HIDATSA CLAUSE STRUCTURE

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1 Introduction

1.1 General background  Hidatsa is a Siouan language primarily spoken in North Dakota on the Fort Berthold Indian Reservation with between 150 and 300 fluent speakers. The reservation straddles Lake Sakakawea, a dammed section of the Middle Missouri River. Although the predominant Native American group, the Hidatsa share the Fort Berthold Reservation with two other tribes, the Mandan and the Arikara. Thus cohabitation began in 1845 when the Mandan joined the Hidatsa at Lake-A-Fishhook Village. In 1856 the Mandan and Hidatsa were joined by the Arikara who, like the Mandan, had been devastated by warfare and disease. The tribal name "Hidatsa" was generally in use at this time, although it had been employed by the people themselves only to identify the inhabitants of this largest village community situated on the north bank of the Knife River. The other two groups of Hidatsa speakers were referred to by the names "Awatixa" and "Awaxawi" (Bowers 1992:2). Undoubtedly dialectical differences existed but these have not survived into the present day.

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. It is classified as a member of the Missouri 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 sub-families.

1.2 Literature review  Hidatsa, like many Native American languages, has been studied by very few people. Washington Matthews (1877) published a short grammar and dictionary, Robert Lowe collected five Hidatsa texts in 1911 that were published in 1939 with additional grammatical notes and a partial morphological analysis provided by Zellig Harris and C F Voegelin, Florence M Robinett published three articles in IJAL (1955) which lists various affixes and stems as well as a phonological analysis, G Hubert Matthews, who wrote his dissertation on comparative Siouan, compiled an early Transformational Grammar analysis of Hidatsa syntax (1965), since this

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1 I would like to thank Randolph Gracyk for all of his insight, help, and guidance. This paper would not have been possible without his contributions. He has taught me a great deal about linguistics as well Crow and Hidatsa. I would also like to thank Amy Dahlstrom for her input and helpful comments on several drafts of this paper. Any mistakes or errors are entirely my own.

2 The term Middle Missouri refers to the section of the river that runs through the Dakotas. The Upper Missouri thus refers to the section of river located in Montana, west of the confluence with the Yellowstone River to the Missouri headwaters (Mixco 1997 p 290)
time few articles dealing with Hidatsa have appeared. A Wesley Jones did field work on Hidatsa in the 1980s but most of his material remains unpublished. The data that was used for this paper is taken from the texts collected by Robert Lowie and published in 1939 specifically Text I, *First Worker Intrudes on Sun’s Realm* which is told in the traditional narrative style of speech and Text V, *The Water Buster Account* which is told in the more common conversational style of speech. For this paper, I have added a new interlinear transcription which allows a much more comprehensive examination of Hidatsa syntax than has been presented with the use of these texts before.

1.3 Previous treatment of the -ak, -ruk, and -wa morphemes Traditionally, the -ak has been analyzed as a verb-final, but not sentence-final marker (Lowie 1939 187) or similarly as a non-utterance final predicative marker (Robinett 1955 161, 174). In *Hidatsa Syntax*, Matthews glosses the -ak as 'while' (Matthews 1965 102). Boyle (1997, 1998) analyzed the -ak as a same subject switch-reference marker.

The -ruk has been analyzed by Washington Matthews as

> "an adverb of future time, that is suffixed to subjoined verbs, to denote doubt or condition in regard to future time, and is therefore equivalent to a sign of the subjunctive mode in the future tense" (Matthews 1877 105)

We shall see that with respect to the conditional use of -ruk, this is a good analysis. It was Harris and Voegelin who first noticed the importance of these morphemes with regards to their noun phrase tracking characteristics. In Text I, they provide a footnote which states:

> "-ruk verb-final, used of actions occurring at the same time as the sentence-final verb, apparently when the actor of the verb is not identical with the actor of the sentence-final verb. Verb-final -ruk is probably not a contraction of -ru and -ak, for aside from difficulties of phonology, verbs in -ak have identical rather than non-identical actors in respect to sentence-final verbs" (Lowie 1939 189)

Clearly Harris and Voegelin could see that these morphemes were keeping track of the actors with regards to the action, but they did not appear to realize how pervasive it was throughout the system. Switch-Reference had not yet been explored as a grammatical issue, and as a result it was not something for which they were looking. Throughout the footnotes of the texts, Harris and Voegelin occasionally mention that -ruk is the marker for a different actor from the actor of the

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3 There is some morphophonological reduction that occurs with the same subject marker. For details see Boyle 1999.
sentence-final verb This error in assuming that the point of reference is the sentence-final verb rather than the verb in the following clause caused them to miss the larger discourse implication, that being a switch-reference system that tracks the actors in order to keep referential ambiguity to a minimum.

Florence Robnett (1955 161, 173) analyzes -ruk as -ru + -k, with -ru being a type of spatio-temporal locative that is inclusive (time or space) and -k as a non-utterance final marker. A W Jones concurs with this interpretation. Further, he states that the -k is a subordinator/conjunction in both the -ak and the -ruk morpheme, that the -a- is phonemic, and that the -ru- is a locative (Jones nd a 8-10). Robnett and Jones both analyze -ru as a locative wherever it occurs.

Matthews (1965 102) asserts that the -ruk is “the conjunction IF which indicates that the event of the dependent clause is a sufficient condition for that of the main clause.” Matthews’ intentions are sometimes very difficult to grasp. His analysis of -ruk is one such example. He seems to understand that there is some type of change or condition occurring but since he never gives entire sentences in his examples it is difficult to determine exactly what he is postulating.

Boyle (1997) analyzed the -ruk as a different-subject marker. Although at a cursory glance of the Lowie texts this analysis seems the best proposed, I shall show that it too is insufficient in explaining the distribution of this morpheme.

Regarding the -wa suffix used in the conversational style of discourse, Harris and Voegelin state that

“the chief difference between the style of the myth recitations (narrative style) and that of the conversational accounts lies in the structure of the sentence. In the conversational style there are long chains of non-sentence-final verbs. The non-sentence-final verbal ending is -ak, best translated in English by ‘-ing’, but some of the non-sentence-final verbs end instead in -wa, suffix of contemporaneity (Lowie 1939 231-232).

Robnett (1955 174) glosses it as ‘as, when, at’ and she states that it is a verb final utterance.

Matthews (1965 102-3) states that it is a conjunction meaning ‘because’ and that it indicates that the dependent clause gives the reason why the event of the main clause took place. Boyle (1997) states that this morpheme is the different-subject marker used in the conversational style of speech.

Boyle’s (1997) assertion is that these morphemes are the ones that are employed by the switch-reference system in Hidatsa. Switch-reference is a grammatical device used 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 (Haman and Munro 1983 ix). In many languages these markers help to track the identity of a subject from one clause to the immediately following clause. In Hidatsa, these morphemes are affixed onto the clause-final, but not matrix-
The Hidatsa switch-reference system is summarized in Table 1. It should be noted that although the switch-reference system is very productive in both the narrative and conversational styles of speech, it does not seem to be totally obligatory.

### Table 1. Hidatsa Switch-Reference Suffixes

<table>
<thead>
<tr>
<th>Conventional marker</th>
<th>Narrative marker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same Subject</td>
<td>-ak</td>
</tr>
<tr>
<td>Different Subject</td>
<td>-wa</td>
</tr>
<tr>
<td></td>
<td>-ak</td>
</tr>
</tbody>
</table>

As I will show, all of the previous treatments of these morphemes are inadequate. Although the switch-reference hypothesis is perhaps the best proposed thus far, the system that employs these morphemes in Hidatsa is not simply a switch-reference system but a system that uses -ak, -ruk, and -wa to perform additional grammatical functions in addition to switch-reference. These additional grammatical functions are such that they misled previous scholars in their attempts to properly analyze these morphemes.

In this paper, I will show that the morpheme -ak is a same subject switch-reference marker in both styles of speech, the morpheme -wa is both a different subject switch-reference marker and a temporal marker of contemporaneous action in the conversational style of speech, and an indefinite determiner in both the narrative and conversational styles of speech, and that the morpheme -ruk is a conditional marker and a future temporal marker in both styles of speech, and a different subject switch-reference marker and a contemporaneous temporal marker in the narrative style of speech. The confusion about the roles that these morphemes play was the result of previous scholars attempting to limit each morpheme to one and only one grammatical role. In the analysis presented below, I will show that this is not the case. These morphemes do indeed have multiple grammatical roles. This new analysis reveals some of the true complexity that exists within Hidatsa discourse.

### 2 Switch-Reference in Hidatsa

As stated above, the switch-reference suffixes mark coreference or noncoreference between subjects of adjacent clauses. In SOV languages, switch-reference is usually found as the final suffix on the medial, but not the sentence final, predication. These non-final verbs typically lack final-verb affixation, such as aspectuals, modals, and illocutionary suffixation.

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4 Since Hidatsa is an SOV language the matrix verb comes at the end of the sentence. These matrix-final verbs do not take a switch-reference marker. The switch-reference markers attach only to the clause-final verbs and indicate whether the subject of the clause that follows it is identical (SS) to it or different (DS) from it.
2.1 Switch-reference in the conversational style  Let us now look at Example 1, which comes from Text V lines 4a-4h for some examples of the switch-reference markers tracking subject continuity throughout a stretch of discourse. It should be noted that Hidatsa is a pro-drop language. This means that often the subject markers are dropped from the verb, this is the case in line 4a. However, the *suus* marker *ki* shows that the subject is first person. *Suus* is a Latin term that refers to taking action towards something that is owned by the speaker, it is similar in this manner to a reflexive. In line 4a it means ‘we, ourselves gathered together’. In addition, the plural marking is not seen until line 4d. The plural however has scope over the entire sentence up until the point of its use. The subject of this series of clauses is the 1st person plural, we

Ex.1

4a kruwac'hika k
4a ki -ruwac'h-hkec -ak
4a suus-as one -CAS^7-SS
4a We gathered together,

4b u waca wahkrakap'ak
4b tuwaca wa-kurakap'-ak
4b money 1A -collect -SS
4b we collected money,

4c watawa á htu ás wahku ciwa wi hax
4c wata -waa -? -ahtí-a -d wa-ku'ku ciwa -wa-ha -ak
4c 1POS-INDEF-emph-head -PL.DET 1A-get -INDEF-1A-want-SS
4c we wanted to get our skulls,

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The line numbers I have used reflect those in the Lowie texts. However, I have found it to be of value to further breakdown some of the lines into smaller clausal units, these are shown with letters

^7^ A W Jones (n.d. b14-15) states that the [ki-] prefix has four functions: entry into a state (mutative), iterative action, vertive motion, and action upon one's own object (middle voice). It is this last function that is covered by the term *suus*

1A = first person active, 1B = first person stative, 1 POSS = first person possessive, 2A = second person active, 2 FUT = Second person future, 3 = third person marker, 3 POSS = third person possessive, 3.REFL = third person reflexive, AGT = agentive, CAS = causative, COND = conditional, DECL = declarative, DEM = demonstrative, D.DET = definite determiner, DS = different subject, EMP = epenthetic consonant, FUT = future, I.DET = indefinite determiner, IMP = imperative, INDEF = indefinite, INH = instrumental by hand, INST = instrumental, LOC = locative, NE = narrative ending, PL = plural, PUNCT = punctual, REL = relative, SC = sentence convective, SS = same subject, TEMP = temporal, TOP = topic
4d wa luhrahpáawa
4d wa -hurahpá -á -wa
4d 1B8 -difficult-PL-DS
4d It was difficult for us,

4e ruxpá ka ialhta n wi kuxta pak
4e ruxpáka ialhtaa-n wi-kuxt-faapa-ak
4e people other -TOP 1B-help -PL -SS
4e The people of the other clans helped us,

4f waó m8hurak
4f wa -l -oo -mS -hur -ak
4f INDEF-emp-AGT-dance-make -SS
4f They had dances,

4g wa rú lsa k
4g waa -rú -lsa -ak
4g INDEF-INh-leave alone-SS
4g They gave away things,

4h uu wacá kurkapȟák
4h uuwacá kurkapȟa-ak
4h money collect -SS
4h They collected money,

The subject of the clauses in lines 4a through 4d is the Water Buster clan, which has been established prior to these lines. In line 4d the final suffix on the verb is -wa, a different subject marker. In lines 4e through 4h the subject of the clauses is the people from the other clans. This new subject is introduced with the topic marker -r1, which is used in Hidatsa discourse to introduce a new character and bring them to immediate prominence within the story. Since Hidatsa has a Ø-for its third person marker, the only way to establish who is doing what in many cases in the story is through the switch-reference markers. As can be seen from this portion of “The Water Buster Account” these markers function in a straighthforward fashion, they track the subject of the discourse throughout the story.

2.2 Switch-reference in the narrative style

Now let us examine how the switch-reference system works in the traditional narrative system. Following is example 2 taken from Text I.

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8 Hidatsa is an active/stative language. It should be noted here that 1A and 1B pronouns are pronouns that attach to active and stative verbs respectively. The appearance of the stative 1st person pronoun wa- in no way indicates a change of subject in this line. In fact, the active/stative distinction in Hidatsa seems to play no role in the switch-reference system at all.
In this example, there are five clauses. The sentence begins with a locative phrase that introduces the action. This is then followed by four clauses, all of which are marked with the -ak morpheme. All of the clauses in this sentence have the same subject, namely Day-Sun. The subject has been determined previously in the discourse and is never overtly stated within this sentence (another example of the third person Ø-agreement markers of Hidatsa). This sentence is an excellent example of the same subject marker preforming the task of showing subject continuity within the sentence from clause to clause. The final clause is then marked for illocutionary force with the narrative ending morpheme -wareec ‘they say’.

In example 3, we see the different subject switch-reference marker -ruk. This functions in an identical manner to the same subject marker except that it signals a change in subject.

In this example, First Worker is told to sit down by some creatures (probably bears). The utterance haas- ‘say’, followed by -a- the plural marker, is then completed with the morpheme -ruk. In this example, -ruk is clearly functioning as a different subject switch-reference marker. The subject of haas- ‘say’ is the creatures, they are the ones telling First Worker to sit down. The subject of the second clause awáak- ‘sit’ is First Worker and it is he who is doing the sitting in the matrix final predication.

The above examples show us the Hidatsa switch-reference system. Given this, we can see that it functions as a canonical switch-reference system, that is to say a system that tracks the subject from one clause to the next. However, this is not the complete story of the morphemes in question and their role in Hidatsa discourse.

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9. The imperative in the Hidatsa conversational style is shown by root final vowel deletion. Under normal circumstances all Hidatsa verbs end in a vowel, so when they are given ending in a consonant, this lack of a final vowel is really the Imperative marker.

10. This DEM-LOC combination can best be glossed as ‘right here’.
3 Clause structure with the morphemes -ruk and -wa

3.1 -ruk as a conditional marker  As stated in the introduction, Crow and Hidatsa are closely related. In Crow, the morpheme used to mark different subjects -dak can also be used to mark conditional clauses (Graczyk 1987: 122). Crow -dak is cognate with Hidatsa -ruk. Above we established that -ruk is a DS marker in the narrative style. Let us examine the role -ruk plays in example 4 taken from the second part of line 76 from Text I:

Ex. 4  76 haruk? 76 wa 76 hkwaw 76 ō 76 akswahkdīware 76 c 76 wa cakih 76 seruk 76 itacakē 76 warec 76 c 76 SC-DS-later 76 Nightlike-Sun-D DET DEM-LOC with other-stay -NE

-waa  -cakį-huš  -ruk  itacakē-warec
INDEF-good-have-COND like -NE

76 And then Moon decided to stay with them. Since he (Sun) was having such a good time, he (Moon) found he liked it also.

Here the -ruk morpheme is glossed as COND for conditional. In this sentence, -ruk connects the clause cakį-huš 'good-have' to the clause itacakē 'like'. Although the subject of each clause is different, the role of -ruk is not that of a DS marker. Here it is functioning as a conditional clause marker in the same manner as -dak in Crow. We can see in this example that the cognates -dak (Crow) and -ruk (Hidatsa) function in the same manner with regards to them being both DS markers and conditional markers. Now, let us examine example 5, taken from part of line 49 from Text I. This line is made up of a series of smaller sentences consisting of a series of comments from the creatures previously mentioned in line 38. It is interesting to note that the comments are said in the conversational style of speech and end with the declarative marker -c:

Ex. 5  49) "the ruk arušūac"
49) "ú -hee -ruk aru -? -sā-c"
49) "die-CAS-COND FUT -emp-bad-DECL"
49) "If he kills him, it will be bad."

In this example, we can clearly see the conditional nature of -ruk in the English gloss (the if/then portion). In addition, since this portion of the text is in the conversational style, we know that -ruk can not be a DS marker, since the DS marker for the conversational style of speech is -wa. Clearly -ruk must be fulfilling some other function and in this case that function is as a conditional marker. These above two examples show us that the morpheme -ruk serves as a conditional marker in both styles of speech and that it is not always a DS marker. As Boyle (1997) stated, although the evidence is not as strong as we would like, I believe that these examples warrants us postulating that -ruk can serve in the capacity of a conditional clause marker. More work on this
aspect of -ruk is necessary, particularly to see if it is possible for the conditional -ruk to occur between clauses with the same subject. No examples of this were found within the two texts analyzed. It is now evident why much of the previous research on Hidatsa interpreted -ruk as a conditional marker. However, previous research also stated that -ruk had temporal elements as well, where is the evidence for this?

3 2 -ruk and -wa as temporal markers In Text I, Harris and Voegelin provide the following footnote for the -ruk in line 10, which is shown here as example 6

"-ruk verb-final, used of actions occurring at the same time as the sentence-final verb, apparently when the actor of the verb is not identical with the actor of the sentence-final verb. Verb-final -ruk is probably not a contraction of -ru and -ak; for aside from difficulties of phonology, verbs in -ak have identical rather than non identical actors in respect to sentence-final verbs" (Lowie 1939 189)

This is what led Boyle (1997) to postulate that -ruk was a DS switch-reference marker. While it is true that the subject does change from Day-Sun in the initial clause to First Worker in the second and third clauses (which are linked with a SS switch-reference marker), here -ruk is actually a temporal marker. This can be gleaned from the English gloss which is ‘when’. The first two words of this sentence wa pwiwi's wa'te ré ruk form a temporal clause that establishes the setting for the rest of the sentence. However, the subject does change in these clauses. Is it possible for the -ruk to be a portmanteau morpheme that conveys both a temporal setting as well as indicating a change in subject? Are there any other lines within the Lowie texts that might indicate that this proposition is true? Consider example 7 from Text I line 12.

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Ex. 6 10 wa pwiwi's wa'te ré ruk ñaikhawa ñihãi wa'te ó ha k inu ha'ware c
10 waaq-we'we' wa'te ré ruk ñaikhawa-ñihãi wa'te ée'êchãe'-ak
10 Day -Sun-D DET already-go -TEMP First Worker 3 Refl already know -SS

ru -a'ê -wareec
stand-PUNCT-NE

Ex. 7 12 haruk ñ'i'aka' hir'ruk rúhe'ka ak ap'óhka-are c
12 ha -ni'ltaka -ñu -ruk rú -hcã -ak ap'óhkã-hee -wareec
12 SC-DS rabbit-D DET arrive-TEMP 1Nh-secure-SS hat -CAS-NE
12 And so, when Rabbit arrived, he (First Worker) took him and used him as a hat

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Here also we see a -ruk temporal marker and we also notice a change in subject. Rabbit is the subject of the first clause, then the temporal marker appears affixed to the verb 'arrive' and the subject in the following clause is First Worker. In these constructions, it is likely that the subject will change given the nature of the proposition but a change of subject is not required. Consider example 8, line 18 from Text V.

Ex. 8 18 wa' huf she xupá áwa wáre nruk wáre ú wuru a Jáawá wá ku
18 waáahnáshí1 kupá-á wa wáre n -ruk wáru-? -kuru -ru aru -? - awáakt-č
18 the skulls holy -PL-DS enter -TEMP door -emp-base -LOC REL-emp-INST-emp-sit -DECL
18 The skulls are holy, when one enters, one should sit down by the door.

In this sentence the -ruk is clearly not a DS marker since this text is written in the conversational style. In addition, we can see that there is a DS marker, -wa, affixed to the predication 'holy'. Again the English gloss helps us determine what the proper gloss for -ruk should be. Like in so many other Hidatsa examples we see that the third person marker is Ø- but we know the subject is no longer 'the skulls' from the previous clause, and the English gloss reflects this by making the subject the impersonal pronoun 'one'. Here we can clearly see that the subject of the predicate wáre- 'enter' and awáakt- 'sit' is the same indefinite third person, which is glossed as 'one'.

Clearly in this example -ruk can not signal a change in subject, since there is no change in subject to signal. It also should be noted that this temporal clause refers to an event in the future. This was not the case in examples 5 and 6 from Text 1 which both referred to a contemporaneous temporal clause. It is important to remember that Text 1 is written in the narrative style and that Text V is written in the conversational style of speech. It is my belief that the role of -ruk with regards to its temporal manifestations is slightly different with regards to these two styles of speech. This will be seen below. Now consider example 9, line 86 from Text I. In this line there are two -ruks, it is the second temporal -ruk on which we will focus.

Ex. 9 86 "wiri pa xí'nruk arákaruk raráhunc" h'áware c
86 "wiri -ape xín -ruk aráka -ruk rá -ra -hu -n -c" hée -ā -wáeeec
86 "wood-leaf brown-COND Stem 2A see-TEMP 2A-2A-come-2FUT-DECL" say-PL -NE
86 "When you see the leaves turn brown, you must come," they said.

This is a clear example showing that the temporal -ruk plays a similar role in the narrative style of speech as it does in the conversational style of speech, that is to say its function is a temporal marker and not a DS marker. As stated above, Hidatsa third personal pronoun markers are Ø- However, in this sentence we have verbs with second person pronoun agreement markers. The

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11 Wa' huf shé = waaʔ-ʔaatȟ-ʔad-ʔhe = INDEF-emp-head-PL-ATT-DEM = 'the skulls'
subject for araka ‘see’ and rarahu ‘come’ are both second person, ‘you’. Clearly -ruk as a temporal marker can not be interpreted as a portmanteau morpheme that both conveys a temporal setting and indicates a change in subject. It can only be a temporal morpheme. In addition, this temporal event is referring to a future time. This shows that -ruk is not limited to only one type of temporal representation within the narrative style of speech. It serves as both a marker of contemporaneous and future temporal events.

3.3 The other roles of -wa: Now let us consider -wa in the conversational style of speech. I have already established that -wa is a DS switch-reference marker, but does it serve any other roles? Consider again line 5 from Text I repeated here as Example 10.

Ex. 10

5 xàk xàkhe t'ha ha'ha k'i tak o raxpiwa ap'uhkaha k wi'kapi kuraak seeruha k wi'pu hwac c
5 xàk -heetu ha's-hee -ak i tak o oraxpiwa ap'uhkaha-hee -ak
5 3-body move-LOC red-CAS-SS rabbit skin -I.DET hat -CAS-SS

3 POS-pipe carry -SS doing thus-SS INDEF-sing-NE

5 Reddening his body all over, using a rabbit skin as a hat, carrying his pipe, thus, he (Day-Sun) sang.

This example provides a clear example of -wa as an indefinite determiner, here ‘a’ in the NP ‘a rabbit skin’.

Let us now consider another role that the morpheme -wa plays in Hidatsa. We have seen that -ruk is a conditional and future temporal marker in both the narrative and conversational style and that it also marks contemporaneous temporal events in the narrative style. Consider the following lines from Text V in example 11.

Ex. 11

14e átawa ó kocawa ap'ax x'aa arax'aa wa ha'sa ʃa'
14e átawa -wa ó kocawa ap'ax x'aa arax'aa -wa ha'sa ʃa'

14e morning-I.DET night -I.DET clouds burn -TEMP red -until
14e for a day and a night when the clouds burned red,

14f heesí k xaré c
14f heesí-ak xamé-c
14f SC -SS ram -DECL
14f and thereafter, it rained

Here again we see the -wa marker suffixed onto nouns serving as the indefinite determiners in the

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12 In araka the infixed -ra is the second person marker and in rarahu the ra-ra is an irregular double second person marker.
NPs 'a mornung' and 'a might'. This has an exact parallel in Crow where the conversational style DS marker -m is also the indefinite article on nouns (Graczyk 1987:121) Crow -m and Hidatsa -wa are cognate, so we can see that the dual purpose that the morphemes serve probably goes back to Proto-Missou Valley before Crow and Hidatsa split. The grammatical function of the DS marker and the indirect article in both languages is also similar. They both serve to introduce new material, whether in the NP or as a new subject of a clause. It is interesting to note that in Crow -dak, the DS marker, also functions as the indirect article in the narrative register. In Hidatsa, -ruk does not share this overlapping function although as stated above the two are cognates.

The other use of -wa in this sentence is as a temporal marker. Clearly, 'the clouds' are the subject of -ruk - 'burn' and huša - 'red' is acting as a modifier of the clause. Given this, it is not possible for -wa to be acting as a different subject marker. Here -wa functions as a temporal marker of contemporaneous action in the conversational style of discourse. Given this new understanding of the morphemes we can now postulate the following system for Hidatsa.

Table 2. Hidatsa -ak, -ruk, and -wa Suffixes

<table>
<thead>
<tr>
<th>Conversational markers</th>
<th>Narrative markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Same Subject</td>
<td>-ak, -ak</td>
</tr>
<tr>
<td>2) Different Subject</td>
<td>-wa, -ruk</td>
</tr>
<tr>
<td>3) Temporal Marker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-wa, -ru k</td>
</tr>
<tr>
<td>4) Temporal Marker</td>
<td>-ruk, -ruk</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5) Conditional Marker</td>
<td>-ruk, -ruk</td>
</tr>
<tr>
<td>6) Indefinite Article</td>
<td>-wa, -wa</td>
</tr>
</tbody>
</table>

Table 2 presents an accurate description of the role that the morphemes -ak, -ruk, and -wa play in Hidatsa. Given this pattern, it is easy to understand how previous research misinterpreted the functions of these morphemes. We now see that these morphemes have a high degree of homonymy. They share similar functions in both systems that are simultaneously overlapping and exclusive and in order to understand how they function it is important to examine both the narrative and the conversational systems.

4 Conclusion Given the above data, it would appear that all of the previous attempts at describing these morphemes have been inadequate. Throughout the Lowie texts, an analysis as either switch-reference markers or as coordinators, spatio-temporal locatives, or progressive markers does not hold up. The role that these morphemes play is much more complex. What exists in Hidatsa is a system in which the same morphemes play several roles and while these roles...
are similar there are subtle differences for which only the analysis proposed above can account. The system that exists in Hidatsa is similar to the one described by Graczyk (1991) for Crow, but there are differences. This paper allows a comparison to be made between the two systems in Crow and Hidatsa. The results of a comparative examination of the two systems may prove important for future work that will be done on Proto-Missouri Valley Siouan as well as Proto-Siouan.

In addition, this paper provides further insight into the nature of switch-reference systems and helps illustrate the complexities that exist within these systems found in the world’s languages. An important area of future research is the origin of the switch-reference markers themselves. Were they originally coordinators, or noun markers, or conditional/temporal markers or are these features extensions of the switch-reference system? The answers to these, as well as other questions, must await further research.

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