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SIOUAN SYNCOPATING *r-Stems

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Abstract

It is shown that four classes of irregular Siouan verbs with stem initial reflexes of Proto-Siouan */r/ can be accounted for by assuming that Proto-Siouan used syncopated pronominal affixes *_w_ 'first person agent' and *_y_ 'second person agent' with these stems, rather than the reconstructed full agent pronominal affixes *_wa_ and *_ya_, respectively.

1. Introduction

The Siouan (Si) languages[1] are generally of the morphosyntactic type known as active or active/stative languages,[2] in which the intransitive clauses are divided into two classes, the *active* and the *stative*, depending on whether the single NP of the intransitive clause shares the marking of the transitive clause's agent NP (active clauses) or patient NP (stative clauses).[3] In the Siouan languages, agent, patients, and the intransitive clause NPs assimilated to them are distinguished partly by means of agent and patient concords which are affixed to the verb stem. These two kinds of concords, or pronouns, are glossed below with the abbreviations AGT (agent) and PAT (patient). Since the marking of plurals depends on a number of mechanisms irrelevant to the present context, and since third persons with specific reference are generally not marked at all, the pronouns consist for purposes of the discussion below of two series, each made up of just a first person and second person singular. Third person patients being unmarked, transitives with third person patients are identical in morphology to active intransitives, forming with them a single class referred to below — for want of a better term — as *zero-patient* verbs. The history of the conjugation of four classes of zero-patient verbs with stem initial */r/ in Proto-Siouan (PSi) forms the subject of this paper.

In the Siouan languages the zero-patient verbs generally belong, essentially, to two conjugations. The first, or *regular conjugation* employs reflexes of the full forms of the Proto-Siouan AGT pronominal affixes: *_wa_ AGT1 and *_ya_ AGT2, with *ϕ serving for AGT3.[4] In addition to the regular conjugation there also usually appears an alternative conjugation which seems to employ reflexes of shortened or syncopated forms of the full affixes: *_w_ AGT1 and *_y_ AGT2, with *ϕ again for AGT3. In view of the wide distribution of such shortened forms in Siouan, and of their shared peculiarities, it seems best to consider that these forms originated in Proto-Siouan, and are not merely parallel later developments. The term *syncopating conjugation* will be employed for Siouan zero-patient conjugations with these shortened forms.[5]

Among the Siouan languages, verbs embodying the developments of Proto-Siouan stem initial */r/ appear very commonly, almost universally, as members of syncopating conjugations. The four examples of *r-stems to be dealt with in this paper are the derivatives formed with the *_ra_ 'mouth action' and *_ru_ 'hand action' instrumentals, the motion verb *_rA_[6] 'go', and the transitive verb *_rutA_ 'eat'. Aside from these four cases, syncopating conjugations are commonly employed with a certain number of other instrumentals with initial */r/, and, in general, with verbs embodying the developments of such other proto-Siouan initials as */h/, for instance *_e_-AGT-_hA_ 'say' or *_hu_ 'come'. It also appears likely that the Proto-Siouan transitive affix complex AGT1/PAT2 may have been *_w-yi_, with syncopated *_w_ AGT1.[4] In the Dhegiha and Winnebago-Chiwere groups in particular, large numbers of consonant initial stems have syncopating conjugations.[7]

The remainder of this paper will adopt the following order of presentation.

2. Summary of previous discussion of the syncopating conjugation.
3. Phonological preliminaries.
4. Morphological and phonological details.
5. Conclusions.

2. Previous Treatments

The assumption in Siouan studies that the conjugations to be discussed employ syncopated forms of the regular AGT affixes has an early origin. It was initially associated primarily with diachronic studies. Dorsey, in his 1885 comparative sketch, makes use of the term *fragment-pronoun* (1885:927) in connection with some sequences of syncopated pronouns and instrumentals, though without clarifying his usage.[8] Holmer, in a pair of articles on the comparative phonology of Siouan consonant clusters, refers in passing to Proto-Siouan first persons in *_m_ (1945:92, 86; 1947:6) or in unspecified cluster initial consonants (1945:76). He also alludes to Dhegiha and Ofo second persons in *_š_ 'the origin of which is not clear' (1947:6).

More recently, Taylor has suggested **y* or perhaps **r* as AGT2 in PSi **e*-AGT-*hA* 'say' (1976:296), and Rankin has used **w* 'first singular actor' in a Quapaw etymology (1982:126). In the wider context of a consideration of Proto-Macro-Siouan (PMS), Rudes (1974) has discussed PSi **s* ~ **ř* as a development of PMS **sř* AGT2.[9] In contrast with the foregoing, the two major treatments to date of Proto-Siouan, those of Wolff and Matthews, seem to assign the syncopated forms independent origins subsequent to Proto-Siouan (Wolff 1950:1:IV-200 et seq.; Matthews 1958:16-17, 66-68).

Descriptions of the individual Siouan languages at first seldom identified the reflexes of the full and syncopated forms of the AGT pronouns as phonologically related. A treatment in terms of suppletive allomorphs prevailed instead. This is not surprising, given that developments within some of the languages may render the connection between the full and syncopated forms fairly obscure, as will be seen in section 4. In more modern treatments, even when the connection of the two sets of forms is transparent, at least to the linguist, suppletive analyses may continue to prevail in cases where the allomorphs are rather divergent phonetically (as is typically the case in Mississippi Valley Siouan), or where the conditioning of the syncopated forms is morphological (as is generally the case in some degree). An example of a suppletive treatment in a generative format is Hollow's grammar of Mandan (1970:34). Hollow recognizes a suppletive allomorphy for Ma AGT1 (*wa* ~ *w*) and AGT2 (*ra* ~ *r*). Although the phonological connecton between the two allomorphs in each pair is obvious, a suppletive treatment can be justified on the basis of the fact that the syncopated forms occur only with the stems *e*-AGT-*he(r)* 'say', *e*-AGT-*rah* 'want', and *tasí* 'like', as well as in the transitive affix complex *w-ri* AGT1/PAT2 (surface *wi-ri*). Carter (1974:133-144, 239-248) proposes a nonsuppletive treatment in generative terms for Teton (and by extension the rest of Dakotan), deriving surface Te *b* ~ *m* AGT1 and y-lateralization ~ y-nasalization AGT2 for underlying full forms *wa* and *ya* via intermediate *w* and *y*, in y-stems and nasal stems.

The foregoing examples show, in spite of the fact that Siouan and proto-Siouan syncopating conjugations have seldom been discussed as such, that there has been a strong inclination to account for them in the attested Siouan languages in terms of an alternate inherited or underlying conjugation in which the first person marker is a labial resonant or glide and the second person is a palatal fricative or glide. Implicit or explicit in most of the observations on the subject has been the further inclination to consider the pronominal affixes of the alternate conjugation to be shortened derivatives of whatever full forms were assumed.

3. Phonological Preliminaries

In the present state of the knowledge of Proto-Siouan phonology, it is not possible to present a finished picture of the developments of the Proto-Siouan resonant an continuative phonemes in the known languages, to b concluded with a demonstration that developments i the syncopating conjugation are consistent with this pic ture. On the contrary, recognition of the syncopatin conjugations of the known Siouan languages as con tinuations of a Proto-Siouan model seems to shed ligh on several aspects of Proto-Siouan's troublesom phonology, notably the alternations of nasal and non nasal reflexes of */w/ and */r/, and the alternations o */y/ and */š/. In consequence, this section confines itsel to general remarks, with the necessary additional detail supplied as they are needed, in the course of the morphological discussion in section 4.

The view of the relevant Proto-Siouan phonology adopted is basically that of Kaufman (1965),[10] which, in turn, generally follows the approach of Matthews (1958), with the important difference that for Matthews's */w/, */m/, */r/, */n, and */y/ Kaufman substitutes */w/, */r/, and */y/ only, merging */m/ with */w/ and */n/ with */r/, as conditioned variants. Contrastive /m/ and /n/, for the modern languages in which they exist, are then to be taken as the result of phoneme splits. This diachronic approach is suggested by the growing number of descriptions of Siouan languages which do reduce [m] and [n] to allophonic status, including those for Hidatsa (Harris & C. Voegelin: F. Voegelin), for Crow (Kaschube), and for Mandan (Hollow). Carter (1974:82-89, 239-247) has made similar suggestions for Dakotan at large, albeit subject to certain cautionary observations, and Kaufman suggests the possibility of such treatments for Yankton, Oto, and possibly Winnebago. He adds to these Tutelo, where the evidence (Hale 1883, principally) does seem good. While the details of Kaufman's proposal are far from firmly established, the approach seems to be sufficiently promising to warrant its provisional adoption below. The application of the reduction to the subject at hand appears in the context of the discussion of the Mississippi Valley Siouan reflexes of **w* AGT1 and of */r/ as a stem initial following **y* AGT2.

Also important for a consideration of the Proto-Siouan resonants and continuants is Matthews 1970. The view there that the */s/ and */š/ of Matthews 1958 and Kaufman 1965 should have their feature analyses (and symbols) exchanged is not adopted here. The 1970 paper, however, draws attention clearly to an observation made already in Matthews 1958, that */y/ and */r/ are replaced before various high vowels by */š/ and */s/, respectively.[11] The */y/ ~ */š/ alternation, in particular, proves very important in the analysis of the syncopating conjugation, since **y* AGT2 develops as if it were **š* in Ofo and in Mississippi Valley Siouan.

The basic developments of PSi */w/, */y/, */š/, and */r/ are presented in Table I. In each cell of the table the first line lists first the phoneme or putative phoneme (where the language data is largely unanalysed) which is the usual development of the Proto-Siouan phoneme.

Any alternate developments of uncertain conditioning are listed as alternates on this first line. In particular, phonemic or possibly phonemic nasals are always listed as alternates on this line. Alternate developments with known conditioning are given, with the conditioning, on succeeding lines. Nasals generally agreed to be non-phonemic are suppressed.

Table I: Phonology

PSi	*w	*y	*š	*r
Bi	w ~ m a/ —C ϕ/ —V	y č/—u -stress	č	d ~ n
Of	w m a/ —C o/ —V	č	č	t ~ n
Tu	w	y	č	l
Ma	w	r	s	r
PCH	w	r š/—i -stress ±nasal	š	r
PDh	w m b b/(V)—C	ž	š z —V -stress	ð ~ n
PDa	w ~ m m/—C	čh	š z —V -stress	y ~ n n/C—
PWC[12]	w ~ m ϕ/—C	r ~ n ž/—V -high -stress	š z —V -high	r ~ r, ~ d d/C—

It must be noted that many of the Siouan languages show a phenomenon of vowel epenthesis which serves to break up reflexes of the Proto-Siouan */wr/ and */yr/ clusters, by inserting a vowel between the two parts of the cluster. This epenthesis has the effect of un-syncopating the syncopating conjugation, and in some cases of merging it with the regular one. This makes it natural to ask whether the epenthetic analysis is not inverted. That is, is it actually the case that the epenthetic languages all insert vowels, or is it possible that the non-epenthetic languages delete them? This issue is important to the analysis of the syncopating conjugation, and though it is beyond the scope of this paper to include in it a re-examination of the epenthesis question, some statement of the argument for the epenthetic analysis is needed. There seem to be three considerations favoring a supposition of vowel insertion over one of vowel deletion. First, the presumed epenthetic vowels are predictable in each language, but differ from language to language. Thus, PSi *$wr\dot{i}$ 'water' (modified from Matthews 1958:126) is represented in Mandan by *wri* (surface *wiri*) (Hollow 1970:301-3), while in Tutelo it appears as *wal$\acute{i}$* (modified from Hale 1883:44). In the first case the epenthetic vowel copies the following one, while in the second it seems to be simply /a/. A second argument arises from the simplifications that affect the clusters in question in some of the languages. Thus, for the same Proto-Siouan stem *$wr\dot{i}$, Winnebago, one of the epenthetic languages, has *ni$\acute{i}$* (Johnson, Thorud, and Miner 1976:160), while sources for the Dhegiha languages generally list *ni* (Rankin 1982:134 says 'possibly *nn$\acute{i}$* for Quapaw). Both Winnebago and Quapaw fall in the Mississippi Valley division of Siouan. To show that simplification is not general in the subgroup it is only necessary to consider Teton *mn$\acute{i}$* (Rood & Taylor n.d.:141). The third argument depends on the syncopating conjugation itself, which tends to suggest that in the Mississippi Valley languages PSi */y/ in */yr/ had a somewhat different development than */y/ in the sequence */yV/ (see Tables I-V). None of this evidence is incontrovertable. The first argument, for example, could perhaps be undermined by a properly phrased analysis in terms of assimilation of unstressed vowels. Whatever the final analysis of the question of epenthesis versus syncope in the history of the Siouan languages, this paper assumes the validity of the epenthetic approach.[13]

The Siouan languages in which epenthesis is a particular concern are Tutelo, Mandan, Winnebago, and Crow and Hidatsa. In the case of Tutelo, the existence of epenthesized forms is illustrated by *wal$\acute{i}$* 'water', cited above, in comparison with PSi *$wr\dot{i}$. It is not known whether epenthesis was a productive process in Tutelo, however, at the time of attestation. In Mandan and Winnebago, epenthesis is considered predictable at present, so that it might perhaps have been omitted in the orthography of the examples (Hollow 1970; Miner 1979).[14] Marking of epenthesis in Mandan and Winnebago is normal procedure, however, and greatly facilitates the argumentation of section 4. Epenthesis in Crow and Hidatsa can be illustrated with Cr *wir$\acute{a}$* 'water' and Hi *wir$\acute{i}$* 'water' (Kaschube 1967:107; Harris & C. Voegelin 1939:187). The present status of epenthesis in the two languages does not seem to have been remarked upon. It is assumed here to be unproductive and fossilized.

It is worth noting in passing that a predictable, subphonemic epenthesis rule exists in Dakotan. It is remarked upon, for example, by Boas & Deloria (1941:5). This epenthesis is not usually indicated in modern treatments of Dakotan orthography, since it is wholely predictable and without phonological significance. However, *m$\acute{i}$n$\dot{i}$* 'water' (Riggs 1890:314) is reported for Santee instead of the expected *mn$\acute{i}$* (epenthetically *mi$\acute{n}\dot{i}$*), showing that epenthetic vowels can acquire stress at least sporadically in Dakotan.

The history of the syncopating conjugation is likely to prove inextricably connected with the study of Proto-Siouan stress and vowel length.[15] It has been assumed in this paper that Proto-Siouan did not distinguish vowel length, and that stress as reconstructed by Matthews (1958) is correct. Beyond this, stress has been largely ignored, except insofar as it enters into sections 4.2 and 5. This is clearly no more than a provisional stand. However, in the absence of a conclusive reanalysis of

stress and vowel length in Proto-Siouan published elsewhere, nothing has been done with the subject here.

4. Morphological and Phonological Details

This section is based on a series of conjugational tables, of which Table II shows the **ra* instrumental conjugations; Table III, the **ru* instrumental conjugations; Table IV, the **rA* 'go' conjugations; and Table V, the **rútA* 'eat' conjugations. The first three sets of conjugations are generally similar, permitting them to be discussed in combination. The fourth, representing developments of **rútA*, is sufficiently divergent to warrant a separate treatment. Within the tables, empty cells signify forms which are unknown. Relevant conjugational material which is not cognate is parenthesized, and alternate forms which are not cognate are omitted, though they are generally discussed in the text. Forms whose status as cognates is ambiguous are not parenthesized.

In all cases, after allowing for irregularities in later development, it appears to be possible to assume that the underlying Proto-Siouan conjugation was that of (1).

Table II: The Instrumental **ra*[18]

	'AGT1 by mouth'	'AGT2 by mouth'	'AGT3 by mouth'
PSi	**w - ra-*	**y - ra-*	**ra-*
Bi	*(n) - da-*	*i - da-*	*da-*
Of	*a - ta* [16]	*(č̀a) - ta* [16]	*ta-*
Tu	*wa - la-́*	*ya - la-́*	*la-́*
Ma	*wa - rà-*	*ra - rà-*	*ra-́*
Cr	*wa - rà-*	*ra - rà-*	*ráa-*
Hi	*wa- ra* [17]	*ra - ra* [17]	*ra-*
Os	*b - rá* [16]	*s̀ - ná ~ tá* [16]	*ða-́*
Op	*b - la-*	*s̀- ná-*	*ða-́*
Ka	*b - lá-*	*h - ná-*	*ya-́*
Qu	*b - dá-*	*t - tá-*	*da-́*
Te	*b - la-́*	*ϕ - la-́*	*ya-́*
Wa	*b - da-*	*ϕ - da-*	*ya-*
Md	*m - da-*	*ϕ - da-*	*ya-*
As	*m - na-*	*ϕ - na-*	*ya-*
St	*m - a-*	*ϕ - na-*	*ya-*
Wi	*ϕ - da a-*	*šǎ - ra-*	*ra-*
IO	*(ha) - da-*	*s - ra-*	*ra-*

Table III: The Instrumental **ru*[19]

	'AGT1 by hand'	'AGT2 by hand'	'AGT3 by hand'
PSi	**w - ru-*	**y - ru-*	**ru-*
Bi	*(n)- du-*	*i - du-*	*du-*
Of	*a - tu-*	*č̀ - tu-*	*tu-*
Tu			*ti-*
Ma	*(wa)- rù-*	*(ra)- rù-*	*ru-́*
Cr	*wu - rú-*	*ri - rú-*	*rúu-*
Hi	*(wa)-ru-*	*(ra)-ru-*	*ru-*
Os	*b - rŭ* [16]	*s̀- nŭ ~ cŭ* [16]	*ðŭ-́*
OP	*b - lí-*	*s - ní-*	*ði-́*
Ka	*b - lŭ-*	*h - nŭ-*	*yŭ-́*
Qu	*b - dí-*	*t - ti-*	*di-́*
Te	*b - lu-́*	*ϕ - lu-́*	*yu-́*
Wa	*b - du-*	*ϕ - du-*	*yu-*
Md	*m - du-*	*ϕ - du-*	*yu-*
As	*m - nu-*	*ϕ - nu-*	*yu-*
St	*m - u-*	*ϕ - nu-*	*yu-*
Wi	*ϕ - duu-*	*šu - ru-*	*ru-*
IO	*(ha)- du ~ ji-*	*s - ru ~ ri-*	*ru ~ ri-*

Table IV: The Verb **rA*[21]

	'AGT1 go'	'AGT2 go'	'AGT3 go'
PSi	**w - re*	**y - re*	**re*
Bi	*(n)-dé-*	*i - dé-*	*de-*
Of	a - té-	*č̀ - té-*	*te-*
Tu	-wi - le-		*-le-*
Ma	**wa)- ré(h)-*	*(ra)- ré(h)-*	*ré(h)-*
Cr	*(wa)-ree-́*	*(ra)- ree-*	*ree-*
Hi	*(waa)-ree-*	*(ra)- ree-*	*ree-*
Os	*bb - re*	*s̀ - ne ~ ce*	*ðe*
Op	*b - le*	*s̀ - ne*	*ða*
Ka	*b - le*	*h - ne*	*(a)- ya- (be)*
Qu	*b - de*	*t - te*	*de*
Te[20]	*b - le*	*ϕ - le*	*ye*
	~m - ni	*~ϕ - ni*	*~ yi*
Wa	*b - da*	*ϕ - da*	*ya*
Md	*m- da*	*ϕ - da*	*ya*
AS[20]	*m - na*	*ϕ - na*	*ya*
	~ m - ni	*~ϕ - ni*	*~ yi*
St	*m - a*	*ϕ - na*	*ya*
Wi	*ϕ - deé*	*še - ré*	*rée*
IO	*(ha)- jé*	*(ra)-s - ré*	*ré*

Table V: The Verb **rútA*[23]

	'AGT1 eat'	'AGT2 eat'	'AGT3 eats'
PSi	**w- rútA*	**y- rútA*	**rútA*
Bi	*(n)- dúti*	*i- duti*	*duti*
Of	*(awa)-túti*	*(a)- c- túti*	*(a)- tuti*
Tu			*lúti*
Ma	*(wa)- rút-*	*(ra)- rút*	*rút-*
Cr	*w- uúši-*	*ri- ruúšt*	*ruúši-*
Hi	*w- úuti-*	*(ra)- rúuti-*	*rúuti-*
Os	*h- rűcA*	*Φ- nűcA*	*ðűcÁ*
OP			
Ka	*h- lűje*	*h- nűje*	*yűdá- (be)*
Qu			
Te	*(wá)- tA*	*(yá)- tA*	*yútA*
Sa	*(wá)- tA*	*(yá)- tA*	*yútA*
As	*(wá)- tA*	*(yá)- tA*	*yútA*
Wi[22]	*(há)- č*	*(rá)- č*	*rúuč*
	~(Φ- dúuč)	*~(su- rúuč)*	
IO	*(ha)- jí*	*(ra)- jí*	*rúje*

(1) AGT1 **w- rV*
AGT2 **y- rV* or **š- rV* (?)
AGT3 **Φ- rV*

There is a potential difficulty of interpretation which prompts the admission of a second, less likely alternative in **š* for the second person, the problem being that there do not seem to be any other examples of the putative */yr/* cluster. Consequently, the analysis of the historical phonology of the second person in **y-rV* rests solely upon the data for the second person itself. The **š-rV* alternative rests upon the independent testimony of Ofo and of Mississippi Valley Siouan. Supporting the analysis in terms of **y-rV* are (1) the analogy of **ya ~ *y* with the first person in **wa ~ *w*; (2) the fact that the relevant second persons in Biloxi (*i-*), Mandan (*r-*), Crow (*ri-*), and Hidatsa (*ϕ-*) do not show the expected developments in these languages of a PSi */š/*; and (3) the fact that **/y ~ */š/* alternations are known from other contexts in Proto-Siouan. These three considerations suggest that the **y* analysis is the correct one.

It remains to consider whether the **š* languages imply the existence of an isogloss in the Proto-Siouan dialect continuum connecting Ofo and Mississippi Valley Siouan, or merely that PSi */y/* was a voiced palatal fricative which has occasionally been devoiced in certain morphemes in certain branches of Siouan. The latter solution seems rather more likely, in view of the other data associating */y/* and */š/*. This data consists (1) of Matthews's (1958; 1970) observation that */y/* tends to behave as if it were */š/* in Proto-Siouan before stressed high vowels;[24] (2) of at least one apparent doublet in Proto-Siouan, the pair **yeši ~ *reši* 'tongue' (Matthews 1958:131, 133), which associates */y/* and */š/* on the one hand and */r/* and */š/* on the other;[25] (3) of the merger of */y/* and */š/* in Ofo; (4) of their near merger in Dhegiha (see Table I); and (5) of the existence of a palatal affricate /čh/ for */y* in Dakotan. In Winnebago-Chiwere, Iowa-Oto shows */y/* for PWC */ž/*, though Winnebago does not.

4.1 **ra*, **ru*, and **rA*. In South Eastern Siouan, the Biloxi forms involve some problems. Biloxi first person forms are quite various, but Einaudi (1974:43-6, 48-50) indicates that it is possible synchronically to account for all of them as phonologically conditioned variants of underlying *nk*, which would be a descendent of PSi **wak* AGT/PAT12.[26] Somewhat less convincingly, it is also possible to assign all second person forms to underlying *ay*, from PSi **ya* AGT2.[27] Following Einaudi's account, the first person *nk* has the form *n* before most consonant stems. The shift from *nk* to *n*, however, is optional before all consonant stems except those in /d/, the regular Biloxi development of PSi */r/*.[28] It is tempting to assume the alternate development PSi **w-r* > PBi **m-d* > Bi *n-d*, with subsequent extension of *n* to other consonant stems. However, the evidence suggests that PSi */wr/* ordinarily yields Bi /ad/ or /an/, depending upon the nasality of the following vowel, as in *ado* 'potato' (Dorsey & Swanton 1912:175) from PSi **wro* 'tuber'(Matthews 1958:129) and *anį ~ nį* 'water' (Dorsey & Swanton 1912:173) from PSi **wrį* (altered from Matthews 1958:126).[29] The Biloxi second person shows *i* before most consonant stems.[30] While it does appear plausible to assign *i* to PSi **y*, syncopated AGT2, in the d-stems, presumably with subsequent extension to other consonant stems, it must be noted that it is unusual for Siouan /y/ to alternate with vocalic /i/.[31] It does appear that Bi *i* AGT2 cannot be a development of hypothetical PSi **š*, since PSi */šr/* would regularly yield Bi /čd/, as attested by *čdo* 'smooth' (Dorsey & Swanton 1912:262) from PSi *šra* (Matthews 1958:117).

With Ofo, the major difficulty is the sparse and unanalyzed character of the data, which consist wholely of the forms recorded in Swanton's dictionary (Dorsey & Swanton 1912). There is not at present a comprehensive phonological or morphological description of this material. Among the verbs in Swanton's dictionary are a number which appear to conjugate according to a development (2) of the Proto-Siouan syncopating conjugation.

(2) AGT1 *a- tV*
AGT2 *č- tV*[32]
AGT3 *Φ- tV*

This conjugation is opposed to the regular paradigm (3).

(3) AGT1 *(a)wa-*[33]
AGT2 (a)ča-
AGT3 (a)-[34]

It must be noted, however, that most verbs listed with the syncopating conjugation are also listed, in the same

entries, with the regular conjugation. There is a strong tendency for syncopated second persons to appear listed as imperatives. PSi */w/ would become /a/ in Ofo in initial position before a consonant, while */wa/ would also become Ofo /a/ in initial position. Thus, Ofo *a* AGT1 could represent either PSi **w* or PSi **wa*. However, PSi **wa* gives rise in Ofo to *(a)wa*, the regular AGT1, so that *a* is presumably from **w*. The preservation of initial */w/ in Ofo in this particular case may be due to the fact that in the full range of verbal forms the first person has the possibility of appearing either initially or non-initially, so that in some parts of the paradigm **wa* would not be in the proper environment to condition loss of the */w/.

One Ofo verb, *táfe* 'bite' (Dorsey & Swanton 1912:329), presumably embodying the **ra* mouth instrumental, is listed with the conjugation of (4).

(4) AGT1 *i-táfe*
AGT2 *či-táfe*
AGT3 *táfe*

These forms are unexplained. Ofo *či* is ordinarily PAT2.

With Tutelo, the data are again the problem, since the most extensive set is that represented in Hale's very short sketch of the language (Hale 1883). Unfortunately, within this sparse material examples of the first and second persons of *r-stems are themselves rare. Speculatively, the attested form *hawilewa* 'I come' (Hale 1883:30) may embody *-wi-le-* 'AGT1 go', in which case, since this verb would ordinarily be conjugated as an active verb in a Siouan language, and since *wi* is ordinarily PAT1 in Tutelo, the form may be an epenthesized development of underlying Tu *w-le*, or, if epenthesis is not productive in Tutelo, at least of PSi **w-re*. If this is the case, then it could also be argued that the examples of *wa-la-* 'AGT1 by mouth action' and *ya-la-* 'AGT2 by mouth action' have a similar origin, even though in these cases the resulting forms are indistinguishable from the Tutelo regular conjugation, and presumably fell together with it. This line of reasoning is weakened by the existence of Tu *wąlį* 'water' (altered from Hale 1883:44), rather than the expected **wįlį*, from PSi **wrį* (altered from Matthews 1958:126). As a result, the status of the syncopating conjugation in Tutelo remains unclear.

The degree of divergence in the developments in Southeastern Siouan of the syncopating conjugation tend to call the validity of the group into question. However, assuming that the three languages do form a single subgrouping within Siouan, it appears that Ofo preserves the syncopating conjugation in the most conservative form, while Biloxi and Tutelo have modified it considerably.

All of the Mandan data presented in Tables II to V are consistent with the regular conjugation in Mandan. It may be argued that this regularity is of secondary origin. This argument rests, first of all, on the evidence for the syncopating conjugation in the other Siouan languages. Moreover, there are in Mandan the relict syncopating forms cited in section 1 above. Finally, Mandan has a productive epenthesis rule which operates in such a fashion that all syncopating stems in initial /ra/ from PSi */ra/ would be indistinguishable from the regular conjugation. That is, from underlying *w-ra* and *r-ra* we would expect surface forms *wa-ra* and *ra-ra*, which are precisely the forms of the regular conjugation. It may be assumed then that the modern regularity in conjugation of Mandan stems with initial /rV/, where V is some vowel other than /a/, results from a remodeling of the conjugation of these stems. An example of such a remodeling in its middle stages is supplied by the circumstances in Crow-Hidatsa.

In Crow-Hidatsa the developments of the conjugations of the **ra* mouth instrumental stems and the **rA* 'go' stem follow the regular conjugations of these languages. As in Mandan and perhaps Tutelo, this regularity can be attributed to the fortuitous identity with the regular conjugations' forms of the epenthesized syncopating conjugation forms. The operation of epenthesis in /Cra/ sequences in Crow and Hidatsa is illustrated by Crow *sara* 'smooth'[35] from PSi **šra* (Matthews 1958:117) and by Hidatsa *caráa* 'grease, oil, lard' (Jones p.c.) from PSI *sra*.[36] In the case of the 'go' verbs, in which the /e/ grade of /A/ occurs in the singular, some analogical changes must be assumed in addition to the epenthesis.

The history of the Crow-Hidatsa reflexes of the **ru* hand instrumental forms is more complex. In Hidatsa the *ru* instrumental conjugation is also regular. Epenthesis is not a likely explanation here, however, since, on the evidence of Hi *wirí* 'water' (Harris & C. Voegelin 1939:187) from PSi **wri* (altered from Matthews 1958:126) epenthesis in this environment would insert a high vowel. Consequently, an alternative explanation must be found. Fortunately, Crow preserves an irregular conjugation of *ru* instrumental stems which appears to be essentially the original epenthesized version of the syncopating conjugation, preserved intact. This conjugation in Crow matches in its second person the Crow conjugation of the verb *ruuši* 'eat'. Since the Hidatsa cognate of this verb, *ruuti*, has a conjugation paralleling the Crow conjugation closely, it may be assumed that the Hidatsa *ru* instrumental conjugation once stood in the same relation to the Hidatsa *ruuti* conjugation that the Crow *ru* instrumental conjugation still stands to the Crow *ruuši* conjugation. (Compare the Crow and Hidatsa forms in Tables III and V, and refer to section 4.2.) In this case, the regularization of the Hidatsa *ru* instrumental conjugation may be reconstructed along the lines shown in (5).

(5)	PCH	PHi I	PHi II	Hi
AGT1	*wu- ru-	*wu- ru-	*wu - ru-	(wa)- ru-
AGT2	*r - ru-	*ϕ - ru-	*(ra)- ru-	(ra)- ru-
AGT3	*ϕ - ru-	*ϕ - ru-	*ϕ - ru	ϕ - ru-

The critical step is the reduction of PCH **r-ru* to PHi I **ϕ-ru*, leaving the second and third persons identical.

Then, at the next stage the two forms are disambiguated by supplying a regular AGT2 *ra* affix, and the process is completed by replacing the irregular AGT1 *wu* with regular *wa*. The occurrence of a similar sequence of events in Crow may have been avoided by the development of **r-ru* as *ri-ru*.[41]

The developments of the syncopating conjugation of the *r-stems are particularly clear and well-marked in the Mississippi Valley languages. The system exists there in its perhaps most conservative form in some of the Dhegiha languages. The Proto-Dhegiha forms seems to have been those of (6).

(6) AGT1 *b- ðV
AGT2 *s- nV ɪV
AGT3 *o- ðV

For PDh */bó/ from PSi */wr/ compare Os *ðáb̀ó́i* 'three' (altered from LaFlesche 1932:344) from PSi **ráwri* (altered from Matthews 1958:134). This is the usual development word internally, and it appears that /bó/ sequences arising conjugationally behave as if word internal (compare the remarks on Ofo regular AGT1 above). The usual development of PSi */wr/ in initial position is shown in Os *to* 'potato' (altered from LaFlesche 1932:308) from PSi **wro* (Matthews 1958:129).

Two areas of variability in the Dhegiha data of such sources as LaFlesche (1932) have been severely reduced in this paper for purposes of tabulation. The first of these is the extreme variability in the orthography of the Dhegiha developments of PSi */r/. It was felt that this variability was subphonemic, however real it might be. The second reduction was made in the forms attested for the second person pronominal affix. Here the variation clearly involves phonological change, essentially progressive loss of the second person affix, but those languages for which the sources show several stages of the loss coexisting have been arbitrarily pegged at the most conservative stage. An example of the degree of variability that may be encountered within a single conjugation within a single source (LaFlesche 1932) is given for Osage in (7).

(7) AGT1 *b- ð-*
AGT2 *š- th/ch- ~ s- th/ch- ~ š- t-*
~ s- n- ~ n-
AGT3 *ϕ- ð-*

From other sources one can add *b-r-* for AGT1 (Wolff 1952; Rankin p.c.).

The Proto-Dhegiha syncopating conjugation of the *r-stems has been modified in the several Dhegiha languages in three fashions. The first of these has been a fair degree of divergent drift in the realization of the reflexes of */r/. This is obvious in Tables II to V and is not elaborated upon here. The second is a tendency to shift /u/ forward to /ü/ or /i/. (In the sources this may appear as a vacillation between u and i in the orthography.) The third, and most significant is the tendency toward loss of *š* AGT2. This tendency has been specifically remarked upon by the early analysts, for example Boas (Boas 1911:332), in terms of a progressive series of developments: *š* > *h* > *ϕ*. Rankin (p.c.) has reported that Kansa *h-n-* is realized as [nn]. Plainly Quapaw realization of earlier **š* as /t/ before the stem initial /t/ (from */r/) amounts to reduction of **š* to a feature of length on the stem initial, and is part of the same process (Rankin p.c.).

The Dakotan developments parallel those of Dhegiha rather closely. The superficial differences result from the somewhat different histories of PSi */r/ in the two dialect complexes, and from the fact that the Dakotan languages have evidently completed a process of *š*-loss similar to that ongoing in the Dhegiha languages.[36a] The account of the historical phonology of the Dakotan *r-stems given here combines the observations of Carter (1974:82-90) and Kaufman (1965). The development of PSi */r/ in Proto-Dakotan seems to have been that given in (8).

(8) PSi */r/ → PDa */n/ /C__
→ PDa */y/ /elsewhere

It appears that PDa */n/ was a nasal tap, before which PSi **w* AGT1 became PDa **m*. This state of affairs has remained approximately constant in some of the n-dialects of Dakotan, with /mn/ and /n/ alone observed for PSi */wr/ and */šn/ (in verbs only in the latter case). In dialects other than n-dialects some degree of denasalization has taken place. In the l-dialects denasalization before oral vowels has been complete, producing /bl/ and /l/. In some d-dialects the process has gone as far, producing /bd/ and /d/. In others, it has been less complete, and /d/ may be realized as [nd] (Rood lecture), or /bd/ as /md/.[37] The denasalizing dialects generally preserve /mn/ and /n/ before nasal vowels. In those dialects where the ablaut vowel /A/ preserves the nasal grade /i/ before, e.g., *ktA* 'future', the verb *lA* or *dA* 'go' has both oral and nasal stem consonant variants as a consequence, yielding the familiar irregular paradigms of (9), which are historically, and in a suitable generative framework, relentlessly regular. (Paradigm (8) is given in Teton form, after Rood & Taylor (n.d.:97).)

(9)

Nonfuture		Future	
AGT1	*b-lé*	AGT1	*m-ní kte*
AGT2	*ϕ-lé*	AGT2	*ϕ-ní kte*
AGT3	*ϕ-yé*	AGT3	*ϕ-yi kte*

There is a strong tendency throughout Dakotan to reduce /mn/ to /m/ in nasal stems (Carter 1974:241-3). This tendency has apparently been extended in Stoney (an n-dialect) to all /mn/ verbal forms (Laurie; Shaw).

Previous accounts have generally assumed that the second persons of the Dakotan syncopating stems have underlying AGT2 *y*, with /y/ assimilated to the stem in-

itial (e.g. Carter 1974:130-54). If loss of underlying *š* is assumed instead, it would be convenient to have an example of fossilization of this archaic *š* in some Dakotan verb. Such a form does indeed exist in the archaic Teton suppletive verb stem *hu* ~ *k(h)u* 'come (back)',[38] whose conjugation is shown in (10).

(10) AGT1 *ǒ- hu* 'AGT1 come'
AGT2 *š- ku* 'AGT2 come back'

The second person contains the vertitive marker *k(i)*. Loss of /h/ here is regular, satisfying the constraint against three-consonant clusters (see e.g. Carter 1974:41-6).

As a preliminary to the discussion of the developments in Winnebago-Chiwere, it is worth observing that Dakotan transitive syncopating verbs always insert a supernumerary *ya* AGT2 — the regular second person AGT form — between the syncopated second person and any first person singular or plural PAT marker, e.g., Teton *ma-ya-lV* PAT1-AGT2-(AGT2 *š* deleted)-stem (with *š*-induced mutation in the initial), as reported, e.g., by Rood & Taylor (n.d.:95). This use of supernumerary pronominal affixes is a common pattern in Siouan, serving to disambiguate paradigms with excessively obscure marking, by inserting an additional clearer marking (Koontz 1981).

In Proto-Winnebago-Chiwere the development of the syncopating conjugation of the *r-stems seems to have followed the paradigm of (11).

(11) AGT1 **ǒ- dV*
AGT2 **š- rV*
AGT3 **ǒ- rV*

In Winnebago, PWC */d/ is retained, though written /t/ in the orthography,[39] while */šr/, subjected to the regular Winnebago epenthesis, becomes /šVr/. Compare *dóo* 'potato' (altered from Johnson, Thorud & Miner 1976:63), from PSi **wro* (Matthews 1958:129), and *šará* 'bare' (Johnson, Thorud & Miner 1976:177) from PSi **šra* 'smooth' (Matthews 1958:117). In Iowa-Oto, the Proto-Winnebago-Chiwere syncopating conjugation remains essentially unchanged; however the regular conjugation's *a* AGT1, from PSi **wa* AGT1, is prefixed to the first person in /d/ in all cases (Whitman 1947:242-3), and the regular conjugation's *ra* (or *la*) AGT2, from PSi **ya* AGT2, is prefixed to the second person in *s* in a range of cases which depend upon the source consulted (Whitman 1947:243; Good-Tracks & Wistrand-Robinson 1977-78). Given the relative dating of the two sources cited, it appears that *ra*-prefixation is on the increase in Iowa-Oto. PWC */d/ is retained in the Iowa-Oto first person; however, it is realized as [ǰ] before /e/ or /i/. The instrumental **ru* appears as both *ri* and *ru* (Whitman 1947:246), indicating perhaps rather a single intermediate form *ru*. The shift of second person **š* to *s* is regular. The Iowa-Oto equivalents to the Winnebago forms cited above are *to* 'potato' and *sra* 'bare' (Wistrand-Robinson 1972:65, 42).

4.2 **rútA*. The developments of the PSi verb **rútA* 'eat' in Southeastern Siouan and Mandan follow the developments attested for the first three groups of syncopating *r-stems in section 4.1 above, and will not be considered further in this section.

In Crow-Hidatsa, however, two irregularities arise. In both Crow and Hidatsa, the first person of the reflex of PSi **rútA* lacks the stem initial /r/. This loss of /r/ is paralleled in both the first and second persons of the Cr *raa* and Hi *rak* violent action instrumentals (12) (Lowie 1941:36; Harris & C. Voegelin 1939:196)[40] and of the Cr/Hi *(a)ra* foot instrumentals (13) (Lowie 1941:35; F. Voegelin 1955:II-165).

(12)	Crow		Hidatsa	
	AGT1	*waa-ʾ*	AGT1	*waak(a)-*
	AGT2	*ráa-*	AGT2	*raak(a)-*
	AGT3	*ra-ʾ*	AGT3	*rak(a)-*

(13)	Crow		Hidatsa	
	AGT1	*waa-ʾ*	AGT1	*wa ʾ a-*
	AGT2	*ráa-*	AGT2	*ra ʾ a-*
	AGT3	*ara-ʾ*	AGT3	*ara-*

Whatever the details involved, it is clear that in some situations stem initial /r/ can be deleted in Crow-Hidatsa. It remains unexplained why this should occur in just the first persons of the 'eat' verbs in particular.

The other irregularity affects the second person pronominal affixes. In Crow the second person shows *ri* for AGT2 in *ruuši* 'eat'. Since *ri* is usually PAT2 in Crow, its presence in *ri-ruuši* is unlikely to be secondary. It seems likely that the explanation is an underlying PCH **r-ruuti* which has been altered by epenthesis. Modern Hi has a regular second person *ra-ruuti* for 'eat'. This is known to be of recent origin. W. Matthews's mid-nineteenth century grammar and dictionary specifically states that the second person of *ruuti (given as duti)* is indistinguishable from the third person. That is, both were *ruuti* (W. Matthews 1877:109, 145, 195). Apparently Hidatsa collapsed **r-ruuti* to *ruuti*. The subsequent introduction of a disambiguated second person in regular *ra* AGT2 is easily understood. The Proto-Crow-Hidatsa conjugation of PSi **rútA* seems, then, to have been (14).

(14) AGT1 **w- uuti-*
AGT2 **r- ruuti-*[41]
AGT3 **ǒ- ruuti-*

The most eccentric developments of **rútA* are encountered in Mississippi Valley Siouan, where Dakotan and Winnebago-Chiwere show loss of the initial syllable */rú/ in the first and second persons. The remnant final syllable */tA/ of the stem is conjugated as a regular verb in these persons, except that the pronominal prefix is generally stressed (not in Iowa-Oto), a rather unusual circumstance in Mississippi Valley Siouan, unless a con-

traction is involved, or there is a syllable preceding the pronoun. Winnebago has an alternate form for this verb, which is conjugated as a syncopating *r-stem of the usual variety.[42] In view of the existence of the truncated version of the stem throughout Dakotan and Winnebago-Chiwere, and the absence of the syncopating form, except in Winnebago, in these two groups, it seems likely that the Winnebago syncopating stem for **rútA* is of recent origin within Winnebago itself. The truncating form of the stem would have had a Proto-Mississippi Valley conjugation as shown in (15).

(15) AGT1 **wá- tA*
AGT2 **rá- tA*
AGT3 **rútA*

In comparison, the Dhegiha cognates, from PDh **ðutÁ*, conjugate in every respect as if they were *ðu* hand instrumental derivatives with a syncopating conjugation like that of all other *ðu* derivatives. Moreover, they have the sense 'scoop up' (e.g. LaFlesche 1932:145). As 'eat' verbs Dhegiha substitutes descendants of PDh **ðą-thą́* 'chew' (e.g. LaFlesche 1932:142), a **ðą* mouth instrumental verb with a cognate *ya-thá* 'chew' attested in Dakotan (e.g. Buechel 1970:629), and PDh **nąbðA* 'eat' (e.g. LaFlesche 1932:112), which may be cognate with Dakotan *napčhá* 'swallow' (e.g. Buechel 1970:353). However, the PDh form of this stem supposes PMV **rápra*, while the Da form supposes **rąpyą́*.

The differing situations in Dakotan and Winnebago-Chiwere, on the one hand, and in Dhegiha, on the other, admit of two possible explanations. One possibility is that the shared peculiarities of the reflexes of **rútA* in the first two represent a shared isogloss in the earlier Proto-Mississippi Valley dialect continuum. The other possibility is that Dhegiha may have begun with an inherited irregular verb 'eat' derived from PSi **rútA* and similar to the forms found in Dakotan and Winnebago-Chiwere, presumably something like (16), and then later reconstrued it as a straightforward *ðu* hand instrumental verb, altering its conjugation and sense in consequence. The data, however, are consistent with either possibility, so that the matter remains for the moment undetermined.

((16) below)

The behavior of the Dhegiha reflexes of **rútA* raises the question whether the initial syllable of this verb might not be, in fact, the **ru* hand instrumental, with the Dhegiha sense of 'scoop up' the original sense. One disadvantage of this analysis is that **rútA* becomes eat in virtually every language. In addition, Matthews (1970:102) claims in passing that the initial syllable of **rútA* cannot be the **ru* instrumental, since the initial syllable is stressed, whereas the instrumental should not be. The conclusion that **rútA* does not involve the **ru* instrumental is corroborated tenuously by data of another sort, from Eastern Siouan, a group collateral to the rest of Siouan, and represented by Catawba and Woccon. Siebert (1945) has shown that the Catawba cognate of the PSi **ru* instrumental is *du*, a bound auxiliary verb with the conjugation of (17).[43]

(16) AGT1 *ą́- tA*
AGT2 *ðą́- tA*
AGT3 *ϕ- ðútA*

(17)

1st sing.	*cu- ʼ*	1st plur.	*yu-*
2nd sing.	*yu-*	2nd plur.	*yu-*
3rd sing.	*du-*	3rd plur.	*yu-*

This auxiliary conjugates by initial mutation, or changes in the stem initial consonant. When used together with a main verb, both the auxiliary and the main verb are conjugated separately, as in (18), showing *du-ra* 'pick up'.

(18)

1st sing.	*cu-na ʔ-*	1st plur.	*yu-ha ʔ-*
2nd sing.	*yu-ya ʔ-*	2nd plur.	*yu-wa ʔ-*
3rd sing.	*du-ra ʔ-*	2nd plur.	*yu-ra ʔ-*

In this case, the main verb also conjugates by initial mutation. Assuming that Catawba is typical of Eastern Siouan in this respect, then, if the first syllable of PSi **rútA* were the instrumental **ru*, and if an Eastern Siouan cognate of **rútA* could be found, the cognate's first syllable ought to have the conjugational peculiarities of Ca *du*.

While a cognate of **rútA* has not been identified in Catawba, Carter (1980: 177) cites one for Woccon in a form recorded by Lawson (1709): *Noccoo Eraute?*, glossed as 'Have you got anything to eat?'[44] Carter considers that *raute* (perhaps /roti/?) is cognate with PSi **rútA*.[45] In this case *e* is probably a second person conjugational affix for the verb as a whole, and there is no sign of coconjugation of the second syllable as a main verb. Since so little is known of Eastern Siouan, and of Woccon in particular, it is impossible to have much confidence in this argument.

5. Conclusions

Attributing the syncopating conjugation to Proto-Siouan seems justified by three considerations. First there is the fact that at least some syncopating stems seem to exist in each language, although the data for Tutelo are admittedly limited, and those for Biloxi ambiguous in some degree. In some cases the operation of an epenthesis process has eliminated the syncopation as such, but the syncopated origin of the resultant forms is generally clear in all but */ra/ initial stems, where epenthesized syncopated forms approximate the regular conjugation. The second consideration is the fact that the same restricted set of Proto-Siouan stems form the core of the syncopating conjugation in each language: the **ru* instrumental and **ra* instrumental derivatives, **rA* 'go', and **rútA* 'eat', which have formed the subject

of this paper, and, looking beyond that, stems such as **e*-AGT-*hA* 'say' or **hu* (come). Thus, even Mandan, which has eliminated the syncopating conjugation of *r-stems, retains it for **e*-AGT-*hA*.

The third consideration is that the syncopating conjugations of the various languages, once known sound changes and plausible morphological restructurings have been taken into account, have essentially similar forms in each case. In fact, to a fair extent the underlying forms of the syncopating conjugations show greater uniformity than those of the regular conjugations. In the regular conjugation changes in the consonantism of the second person have made it controversial whether the initial consonant there is */y/ or */r/, and the first persons show a number of irregular developments which may be exemplified by the loss of initial */w/ in the Dhegiha and Winnebago-Chiwere forms, or by the complete replacement of PSi **wa* AGT1 in Biloxi by reflexes of the first person inclusive form **wąk*. Certainly, if the syncopating conjugations are to be analysed as only a frequent parallel development of the Siouan languages, and not as an inheritance, then it ought to be the case that some of the syncopating conjugations reflected the peculiarities of the regular conjugations of the same language. Actually, the opposite is true, and the syncopating forms are always more conservative. In the Mississippi Valley languages, for example, it is the syncopating conjugation's AGT2 in *š* which agrees with other Siouan data in favoring second persons in */y/ over second persons in */r/, which are supported by Dakotan *ya* and Dhegiha *ðа*; and, again, it is initial *b* AGT1 in the Dhegiha syncopating conjugation which agrees with the initial */w/ of Proto-Siouan first persons, not the *a* AGT1 of the regular conjugation.

Naturally, the regularity of the relationshp between the Proto-Siouan regular AGT pronouns **wa* and **ya* and the equivalent syncopated pronouns **w* and **y* suggests that the choice between these sets was a phonologically conditioned alternation in Proto-Siouan. Unfortunately, it is not possible so far to indicate what this conditioning was. In the context of this paper, this is primarily because only a portion of the Core Siouan data have been considered here: the four sets of *r-stems dealt with in section 4. Aside from looking at the full range of Core Siouan data, data from Eastern Siouan should undoubtedly also be examined, especially in view of the conjugational behavior of Catawba *du*, cognate with Proto-(Core-)Siouan **ru*. The initial mutations of this Catawba form and others like it are almost certainly a trace of an earlier syncopating conjugation.[46]

While it is premature to adopt any solution to the problem of the conditioning of the syncopating conjugation at this time, the line of investigation that presently seems most promising is a hypothesis of conditioning by stem initial consonant.[47] That is, all Proto-Siouan *r-stems may well have been syncopating, and the same may hold true for other initials, for example */h/ (Rankin p.c.) or stops (Rudes 1974:119). A conditioning of this form would perhaps make most sense if it were the case that **w* and **y* were the underlying forms of the AGT1 and AGT2 affixes, not **wa* and **ya*, which could be treated as the result of an epenthesis rule operating in Proto-Siouan. This approach to accounting for the regular/syncopating opposition may be termed the epenthetic theory. It must be emphasized that it is put forward here only as an unsubstantiated proposal.

The epenthetic theory seems preferable to at least one of its alternatives, the metrical theory. The metrical theory would consider **wa* and **ya* to be the underlying forms of Proto-Siouan. These, in order to satisfy otherwise conflicting constraints on the placement of stress, would lose their vowel in certain contexts. For example, the sequence **w-ru-ĆV* might arise to satisfy conflicting constraints that the stress fall on the second syllable, but not on a derivational morpheme. This approach fails to account for the membership in the syncopating conjugation of such forms as **rA* 'go' or **rútA* 'eat', which fail to provide the necessary conditioning as they are presently understood. However, it is possible that an improved understanding of Proto-Siouan stress and/or vowel length will eliminate the difficulties with the metrical theory.

FOOTNOTES

[1] The Siouan (Si) languages are:

- Eastern Siouan (ES)
  - Catawba (Ca), Woccon (Wo)
- Core Siouan (Core Si)
  - Southeastern Siouan (SE)
    - Biloxi (Bi), Ofo (Of), Tutelo (Tu)
  - Mandan (Ma)
  - Crow-Hidatsa (CH)
    - Crow (Cr), Hidatsa (Hi)
  - Mississippi Valley Siouan (MV)
    - Dhegiha (Dh)
      - Osage (Os), Omaha-Ponca (OP), Kansa (Ka), Quapaw (Qu)
    - Dakotan (Da)
      - Teton (Te) (l-dialect)
      - Santee (Sa) (d-dialect)
        - Waxpetuwa (Wa), Mdewakatuwa (Md)
      - Yankton (Ya) (n-dialect)
      - Assiniboine (As) (n-dialect)
      - Stoney (St) (n-dialect)
    - Winnebago-Chiwere (WC)
      - Winnebago (Wi), Iowa-Oto (IO)

The prefix P is used to distinguish proto-languages. For a discussion of Siouan subgrouping, see Rood (1979:242-55). In the bulk of the present paper, the term Siouan is used in the sense of Core Siouan. Eastern Siouan is considered only when specifically

mentioned. This expedient reflects the paucity of published analysis of Eastern Siouan materials, and the slight influence that Eastern Siouan has had on the reconstruction of Proto-Siouan, which as it stands is essentially Proto-Core Siouan. The term Dakotan used in the paper is borrowed from Parks (Siouan and Caddoan Linguistics, June 1981:26), and is intended here to avoid any possible confusion between the Dakotan group as a whole, and Dakhóta, in the sense of Santee Dakotan, or d-dialect Dakotan, or Dakotan-without-Assiniboine-and-Stoney.

An attempt is made in this paper to present all Siouan data in a common transcription. In the case of languages such as Ofo and Tutelo, where little published analysis of early materials exists, the phonemicization is my own. The initial results of this common transcription are not entirely satisfactory, it is admitted. In the transcription, it is intended that aspiration be marked consistently with /h/, and glottalization with /ʔ/. The symbols /č/, /ǰ/, /c/, and /j/ mark [tš], [dž], [ts], and [dz], respectively.

[2] See, e.g., DeLancey (1981:629). The active/stative language type is very common in the Americas.

[3] Biloxi has only a single series of pronominal affixes, so that it is not an active/stative language. The same may be true of Catawba. Stative verbs are rare in some Siouan languages, e.g. Ofo (Dorsey & Swanton 1912) and Osage as described by Wolff (1952).

[4] For **wa* and **ya* as AGT1 and AGT2, see Matthews (1958:66). The form **ya* is sometime reconstructed as **ra*. The problem is that the reflexes of PSi */y/ and */r/ are only distinct in Dakotan, Dhegiha and Southeastern Siouan; perhaps also in Catawba. The Mississippi Valley languages favor **ra*, while Southeastern and, apparently, Catawba, favor **ya*. Relicts favoring **ya* exist in the form of Mississippi Valley syncopated second person *ś* (see section 3) and Da *čhi* from PSi **wɨ-ri*. This latter form is proposed by Carter (1974:142). It accounts for such forms as Da *čhi*, Wi *nįį*, and Ma *w(i)-ri*. Compare Da *čhé ɣ a*, Wi *réex*, and Ma *werex*, from PSi **wɨ́xe* 'bucket, pot' (Buechel 1970:128; Johnson, Thorud & Miner 1976:168; Hollow 1970:301; Matthews 1958:129). The nasalization of the Winnebago and Mandan pronominal forms is unexplained.

[5] For sources of **w* and **y* as AGT1 and AGT2 (or at least for similar forms under different views of Proto-Siouan phonology), see section 2. The term syncopating has been used in connection with Siouan phonology before (Holmer 1945:81; Taylor 1976:296).

[6] The /A/ here represents a phenomenon known as the Siouan ablaut vowel. For a description, see Taylor 1976:288.

[7] The forms **ru*, **ra*, **rA*, and **rútA* come essentially from Matthews (1958:57, 78, 81, 111-2). For the last two, Matthews supplies **réhi* and **rúti*. The first of these has been modified following Taylor (1976); the last, on my own initiative, based on the forms found in the various languages. The forms **e-AGT-hA* 'say' and **hu* 'come' are from Taylor (1976:296, 295).

[8] Dorsey or Swanton's use in Dorsey & Swanton (1912:180), the *daha* entry, suggests that fragment-pronoun may simply mean bound pronominal element.

[9] Rudes's use of */s/ and */r/ suggests that his phonology owes a debt to Matthews (1970) (see section 3). I know of no support in Siouan for the assumption of a vowel /ɨ́/ as a characteristic of the AGT1 or AGT2 forms in Siouan. The invariable characteristic vowel of the AGT forms in Siouan is /a/. When /i/ occurs, it tends to be in PAT forms. However, PSi seems to have had **wą* as PAT1.

[10] Kaufman 1965 exists in the form of a mimeographed handout for an oral presentation. No formally developed form has appeared. While the lack of examples in the handout is an inconvenience, it is possible in many cases to supply these from Matthews 1958.

[11] The following table of notational equivalences may be useful:

Wolff 1950-1	* L	*/s/	*/Lʸ/	* kʸ
Matthews 1958	*/r/	*/s/	*/y/	*/š/
Kaufman 1965	*/r/	*/s/	*/y/	*/š/
Matthews 1970, Sects. 0-6	*/r/	*/š/	*/ř/	* s/
Matthews 1970, Sect. 7	*/r/	*/š/	*/y/	*/s/

Matthews (1970:101) indicates that 'In particular, PSi r and w do not occur before the accented high nonnasal vowels, i and ú, and ř does not occur before í, although it does occur before ú.' Rather, s replaces r and š replaces ř, based on the Siouan cognates observed.[24] Matthews writes **r* and **ř*, however, in his reconstructions based on the observed cognates. It appears that items 16 (**rúse*) and 17 (**rúti*) in the list of reconstructions in section 7 of Matthews's paper are exceptions to his rule, since these forms' descendents show reflexes of **r*, not **s*, in spite of being followed by ú. An additional peculiarity should be noted. Matthews notes the alternations **r*~**s* and **y*~**s* in his thesis (Matthews 1958: 38, 42), too. In the 1970 paper, although the attachments of **s* and **š* to the cognate sets have been reversed, he retains the same alternations. Retaining the notation of 1958, he now proposes, in effect, the alternations **r*~**š* and **y*~**s*. I retain the 1958 notation and alternations.

[12] There are some problems with the statement of the development of PSi */r/ and */y/ in Proto-Winnebago-Chiwere and then in Winnebago and Iowa-Oto which have been glossed over in Table 1. These involve my resolution of Matthews's cognate sets **yúk*, **yúy*, and **rámni* (Matthews 1958:134).

[13] I am indebted to Robert Rankin for pointing out to me that I needed to make a case for the epenthetic analysis currently fashionable in Proto-Siouan studies.

[14] Kenneth Miner has pointed out to me that this is not quite true. It is possible for stress to fall on the vowels introduced by epenthesis, as a result of the later shift of stress one mora to the right.

[15] This observation is, again, owed to Robert Rankin.

[16] See section 4.1 for alternate forms.

[17] Regularity deduced from the lack of comment in the authorities consulted (W. Matthews 1877; F. Voegelin 1955).

[18] Einaudi 1976:45-6, 116; Dorsey & Swanton 1912:329-30, e.g. entries 'táfɛ̃', 'tąkhĭ́si', possibly 'tahi', 'tasishihi'; Hale 1883:26, 31, 'lakpése', 'latkūsisel'; Kennard 1936:12; Hollow 1970:465; Lowie 1941:36; Kaschube 1967:28; W. Matthews 1877:103; F. Voegelin 1955:II-165; Rankin p.c.; Wolff 1952:I-66; LaFlesche 1932:140, etc.; Boas & Swanton 1941:904, 916; Boas 1907:328, 331; Rankin 1976:2, 33; Rood & Taylor n.d.:81, 90; Shaw 1981; Boas & Swanton 1941:900, 904; Lipkind 1945:19, 23; Johnson, Thorud & Miner 1976:166; Whitman 1947:243, 246.

[19] Einaudi 1976:45-6, 116; Dorsey & Swanton 1912:331, e.g. entries 'túfafha', 'túfi', 'túfkopi', etc.; Hale 1883:31, 'tikūsisel'; Kennard 1936:12, 17; Hollow 1970:475; Lowie 1960:397, 399, 400, etc.; Kaschube 1967:17, 60; W. Matthews 1877;104, 145; F. Voegelin 1955:165; Rankin p.c.; Wolff 1952:I-68, II-231; LaFlesche 1932:144, etc.; Boas & Swanton 1941:904, 916; Boas 1907:328, 331; Rankin 1976:2, 32; Rood & Taylor n.d.:81, 90, 92; Boas & Swanton 1912:920; Lipkind 1945:20, 23; Johnson, Thorud & Miner 1976:170, etc.; Whitman 1947:243, 246.

[20] The nasal variants occur with the future affix *ktA*.

[21] Einaudi 1976:45-6, 33; Dorsey & Swanton 1912:330, 'te, ti'; Hale 1883:30; Kennard 1936:5, 32; Hollow 1970:175, 370; Lowie 1960:399; Kaschube 1967:64-5; W. Matthews 1877:137, 142; F. Voegelin 1955:I-7; Jones p.c.; Rankin p.c.; Wolff 1952:II-231, 233; LaFlesche 1932:273; Swetland 1977:86; Boas 1907:332; Rankin 1976:2, 32; Rood & Taylor n.d.:86; Shaw 1981; Levin 1964:63, 145; Lipkind 1945:23; Johnson, Thorud & Miner 1976:34, 168; Whitman 1947:243; Wistrand-Robinson 1972:54.

[22] See section 4.2 for details.

[23] Dorsey & Swanton 1912:275, 'ti'; Einaudi 1976:45-6; Dorsey & Swanton 1912:330, 'ti'; Hale 1883:17; Kennard 1936:41; Hollow 1970:193, 362; Lowie 1941:36; Kaschube 1967:54, 63; W. Matthews 1877:109, 145, 195; F. Voegelin 1955:I-7; Rankin p.c.; Wolff 1952:II-233; LaFlesche 1932:112, 142, 145, 154; Swetland 1977:66; Rankin 1976:20, 30; Rood & Taylor n.d.:96; Boas & Swanton 1941:911; Levin 1964:137, 144; Lipkind 1945:28; Johnson, Thorud & Miner 1976:26, 170; Whitman 1947:243; Wistrand-Robinson 1972:50.

[24] For example, Matthews reconstructs *yú [šú] from Bi *čú*, Da *žu*, Wi *žúu*, and IO *yú* (1958:112; 1970:109, Item 61). In this case and others like it, the cognates suggest */š/ followed by a stressless vowel; however, the vowel is, in fact, stressed. In these cases Matthews reconstructs * y . Stress shifts in inflected monosyllabic stems are an alternative explanation, but this approach has not been examined.

[25] Ofo and Tutelo seem to suggest a third alternate **rěsi*. Matthews has noted the */r/ ~ */s/ alternation as well as the */y/ ~ */s/ one.

[26] The form **wąk* is my own. Matthews has suggested **muk* (1958:48). I believe that **wak* is in better accord with the reflexes: Bi *nk*, Of *ǫ*, Tu *wąk*~*wak*, Dh *ąku* ~ *wa* ~ *ą*, Da *ųk*, Wi *wáąga*. CH loses this form; Ma *ru* is probably cognate with Ca *dü*~*na* 'first person', and of another origin altogether.

[27] Robert Rankin (p.c.) has observed to me that CV~VC alternations are a feature of pronominal affixes in the Muskogean languages among which Biloxi was isolated. For examples, see Haas 1946. This tends to explain one peculiarity of Biloxi's second person as an areal feature.

[28] Also, nk → x/__k
→ o/__n (and optionally m, p)

[29] Phonological developments peculiar to verbal morphology are, however, fairly frequent in Siouan. Examples include loss of */w/ in Winnebago-Chiwere and Dhegiha AGT1 forms, preservation of */w/ in Ofo AGT1 forms, and apparent shift of */y/ to */r/ in Mississippi Valley second persons.

[30] However, ay → (a)ya/____k, x (optionally).

[31] However, the *i* locative becomes [y] before *a* AGT1 in Winnebago, word initially. See also footnote 41.

[32] Matthews (1958:13) and Kaufman (1965:7) consider that [š] in Ofo is an allophone of /č/, used before other consonants. This view is adopted here.

[33] Matthews (1958:13) and Kaufman (1965:7) consider that b in Ofo forms represents /w/, which Kaufman continues to write as b. This view is also adopted here, with w as the graph.

[34] The inclusion of the prefix *a* in Ofo is at least superficially random. In at least some cases it must represent the unglossed inclusion of a morpheme *a* 'indefinite third person', the regular development in Ofo of PSi **wa* 'indefinite third person'. In *awa* and *ačú* it may also represent a high degree of prevoicing of /w/ and /č/. It is remotely possible that in third person forms it represents an Ofo innovation *a* AGT3.

[35] Cr *sara* was extracted from *dasaráciky* 'glossy, smooth' (Lowie 1960:250).

[36] Hi /c/ is the usual development of PCH */s/. As justification for PSi **sra* 'grease', compare Te *sla* 'grease, . . .' (Buechel 1970:456). It seems likely that there is some sound symbolism connection with PSi **srm* 'smooth'.

[36a] This hypothesis is due to Dorsey (1885:923), who observes in connection with his discussion of his Triliteral Law that it 'is probable that the Dakota biliteral syllables "da" and "du" [the second persons of the mouth and hand instrumentals, respectively — JEK] were originally triliteral syllables, an initial "c" [š] having been dropped.'

[37] It would be convenient if the [ⁿd] and /md/ dialects of Dako
were the same dialects, but I do not know whether this is the ca

[38] I am indebted to Allan Taylor for bringing this example to attention. The verb appears in Buechel's dictionary, entered 'pu' and 'sku' (Buechel 1970:449, 465). The source is identifi as an individual named Big Head (Buechel 1970:51).

[39] Winnebago orthographic /t/ is normalized to /d/ in this pap

[40] Note, however, that this form is analyzed as *rka* in Hidatsa i Jones (n.d.:5, 6; 1982:6), with cluster simplification in the fi and second persons and epenthesis in the third.

[41] In the text I adopt the view that Proto-Crow-Hidatsa syncopate AGT2 was **r*, which became *ri* in Crow by epenthesis, and *ϕ Hidatsa by coalescence with a stem initial */r/. An alternative ac count would presume PCH **i* AGT2 in the syncopating co jugation. This form would be homophonous with *i* PAT3; thus would not be surprising if Crow had augmented it to *ri* by prefix ing regular *ra* AGT2 (with diphthong simplification), and Hi datsa had eliminated it. From this point the account would follov that of the text again.

[42] I am indebted to Kenneth Miner for information at the Secon Siouan Conference that these two forms co-exist in Winnebago with no clear difference in usage. The syncopated form i reported in Johnson, Thorud & Miner (1976:26, 170). Th irregular form appears in Lipkind (1945:28).

[43] A. Wesley Jones reports (p.c.) that Hidatsa has a verb *ruu* 'pick berries, gather' which seems to be particularly relevant here.

[44] It is possible that *Noccoo Eraute* is to be analyzed as *na-ku i-rot* '1st. sing. subj.-give 2nd sing. subj.-eat' or 'Shall I give it to you to eat?'. This is at least plausible as a Siouan etymology, though it has an inversion of the persons over what Lawson thought he was recording, a not unlikely circumstance. The construction need not be standard Woccon; it could be a trade pidgin.

[45] Robert Rankin (p.c.) has suggested that *Raute* might be *rati* and cognate with Dhegiha (Osage) *ðachá* 'chew'. Te *yathá* 'chew', with the PSi **ra* mouth instrumental; not a cognate with PSi **rútA* 'eat' at all.

[46] Within Core Siouan, Stoney has effectively reduced the Dakotan version of the syncopating conjugation for *r-stems to a conjugation of initial mutation. Less extreme examples are the initial alternations distinguishing the second and third persons of the *r-stems in the rest of Dakotan and, incipiently, in Dhegiha, or the similar alternation distinguishing the first and third persons of many Winnebago syncopating forms. It seems to be simple chance that no Mississippi Valley subbranch exists which combines the developments of Dakotan and Winnebago-Chiwere.

[47] This approach is essentially that adopted by Rudes (1974).

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