HIDATSA CLAUSE STRUCTURE[1]

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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[2] Although the predominant Native American group, the Hidatsa share the Fort Berthold Reservation with two other tribes, the Mandan and the Arikara This cohabitation began in 1845 when the Mandan joined the Hidatsa at Like-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 Lowie 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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[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[3] 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 Robinett (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 n d a 8-10) Robinett 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)

Robinett (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 (Haiman 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-

final verb [4] 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

	Conversational marker	Narrative marker
Same Subject	*-ak*	*-ak*
Different Subject	*-wa*	*-ruk*

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[5] 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[6], 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 kiruwác^hihka k
        4a ki -ruwác^hi-hkee -**ak**
        4a suus-as one -CAS[7] -**SS**
        4a We gathered together,

        4b ú waca wahkirakap^hák
        4b úuwaca wa-^hkirakap^há-**ak**
        4b money 1A -collect -**SS**
        4b we collected money,

        4c watawa á htú áš wahku ciwa wá hak
        4c wata -waa -? -aahtúa-á -š wa-^hkuuci -waa -wá-aha -**ak**
        4c 1 POS-INDEF-emp-head -PL-D.DET 1A -get -INDEF-1A-want-**SS**
        4c we wanted to get our skulls,

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[5] 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

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

[7] 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.POS = 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 wı hı rahpááwa
4d wıı -hıırahpá -á -**wa**
4d 1B[8] -difficult-PL -**DS**
4d It was difficult for us,

4e ruxpá ka ıháhta rı wı kuxtá pak
4e ruxpáaka ıháhtaa-rı wıı-kuxtí-aapa-**ak**
4e people other -TOP 1B -help -PL -**SS**
4e The people of the other clans helped us,

4f waó rıšʰíhırak
4f wa -ʔ -oo -rıšʰíʼ -hırı -ak
4f INDEF-emp-AGT-dance-make-**SS**
4f They had dances,

4g wa rú ša k
4g waa -rúu -šaa -ak
4g INDEF-INh-leave alone-**SS**
4g They gave away thıngs,

4h u waca kırakapʰák
4h uuwaca kırakapʰá-ak
4h money collect -**SS**
4h They collected money,

The subject of the clauses ın lınes 4a through 4d ıs the Water Buster clan, whıch has been established prıor to these lınes In lıne 4d the final suffix on the verb ıs -*wa,* a dıfferent subject marker In lınes 4e through 4h the subject of the clauses ıs 'the people from the other clans' Thıs new subject ıs ıntroduced wıth the topıc marker -*rı*, whıch ıs used ın Hıdatsa dıscourse to ıntroduce a new character and brıng them to ımmedıate promınence wıthın the story Sınce Hıdatsa has a Ø- for ıts thırd person marker, the only way to establısh who ıs doıng what ın many cases ın the story ıs through the swıtch-reference markers As can be seen from thıs portıon of "The Water Buster Account" these markers functıon ın a straight forward fashıon, they track the subject of the dıscourse throughout the story

2 2 Swıtch-reference ın the narratıve style Now let us examıne how the swıtch-reference system works ın the tradıtıonal narratıve system Followıng ıs example 2 taken from Text I

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[8] Hıdatsa ıs an actıve/statıve language It should be noted here that 1A and 1B pronouns are pronouns that attach to actıve and statıve verbs respectıvely The appearance of the statıve 1st person pronoun *wıı*- ın no way ındıcates a change of subject ın thıs lıne In fact, the actıve/statıve dıstınctıon ın Hıdatsa seems to play no role ın the swıtch-reference system at all

Ex 2   5 ıxú xákahe tʰa hıšʰá k ɾ́takı o raxpíʷa apʰuhkaha k ıtíˈkıpı kúraák šeérúha k wa pá hıware c
        5 ı-xú   xáka -heetʰa hıšı -hée -ak   íítakı ooraxpǐ-wa   apʰúhka-hee -ak
        5 3-body move-LOC red -CAS-SS rabbıt skın   -I DET hat   -CAS-SS

        ıta   -ííkıpı kúreé-ak šeérúha   -ak waa -páahı-wareec
        3 POS-pıpe carry -SS doıng thus-SS INDEF-sıng -NE

    5 Reddenıng hıs body all over, usıng a rabbıt skın as a hat, carryıng hıs pıpe, thus, he (Day-Sun) sang

In thıs example, there are five clauses The sentence begıns wıth a locatıve phrase that ıntroduces
the actıon Thıs ıs then followed by four clauses, all of whıch are marked wıth the *-ak* morpheme
All of the clauses ın thıs sentence have the same subject, namely Day-Sun The subject has been
determıned prevıously ın the dıscourse and ıs never overtly stated wıthın thıs sentence (another
example Ø- agreement markers of Hıdatsa) Thıs sentence ıs an excellent
example of the same subject marker preformıng the task of showıng subject contınuıty wıthın the
sentence from clause to clause The fınal clause ıs then marked for ıllocutıonary force wıth the
narratıve endıng morpheme *-wareec* 'they say'

    In example 3, we see the dıfferent subject switch-reference marker *-ruk* Thıs functıons ın
an ıdentıcal manner to the same subject marker except that ıt sıgnals a change ın subject

Ex 3   38 "rá p kúaru awá k" há áruk awá kıware c
        38 "ráapa[9]   kúa -ru[10] awáaka" hée -á -ruk awáakı-wareec
        38 "pass by (IMP) DEM-LOC sıt IMP" say-PL -DS sıt   -NE
        38 "Pass by over here¹ Sıt down¹" they saıd He (Fırst Worker) sat down

In thıs example, Fırst Worker ıs told to sıt down by some creatures (probably bears) The utterance
háa- 'say', followed by *-á*- the plural marker, ıs then completed wıth the morpheme *-ruk* In thıs
example, *-ruk* ıs clearly functıonıng as a dıfferent subject switch-reference marker The subject of
háa- 'say' ıs the creatures, they are the ones tellıng Fırst Worker to sıt down The subject of the
second clause *awáakı*- 'sıt' ıs Fırst Worker and ıt ıs he who ıs doıng the sıttıng ın the matrıx fınal
predıcatıon

        The above examples show us the Hıdatsa switch-reference system Gıven thıs, we can see
that ıt functıons as a canonıcal switch-reference system, that ıs to say a system that tracks the
subject from one clause to the next However, thıs ıs not the complete story of the morphemes ın
questıon and theır role ın Hıdatsa dıscourse

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[9] The ımperatıve ın the Hıdatsa conversatıonal style ıs shown by root fınal vowel deletıon Under normal cırcumstances
all Hıdatsa verbs end ın a vowel, so when they are gıven endıng ın a consonant, thıs lack of a fınal vowel ıs really the
Imperatıve marker

[10] Thıs DEM-LOC combınatıon can best be glossed as 'rıght 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 harukʰiʼ wa hkuwiriš šeérú akıwahkúware c wa cakíhišeruk ıtacakʰé ware c
       76 ha -ruk-hiʼ   waahku -wiriʼš   šeé -rú   akı   -wahkú-wareec
       76 SC-DS-later Nightlike-Sun-D DET DEM-LOC with others-stay   -NE

             waa   -cakí-hiše -**ruk**   ıtacakʰée-wareec
             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 *cakí-hiše* 'good-have' to the clause *ıtacakʰée-* '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) "táhe ruk aruišíac"
       49) "tá -hee -**ruk**   aru -? -ıšía-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)

<u>Ex. 6</u>   10 wa piwiriš watʰe réruk ícihkawa hiriš íhki watʰe é ha k iru hiware c
   10 waapi-wirí-š   watʰee -rée -**ruk**   íicihkawaahiriš íhki   watʰee éehkee-ak
   10 Day   -Sun-D DET already-go -**TEMP** First Worker   3 Refl already know -**SS**

        iru   -ahí̵   -wareec
        stand-PUNCT-NE

   10 **When** Day-Sun had already gone, First Worker himself, knowing (how it was done), stood up

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 piwiriš watʰe 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)

<u>Ex. 7</u>   12 harúk í̵takiš hí̵ruk rúhcak apʰúhkahe ware c
   12 ha -rúk iítaki-š   hí̵   -**ruk**   rú -hci   -ak apʰúhka-hee -wareec
   12 SC-DS rabbit-DJDET arrive-**TEMP** INh-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

<u>Ex. 8</u> 18 wa á htú áhe xupá áwa wiré nruk wire ú tiru aruí áwá kic
18 waaáahtúaáhe[11]xupáa-á -wa wiréen -ruk wiree-? -úuti -ru aru -? -ii -? -awáaki-c
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 *wiréei-* 'enter' and *awáaki-* '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 clauses It is important to remember that Text I 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

<u>Ex 9</u> 86 "wirá pa xí'nruk arákaruk rárahunc" há áware c
86 "wirá -aapa xíɪn -ruk aráka -ruk rá -ra -hu -n -c" hée -á -wareec
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 pronominals markers are Ø- However, in this sentence we have verbs with second person pronominal agreement markers The

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[11] wa á htú áhe = waa-?-aahtú-aá-he = INDEF-emp-head-PL-ATT.DEM = 'the skulls'

subject for *aráka* 'see' and *rárahu* 'come' are both second person, 'you'[12] 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 ixú xákahe tʰa hišʰá k i̇́taki o raxpiẇa apʰuhkaha k iti̇́kipi kúraǎk šeérúha k wa pá hiware c
        5 i-xú   xák -heetʰa hiš -hée -ak i̇́taki ooraxpí-wa   apʰúhka-hee -ak
        5 3-body move-LOC red-CAS-SS rabbit skin   -I.DET hat   -CAS-SS

                ita   -íikipi kúreé -ak šeérúha   -ak waa   -páahi -wareec
                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 kciawa ahpá xʰi áraxʰa wa hišaí̇
        14e áata   -wa   óokcia-wa   ahpáaxʰi áraxʰaa -wa   hiša-í̇
        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 heéšá k xaré c
        14f heéšá-ak xaré-c
        14f SC   -SS rain -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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NPs 'a morning' and 'a night' 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-Missouri 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 árax^{h}aa - 'burn' and hiša-´ '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

	Conversational markers	Narrative markers
1) Same Subject	-ak	-ak
2) Different Subject	-wa	-ruk
3) Temporal Marker		
contemporaneous action	-wa	-ruk
4) Temporal Marker		
future action	-ruk	-ruk
5) Conditional Marker	-ruk	-ruk
6) Indefinite Article	-wa	-wa

Table 2 presents an accurate description of the role that the morphemes -ak, -ruk, and -wa play in Hidatsa Given this pattern, is it 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 illuminate 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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