not adjuncts or appositives, but actual arguments of the predicate. In addition, I have shown through coordination data that the pronominal prefixes are also full arguments. These facts show that Hidatsa is not a language that fits the Pronominal Argument Hypothesis as proposed by Jelink (1984) and Baker (1990) among others.

In an examination of the pronominal prefixes and the active-stative verbal structure, I have shown that verbs must be lexically specified as to which pronominal prefix they take for a subject. This in turn led to a reanalysis of the pronominals. I have shown that they cannot be overtly marked for case. A nominative/accusative unaccusative/unergative analysis cannot account for the data, and in fact makes erroneous predictions. As verbs must have +/- *Actor* subject and +/- *Transitive* as part of their lexical specification, I have shown that the pronominal prefixes reflect semantic macro-roles (as proposed by Van Valin 1985) and not overt case.

I have then shown that most of the verbal suffixes are lexical heads of maximal projections; that is, they are syntactic. I have argued that the causative morpheme is a vP shell that takes the lexical VP as a complement.

I have then proposed a new analysis of switch-reference systems. In the past, these were treated as dependent systems that had to be somehow marked with coindexation in reference to the subject of the verb they affixed to and the verb that followed them. I have argued that if we follow ideas proposed by Olson (1981), Van Valin (1985), Foley and Olson (1985), and Graczyk (1991, among others) and view SR systems as co-subordinate

constructions, their structure is greatly simplified. Using the idea proposed by Johannessen (1998) showing that coordinate structures obey basic X-Theory, I have shown that in Hidatsa, clauses marked with SS markers are coordinate VP (or vp) structures and clauses marked with DS are coordinate AGRP structures. This analysis explains why subjects cannot be shared between a verb marked with a DS marker and one marked with a SS marker; the subject is simply inaccessible between verbs that have a DS marker separating them. This analysis greatly simplifies SR systems. Lastly, I have argued for a split CP system following Rizzi (1997, 2004). This accounts for focus, topicalization, and rightward dislocation.

CHAPTER SIX THE STRUCTURE OF RELATIVE CLAUSES IN HIDATSA

6.0. INTRODUCTION. In this chapter, I will examine the main nominalization strategy employed in Hidatsa: that is, relativization. Section 6.1. will provide a description of Relative Clauses (RCs) in Hidatsa and show that they are internally headed. I will show that these clauses are nominalized sentences that can serve like any other DP in the larger superordinate clause structure. Section 6.2. will provide a syntactic analysis, detailing previous analyses (Williamson 1987, Cole 1987, and Culy 1990) and discussing how data from Hidatsa augments these. The analysis will then be extended to account for important island constraints, namely coordinate clause effects, subjacency effects, and restrictions upon embedding. I will show that examples from externally headed relative clauses (EHRCs) can be used to account for the facts shown in Hidatsa internally headed relative clauses (IHRCs). I will show that antisymmetry accounts first proposed by Kayne (1994) and elaborated on by Bianchi (1999) and Di Sciullo (2005) are flawed and their attempts to unify the two types of RC constructions are impossible to maintain. Following ideas proposed in Baker (1996) and Julien (2002), I propose a model of parameter setting which unifies the two types of constructions. In Section 6.3., I will provide a semantic explanation for the fact that IHRCs can only have heads. This will employ the general framework proposed by Heim (1982) for an account of indefinites. This account extends and refines the analysis of the definiteness effects of the internal head first discussed in Williamson (1987). I then propose that at LF, in Hidatsa IHRCs, the head moves to [SPEC, CP] to escape existential closure. This new model simplifies and refines those

proposed earlier (Williamson 1987, Cole 1987, Culy 1990, Basilico 1996 among others).

This will be followed by a brief conclusion in Section 6.4.

6.1. RELATIVE CLAUSES AS DPS. In Hidatsa, RCs act as DPs. In form, they are nominalized sentences and as such they can serve in any argument role just like more typical DPs. Example (1) shows a typical Hidatsa sentence with a transitive verb. It takes two simple DP arguments and is a standard S-O-V sentence.

Common S-O-V sentence with simple DP arguments

- (1) mǐash wacéesh ígaac
wǐá -š wacée-š íkaa-c
woman-DET.D man -DET.D see-DECL
The woman saw the man. (Boyle 4/2002)

In example (2), there is a relative clause serving as the object of the matrix clause.

The word order is still S-O-V.

RC Serving as Object

- (2) mǐá shéʔeri [wacée aguwaabáahish] ígaac
wǐá šéʔe-ri [wacée aku -waapáahi-š] íkaa-c
woman DEM-TOP [man REL.S-sing -DET.D] see-DECL
The woman saw the man that sang. (Boyle 4/2002)

Relative clauses can also serve as subjects as in (3). Again the word order remains S-O-V.

RC Serving as Subject

- (3) [wacée aguwaabáahish] wía ígaac
[wacée aku -waapáahi-š] wía íkaa-c
[man REL.S-sing -DET.D] woman see-DECL
The man that sang saw the woman. (Boyle 4/2002)

Relative clauses can also be possessed like other nouns. In these instances, a possessive prefix is affixed to the nominalized clause. This is seen in (4).

Possessed RC

- (4) náaruwa [ida?aru?abáxihe] hííwareec
rée-a -ruwi -a [ita -aru -apáxi -hee] híí -wareec
go -CONT-along-CONT [3.POSS.A-REL.N-stop.rest-3.CAUS.D.SG] arrive-NE
Going along, he (First Worker) arrived at the place where Sun stops to rest.
(Lowie 1939, I:21)

Relative clauses can also serve as objects of postpositions. Here the relativized nominal serves as an adpositional modifier to the head. An example is shown in (5).

Object of a Postpositional Phrase

- (5) náaruwa [wirawáhu arushiibigáadigua] hírawa
ráa-ruw -a [wira -wáhu aru -šiipi-káati -kua] hírawi-a
go -continue-CONT [woods-inside REL.N-thick-EMPH-LOC] sleep -CONT

wáagirug uʔúšiawareec
wáaki -ruk uʔúšia-wareec
be.there-TEMP arrive -NE

Going along in the woods where it is very thick, he (First Worker) arrived while (Spotted Tail) was still sleeping. (Lowie 1939, II:54)

Examples (2-5) demonstrate that relative clauses can serve as arguments in the same manner as DPs.

6.1.1. INTERNAL HEADS. Relative clauses in Hidatsa are internally headed. This is to say that the noun that is modified by the clause (the head) is internal to the relative clause and not part of the larger superordinate clause. This is clearly seen in (6).

Internally Headed Relative Clause

- (6) [macéesh washúgawa agudíheesh] shibišhac
[wacéeš wašúka-wa aku -tí -hee -š] šipiša-c
[man -DET.D dog -DET.I REL.S-die-3.CAUS.sg-DET.D] black -DECL
The dog [that the man killed] is black. (Boyle 2002)

In this sentence, the relative clause *wacéeš wašúkawa akutiheeš* contains the noun that is modified, namely *wašúkawa* ‘a dog’. In the English translation, the relative clause ‘that the man killed’ does not contain the noun that is modified by the relative clause. In English, the head is outside of the clause. This is not the case in Hidatsa and languages like it. In these languages, the head is internal to the clause, hence the name, Internally Headed Relative Clause. Culy (1990) defines IHRCs as nominalized sentences which modify a nominal internal to the sentence. This is the definition that will be employed here.

This type of relative clauses is clearly subordinate to the matrix (or superordinate) clause. Evidence of this can be seen in number marking as shown in example (7).

Plural Agreement in Relative Clauses

- (7) Alex [wíáaguʔo uuwági aguhíraʔash] ígaac
Alex [wíá -aku -ʔo uuwági aku -híri -ʔa -š] íkaa-c
Alex [woman-DET.SPEC-PL.I quilt REL.S-make-PLD-DET.D] see -DECL
Alex saw [the women who made the quilt]. (Boyle 2002)

In this sentence, the matrix verb *íkaa-* ‘see’ is singular in number, shown with zero marking, and it agrees with its subject ‘Alex’. The subordinate verb in the relative clause *híri-* is plural, shown with the definite plural marker *-ʔa-*, and it agrees with its subject in the lower clause *wíá* ‘woman’, which is also the head of the relative clause. In IHRCs, the head occupies an argument position that is determined by its role in the subordinate clause and this is why there is agreement in number between the head and the subordinate verb.

6.1.1.1 THE NOTION OF HEAD. The term Internally Headed Relative Clause was first coined by Gorbett (1976) in his description of Digueño nominals. In some of the subsequent literature there has been confusion about the notion of ‘head’. Cole, Harbert, & Hermon (1982) and Weber (1983) among others have referred to IHRCs as ‘headless relative clauses’. In the constructions that I will be examining, the notion of ‘head’ is a semantic one. It is not to be confused with the ‘head’ in X’ theory, i.e. a X^0 category. The head in an IHRC differs from this more common usage of ‘head’ which is a syntactic notion. Since IHRCs are sentences and sentences never have NPs as their syntactic head, the head of an IHRC will never be the syntactic head of the sentence. The label of

'headless relative clause' is not an accurate description for our purposes. Consider examples (8) with an overt head (which is bolded), and (9) with a null head.

Relative Clause with an Overt Head

- (8) Mary **uwági**_i aguhířish warúcić
Mary **uwáki**_i aku -híři -š wa-rúci-c
Mary **quilt**_i REL.S-make-DET.D 1A -buy-DECL
I bought the quilt that Mary made. (Boyle 2004)

Relative Clause with an Null Head

- (9) Mary **e**_i aguhířish warúcić
Mary **e**_i aku -híři -š wa-rúci-c
Mary **e**_i REL.S-make-DET.D 1A -buy-DECL
I bought what Mary made. (Boyle 2004)

Example (9) is a 'headless' IHRC (i.e. the head is null or not phonologically overt) thus, using the terminology IHRC will allow us to maintain a useful distinction that 'headless relative clause' does not. We can now define an IHRCs as:

A (restrictive) internally headed relative clause is a nominalized sentence which modifies a nominal, overt or not, internal to the sentence. (Culy 1990:27)

6.1.2. THE HIDATSA RELATIVE MARKERS. Hidatsa relative clauses all pattern in the same manner. As stated above the RC is a nominalized sentence, and as such it can take one or two DP arguments depending upon whether the verb is transitive or intransitive.

The entire sentence is then nominalized by the addition of a determiner which appears in the verb final illocutionary suffix slot. The overt syntactic template for the RC is shown in

(10):

(10) [(DP) (DP) REL-verb-DET]

In this example, we see that there are zero, one or two overt arguments filled by full DPs.¹

The predicate is relativized by a relative marker and then the entire sentence is nominalized with the addition of a determiner.

Hidatsa has two relative markers, *aku-* and *aru-*. The first of these markers, *aku-*, marks a specific entity and speakers prefer to use it for animate items. The second marker, *aru-*, is a nonspecific marker and is often used for inanimate objects or entities. The overriding attribute of these markers is specificity, not animacy. This can be seen below in examples (11) and (12).

Hidatsa IHRC with the Specific Relative Marker

(11) mashúga aguʔáwagash wagíʰaac
 wašúka **aku** -ʔ -áwaka-š wa-kíá-tʰaa -c
 dog **REL**-epe-1A.see-DET.D 1A-fear-NEG-DECL
 I am not afraid of *that dog* that I see. (Boyle 7/2003)

¹ This template is for RCs. It shows that full DPs are optional. If the arguments were pronominals then they would be realized as prefixes in the verbal complex. These would fulfill the argument subcategorization form of the verb as shown in 5.3.

Hidatsa IHRC with the Non-Specific Relative Marker

- (12) mashúga aruʔawágash wagít^haac
wašúka **aru** -ʔ -awáka -š wa-kíá -t^haa -c
dog **REL**-epe-1A.see-DET.D 1A-fear-NEG-DECL
I am not afraid of a *dog* that I see. (Boyle 7/2003)

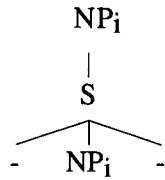
The difference in specificity does not alter any aspect of the syntax. As a result, both constructions are identical with regard to the syntactic analysis presented here. Examples presented below will use whichever marker best illustrates the grammatical phenomena being discussed.

6.2. THE SYNTAX OF HIDATSA IHRCS. Although a number of people have worked on IHRCS, I will focus primarily on five previous syntactic analyses, which have advanced our understanding of IHRCS. These are Cole (1987), Williamson (1987), Culy (1990), Kayne (1994) and Bianchi (1999). All of these analyses have employed a Principles and Parameters (or PP) or a Minimalist compatible framework and are thus relevant to the analysis presented here.

6.2.1. THE PRE-PP ANALYSES. In many pre-PP analyses such as Gorbert (1976), Fauconnier (1979), and Hale & Platero (1974) the deep structure of an IHRC is the same as the surface structure.² This is basically a NP to S structure, which is shown in (13).

² Although I will use a Minimalist framework and the associated terminology for my analysis, I will employ the older terminology used by the various authors cited so as to not confuse their arguments. For example many authors use S for IP and S' for CP. This older terminology will be retained when showing older examples written in early GB or pre GB frameworks.

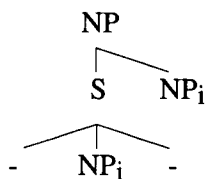
(13) Model of IHRC with DS the Same as SS



In these analyses, there is a cyclical rule of index copying between the NP that dominates S, which is the RC, and the NP inside of S, which is the head.

An alternative to the analysis presented in (13) is found in Platero (1974) and Weber (1983). Their analysis posits a surface structure like that shown in (13) but a deep structure like that shown in (14).

(14) Model of IHRC with DS Different than the SS



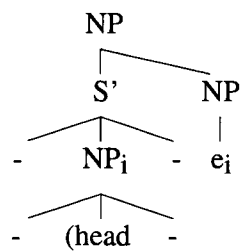
In this structure, the external head is deleted under identity with the internal head. This sort of analysis fell out of favor in the 1980s when deletions of this type were ruled out and move alpha became the only acceptable method of structure building. Under the minimalist program this type of analysis has again been proposed for some externally headed relative clauses (EHRCs) most notably by Citko (2001).

6.2.2. PRINCIPLES AND PARAMETERS AND MINIMALIST ANALYSES. The analyses of IHRCs in the the late 1980s and 90s differed from those that preceded them. Many of these accounts attempted to unify EHRCs and IHRCs. Each analysis adds something more to our understanding of the structure of IHRCs. In the following sections I will explore the contributions of Cole (1987), Williamson (1987), Culy (1990) and Kayne (1994) and Bianchi's (1999) claims about IHRCs and augment them with data from Hidatsa in order to advance a coherent syntactic analysis of IHRCs.

6.2.3. ATTEMPTS TO UNIFY EXTERNALLY AND INTERNALLY HEADED RCS.

Cole's 1987³ analysis of IHRCs posits a surface structure identical to an EHRC with the addition of a null external head. This can be seen in (15).

(15) Cole's Model (1987)



In this analysis the internal head moves to the external head position at LF. The internal head is coindexed with the null external head. Cole treats the external head as an anaphor. In order for this to work, Cole reformulates the condition on the distribution of anaphors as follows:

³ A similar analysis can be found in Ito (1986).

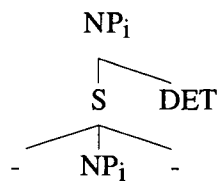
Cole's Condition on Anaphor

An anaphor cannot both precede and command its antecedent. (Cole 1987:283)

This analysis is problematic for several reasons. First, Cole makes an unusual assumption about movement, namely that movement can take place to replace a null category (presumably *pro*) at S-Structure. Second, he relies on linear order to determine the antecedent of *pro*, although both Mohanan (1983) and Kameyama (1985) have argued that linear order is not relevant for determining the antecedent of *pro*. Third, this analysis leads to a potential θ criterion violation. The internal head of the relative clause will receive a θ role from the verb of the relative clause, but the NP that contains the null head in the matrix clause (again presumably *pro*) will also receive a θ role from the matrix verb. If the head in the RC then moves into the empty slot (which was filled by a *pro*) that it was coindexed with, this NP position will now have been θ marked twice by two different verbs.⁴ This is a violation of the θ criterion.

In Williamson's (1987) analysis the relative structure posited in (13) is modified so S has a determiner for a sister. This is shown in (16).

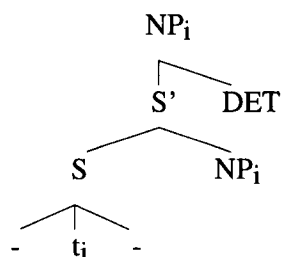
(16) Williamson's Model at S-Structure (1987)



⁴ This was first pointed out in Fontana (1989) and also brought up again in Culy (1990).

Like the previous analyses, this is a representation of the overt syntax, or S-Structure. Williamson posits that the internal head obligatorily moves outside of the IHRC at LF giving the structure shown in (17).

(17) Williamson's Model After Movement at LF (1987)

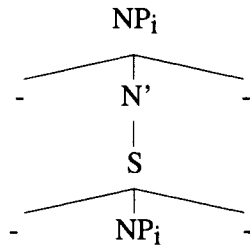


Williamson further posits a cyclic rule that co-indexes the internal head with the NP dominating the IHRC. Although Williamson's syntactic analysis is adequate, both Hoeksema (1989) and Culy (1990) point out that the movement at LF is unmotivated in general. The largest contribution that Williamson's paper makes to the the study of IHRCs is her observation and explanation of the fact that the head of any IHRCs cannot be marked with a definite determiner.

Culy's 1990 dissertation⁵ describes the syntactic structure of an IHRC as that shown in (18).

⁵ Culy's dissertation (1990) is written in three different syntactic frameworks, LFG (Lexical Functional Grammar), HPSG (Head-Driven Phrase Structure Grammar), and GB (Government and Binding or Principles and Parameters). For purposes of this dissertation I will only examine his GB analysis.

(18) Culy's Structure of an IHRC (1990)



The main problem with this structure is that it is an exocentric construction. In this schema the N' exhaustively dominates an S. Culy claims that "while this structure is unusual, it is similar to a rule proposed by Jackendoff (1977) that allows 'category-switching'". That rule is:

$$x^i \rightarrow af \rightarrow y^i$$

The difference with regards to Culy is that in an IHRC construction, the two categories N' and S are not at the same level. Culy's argument for this structure is as follows; N' dominates S because IHRCs are nominalized sentences and as such occur with the elements of a NP that also occur with N'. That is to say, IHRCs have an internal structure of S but an external distribution of N'.

Culy also states that there does not seem to be any framework independent evidence about whether the IHRC is a S (IP) or a S' (CP) and that there is no strong evidence that IHRCs have overt complementizers.

Culy makes one other important prediction about IHRCs that is relevant to this discussion. He proposes that IHRCs have a *wh* element even though this is not overt. He uses this notion to provide motivation for the movement at LF that Williamson proposes. As shown in (18), Culy (like Williamson) argues that there is a coindexation between the NP dominating the IHRC and the internal NP being modified (the head). This coindexation is similar to that which exists between a relative pronoun and its antecedent. Culy bases his argument on Safir (1986) who proposes that in English relative clauses without relative pronouns, there is a null *wh*-operator⁶ which functions like a relative pronoun. Given this, Culy shows that the relative clause in (19a) has the S-structure shown in (19b).

(19) English relative clause without a relative pronoun

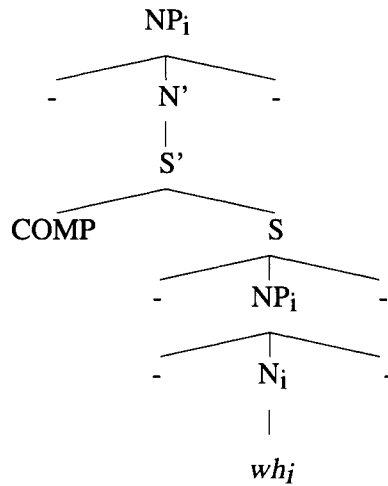
(19a) the dog I ran away from

(19b) [_{NP} the dog_i [_S *wh*_i [_S I ran away from e_i]]]

Culy proposes that in languages with IHRCs, any common noun can optionally act as a *wh*-operator. This operator then moves from the head to COMP in LF via the rule of *wh*-construal, just as in-situ *wh* elements must move at LF. Culy then proposes a tree structure for both D-structure and S-structure that is the same in all relevant aspects. This is shown in (20).

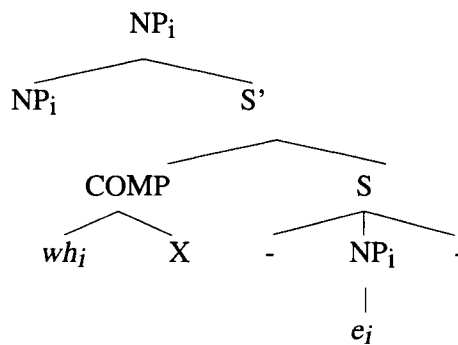
⁶ Safir terms this an “abstract A’ binder”, which he then represents as a *wh*.

(20) D- and S-Structure of a IHRC (Culy 1990)

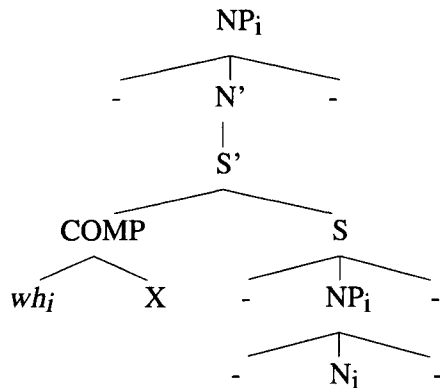


Culy then proposes a general rule to insure that the NP that is the IHRC and the *wh*-operator are coindexed. To do this he proposes the LF structures for EHRCs (21) and for IHRCs in (22).

(21) LF Structure for EHRC (Culy 1990)

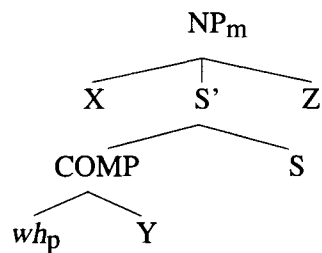


(22) LF Structure of a IHRC (Culy 1990)



Culy points out that these structures both have an NP dominating an S' with a *wh* element in its COMP coindexed with the NP and that while generally it has been assumed that coindexation in EHRCs is between the *wh* element and the NP which is the head, this is not a necessary assumption. The same effect can be accomplished by coindexing the *wh* element with the NP dominating the relative clause, since this NP will have the same index as its daughter NP by general feature passing conventions that a head and its mother share the same features. By taking this approach, Culy subsumes coindexation in EHRCs and IHRCs under the same rule, which he formalizes. He calls this the *Relative Coindexing Constraint* and it is shown in (23).

(23) Relative Coindexing Constraint (RCC) (Culy 1990)



It must be the case that $m = p$.

This allows a generalization about the coindexing that occurs in both EHRCs and IHRCs.

Bianchi (1999) builds on Kayne's (1994) Antisymmetry analysis of relative clauses. With regard to IHRCs, she adds very little (Kayne, himself, only devotes three pages to IHRCs). Here, I will outline Kayne's argument concerning IHRCs. His basic motivation is to create a unified structure that subsumes the basic structures of both IHRCs and EHRCs. He bases his argument on Cole (1987) with particular emphasis on Cole's IHRC structure which is discussed above in this section. He employs Cole's notion of a null anaphoric "head" outside of the relative clause structure. Kayne modifies Cole's condition on anaphor, which is repeated here.

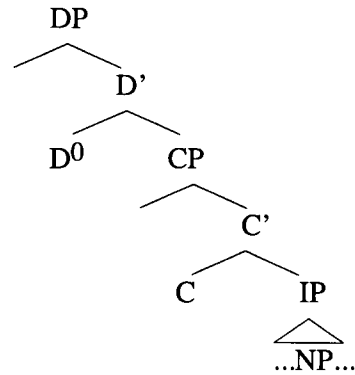
Cole's Condition on Anaphor

An anaphor cannot both precede and command its antecedent. (Cole 1987)

Kayne's modification is to do away with the notion of precedence.

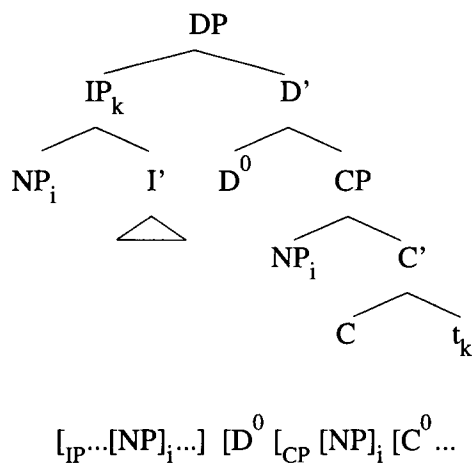
Kayne proposes the structure for a relative clause shown in (24).

(24) Kayne's Structure for a RC (1994)



Kayne states that, starting from a 'D CP' structure, an NP (internal to IP) is moved to [SPEC CP] and then the IP complement of the empty C^0 moves to [SPEC DP], with the IP still containing a trace of the moved NP. This gives us the structure shown in (25).

(25) Kayne's RC Structure After Movement (1994)



Kayne assumes that Chomsky (1993) is correct in proposing that a trace is actually a copy of the moved constituent, which is why the NP_i is shown twice and there is no t_i (trace) for the moved NP_i . Kayne proposes a modification to Cole's Condition on Anaphor:

Kayne's Corollary to Cole's Condition on Anaphor

A given chain link c_k can license PF deletion of another link c_j of the same chain only if c_j does not c-command c_k .

Given this corollary Kayne argues that neither the first nor the second instance of the NP head c-commands the other, so there are two possible outcomes for the structure in (25). These can be seen in (26) and (27).

Structure of an EHRC (Kayne 1994)

(26) $D^0 [{}_{CP} [{}_{NP} \text{head}]_i [C^0 [{}_{IP} \dots [e]_i \dots$

Structure of an IHRC (Kayne 1994)

(27) $D^0 [{}_{CP} [{}_{NP} e]_i [C^0 [{}_{IP} \dots [\text{head}]_i \dots$

Bianchi refines this further and fills in some of the structure that Kayne leaves out. She gives us the structure in (28) for IHRCs (which is the complete structure of Kayne's proposed IHRC from (27)).

Structure of an IHRC (Bianchi 1999)

$$(28) \quad [_{DP} [_{IP} \dots [_{t} NP]_i \dots] [_{DP} D^0 [_{CP} [_{NP} e]_i [_{CP} C^0 t_{IP}]]]]$$

This is the structure shown in (25) in its entirety. Again, the purpose of this structure is to unify the accounts of EHRCs and IHRCs and show that overt movement of the head takes place in the overt syntax in both constructions.

Although both Kayne and Bianchi argue that movement in an IHRC takes place overtly in the syntax, this seems unlikely. Neither actually show this structure with any data from an IHRC language. While their predictions may have theoretical desirability in that they unify the IH and EH structures, they are seriously flawed.

6.2.4. THE SYNTAX OF HIDATSA RELATIVE CLAUSES. After having reviewed the above approaches to IHRCs, a descriptive and theoretical analysis of the Hidatsa relative clause is now possible. The most unusual aspect of the IHRCs in Hidatsa is the relative markers. In section 6.2.4.1, I will show that they are not relative pronouns in the typical sense. I will then show that Hidatsa follows Williamson's predictions with regard to the indefiniteness restriction (Section 6.2.4.2). This will be followed by a discussion of how the final determiners are used to help track discourse information (Section 6.2.4.3), drawing on material previously discussed in Section 3.4. I will next argue that the relative markers are *+wh* elements in COMP (Section 6.2.4.4). As such they are strong elements which trigger movement, unlike the other elements in COMP such as the clause and matrix clause

final elements. Lastly, I will show that Kayne and Bianchi's predictions about overt extraction are not accurate (Section 6.2.4.5)

6.2.4.1. THE STATUS OF THE HIDATSA RELATIVE MARKERS. The Hidatsa RC is a nominalized sentence with the argument structure shown above in (10) repeated here as (29).

(29) [(NP) (NP) REL-verb-DET]

In addition to DPs, I have argued that it is also possible for the argument slots to be filled by pronominal prefixes. These fill the argument role(s) projected by the verb. In this structure the *aku-/aru-* relative markers cannot be relative pronouns in the common sense. That is to say, they do not serve the same function as relative pronouns in other languages. They do not serve as arguments. Consider again example (8) repeated here as (30).

(30) Mary uuwági aguhířish warúcić
Mary uuwáki aku-híři -š ma-rúci-c
Mary quilt REL-make-DET.D 1A -buy-DECL
I bought the quilt that Mary made. (Boyle 2004)

In this example we see that the matrix verb *rúci-* 'buy' projects two arguments or θ roles. These are filled by the 1st person pronominal *ma-* and the relative clause itself. Likewise, the verb in the relative clause, *híři-* 'buy', also projects two arguments or θ roles. These are filled by the subject of the clause 'Mary' and by the object *uuwáki* 'quilt'. If *aku-*, and

by extension *aru-*, were relative pronouns, they would also fill an argument slot, but this is not possible since both verbs project only two arguments each, and these are filled with either full DPs or a pronoun. It is thus not possible for either of the Hidatsa relative markers to be relative pronouns. If this was their role, it would be a violation of the theta criterion, which states that “each argument bears one and only one θ role, and each θ role is assigned to one and only one argument” (Chomsky 1981:36). As they cannot be relative pronouns, I propose that they are complementizers. They signal that the RC is a complement clause of the matrix clause and in that role they function like English ‘that’.

6.2.4.2. THE INDEFINITENESS RESTRICTION IN HIDATSA IHRCs. As

Williamson observed for Lakhota, the heads in IHRCs cannot be definite. It is widely assumed that this is true of all IHRCs and to date no counter evidence has emerged to suggest that the head could be anything but indefinite or not marked for definiteness at all. As would be expected this indefiniteness restriction holds true for Hidatsa as well.

Examples (31) and (32) are both grammatical in Hidatsa.

- (31) *macéé aguʔawágash waabáahic*
wacéé aku -awáka -š maa -páahi-c
man REL.S-1.A.see-DET.D INDEF-sing -DECL
 (some) man that I saw sang (something). (Boyle 4/2002)

- (32) *macéewa aguʔawágash maabáahic*
wacéé-wa aku -awáka -š maa -páahi-c
man -DETI REL.S-1.A.see-DET.D INDEF-sing -DECL
 A man that I saw sang (something). (Boyle 2002)

In (31) the head is not marked with a determiner, as a result it has a generic meaning. In (32), the head is marked with the indefinite determiner *-wa*. This has a more specific meaning. While both (31) and (32) are grammatical sentences in Hidatsa, (33) is not.

- (33) *macéesh agu?awágash maabáahic
 *wacéé-š aku -awáka -š waa -páahi-c
 *man -DET.D REL.S-1.A.see-DET.D INDEF-3A.sing -DECL
 *The man that I saw sang. (Boyle 4/2002)

In (33) we see that Williamson's prediction that the head of an IHRC can not be marked definite holds true for Hidatsa.

6.2.4.3. FINAL DETERMINERS AND DISCOURSE INFORMATION FLOW. An interesting observation that has not often been addressed in the literature on IHRCs is that of information and discourse flow. It is a well known cross linguistic fact that new information is usually introduced with an indefinite determiner. Once a character or object has been established in the discourse then it can be referred to as something definite. This is often done with determiners. An interesting aside to Williamson's Indefinite Restriction is how do IHRCs deal with new/old information if the head of the relative clause can never be marked for definiteness?

Languages with IHRCs employ the final determiner on the IHRC to track new/old information. That is to say the entire relative clause is marked as to whether the head noun and/or the whole DP, which is the IHRC, is new or old in the discourse. Consider examples (34) - (36).

- (34) [waaʔaahdúʔash [oogúreʔe]] íshgaag
 [waaʔaahdúʔaš⁷ [aku -kúreʔe]] íškaa -ak
 [the skulls [REL.S-own]] select-SS
 they selected an owner for the skulls; (Lowie 1939, V:13)

In this example, the RC is generic, or general in reference, and as a result it lacks any overt determiner.

- (35) [waagarišhda [arugírashiwa]]
 [waakarišta [aru -kíraši-wa]]
 [child [REL.N-love -DET.I]]
 ...a child that is loved... (Lowie 1939, IV:3)

In this example, the indefinite determiner *-wa* does not allow the hearer to uniquely identify the referent but it narrows the range of potential referents for the head noun.

- (36) maashiíwa wíagaasha oogiraxbic^híhgeesh
 waašií-wa wíá -kaaša aku -ki -raxpic^hí-hkee -š
 story -DET.I woman-small REL.S-COMPLE-bear -3.CAUS.sg-DET.D
 The story of the girl who became a bear (Lowie Text 1939, IV:title)

Here, the definite determiner presupposes that the identity of the referent is unambiguous. It refers to a specific person, character, or object that is known to the hearer. This shows that Hidatsa uses the final determiner as a way to signal discourse information. In addition,

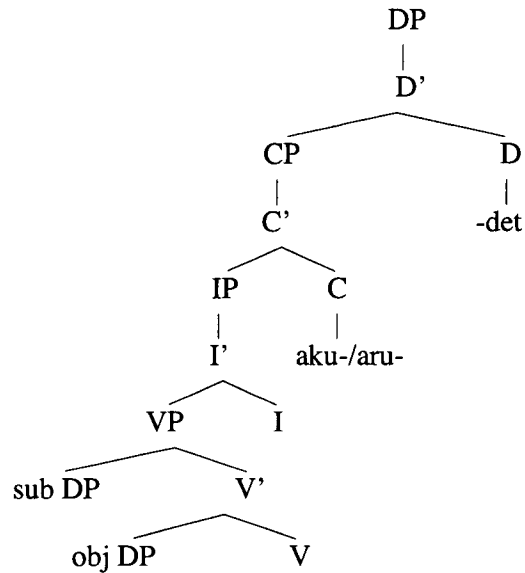
⁷ 'waa-aahtúa-ʔa-š' = INDEF-head-PL.D-DET.D = the skulls

it suggests that there exists a coindexing relationship between the head noun and the DP that is the IHRC. The mechanisms and nature of this indexing are addressed below.

6.2.4.4. THE HIDATSA RELATIVE MARKERS AS COMPLEMENTIZERS. Culy (1990) makes two claims for which Hidatsa provides counterevidence. These claims are that no languages have overt complementizers in IHRC constructions and as a result there is no framework independent evidence as to whether the IHRC is a S (IP) or a S' (CP). Evidence from Hidatsa shows that IHRCs are CPs, not IPs. In addition, Hidatsa shows that at least some languages have overt complementizers in IHRCs. As I argued in Section 6.2.4.1., Hidatsa does have overt complementizers in its IHRCs and because of this, the structure of the Hidatsa IHRC must be an IP inside of a CP with the entire relative clause structure being a DP.

While Culy needs the structure presented in (18) for his analysis, it is highly unusual. Culy's analysis could have been simplified but he employs older syntactic notation that does not allow him to capture greater generalities. The analysis presented here follows from the structure proposed by Williamson with only slight alterations. This can be seen in (37).

(37) Proposed structure for IHRCs in Hidatsa



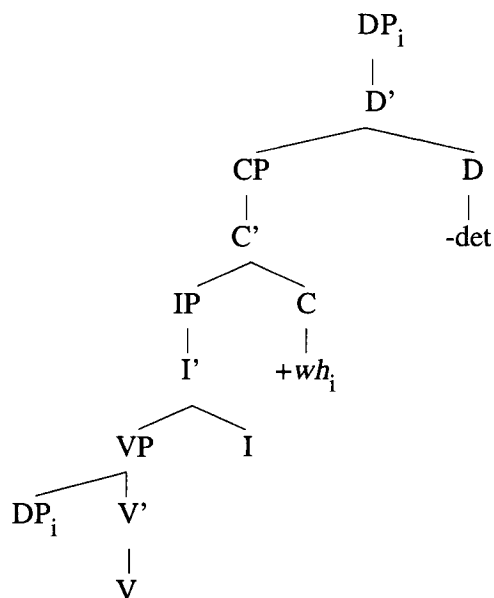
This structure allows for a straightforward syntactic analysis. There is nothing unusual about it.⁸ It captures the insights of both Williamson and Culy. In addition, it shows the placement of the Hidatsa complementizers, which is prefixed to the verb after the verb moves to C. The motivation for this will be discussed below. This overt syntactic data provides framework independent evidence as to the nature of the IHRC, that being an IP inside a CP.

6.2.4.5. HIDATSA *aku-* AND *aru-* AS *+wh* ELEMENTS. Above I have argued that Hidatsa has overt complementizers in COMP, namely the *aku-/aru-* morphemes. In

⁸ In Hidatsa DPs select NPs or nominalized verbs, which include relative clauses, as complements.

Hidatsa IHRCs, these morphemes are *wh* elements. Consider the structure (shown in example (38)) of the Hidatsa IHRC, here simplified for only one DP in the relative clause.

(38) Proposed structure for IHRCs in Hidatsa



Culy (like Williamson) argues that there is a coindexation between the DP dominating the IHRC and the internal DP being modified (the head). In Hidatsa, the head of the RC is coindexed with both the + *wh* element in COMP and the DP that dominates the entire IHRC. Both the head and the *wh* element in COMP inherit their index as daughters of the DP which dominates the RC through feature passing. This is overtly seen in Hidatsa by how the final determiner and the *wh* element in COMP interact to reveal the specificity of the head noun. Remember that the *aku-* marker signals a specific entity, usually animate human and the *aru-* marker signals a nonspecific entity, often but not always inanimate or

non-human. Additionally, the final determiner signals whether the potential referent of the head is unambiguous and known (-š), one of a group of potential referents that is limited (-wa), or wholly generic in reference (-∅). Lastly, I have shown that the head being marked with an indefinite determiner or no determiner at all also contributes to the information flow as to the specificity or definiteness of the head.

Additional evidence of coindexation comes from number agreement⁹ as shown in examples (39 and 40).

(39) Plural agreement with overt subject

míaguʔo uuwági aguhíraʔash íwíiaʔac
 wíá -aku -ʔo uuwáki aku -híri -ʔa -š íwíia-ʔa -c
 woman-DET.S-PL.I quilt REL.S-make-PL.D-DET.D cry -PL.D-DECL
 [Those women who made the quilt] cried.

(40) Plural agreement with null subject

uuwági aguhíraʔash íwíiaʔac
 uuwáki aku -híri -ʔa -š íwíia-ʔa -c
 quilt REL.S-make-PL.D-DET.D cry -PL.D-DECL
 (The ones who) made the quilt cried.

In these examples, we see that the matrix verbs agree with their subjects which are IHRC. The head in each of these clauses, whether overt or null, is plural and this plural number is marked on the verbs (both in the matrix clause and in the subordinate relative clause).

⁹ In some languages, person agreement also provides evidence for this coindexation. While Williamson shows this evidence in Lakhota, it is not not seen in Hidatsa since the type of person agreement morphology that exists in Lakhota does not exist in Hidatsa.

Thus, both the head and the IHRC must have the same number feature. Coindexation is the usual way for two NPs to have the same number marking. The overt interaction of these elements offers convincing evidence that there is indeed a coindexing relationship between the head and the IHRC.

I have described the structure of the Hidatsa relative clause in example (10) repeated here as (41).

(41) [(DP) (DP) REL-verb-DET]

I have also shown that the REL markers, *aku-* and *aru-*, are complementizers. An account of the morpheme order of the Hidatsa relative clause must now be given. In both subordinate and superordinate Hidatsa clauses, the subordinating complementizer or clause final or illocutionary marker is the final suffix on the verb complex. This can be seen in (42 - 43).

(42) [maabiwirišh wat^heeréerug] iícihgawaahirish iŋgi
 [waapi-wirišš wat^hee -rée -ruk] iícihkawaahiriš iŋki
 [Day -Sun-DET.D already-go -TEMP] First Worker 3.REFL

wat^he éehgaag iruuhíwareec
 wat^hee éehkee-ak iru -ahí -wareec
 already know -SS stand-PUNCT-NE

[When Day-Sun had already gone], First Worker himself, knowing (how it was done), stood up. (Lowie 1939, I:10)

- (43) [maaxubaashiiri] waahiróo awá oogóʔsht^hirish
 [waaxupaa -š*iiri*] waa -hiróo awá aku -kóʔst^hiri-š
 [holy -SUBOR] INDEF-DEM land REL.S-little -DET.D

giʔahúhgeeracic
 ki -ahú -hkee -raci -c
 INCEP-much-3.CAUS.I.sg-APPROX-DECL

[Because they were holy], they made that small amount of earth increase.

(Parks et al 1978, LM:18)

In these examples, there are two different morphemes that function as complementizers and subordinate these clauses to their larger matrix clause. All of the Hidatsa complementizers are suffixes. However, this is not the case with the relative markers which are prefixed to the verb complex. The relative clause must be marked as a nominal with a determiner (or zero marking). These determiners seem to be suffixed onto the verb in the position which is usually reserved for the clause final marker or complementizer. The determiner of the relative clause seems to be mutually exclusive with any other clause final marker.

However, this is not the case. Hidatsa RCs do have complementizers, but these are not verb final in the overt syntax. Hidatsa marks RCs as subordinate to the main clause with prefixal complementizers. The difference between the relative prefixes and other Hidatsa clause final markers is one of *+wh* or *-wh* features. Normally, complementizers are marked *-wh*. The relative markers are marked with a *+wh* feature. This difference in *wh*-marking explains the affix order of the *agu-/aru-* morphemes. This is further detailed below in section 6.2.4.6.

In general, Hidatsa has very little overt movement with the exception of surface scrambling done for pragmatic effects. Normally all nouns and verbs remain in-situ. This can be seen with regard to DPs in examples (44-46).

- (44) mǎ́ wacée giracóobic Declarative
wǎ́ wacée kiracóopi-c
woman man kiss -DECL
The woman kissed the man. (Boyle 2002)
- (45) dábeʔowa wacée giracóobi Question of SUB
tápeʔowa wacée kiracóopi-Ø
who man kiss -INTER
Who kissed the man? (Boyle 2002)
- (46) mǎ́ dábeʔowa giracóobi Question of OBJ
wǎ́ tápeʔowa kiracóopi-Ø
woman who kiss -INTER
Who did the woman kiss? / The woman kissed who? (Boyle 2002)

With the exception of the relative construction, there is no evidence that the verb moves within the overt syntactic structure in any *wh* construction. The relative construction is different from all other Hidatsa subordination constructions in that the complementizer is prefixed to the verb complex. Culy (1990:95-9) argues that the + *wh* element is a strong feature and it triggers the movement of the head at LF. In Hidatsa, it also causes the verb to raise in the overt syntax. The REL markers are the only complementizers with this property and it is for this reason that we do not see movement in examples (45-46). These

complementizers all have weak features and as a result the complementizers all suffix onto the verb complex. Hence, complementizers with + *wh* features create constructions with the structure [COMPLEMENTIZER + verb], which is what we see in the relative constructions, and complementizers with - *wh* features create constructions with the structure [verb + COMPLEMENTIZER], which is what happens with other complementizers as shown in (42-43).¹⁰

As I stated above, Kayne and Bianchi's arguments about IHRCs have serious problems. First and foremost is that, like Cole, they provide no motivation for their analysis other than a desire to unify our notions as to how IHRCs and EHRCs function. If the structure that Kayne posits in (25) is accurate, he provides no mechanism as to how languages will know which NP head to delete. As a result, his analysis, like Cole's, predicts that languages can have both IHRCs and EHRCs but does not account for languages which have only IHRCs (such as the Siouan languages).¹¹

Additionally, Kayne's structure of IHRCs give us the wrong prediction about the word order for languages with IHRCs. For Kayne and Bianchi's arguments to be correct the extracted element (the head) needs to be peripheral (either the first or final element) in the clause. Consider (47 a & b):

10 Additional complementizers in Hidatsa include the switch-reference markers as well as the other illocutionary suffixes. As stated in chapters 4 and 5 all predicates in Hidatsa must have one and only one of these to be grammatical. Since the relative clauses have no final marker but the determiner, it is reasonable to assume that the REL markers are complementizers. The difference between the REL markers and the other complementizers is one of + or - *wh* features.

11 Further examples of languages with only IHRCs can be found in Culy (1990:107).

(47a) mǎ́ abádaaxic
 wǎ́ apátaaxi-c
 woman snore -DECL
 The woman is snoring. (Boyle 2006)

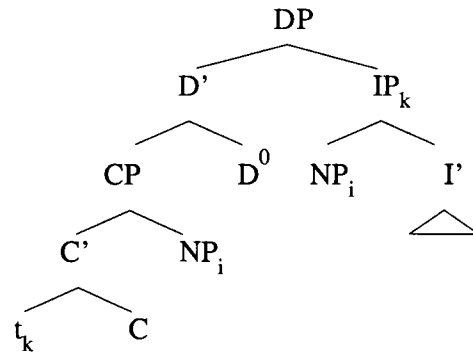
(47b) [huuríshiru wǎ́ aguabádaaxish] iré?ehic
 [huuríshiru wǎ́ aku -apátaaxi-š] iré?e -hi -c
 [yesterday woman REL.S-snore -DET.D] speak-3.FUT.sg-DECL
 The woman who was snoring yesterday will speak. (Boyle 2006)

In (47b), the temporal adverbial modifying the relative clause is to the left of the head. The entire RC is bracketed and it is clear that the head is between the adverbial and the verb. If the structure postulated by Kayne in (25) is correct then the Hidatsa sentence should read as shown in (47c).

(47c) *huuríshiru aguarádaaxish wǎ́ iré?ehic
 *Yesterday, the one who was snoring, the woman will speak.

In both English and Hidatsa, this sentence is ungrammatical. Giving Kayne the benefit of the doubt we can modify his structure to reflect Hidatsa's left branching word order to give us the structure shown in (48).

(48) Kayne's Proposed Structure with Left Branching



[D⁰ [CP [NP]_i [C⁰ ...t_{IP}...]]] [IP...[NP]_i...]

This structure would still give us gibberish. It predicts something like that shown in (49).

- (49) *akuš wía huuriširu apátaaxi irʒehic
 *REL-DET woman yesterday snore will speak

While it is clear that these types of constructions with temporal adverbials give Kayne and Bianchi's predictions problems, consider the example shown in (50).

- (50) [macée washúga aguarabéesh] wahúurahgic
 [wacée wašúka aku -arapée-š] wahúu-rahki -c
 [man dog REL.S-kick -DET.D] bark -PROG-DECL
 The dog that the man kicked is barking. (Boyle 2006)

In this example, the subject of the relative clause precedes the head of the relative clause. Kayne and Bianchi's model also predicts the wrong structure for this example. They predict that the overt structure of this sentence would be that shown in (51).

- (51) mašúka wacée akuarapéeš wahúrahkic¹²
 The dog kicked the man who is barking

Again, their model predicts the wrong word order. In addition, they have postulated that in structures like that shown in (50) the head raises above the subject. Cross-linguistically a subject will rarely precede an element that has been extracted to the left.¹³ Thus, it is extremely unlikely that extraction takes place. In addition, they are postulating a great deal of movement for languages that often have little, if any, overt movement, as is the case with Hidatsa. Lastly, there are languages that have overt extraction to the right, such as Navajo (Basilico 1996). It would seem very unlikely that these languages would also have the type of covert leftward movement in the overt syntax as described by Kayne and Bianchi in addition to the overt rightward movement.

12 This ignores the problem of the overt REL marker. The real prediction for (51) would be:

aku -š wašúka wacéeš arapée wahúu-rahki -c.
 REL-DET.D dog man kick bark -PROG-DECL

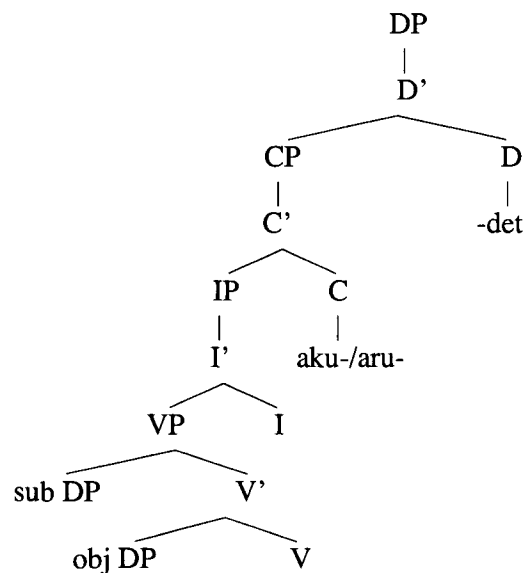
Like (49), this is ungrammatical morphologically, syntactically, and semantically in Hidatsa.

13 Culy (1990) discusses many of these issues in chapter 2 of his dissertation.

Kayne and Bianchi's model proves to be very cumbersome. It predicts ungrammatical word orders in Hidatsa as well as other languages with IHRCs. In addition, it has trouble dealing with any IHRC structure where the head is not peripheral to the clause. All of this is done in an attempt to unify our description of relative constructions and it fails.

6.2.4.6. A UNIFIED ACCOUNT OF IHRCs AND EHRCS. Following Williamson (1987) and Culy (1990), I believe that a unified account of relative clauses can be attained. Both types of clauses share many of the same features. Consider again the structure that I have proposed for IHRCs in Hidatsa. in (37), repeated here as (52).

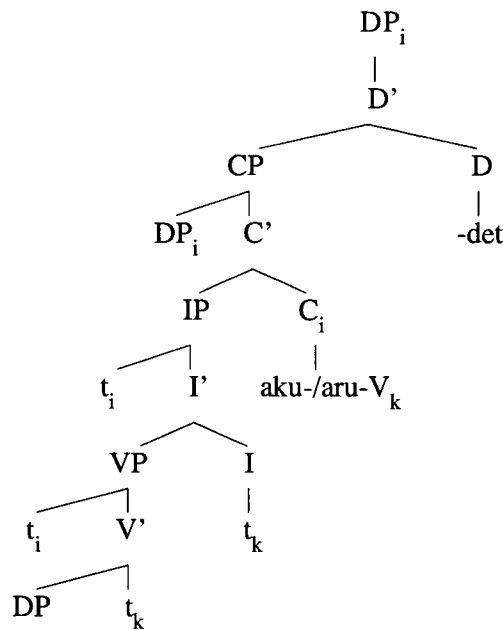
(52) Structure for IHRC in Hidatsa



This structure will hold for other languages that have IHRCs, although in many of these languages C is not usually overtly filled. I will follow Culy's proposal that it is filled with a + *wh* element, either overtly (as in Hidatsa) or covertly (as in Lakhota). In this structure, the verb moves overtly through I and affixes itself to the REL marker in C. The determiner in D is then affixed onto the relativized verbal complex.

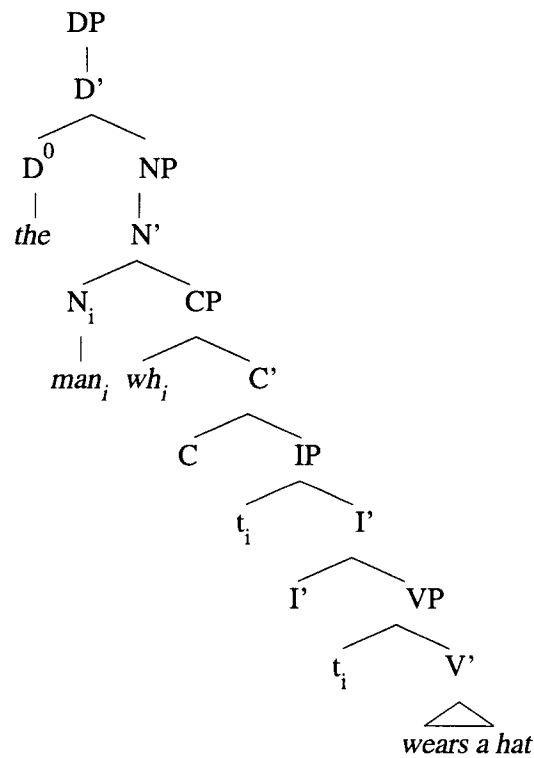
At LF, the head (whether the SUB DP or the OBJ DP) moves first to [SPEC IP] and then to [SPEC CP]. The motivation for this will be examined further in the semantics section below. This gives us the LF structure shown in (53).

(53) LF Structure for Subject IHRC in Hidatsa



Now consider the structure of an EHRC shown in (54).

(54)



...the man who wears a hat.

There are two basic accounts for EHRCs found in the literature. The first is the *Head Promotion Account*, which argues that the head undergoes raising from a relative clause internal position to an external one above the relative clause CP (although this argument has a long tradition, more recently it has been argued for by Kayne 1994, Sauerland 1998, Bianchi 1999, and Safir 1999 among others). The second approach is the *Deletion Under Identity* account, which posits that the head moves to a high position in the RC (usually [SPEC, CP]) and here it is deleted phonologically since it has the same indexing and is the same lexically as the external head (this argument also has a long tradition going as far back

as Chomsky 1965 and it has been seen above in Cole 1987; more recently it has been argued by Citko 2001 among others).

In both explanations, the DP head in the EHRC is coindexed with the head noun in the matrix clause. The head (whether a relative pronoun or a full DP) moves from its base generated position in [SPEC, VP] to [SPEC, IP] and from here usually to [SPEC, CP]. Both of these structures (53 and 54) have several key elements in common. Both are dominated by a DP and both have a *wh* element in COMP that is coindexed with the NP head. There is also a coindexing relationship between the *wh* element and the DP that dominates the relative clause.

The only major difference that exists between IHRCs and EHRCs is in the timing of the movement of the head. In IHRCs, head movement doesn't take place until LF and the head stops at [SPEC CP]. In EHRCs, head movement takes place in the overt syntax (but it also is reflected at LF) and depending on the theoretical approach it either moves out of the RC or is deleted since it has the same identity as the external head.

6.2.5. ISLAND EFFECTS IN HIDATSA IHRCs. In addition to the above mentioned aspects that both relative clause structures share, we would expect IHRCs to also have other characteristics in common with EHRCs if they do indeed have the same basic structure, as I have proposed. In this section, I will examine how IHRCs behave with respect to Island Constraints. Specifically, I will look at Subjacency, Empty Category Principle (ECP) effects, and the Coordinate Structure Constraint (CSC) in Hidatsa IHRCs.

Although the arguments presented here will be specific to Hidatsa, Culy (1990), and Bonneau (1992) demonstrate that they are applicable to other languages with IHRCs.

6.2.5.1. SUBJACENCY EFFECTS IN HIDATSA IHRCS. Hidatsa IHRCs, like EHRCs, act like islands and extraction from them is impossible. There are two levels where this can be shown, namely in the overt syntax and at LF. I will first consider boundedness in the overt syntax. Consider examples (55) and (56).

(55) huriřshiru wacéesh icúuwishga agurúshiish cágic
huriřshiru wacée-ř icúuwiřka aku -rúřii-ř cáki-c
yesterday man -DET.D horse REL.S-buy -DET.D good-DECL
Yesterday the man bought a horse that was a good one. (Boyle 2004)

(56) huriřshiru icúuwishga wacéesh agurúshiish cágic
huriřshiru icúuwiřka wacée-ř aku -rúřii-ř cáki -c
yesterday horse man -DET.D REL.S-buy -DET.D good-DECL
The horse that the man bought yesterday was a good one. (Boyle 2004)

These two examples show that movement within the relative clause is permitted for pragmatic purposes. The subject is marked with the definite determiner and since it is thus marked it cannot be the head of the clause. However, when one tries to elicit a *wh*-question with the *wh*-word fronted, we get an ungrammatical sentence. This can be seen in (57).

- (57) *taabáa?a₁ huuriširu wacéesh e₁ agurúshiish cágic
 *taapáa?a₁ huuriširu wacée-š e₁ aku -rúšii-š cáki-c
 *what₁ yesterday man -DET.D e₁ REL.S-buy -DET.D good-DECL
 What that the man bought yesterday was a good one? (Boyle 2004)

While (57) does not show directly that IHRCs in Hidatsa act as islands, it does show that extraction is ungrammatical in declarative sentences. However, we must keep in mind that Hidatsa is an in-situ language as was seen in (45) and (46). As a result, (57) may be ungrammatical because extraction is impossible or because it is ungrammatical to front *wh*-words.

It is also relevant to the discussion on IHRCs to consider boundedness at LF.

Huang (1982) argues that boundedness at LF is not universal and this is reflected in languages with IHRCs. Culy (1990) shows that both Navajo and Imbabura Quechua do obey Boundedness at LF. Williamson, on the other hand, shows that Lakhota does not obey boundedness at LF. She gives an example that shows that it is grammatical for the head of one IHRC to be inside the head of another IHRC. Given that Lakhota is a Siouan language like Hidatsa, we might expect Hidatsa to not show subjacency effects at LF, but this is not the case. Examples like those found in Lakhota are not possible in Hidatsa. An example of this is shown in (58).

- (58) *mashúga wacéesh wirúk^ha agugúush agunáhcish wahúuc
 *wašúka wacée-wa wirúk^ha aku -kúu-š aku -náhci-š wahúu-c
 *dog man -DET.I gun REL.S-get -DET.D REL.S-bite -DET.D bark -DECL
 *[The dog who bit [the man that picked up the gun]] is barking. (Boyle 2004)

This shows that nouns inside of a RC may not be the head of another RC. All sentences of these types are ungrammatical in Hidatsa. Examples like (58) show that Hidatsa does adhere to subjacency effects at LF.

Another set of constraints on IHRCs can be seen with regard to ECP (Empty Category Principle) effects. This constraint states that traces must be properly governed. Example (59) is a grammatical utterance in Hidatsa.

- (59) Alex maaʔáagashi aguʔágagashish Lyle aguʔígash ihdiác
 Alex waaʔáakaši aku -ákakaši-š Lyle aku -íka -š ihtíá-c
 Alex book REL.S-write -DET.D Lyle REL.S-read-DET.D big -DECL
 [The book_i [that Alex wrote e_i [that Lyle read e_i]]] is big. (Boyle 2004)

By contrast, example (60) is ungrammatical.

- (60) *The woman_i [that Alex thought [e_i saw Lyle]] left.
 *Totally ungrammatical¹⁴ (Boyle 2004)

In these examples, we can see ECP effects. In (60) the subject of a clause that is subordinate to the IHRC may not be the head of the IHRC. In (59) we see that it is grammatical for other NPs in the subordinate clause to be the head of an IHRC (in this case the object NP).

14 This sentence was totally ungrammatical and several speakers couldn't even come up with an approximation as to how it would be said in Hidatsa. This is also the case for example (62).

The final constraint that I will examine here is the Coordinate Structure Constraint (CSC). Languages with IHRCs obey the CSC. This has been shown to be true for Navajo (Platero 1974) and Imbabura Quechua (Culy 1990). In these languages, if there are coordinated NPs in a sentence, it is not possible that only one of them be the head of an IHRC. This is also the case in Hidatsa. This can be seen in examples (61) and (62).

- (61) *washúgahe búushige aruwíru?uwa wahúuc
 *wašúka-he púušíke aru-wíru?u-wa wahúu-c
 *[dog -and [cat REL-fight -DET.I]] bark -DECL
 *[The dog and the cat that were fighting] is barking. (Boyle 2004)
- (62) *[The dog [which and the cat were fighting] is barking].
 *Totally ungrammatical. (Boyle 2004)

These examples show that a dependency may not have one end inside a conjunct of a coordinate structure and the other end outside of the coordinate structure. These examples shows that Hidatsa strongly obeys the CSC.

Although it is not clear that Hidatsa shows subjacency effects in the overt syntax, these are seen at LF. In addition, I have shown that Hidatsa obeys the ECP. Lastly, we have seen that Hidatsa strongly obeys the CSC. These three constraints also must be obeyed in languages with EHRCs. These similarities indicate that the two structures in question, namely IHRCs and EHRCs, are alike in their basic nature. This is evidence that the unified account presented in Section 6.2.4.6. is correct. The difference with regard to head movement is a language specific parameter like those argued for by Baker (1996). In

languages with IHRCs the parameter is set so that the head does not move out of the RC. This constraint must follow from the structure of SOV languages which are the only type of languages that allow for IHRC.

6.3. A SEMANTIC ANALYSIS OF IHRCs. Prior to Williamson (1987) there was very little in the way of semantic explanation for IHRCs. Williamson, and most linguists after her, use Heim's (1982) ideas about definites and indefinites. According to Heim, definites and indefinites act as variables and not as quantifiers. In this section, I will review Heim's account of these operations. I will then review Williamson's account of IHRC (1987) as well as Basilico's 1996 account which employs not only Heim's ideas but also Diesing's mapping theory (1990, 1992a, b) to account for how IHRCs function at LF. Adopting Heim's framework, and building on Williamson and Basilico, I develop an account of IHRCs that simplifies previous work and provides an explanation as to the nature of IHRCs and their heads with regard to definiteness.

6.3.1. HEIM'S FRAMEWORK FOR INDEFINITE NOUN PHRASES. Heim's 1982 dissertation has proven to be very important in the theoretical explanation for the semantics of IHRCs. This work explores how the logical form of a sentence is constructed. Although Heim accepts the commonly held view that noun phrases headed by a common noun are generalized quantifiers, her major contribution to semantic analyses (particularly for IHRCs) is that indefinites are variables, not quantifiers. So a sentence like (63a) will have the semantic representation seen in (63b):

(63a) Every dog is barking

NPs as Generalized Quantifiers

(63b) every [(dog(x)) (is-barking(x))]

In (63b), 'every' is the *quantifier*, '(dog(x))' is the *restriction* of the quantifier, and '(is barking(x))' is the *nuclear scope* of the quantifier.

Heim constructs the logical form of a sentence from the overt structure through a series of five consecutive operations. These operations are in turn constrained by five conditions. These operations are essential to many modern accounts of the semantics of IHRCs as seen in Williamson (1987), Culy (1990), Bonneau (1992) and Basilico (1996) among others.

6.3.1.1 THE OPERATIONS.¹⁵ The first operation is **NP Indexing**. This operation assigns an index to every NP. In (64) there are three sentences that I will use to illustrate Heim's operations.

(64a) A man sang.

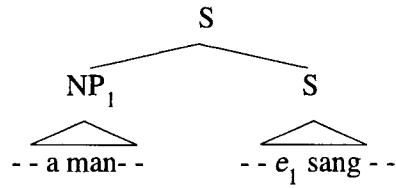
(64b) Every man sang.

(64c) Every man who saw the woman sang.

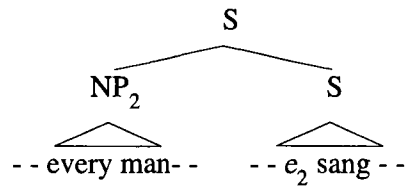
The second operation is **NP Prefixing**. This operation adjoins every non-pronominal NP to S. The results of the first two operations can be seen in (65a-c).

¹⁵ Heim's operations and conditions are found in chapter two of her dissertation (1982: 122-52).

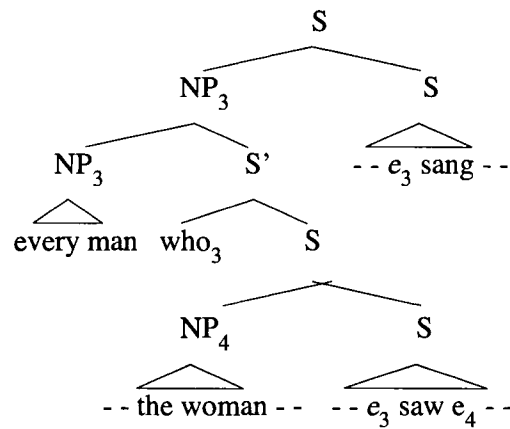
(65a) A man sang.



(65b) Every man sang.



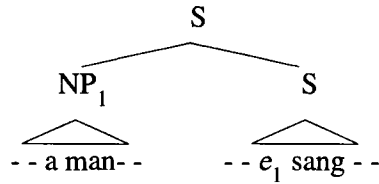
(65c) Every man who saw the woman sang.



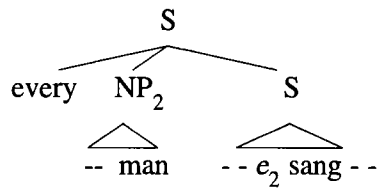
In (65c), NP Prefixing is subject to the Scope Constraint, which requires that 'the woman' be prefixed to its own S.

The third operation is **Operator Construal**. This operation attaches every operator, including quantifiers, as the left-most constituent of S. The results of Operator Construal can be seen in (66a-c).

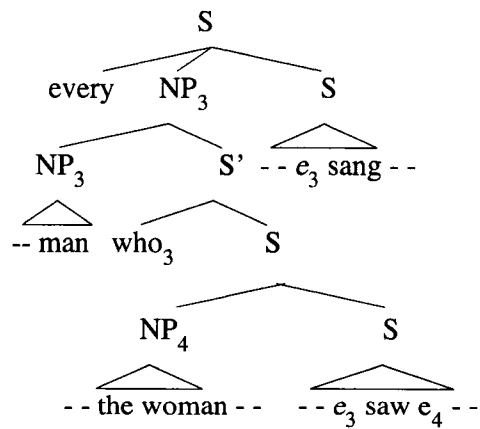
(66a) A man sang.



(66b) Every man sang.



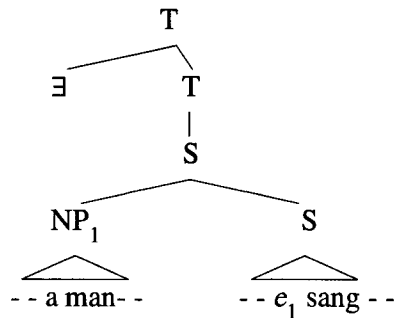
(66c) Every man who saw the woman sang.



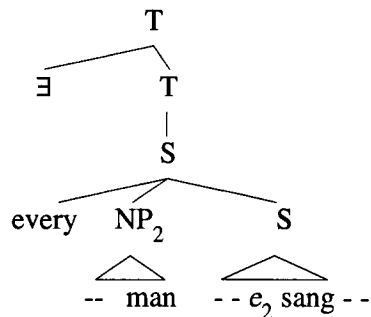
In (66b), 'every' is a quantifier with restriction 'man' and nuclear scope 'sang'. Likewise in (66c), 'every' is a quantifier with restriction 'man who saw the woman' and nuclear scope 'sang'. There is no quantifier yet in (66a).

The fourth operation is **Existential Closure**, which has three parts. The first part adjoins \exists to the nuclear scope of every operator. The second part attaches a sequence of sentences (root nodes) under a T(ext) node. The third part adjoins \exists to the T node. The results of applying Existential Closure to the examples can be seen in (67a-c).

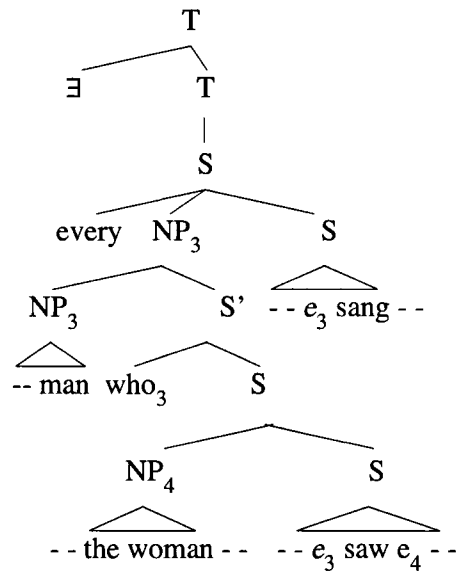
(67a) A man sang.



(67b) Every man sang.



(67c) Every man who saw the woman sang.

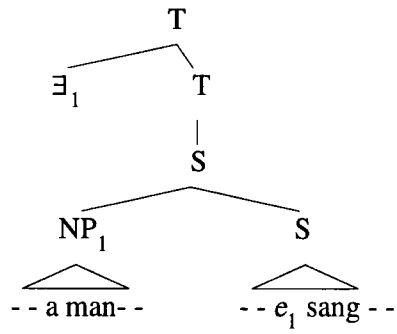


The existential operators will get the appropriate indices by the later rules.

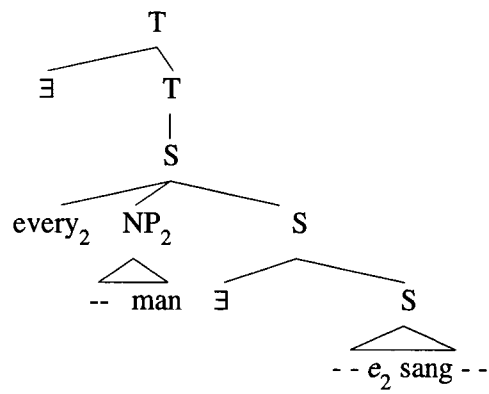
The fifth and last operation is **Operator Indexing**. This rule has two parts. The first part takes place before Operator Construal and it copies the indexes of an NP onto the quantifier of its determiner as a selection index. Selection indices determine which variables in its scope a quantifier actually binds. The second part of Operator Indexing takes place after Existential Closure and is the last of Heim's five operations. This is Operator Indexing proper¹⁶ and this operation copies the index of every indefinite NP as a selection index onto the lowest operator c-commanding it. This can be seen in (68a-c).

¹⁶ Heim does not give the first part as an operation at all. She says that quantifiers get the index of the noun that they modify in the text. Following Culy (1990), I assume that this takes place as described above.

(68a) A man sang.



(68b) Every man sang.



The third condition is the **Non-coreference Condition**, which states that NP and NP' may not be coindexed if NP c-commands NP' and NP' is not a pronoun.

The fourth condition is the **Scope Constraint**, which applies to NP Prefixing and not NP Indexing. The Scope Constraint states that an NP may not be adjoined any higher than the lowest S in which it originates.

The fifth condition is the **Weak Crossover Condition**, which states that NP and NP', where NP is quantifying, cannot be coindexed unless NP c-commands NP'.

6.3.1.3. **HEIM'S THEORY OF DEFINITES AND INDEFINITES.** A key element of Heim's theory is her treatment of definites and indefinites as variables and not as quantifiers, which has been the more traditional analysis. According to Heim, definites and indefinites can be distinguished by three properties. First, only indefinites can undergo Operator Indexing. Definites, along with proper names and pronouns, are not subject to Operator Indexing. Second, only indefinites are constrained by the Novelty Condition. Third, definites, but not indefinites, presuppose their descriptive content, if they have any. That is to say, a definite presupposes the existence of an entity with the properties of its descriptive content, while an indefinite does not. The crucial property in understanding the distribution of determiners in IHRCs is that only indefinites undergo Operator Indexing.

6.3.2. **WILLIAMSON'S INDEFINITENESS RESTRICTION.** Williamson (1987) claims that all languages that have IHRCs will have an indefiniteness restriction. Only indefinite NPs may be heads in an IHRCs. This is to say that the head of an IHRC can only be

marked with an indefinite determiner.¹⁷ Williamson claims that the indefiniteness restriction cannot be attributed to some inherent (i.e. lexical) property requiring ‘wide scope’ of the indefinite NP. In addition, one cannot attribute this restriction to the traditional distinction between quantifiers, on the one hand, and proper nouns and definite NPs, on the other. To understand the indefinite restriction, Williamson claims that we must understand that both simple declaratives containing an indefinite and RCs indicate the intersection of two sets. The traditional view of this can be seen in (69) and (70).

(69) I bought a dog
 $\exists x (\text{Dog}(x) \ \& \ \text{Buy}(\text{I}, x))$

(70) dog that I bought
 $(\text{Dog}(x) \ \& \ \text{Buy}(\text{I}, x))$

In (69) we see a proposition with a bound variable and in (70) we see a propositional function with a free variable. This is problematic for IHRCs and Williamson suggests that we reconsider the traditional view of indefinites as existential quantifiers. Following Heim, Williamson proposes that indefinites are “quantifier-free”. That is to say that they are essentially free variables. This then gives the example in (69) the semantic interpretation of the example in (70). The quantifier force of indefinites in simple declaratives is determined

¹⁷ Cole and Hermon (1994) state that this restriction does not hold true for Quechua. Quechua IHRCs have no determiner whatsoever marking the head. Quechua has no indefinite determiner with which it can mark the head of the IHRC. What they fail to realize is that no determiner on the head of the IHRC is semantically more indefinite than the head being marked with an indefinite determiner. (Cumberland (2005:417-8) has shown that this is also the case with Assiniboine as it too doesn’t have determiners).

by the rule of Existential Closure. Thus, IHRCs have the interpretation of a propositional function. Williamson says that universal quantifiers are excluded as heads because semantically such a quantifier is interpreted as a restrictive term. A definite is familiar (known) and presupposes the content of its predicate. This property is at variance with the meaning of restrictive RCs, for if the head is already familiar to the hearer, further specification by the RC is, at best, unnecessary.

Williamson is clearly correct in her analysis of IHRCs. Her use of Heim's notion of indefinites as variables gives us much insight into the semantic nature of IHRCs. However, she does not flesh out her analysis. She doesn't show us why IHRCs can only be marked as indefinites and by stating that the rule for IHRCs being marked as indefinite is because further specification is unnecessary, she misses the real motivation for this grammatical phenomena.

6.3.3. BASILICO'S ANALYSIS OF THE SEMANTICS OF IHRCs. Basilico (1996) notes that most theorists working in a transformational framework posit that the internal head moves to an external position at some point in the derivation. Examples of this have been shown above with the work of Cole (1982, 1987), Williamson (1987), Culy (1990), Kayne (1994) and Bianchi (1999), among others. With the exception of Kayne and Bianchi, most researchers working on IHRCs have posited that this movement takes place at LF (or its predecessor D-Structure). Basilico presents evidence that in some languages with IHRCs, movement of the head occurs in the overt syntax. He argues that the head need not necessarily move to a position external to the clause and that while the head is not

in its usual place it nevertheless remains within the RC in the overt syntax.

Prior to Basilico (1996) there were two general approaches to head movement in IHRCs. In the first approach, advocated by Broadwell (1985, 1987) Cole (1987), Lefebvre & Muysken (1988), and Cole & Hermon (1994), the head moves to a position external to the CP of the relative clause. The second approach, advocated by Williamson (1987), Brass et. al. (1990), and Bonneau (1992), postulates that the head moves to the [SPEC, CP] of the RC but not out of the clause itself. While all of these works have arguments supporting the nature of the movement, none of them provide a detailed explanation as to why the head needs to move.

Drawing from the previous work of Williamson (1987), Jelinek (1987), and Culy (1990), Basilico adopts the notion that IHRCs are not cases of relativization semantically, but cases of quantification. IHRCs are associated with quantificational elements that bind variables within the subordinate clause itself.¹⁸ The sentential part of the IHRC is interpreted semantically as an open sentence. According to Basilico the Hidatsa relative clause in (71) would have the semantic interpretation shown in (72).

(71) máceewa aguʔawágaash
wácee-wa aku -awákaa-š
man -DET.I REL.S-1A.see -DET.D
'The man that I saw'

(72) ι_x [man(x) & I saw (x)]

¹⁸ All of these analyzes are based on Heim (1982) discussed above.

In this example, the sentential part of the IHRC ‘man I saw’ should be interpreted semantically as *man (x) & I saw (x)*, an open sentence with two unbound variables. According to Basilico, the definite determiner *-š* functions as an (iota) operator which binds the variables within the relative clause.¹⁹ Following Culy (1990), the sentential part of the IHRC functions as the restriction on the operator associated with the relative clause.

In this analysis, one of the variables associated with the sentence is provided by the head noun. The importance of this, namely the definiteness restriction on the head NP, was first noted by Williamson (1987). She showed that in IHRCs the head NP is not allowed to be marked as definite. According to Basilico, this follows from Heim’s (1982) analysis that indefinite NPs are not associated with quantificational force (as presented above) and Kratzer’s (1989) Prohibition Against Vacuous Quantification. In a similar manner to Culy (1990), Basilico follows Heim (1982), in treating indefinites as having no quantificational force; they provide only a variable, which must be bound by another operator in the representation. In IHRCs, this operator is the determiner associated with the entire IHRC itself; it comes to bind the variable associated with the indefinite head. Basilico argues that if there is a definite marker on the head then the variable provided by the head is unavailable for binding. Since the operator associated with the IHRC would not bind a variable, this will be a violation of the prohibition against vacuous quantification (as shown in 73).

- (73) For every quantifier *Q*, there must be a variable *x* such that *Q* binds an occurrence of *x* in both its restrictive clause and its nuclear scope.

¹⁹ See Jelinek (1987) for the proposal concerning the use of the iota operator with IHRCs.

Since the sentential part of the IHRC forms the restriction on the operator, there would be no variable for the operator to bind in its restriction if there were no indefinite within the subordinate sentence to provide this variable (Basilico 1996).

Basilico then goes on to apply Diesing's (1990, 1992a & b) Mapping Hypothesis to the head movement in IHRCs. Diesing introduces a paradigm which maps certain parts of the syntactic structure into certain parts of the semantic representation. Her mapping hypothesis (1992a & b), which holds at LF, proposes two notions:

- A) Material from VP maps into nuclear scope
- B) Material from IP maps into a restrictive clause

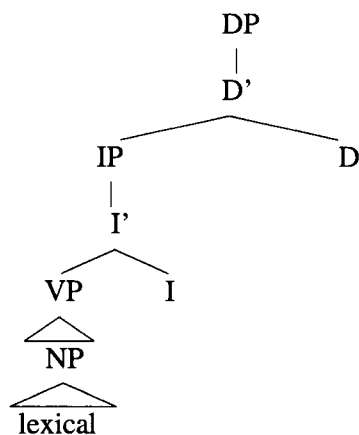
This nuclear scope is the domain of existential closure. A restrictive clause is that part of the representation which forms the restriction on some operator. That is, an indefinite that restricts some operator will be in a different syntactic position at LF than an indefinite that receives an existential interpretation by VP-level existential closure. The former indefinite NPs (the heads of the IHRCs) must not be within the VP at LF, while the latter must be in the VP at LF (Basilico 1996). Therefore, the indefinite head of a IHRC must move out of VP simply because it is indefinite. RCs are quantificational and they are selected by the determiner. They must move out of their argument position in order for the quantificational operator that is associated with them (as shown by the final determiner of the RC) to bind the variable introduced by the head (which is indefinite or zero).

Basilico argues that there is an operator associated with the IHRC which must come to bind the variable associated with the indefinite head. In order for an indefinite to become

bound by an operator and not undergo existential closure, it must move out of the VP by LF. Thus, the quantificational approach to IHRCs and the mapping hypothesis provide a reason for head movement. The head must move in order to be bound by the operator associated with the IHRC. If there is no head movement, and the head remains in the VP, then there will be no variable to bind, and as a result, this will violate the prohibition against vacuous quantification.

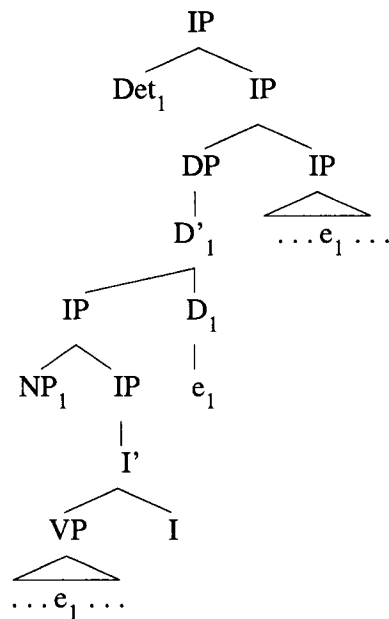
Basilico, like others before him, claims that due to their distribution, IHRCs are basically DPs. Like other noun phrases, IHRCs can appear as arguments. For Basilico the difference between IHRCs and noun phrases lies in what the head D of the DP takes as its complement. Noun phrase DPs take NPs as the complement to the head D; this NP functions as the restriction on the head of D. IHRC DPs take sentences (IPs) as their complements and these sentences function as the restriction on the head D (Basilico 1996). Given this approach, Basilico gives the overt structure for an IHRC as shown in (74).

(74) Proposed structure for IHRCs. (Basilico 1996)



Unfortunately, Basilico is only looking at languages (Diegueno, Mojave, and Cocopa) that have evidence of movement in the overt syntax of their IHRCs. As a result of this, he posits two structures that show this movement. In (75) we see the structure that he posits for IHRCs that show evidence of the head noun being fronted within the IHRC.

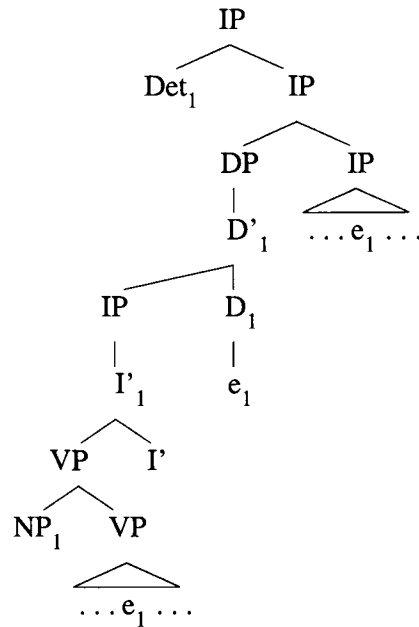
(75) IHRC with the Head Fronted. (Basilico 1996)



In this structure, he posits that not only the head but the entire IHRC moves and adjoins to IP, thus escaping existential closure. Then the determiner associated with the IHRC moves and adjoins to the matrix IP.

In (76) we see the structure that Basilico posits for IHRCs that show evidence of the head noun moving out of its argument position in the IHRC but not being fronted to a sentence initial position.

(76) IHRC with the Head Moving Out of its Argument Position. (Basilico 1996)



In this structure, he posits that the head moves out of VP and adjoins to it and then, as in the structure shown in (75), the determiner moves and adjoins to the matrix IP.

By examining IHRCs that show some evidence of movement overtly in the syntax, Basilico avoids the more general consideration of what happens in languages with IHRCs that show no evidence of movement. Because Basilico analyses IHRCs that show evidence of overt movement, he need not posit any structure for the majority of languages with IHRCs where head movement is done covertly at LF. Since the movement is overt in both (75) and (76) the head escapes existential closure in the overt syntax and Basilico need not take into account what is done at LF.

6.3.4. THE LOGICAL FORM AND SEMANTICS OF IHRCs IN HIDATSA. Before proceeding to the final analysis of this chapter, I will review what I have discussed thus far about IHRCs. This type of relative clause can be distinguished due to word order and number marking within the relative clause itself.²⁰ These features distinguish IHRCs from the more common EHRCs. These clauses act as nominals. Their distribution is the same as DPs and they take nominal morphology. In many languages, this nominal morphology, such as determiners, is one of the most salient feature of this type of RC. In Hidatsa, an additional function of the final determiner is to track definiteness in the discourse.²¹

Although in much of the early literature IHRCs were viewed as NP to S structures, following Williamson (1987) I have postulated that they are DPs that select a CP complement. I have also adopted Culy's proposal that there is a *wh*-element in COMP and although in other languages with IHRCs this is not overt, in Hidatsa it is seen in the overt syntax in the form of the *aru-/aku-* markers. It is this *+ wh* element that causes the verb to rise out of its base position and affix itself to the relative morpheme. In addition, I follow Culy's (1990) proposal that the DP dominating the relative clause is coindexed with the head of the RC and the *+ wh* element in COMP.

Based on Williamson (1987) and Culy (1990) I treat the indefinite determiner that follows the head of the relative clause as variable²² not a quantifier. Basilico (1997) has

20 Case marking can also be a distinguishing feature in languages that show case on nouns.

21 Although to my knowledge no one has done a survey of this phenomena, I would not be surprised if this is a cross linguistic feature of the final determiner in IHRCs.

22 Keep in mind that there may also be no determiner following the head noun.

shown how this approach coupled with Diesing’s Mapping Hypothesis explains why IHRCs must have an indefinite head. Although his analysis is limited to IHRCs that show some evidence of overt movement in the syntax, I will adopt it for all IHRCs.

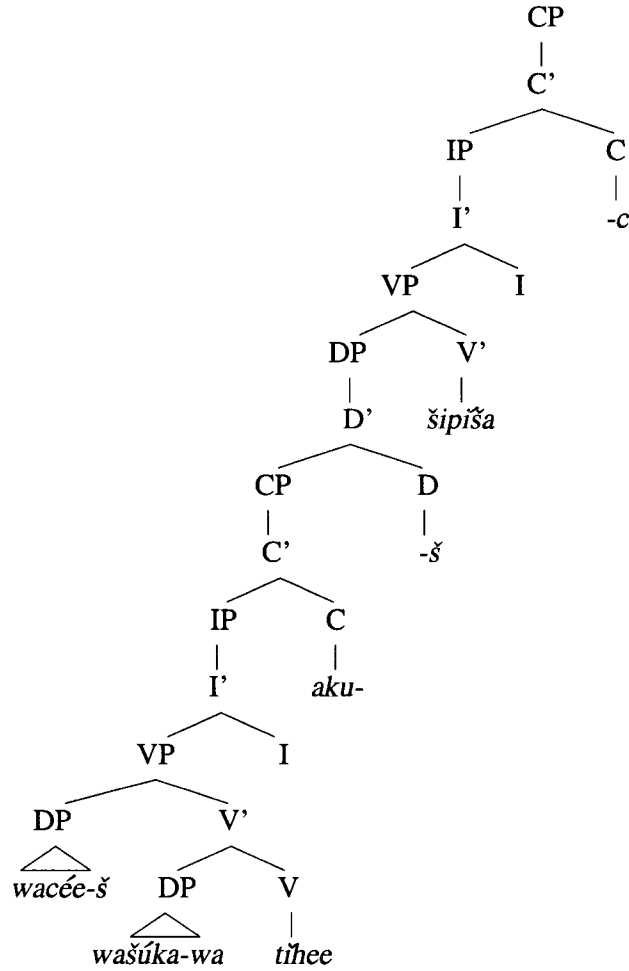
Given these preliminaries, an analysis of IHRCs in Hidatsa is now possible.

Example (77) shows a Hidatsa IHRC.

- (77) macéesh washúgawa agudiheesh shibišhac
 [_{DP} [_{IP} wacée-š wašúka-wa aku -tí -hee] -š] šipiša-c
 [[man -DET.D dog -DET.I REL.S-die-3.CAUS.D.sg]-DET.D] black -DECL
 The dog that the man killed is black. (Boyle 2002)

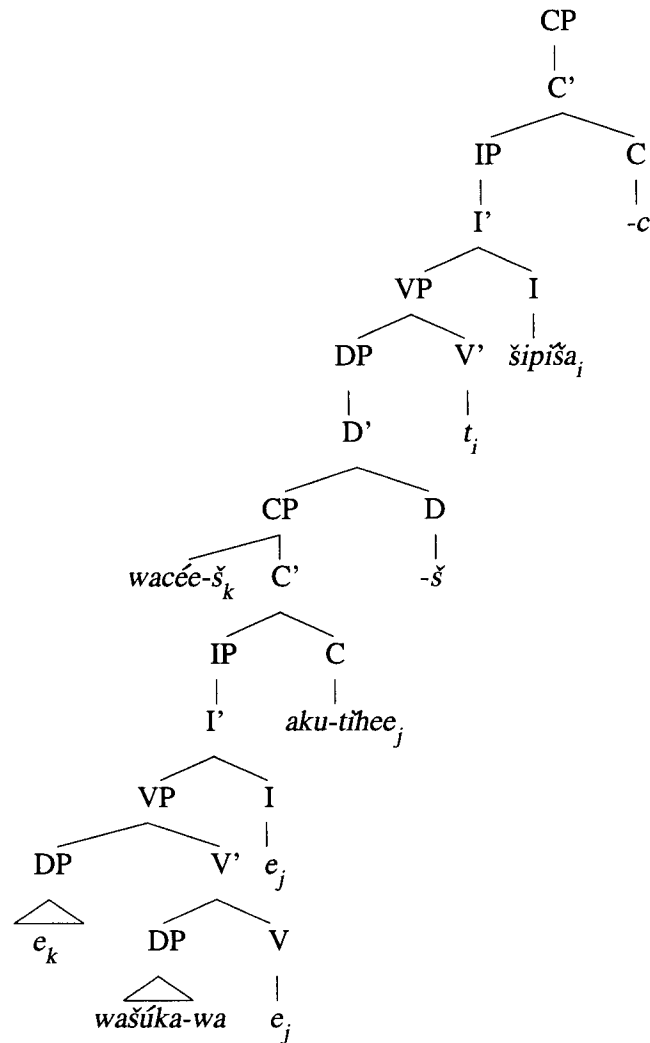
In this sentence the head of the RC is *wašúkawa* ‘a dog’. This is an unambiguous relative clause with an internal head. This Hidatsa sentence can be represented in a tree structure similar to that previously given in (37). We can see the entire overt structure prior to any movement in (78).

(78) Base Generated Hidatsa IHRC



In the lower relative structure the verb *tihee*- ‘kill’ moves to I to have its features checked (following Chomsky 1993). The strong *+ wh* element ‘aku-’ in COMP then forces the lower verb to move again and the two join to form the relative structure */akutihee-/*. In the matrix clause the verb */šipiša/* ‘black’ moves to I, also to have its features checked. This gives us the overt structure we see in (79).

(80) Hidatsa IHRC at LF



As Basilico (1997) has shown, relative clauses are quantificational. They are selected by their DP. In addition, all IHRCs are restrictive. A restrictive clause is part of the representation which forms the restriction on some operator. An indefinite that restricts some operator must be in a different syntactic position at LF than an indefinite that receives existential interpretation by VP-level existential closure. Given this, the head of the IHRC,

which must be indefinite, must not be within VP at LF. The indefinite must move out of VP simply because it is indefinite. The head must move out of its argument position in order for the quantificational operator that is associated with it (as shown by the final determiner on the RC) to bind the variable introduced by the head (which is indefinite or zero). The indefinite determiner is not associated with any quantificational force: it is an identity function. The Hidatsa indefinite can be seen in (81).

$$(81) \quad [-wa] = \lambda P_{\langle et \rangle} .P$$

Given this, the head must move; if it does not, it will not escape the existential closure of the VP. The head must be indefinite (or generic with zero morphology) if it is to be bound by this outside operator. As we have seen, there is no evidence of overt syntactic movement of NPs in Hidatsa, therefore this movement must take place at LF.

Although Basilico (1997) postulates a structure with either IP (in example (75)) or VP (in example (76)) adjunction, this cannot be correct for Hidatsa as IHRCs show no evidence of movement. Hidatsa shows clear evidence for a CP structure in the overt relative markers. This overt evidence for a complementizer shows that Culy (1990) was correct in postulating the complementizer position for IHRCs and while it is rarely filled overtly in many of the world's languages that have these structures, it is in Hidatsa and it is into the [SPEC C] position that the head moves at LF.

6.4. CONCLUSION. In this chapter I have shown that Hidatsa has IHRCs. I have examined previous attempts at describing their syntactic structure and provided a new one based on data from Hidatsa. In addition, I have provided theory external evidence for a complementizer in these clauses (namely the *aku-/aru-* markers). Following Culy (1990), I have argued that this complementizer has a *+ wh* feature, and that in Hidatsa this is different from all other complementizers. This accounts for the morpheme order in Hidatsa relative clauses.

I have then argued that the overt extraction of the head does not take place in Hidatsa. I have also shown that Kayne (1994) and Bianchi's (1999) attempts to unify the nature of IHRCs and EHRCs is not possible to maintain. I have argued for a different type of unified theory, namely one of parameter setting (based on Baker 1996). I have shown that IHRCs often obey the same constraints that EHRCs obey. This provides evidence for similarities with regard to their basic nature.

Following previous work on IHRCs (most notable Williamson 1987 and Culy 1990) I have expanded and simplified how the semantics of IHRCs functions. I have shown motivation for head movement at LF and for Williamson's indefinite restriction which states that IHRCs cannot have a definite head.

CHAPTER SEVEN CONCLUDING REMARKS

7.0. CONCLUSION. The morphological and syntactic structure of Hidatsa provides a rich field for both descriptive and theoretical work. In this dissertation, I have described the basic structure of the nominal (chapter 3) and the verb (chapter 4). While chapter 3 provided a basic theoretical description of DPs a more in depth study of Hidatsa arguments is still warranted.

In chapter 5, I provided a theoretical description of how Hidatsa clause structure functions in a Minimalist framework. This analysis argues that 1) Hidatsa is a configurational language with a VP; 2) both fully specified lexical DPs as well as the pronominal affixes on the verb serve as arguments; 3) the pronominal argument hypothesis does not apply to Hidatsa as it is a configurational language. These three facts warrant a revised view of the language typology proposed by Nichols (1986) and Van Valin (1985). Hidatsa is a configurational head-marking language.

In addition to explaining the basic clause structure of Hidatsa, I have also proposed a new analysis of switch-reference systems. Previous analysis in a principles and parameters framework (Finer 1984, 1985; Broadwell 1997) proposed an analysis based on the SR markers as being either A'-anaphors or A'-pronominals. These SR markers function as binding or command structures. My analysis simplifies the syntactic nature of SR systems considerably. I have demonstrated that clauses connected with SR markers form clause chains. Following Olson (1981) and Van Valin (1985, 1987), I describe these as co-subordinate constructions. They are + dependent and + coordinate. Using ideas put

forth by Johannessen (1998) about coordinate structure, I have shown that clauses conjoined with SR markers function as different types of coordinate structures. Same-subject marking is coordination of VP and different-subject marking is coordination of AgrP. This revised view of SR does away with the notion of treating the SS/DS markers as either + anaphor or + pronominal. The binding relationships proposed by Finer and Broadwell are no longer necessary.

In chapter 6, I describe internally headed relative clauses and give a theoretical motivation for Williamson's (1987) indefiniteness restriction. Using Heim's (1982) framework to account for this restriction, I have demonstrated that the head of the relative clause must move at LF to escape existential closure. This analysis provides motivation for the observations first noted by Williamson (1987).

APPENDIX A - HIDATSA VERBAL PREFIXES AND SUFFIXES

1.0. THE HIDATSA VERBAL PREFIXES

1	2	3	4	5	6	7	8	STEM
FUT.N PART REL.N REL.S	INDEF NI*	INCEPT COMPLE	LOC INSTR	OBJ (B-Set)	SUB (A-Set)	SUUS REPT INCHO VERT	INSTR	
aru-	waa-	ki-	ĩ(i)-	wii- (1st)	wa- (1st)	(h)ki-	ará-	
aru-		ki-	ó(o)-	rii- (2nd)	ra- (2nd)	(h)ki-	ara-	
aru-			á(a)-	Ø- (3rd)	Ø- (3rd)	(h)ki-	ha-	
aku-							rá-	
							raka-	
							nú-	
							pá-	
						(h)ki-	---	

* NI = noun incorporation

2.0. THE HIDATSA VERBAL SUFFIXES

1	2	3	4	5	6	7	8	9	10	11	12	13
PUNCT	REFL	DES	CAU.I	CAU.D	NEG	APPROX	FREQ	HAB	FUT	PL	REPORT	FINAL
-ahI-	-ria-	-the-	-hki-	-waa- (1)	-t ^h aa-	-raa-	-kša-	-ʔii- (s)	-wi- (1s)	-ʔa- (p.D)	----	-a (CONT)
			-hki-	-raa- (2)		-ree-		-ʔiiruu- (p)	-ri- (2s)	-ʔo- (p.I)	----	-ak (SS/COOR)
			-hkEE-	-hee- (3 s)					-hi- (3s)	-aapa- (p.G)	----	-ruk (DS/COND/TEMP)
				-haa- (3 p)		-(r)acI-			-wihaa- (1p)		----	-ru (TEMP)
									-rihaa- (2p)		----	-wa (DS/TEMP)
						-riwaa- (1)			-haa- (3p)		-rahec- (REPOR.s)	
						-riraa- (2)			-wihi- (1Q)		-rahaa- (REPOR.p)	
						-rihee- (3)			-rihi- (2Q)		-waree- (NE)	
									-hi- (3Q)		-kikee- (OPIN)	
												-c (DECL)
											----	-tóok (SPEC)
												-tooreeš (NON-SPEC)
												-št (PAST DEF s)
												-aha (PAST DEF p)
												-ški (EMPH)
						----	----	----	----	----	----	-Ø (IMPER)
						----	----	----	----	----	----	-ara (IMPER p)
						----	----	----	----	----	----	-ka (IMPER.m)
												-ʔ (QUESTION)
												-ahka (PERM)

APPENDIX B
RUSTY TIPT AND THE HIDATSA TERRITORY

1.0. INTRODUCTION. This text was told to A. Wesley Jones by Helen Wilkinson on April 1, 1977. Jones completed a rough transcribed of it a year later (February 6, 1978). The text was then distributed at the 1st Workshop on Comparative Siouan Grammar which took place in 1984 at the University of Colorado, Boulder. With Jones' kind permission, I have included it here as a fully glossed and edited text. This editing was done by myself, beginning in June of 2005. The editing process was facilitated by Alex Gwin who provided clarification about several key elements.

This text is the story of Rusty Tipi (atišíaš), who in 1850 or 1851 traveled the lands claimed by the Hidatsa. This journey was what formed the basis for the Hidatsa land claim that was used for the 1851 Treaty of Fort Laramie. This treaty, between the United States and representatives of the Sioux, Cheyenne, Arapaho, Crow, Shoshone, Assiniboine, Mandan, Hidatsa, and Arikara nations, was signed on September 17, 1851. The U.S. government promised control of the Northern Great Plains to the Indian nations for "as long as the river flows and the eagle flies." In return for this guarantee of land, the Indian nations guaranteed safe passage for settlers on the Oregon Trail and were promised an annuity in the amount of fifty thousand dollars for fifty years. The Indian nations also pledged to allow roads and forts to be built in their territories.¹

¹ The United States congress later unilaterally cut the appropriations to ten years annuities. Several tribes never received any annuities or commodities promised them as payments.

Article 5 in the Treaty made specific land grants to each of the aforementioned tribes. The Hidatsa, Mandan, and Arikara were granted communal lands as they shared a similar economic and cultural life and lived in close proximity. In 1845, the Hidatsa and Mandan established Like-a-Fishhook village on the banks of the Upper Missouri River.² The land grant from the Treaty of Laramie for the Hidatsa (referred to as the Gros Ventre) Mandan and the Arikara (Arrickaras) was as follows:

“The territory of the Gros Ventre, Mandans, and Arrickaras Nations, commencing at the mouth of Heart River; thence up the Missouri River to the mouth of the Yellowstone River; thence up the Yellowstone River to the mouth of Powder River in a southeasterly direction, to the head-waters of the Little Missouri River; thence along the Black Hills to the head of Heart River, and thence down Heart River to the place of beginning”.

In the text that follows, Rusty Tipi claims that the Hidatsa territory is larger than that granted in the Fort Laramie Treaty.

² The Arikara then moved to Like-a-Fishhook in 1862 for safety from raiding by the Sioux. The village was abandoned in 1880.

2.0. RUSTY TIPI AND THE HIDATSA TERRITORY.

1) marashí xubáari áʔk^huush héec

1) wa -raší xupáari áʔk^huu-š héec

1) 1.POSS.I-name medicine bring -DET.D call-DECL

1) my name is Brings-the-Medicine.

2) madawáara agáawahaabiragaa sháhuac

2) wata -wáara akáawa-haa -piraka-a šáhua-c

2) 1.POSS.A-age six -ADV-ten -CONT seven -DECL

2) I am 67 years old.

3) haawa hirí adishiáš awáʔarugírashaadi sheʔwa miigiweʔehkaaʔac

3) haa-wa hirí atišiáš awá -aru -kírašaati šeʔ -wa wii-kiweʔe-hkee -ʔa -c

3) SC -DS now Rusty Tipi land-PAR-claim DEM-DS 1B -tell -3.CAUS.I-PL.D-DECL

3) And now, they want me to tell of Rusty Tipi's land claim.

4) héʔshawa wat^hée aruwágiweʔec

4) héʔša-wa wat^hée aru -wá-kiweʔe-c

4) SC -DS now FUT.N-1A -tell -DECL

4) Therefore, I will tell it now.

5) dadáguwa washíí úʔshiawareec

5) tatá -kua wašíí úʔšia -wareec

5) early-LOC white arrive-NE

5) Long ago, white men came.

- 6) awadí³ eeragaahgugáa haʔsháag “hiraacáhe nidaʔawa
 6) awatí eera-kaahku-káa haʔśá-ak hiraacá-he rita -awa
 6) village there-sit -LOC DEM-SS hidatsa-DEM 2.POSS.A-land

kirašaat miikikúa waawaahaak wáahuʔac”
 kirašaat wii-kikú-a waa -waa-iihee -ak wáa-huu -ʔa -c
 claim 1B-hear -CONT INDEF-1A -want-SS 1A -come-PL.D-DECL

háaʔwareec
 hée -ʔa -wareec
 say-PL.D-NE

- 6) There was a village sitting over there and “Hidatsa, your land claim, we want to hear what it is, so we came” they said.

- 7) heʔsháwa “adishíá adishíá riidooweewa háag shiiʔwareec
 7) heʔśá-wa atišíá atišíá rii -toowee -wa háa-ak šii -wareec
 7) SC -DS Rusty Tipi Rusty Tipi 2B-which.one-DS say-SS obscure⁴ -NE
 7) So then, “Rusty Tipi, are you Rusty Tipi?” they said unsure.

- 8) sheʔwacéche awá aguwaʔihág áawahguʔahe⁵ idxubáariiwareec
 8) šeʔ -wacée-he awá akuwaʔih-ák áawahku-ʔa -he ita -xupáarii -wareec
 8) DEM-man -DEM land step.on -SS 1A.stand -PL.D-LOC 3.POSS.A-medicine-NE
 8) That man, his medicine is in the ground we’re stepping on.

- 9) heʔsháwa wat^hé iruuhíiwareec
 9) heʔśá-wa wat^hé iruuhíi -wareec
 9) SC -DS now stand.up-NE
 9) So then he got up.

³ This is Like-a-Fishhook village founded in 1845 by the Hidatsa and Mandan who had joined together for mutual protection after the smallpox epidemic of 1837-38.

⁴ This can also be translated as ‘unsure’; they are unsure as to the identity of the man.

⁵ This verb is the progressive *wahku-* ‘standing’ being used as a lexical verb. In addition it has the suppressive applicative *áa-* prefixed to it.

10) iiruuhág hii “maareec wat^hé óogaa arubáhxa

10) ii -iruuhí -ak hii waa-ree-c wat^hé óokaa⁶ aru -páhxa

10) INST-stand.up-SS and 1A -go -DECL now LOC REL.N-corner

ida?awashidáahguag úushahdagúa arubáhxa she?ruuhaag

ita -awašitáa-hkua-ak úušahta-kúa aru -páhxa še?ruuha⁷-ak

3.POSS.A-north -LOC-SS east -LOC REL.N-corner DEM/LOC-SS

she?ruuhaag wat^hé aruwáareec” héewareec

še?ruuha -ak wat^hé aru -wáa-ree-c hée-wareec

DEM/LOC-SS now FUT.N-1A -go -DECL say-NE

10) He stood up, “I’m going towards the north east corner, that’s where I’ll start from.” he said.

11) she? awáhgiruuba awacáahgeeraci nuuba héeraru mirihdíahgeewareec

11) še? awáhki-ruupa awacáa-hkee-raci ruupa héeraru⁸ wiri -htía-hkee-wareec

11) DEM hill -two ridge -DIM-APPROX two LOC water-big -DIM -NE

11) There were two sharp hills and in between them was a small lake.⁹

6 The LOC means ‘from there’.

7 This DEM/LOC means ‘along there’.

8 This LOC means ‘in between’.

9 This is probably Cottonwood lake which is about 30 miles northeast of the Missouri River.

- 12) haawá nuubacáguhaa nahág
 12) haa-wá ruupa-cákuhaa¹⁰ rah -ák
 12) SC -DS two -LOC stand-SS

miʔwagiʔiíáadiiruʔwareec
 wiʔ -wakiʔ -iíáatí -ru -wareec
 stone-at.each.other-throw.something.at.someone-LOC-NE

- 12) Those two stood on each hill and they threw stones at each other (over the lake).

- 13) mirísh áagahaa shéʔawaráashihe
 13) wirí -š áakahaa šéʔ -awa-ráaši -he
 13) water-DET.D over.it DEM-land-name-DEM

‘miʔwagiʔiíʔaadísh’ héewareec
 wiʔ -wakiʔ -iíʔaatí -š hée-wareec
 stone-at.each.other-throw.something.at.someone-DET.D say-NE

- 13) The water over there, that place is named ‘Throwing Stones at Each Other’ it’s said.

- 14) “hii shéʔruhaag wáareec” héewareec
 14) hii šéʔ -ru -haa -ak wáa-ree-c hée-wareec
 14) SC DEM-LOC-3.CAUS.D.pl-SS 1A -go -DECL say-NE
 14) “And from there, I started (on)” he said.

¹⁰ This LOC means ‘on each of’.

- 15) “máareec” miidá úuwaadahdaa “maareec” háag sheʔrug
 15) wáa-ree -c w -iitá úuwaata-hta -a waa-ree-c háa-ak šeʔ -ruk
 15) 1A -go -DECL 1POSS.I-face south -GOAL-CONT 1A -go -DECL say-SS DEM-DS/TEMP

macéewa iicíxa iiruuhíʔwareec
 wacéé-wa ii -cíxi -a iiruuhí -wareec
 man -DET.I INST-jump-CONT stand.up-NE

- 15) “I’m going” facing southwards,¹¹ “I’m going” he said, then a man jumped up and stood there.

- 16) hiraacáwa náashi béericga garíshdash heewareecc
 16) hiraacá -wa ráaši péericka karišta-š hee-wareecc
 16) hidatsa -DET.I name raven young-DET.D say-NE
 16) He was a Hidatsa, his name was Young Raven, it’s said.

- 17) cíxaʔiruuhág “madawaaʔishu ooragshíá madaʔawashi” maaʔishu
 17) cíxa -iruuhí -ak wata -waaʔišu oorakšíá mata -awaši waaʔišu
 17) jump.up-stand.up-SS 1.POSS.A-eagle trap 1.POSS.A-pit eagle

waagshíáʔiishd sheʔ aabiŋгаа niihaawug”
 waa-akšíá -ii -št šeʔ aapiŋkee-a rii -haawuk -Ø
 1A -catch-HAB.sg-PAST.D DEM include -CONT 2B-put.it.on.for.me-IMPER

heewa sheʔ áabihga iiriheewa arubáŋxaaahgua agucáha raagísh
 hee-wa šeʔ áapihka iirihee -wa arupáŋxaa-hkua akucáha raakí-š
 say-DS DEM include borrow-TEMP corner -LOC point.out sit -DET.D

sheʔwareec
 šeʔ -wareec
 DEM-NE

- 17) He stood up and said “I set my eagle traps in pits there”, so he (Rusty Tipi) included that point sticking out over there.

11 Here, Rusty Tipi is traveling south along the Missouri River.

- 18) arubáhxaxa idáʔiiʔaa uushahdáguag awashidáahgua arubáhxahgúa
 18) arupáhxaxa itá -iiʔaa uušahtá-kua -ak awašitáa-hkua arupáhxaxa-hkúa
 18) corner 3.POSS.A-place east -LOC-SS north -LOC corner -LOC

“shéʔruhaag hii wat^hé” wáareec “miidá uuwahda
 šéʔ -ru -haa -ak hii wat^hé wáa-ree-c w -iitá uuwahta
 DEM-LOC-3.CAUS.D.pl-SS SC already 1A -go -DECL 1.POSS.A-face south

wáareec” héewareec
 wáa-ree-c hée-wareec
 1A -go-DECL say-NE

- 18) From the corner in the north east, he said “from here I’ll face south and go in that direction.”

- 19) “mirihdíá aguʔihdiaʔsh néedit^háa wáaraawaaruwá
 19) wiri -htíá aku -ihtí -aʔ -š réetit^háa¹² wáa-raa-a -waa -ruwí -a
 19) water-big REL.S-long.lake-PL.D-DET.D on.the.edge 1A -go -CONT-1A -continue-CONT

idaahácgadish wúʔšiac” héewareec
 itaaháck-ati -š w -úʔšia -c hée-wareec
 Sioux¹³ -house-DET.D 1A-arrive-DECL say-NE

- 19) “I went along the edge of a long lake,¹⁴ I reached a Sioux village” he said.

12 Note that the *neeta-* element here means ‘edge’ - see line 25.

13 The Hidatsa word for the Sioux is *itaahácki* ‘long arrow’ (ítaa = arrow + hácki = long).

14 This refers to Long Lake which is about 20-30 miles east of the Missouri River. It is approximately 30 miles to the northeast of the Cannonball River and 30 miles south east of the Heart River,

20) hiri' aguwiigiwe? "Cannonball' naa?iiru?sh she?ru
 20) hiri' aku -wii-kiwe?e 'cannonball' raa-ii -ru -?a -š še? -ru
 20) DEM REL.S-1B -tell 'cannonball' 2A -call.it-HAB-PL.D-DET.D DEM-LOC

mak^{hi}c" heec
 wa-k^{hi}' -c hee-c
 1A-mean-DECL say-DECL

20) Then he said, "We call this place the Cannonball."¹⁵

21) idáahacgadi she?ruhaag awaxáawishibíshahdi
 21) itáahack-ati še? -ru -ha -ak awaxáawi-šipiša-ihti
 21) Sioux -house DEM-LOC-ADV-SS moutian -black -hill

íiwaaráwic héewareec
 íi -waa-ráwi -c hée-wareec
 INST-1A -go.straight.ahead-DECL say-NE

21) "From the Sioux Village, I went straight towards the Black Hills" he said.

22) awaxáawishibíshash mú?shiag miidágibáhcihdaa
 22) awaxáawi-šipiša-š w -ú?ši -ak w -iitá -ki -páhcihta-a
 22) moutian -black-DET.D 1A-reach-SS 1POSS.A-facing-INCEPT-west -CONT

waaréec
 waa-rée-c
 1A -go-DECL

22) I reached the Black Hills and faced west and I went on.

15 This is a reference to the Cannonball River which flows west to east across southwestern North Dakota before flowing into the Missouri River. It was so named prior to Lewis and Clark's expedition because of the great number of round stones found along its banks. These cannonball like rock masses are formed from sedimentary rock that is harder than the surrounding sediment, which is later eroded away. Although Rusty Tipi claims the Cannonball River as a boundary for the Hidatsa territory, the Treaty of Laramie puts the boundary at the Heart River which is approximately 30 miles north of the Cannonball River.

23) mi?cǐraashish she?hdaa aróbat^hihgidaa

23) wi? -cǐri -aaši -š še? -hta -a arópat^hi -hkita -a

23) stone-yellow-river-DET.D DEM-GOAL-CONT it.is.going-towards-CONT

iigicawuhcihga waareec

iikicawuhci -hkee -a waa-ree-c

right.straight.towards-3.CAUS.I-CONT 1A -go -DECL

23) Then I went straight towards the Yellowstone river.

24) idaa^hubée aahdúhishash she?hgida iigicawuhcihga

24) itaa^hupée aah^{tú}-hiša -š še? -hkitá iikicawuhci -hkee -a

24) owl head -INTEN-DET.D DEM-towards right.straight.towards-3.CAUS.I-CONT

waaraawú?shia¹⁶ she?rúhaag mixdáhda

waa-ree-a -w -ú?ši -ak še? -rú -ha -ak wixtá-hta

1A -go -CONT-1A-arrive-SS DEM-LOC-ADV-SS down -GOAL

iiwaara?hbic, mi?cǐraashaashish¹⁷

ii -waa-ra?hpi -c, wi? -cǐri -aaši -aaši -š

INST-1A -go.down.into-DECL stone-yellow-river-DET.D

24) I went straight towards ‘Like an Owl’s Head’, when I got there I went right down, into the Yellowstone river.

25) she?ru miriréedaru waagshag hii, hii, wiidá

25) še? -ru wiri -réeta-ru waa-akša -ak hii, hii, wi -iitá

25) DEM-LOC water-edge-LOC 1A -get.there-SS SC SC 1.POSS.A-face

awashidáhgidawaac

awašitáhkita-waa-c

northward -1.CAS.sg-DECL

25) I got to the edge of the river and from there I faced northwards.

16 This is probably two words “waaraa wú?šiak”.

17 Notice the repetition of aaši-. I have no explanation for this.

26) awashidánda mirireet^haa ííwaaraa waaruwá

26) awašítá-hta -a wiri -reet -ha -a íí -waa-ree-a waa-ruwí-a

26) north -GOAL-CONT water-edge-ADV-CONT INST-1A -go -CONT 1.A -continue-CONT

dibíá áashish heec

tipíá áaši -š hee-c

mud creek-DET.D say-DECL

26) Northwards, along the water's edge, as I went along someplace called 'Muddy Creek'.

27) hirúhshiihídá máahaa?ru she?ru waagi?íic

27) hirúhšiiiri -htá wáa-hee-a? -ru še? -ru waa-ikii -ii -c

27) Assiniboine-GOAL 1A -go-PL.D-LOC DEM-LOC 1A -see.PL-HAB-DECL

áashihgeeraciwa

áaši -hkee -raci -wa

creek-DIM -APPROX-DET.I

27) When we head towards Assiniboine country, we always see it, it's a little creek.

28) awaʔáagaaruxbaaga idaʔawá at^háhgaaciru

28) awa -áakaa-ruxpaaka¹⁸ ita -awá at^háhka-raci -ru

28) land-top -people 3.POSS.A-land end -APPROX-LOC

áashigaríshdahgeeracíwa wáagic, sheʔk^híc dibíá áashish
ááši -karišta-hkee -rací -wa wáaki-c, šeʔ -k^hí -c tipíá ááši -š
creek-small -DIM -APPROX-DET.I PROG-DECL DEM-mean-DECL mud creek-DET.D

awóragigua maaraaháhg iigicawúhcihga
awóraki-kua waa-ree-a -háha-ak iikicawúhci -hka
1A.follow-towards 1A -go -CONT-ADV-SS go.straight.towards-NOM

awashidáhgidaa awariáhdáa iiwáhgarat^híc
awašitáa-hkita -a awariá-hta -a ii -wáh-karat^hí-c
north -towards-CONT ridge -GOAL-CONT INST-1A -climb -DECL

heeráheec

heerá -hee-c

between-say-DECL

28) “That’s the end of their Indian territory, a real small stream is there, that is the one he meant.” “I followed Muddy Creek for a ways and went straight.” “From there I went straight northwards and I climbed to the top of the ridge” he said.

18 This is the word for ‘Indian’: Lit. ‘the people who live on top of the land’.

29) máhgarot^hág hii she?ruhaag miidá úushahgidaa waaráwic

29) wáh-karot^hí-ak hii še? -ru -ha -ak wii-iitá úušahkitaa waa-ráwi -c

29) 1A -climb -SS SC DEM-LOC-ADV-SS 1B-face east 1A -continue-DECL

arucee?áagahaa iiwaaráwaaaruwá hiróo

arucee -áakahaa ii -waa-rée-a -waa-ruwí -a hiróo

ridge -on.top INST-1A -go -CONT-1A -continue-CONT DEM

aruwaareeshe?ru iiwaak^híc

aru -waa-reeše? -ru ii -waa-k^hí -c

REL.N-1A -start.from-LOC INST-1A -return-DECL

mi?wagi?ii?aadísh she?ru

wi? -waki? -ii?aatí -š še? -ru

stone-at.eachother-throw.something.at.someone-DET.D DEM-LOC

iiwaak^híhe hii híri héerahe gúaric mada?arudiríá

ii -waa-k^hí -he hii híri héerahe kúaric wata -aru -tiríá

INST-1A -return-DEM SC DEM in.between the.exact.place 1.POSS.A-REL.N-roam

héewareec

hée-wareec

say-NE

29) “When I got up there and from there facing East, I went on top along a ridge, I got back to where I started from, right here at “Throwing Stones at Each Other” that is where I came back to; in between is the place where I roam about” he said.

30) awá arugac^há girasháadihgaa?wa adishíash héewa hiraacáwareec

30) awá arukac^há kiri-ašáa -tihka -a? -wa atíšíáš hée -wa hiraacá-wareec

30) land claim ask-claim-submit-PL.D-TEMP rusty tipi name-DET.I hidatsa -NE

30) When they asked him to put in his land claim, his name was Rusty Tipi, the Hidatsa.

31) hii she?c wada?awá oogirashaadaawa hirí waabahéruhsha

31) hii še? -c wata -awá aku -kirašaat-haa -wa hirí waapahé-ruhša

31) SC DEM-DECL 1.POSS.A-land REL.S-claim -3.CAUS.D.pl-DET.I DEM today -even

iiwaawa?aauahguac

ii -waa-wa?aaua-hkua-c

INST-1A -own -LOC -DECL

31) and that's the one, he put in our land claim, even today we make use of it.

32) he?sháwa úuwacag migu?orug hii hiraacáha raadácagihshuri

32) he?šá-wa úuwaca-ak wi-ku -?o -ruk hii hiraacá-ha raatá-cakí -hšuri

32) SC -DS money -SS 1B-give-PL.I-COND SC hidatsa-DEM heart -good-kind

hii íiwagichaaráhguc

hii íiwaki -c haa -ráhku-c

SC distribute-DECL ADV-PROG-DECL

32) Therefore, when they give us money, the Hidatsa are kind-hearted and he's dishing it out.

33) aragárahuhe íiro?gi ú?shiag idá?awá arugirashaado? neeshác

33) arakárahuhé -he íiro?ki ú?ši -ak itá -awá aru -kirašaato? neešá-c

33) arikara -DEM themselves arrive-SS 3.POSS.A-land REL.N-claim none -DECL

33) The Arikara, themselves, they arrived (from the south), they had no claim to their land (the land they have now).

- 34) heʔshahsha miiroʔraheerí hiráacaʔsh híʔri úuwacag awág éeca
 34) heʔšahša wii-roʔraheerí hiráaca-aʔ -š híʔri úuwaca-ak awá-ak éeca
 34) even.so 1B-then.there hidatsa-PL.D-DET.D us money -SS land-SS all

gaháaʔwa xiruhxíʰaa ahguʔhe hiróo hiraacáʔhe nuxbáaga
 kaháa-aʔ -wa xiruhxíʰaa ahku-oʔ -he hiróo hiraacá-aʔ -he ruxpáaka
 issue -PL.D-DS comfortably live -PL.I-DEM DEM hidatsa-PL.D-DEM people

cagáʔwa hii gúashac
 cakí -aʔ -wa hii kúáša -c
 good-PL.D-DET.I SC it's.for.that.reason-DECL

- 34) Even so, those of us there, the Hidatsa, us, were all issued money and land, so they
 could live comfortably here, it is good for the Hidatsa people for that reason.

- 35) hii guhgáhagi
 35) hii kuhkáhaki
 35) SC that's.all.for.that
 34) That's all for that.

3.0. ENGLISH FREE TRANSLATION.

Rusty Tipi and the Hidatsa Territory.

- 1) My name is Brings-the-Medicine.
- 2) I'm 67 years old.
- 3) And now, they want me to tell of Rusty Tipi's land claim.
- 4) So, I'll tell it now.
- 5) Long ago, white men came.
- 6) There was a village sitting over there that they came to and they (the white men) said
 "Hidatsa, we came so we could hear your land claim".
- 7) So then, "Rusty Tipi, are you Rusty Tipi?" they said unsure.
- 8) That man, his medicine is in the ground we're stepping on.
- 9) So then he got up.
- 10) He stood up, "I'm going towards the north east corner, that's where I'll start from." he
 said.
- 11) There were two sharp hills and in between them was a small lake.
- 12) Those two stood on each hill and they threw stones at each other (over the lake).
- 13) The water over there, that place is named "Throwing Stones at Each Other" it's said.
- 14) "And from there, I started (on)" he said.
- 15) "I'm going" facing southwards, "I'm going" he said, then a man jumped up and stood
 there.
- 16) He was a Hidatsa, it's said his name was Young Raven.

- 17) He stood up and said “I set my eagle traps in pits there”, so he (Rusty Tipi) included that point sticking out over there.
- 18) From that corner in the north east, he said “from here I’ll face south and go in that direction.”
- 19) “I went along the edge of a long lake, I reached a Sioux village” he said.
- 20) Then he said, “We call this place the Cannonball.”
- 21) “From the Sioux Village, I went straight towards the Black Hills” he said.
- 22) I reached the Black Hills and faced west and I went on.
- 23) Then I went straight towards the Yellowstone river.
- 24) I went straight towards ‘Like an Owl’s Head’, when I got there I went right down, into the Yellowstone river.
- 25) I got to the edge of the river and from there I faced northwards.
- 26) Northwards, along the water’s edge, as I went along a place called ‘Muddy Creek’.
- 27) (When we head towards Assiniboine country, we always see it, it’s a little creek.)
- 28) “That’s the end of their Indian territory, a real small stream is there, that is the one he meant.” “I followed Muddy Creek for a ways and went straight.” “From there I went straight northwards and I climbed to the top of the ridge” he said.
- 29) “When I got up there and from there facing East, I went on top along a ridge, I got back to where I started from, right here at “Throwing Stones at Each Other” that is where I came back to; in between is the place where I roam about” he said.
- 30) They asked him to put in his land claim, his name was Rusty Tipi, the Hidatsa.
- 31) and that’s the one, he put in our land claim, even today we make use of it.

32) Therefore, when they give us money, the Hidatsa are kind-hearted and he's dishing it out.

33) The Arikara, themselves, they arrived (from the south), they had no claim to their land (the land they have now).

34) Even so, those of us there, the Hidatsa, us, were all issued money and land, so they could live comfortably here, it is good for the Hidatsa people for that reason.

34) That's all for that.

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<i>BLS</i>	<i>Nth Annual Proceedings of the Berkeley Linguistics Society</i>
<i>CLS</i>	<i>Papers from the Nth Annual Proceedings of the Chicago Linguistic Society</i>
<i>IJAL</i>	<i>International Journal of American Linguistics</i>
<i>KWPL</i>	<i>Kansas Working Papers in Linguistics</i>
<i>LACUS</i>	<i>The Linguistic Association of Canada and The United States</i>
<i>LI</i>	<i>Linguistic Inquiry</i>
<i>NELS</i>	<i>North Eastern Linguistic Society</i>
<i>NLLT</i>	<i>Natural Language and Linguistic Theory</i>
<i>UMOP</i>	<i>University of Massachusetts Occasional Papers</i>

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