

On Mississippi Valley Siouan "Ablaut"

Robert L. Rankin

All Siouan languages for which we have morphological data show active or strong trace evidence of an alternation between stem-final vowels *-e* and *-a*. Within Mississippi Valley Siouan all languages have ablaut in this sense. Certain forms in a paradigm will have the one vowel and certain other forms in the paradigm of the same verb, the other vowel. The alternation is rather regular, in most of the languages it affects verbs exclusively, and the stem final vowels which alternate are most often, but not always, unaccented (but see endnote 4, below).

In the following examples of ablauting and non-ablauting verbs in Lakota 'make' is unaccented and ablauting, 'go' is accented and ablauting while 'spill' is accented and non-ablauting or invariant.

	make	spill	go
verb stem:	káya	kalá	yá
plural:	káyapi	kalápi	yápi
negative:	káyešni	kalášni	yéšni
habitual:	káyašna	kalášna	yášna
adverbial:	káyeya	kaláya	yéya
interrogative:	káyahe	kaláhe	yáhe
as if:	káyesʔe	kalásʔe	yésʔe
whenever:	káyakheš	kalákheš	yákheš

In the Dakota language most verb stems end in *-a*. Of these, some instances of *-a* are invariant; they are always *-a* and never alternate with any other vowel. In other verbs, like 'make', however, *-a* alternates with other vowels, usually *-e*, rarely *-i*.¹ It is this process of alternation that is called ablaut by Siouanists.

The replacement of *-e* with *-a* or vice versa is called "ablaut" because of the perceived difficulty of specifying any clear phonological conditioning for the alternation. There is nothing in the immediate environment that allows one to predict the vowel change. For example, as pointed out by Shaw (1980), Dakotan verbs followed by the particle *šna* 'habitual' require the opposite vowel from those followed by *šni* 'negative', and no appeal to any sort of vowel harmony is productive. Various non-phonological conditioning factors have also been tried but have failed.²

Understanding Dakotan ablaut has always been a major challenge to Siouanists. Conditioning seems hopelessly irregular, and it is impossible to know simply by inspection whether a given stem in *-a* ablauts or is invariant; the vowels sound just the same. Each stem that ablauts must therefore be marked in the lexicon as an alternating stem. Conventionally this is done in alphabetic notation by marking alternating stems with a capital *-A*; this covers what, in feature notation, might vary with the synchronic phonological theory adopted. Diacritic features such as [+ablauting] or [+ablaut trigger] have been favored; specification of particular lexical compartments (in a lexical phonology), distinct tiers (in an autosegmental or metrical

phonology), various constraints or constraint ordering (in optimality theory) or other synchronic phonological paraphernalia may also be called upon to play a role synchronically.

So there is no apparent phonological, categorial, syntactic or semantic-class conditioning; ablaut simply happens when certain listable (?) grammatical particles follow the verb syntactically or, with less regularity, when certain derivational processes have applied. Moreover, the list of verbs and grammatical particles that engage in ablaut differs from dialect to dialect in Dakotan. Beyond that, it is, in fact, hard to find a published source that even lists all of the apparent conditioning environments: there are a great many (see Carter 1974, Shaw 1980, Rood 1983, Patterson 1990, Rood and Taylor 1997).

As suggested in David Rood's 1983 study of ablaut, comparative linguistics can elucidate some of the problems outlined above. And if comparison cannot resolve the synchronic problems of Dakotan ablaut in a principled manner, it can at least show rather precisely how the problems arose, and it can suggest partial solutions or, in the worst case scenario, make it clear why there can be no solution.

While there is an analog of ablaut in virtually every Siouan language, in other Mississippi Valley Siouan languages there is a big difference. In the other languages (Ioway, Otoe, Winnebago, Omaha-Ponca, Kansa, Osage and Quapaw) it is not a stem-final underlying *-a* that becomes *-e* or (in irrealis mode) *-i* in some inexplicably complex list of lexical environments. Rather it is an underlying *-e* that appears to become *-a*, in other words the reverse of what has always been assumed based on a study of Dakota. And in these other languages the environments in which substitution takes place are few (four or five), and most often one can see at least remnants of clear phonological conditioning. That the original ablauting stem-final or stem-forming vowel was historically *-e*, not *-a*, is clear from comparative evidence.³ The following chart presents illustrative cognate sets. Where Dakotan has final *-a*, written here with the conventional capital *-A*, all the other languages have either *-e* or the expected local reflex of it (often *-i*).

	make marks	ripe	shallow	squeeze	bend	die	go
PS	*ká:xe	*aRú:te	*xé:pe	*-škíke	*šVkópe	*tʔé:re	*ré:he
CR	-ka:xi	ó:ši	xé:pi	-sčiči	šikúpi	šé:	dé:
HI	-ka:xe	ó:te	xé:pi	škupi		te:ʔ	rehe
MA	-kaáx			-skík-	skóp-	té:-r-	ré:h-
LA	káγA	lútA	xépA	-škičA	škópA	tʔAʔ	yAʔ
CH	gá:ye	dú:je	xé:we	-škíge	škówe	čʔé	ré
WI	gá:x	tú:č	yé:p	-šgʔk		tʔé:	ré:
OP	gá:ye	ní:de	xébe		škóbe	tʔé	ǎé
KS	gá:ye	jü:je		-škíge	škówe	čʔé	yé
OS	ká:ye	cü:ce	xé:pe	-škíke	škópe	cʔe	ǎé
QU	ká:ye	títte				tʔé	dé
BI		atutí	xépi	-čičkí		ʔe-di	dé-di
OF		atúti				əthé	té-
TU				-čkʔk		te:	a lé:-
SP			seep				ire

Linguists have tried to make phonological sense of the alternation for over fifty years without notable success. The reason for the lack of success quickly becomes clear if one examines the phenomenon in Quapaw or nearly any other of the Mississippi Valley Siouan languages except Dakotan. Again, historically, the basic stem-forming vowel was clearly *-e*, not the *-a* of Dakotan, and ablaut then appears to replace *-e* with *-a*, not *vice-versa*. Note that this means that the environments one must specify for ablaut as defined in Dakotan are *precisely those in which it did not occur historically*.

In Quapaw, "ablaut" is found when forms with the underlying, unaccented final *-e* precede any of four postposed grammatical elements, 'plural, negative, imperative' and as a special case, 'continuative'.⁴ It will be my contention that all four of these particles (suffixes, enclitics) had an initial vowel *a-*, and that this vowel overpowers and replaces the stem-final *-e* of the preceding verb.⁵ That is, *-e + a-* yielded *a*. If Dakota had not generalized stem final *-a*, this fact would have been noticed in that language long ago.

Let us look at the most revealing of these four environments first, the imperative. Most Siouan languages have more than one imperative, and imperatives generally are sensitive to speaker gender and/or status. The singular imperative -- the most prevalent imperative in Quapaw -- has the form *-a* however (most often, but not always, accented). And it is suffixed to the verb. The following examples are from Dorsey's (1890-94) notes:

Quapaw imperatives:

<i>ní dattá</i>	'to drink water'
<i>ní dattá-á</i>	'drink (the) water!'
<i>íkazo</i>	'to draw, write'
<i>íkazo-á</i>	'draw/write!'
<i>daxó</i>	'to break with the mouth'
<i>žá žika daxó-á</i>	'bite the twig in two!'
<i>stáde</i>	'to grease something'
<i>stadá</i>	'grease it!'
<i>ákaspe</i>	'to close'
<i>ákaspa</i>	'shut it!'
<i>ithéde</i>	'to stand an inanimate object up'
<i>ttižé kaspe žika ithedá</i>	'shut the door a little!'
<i>dé</i>	'to go, be going'
<i>dá</i>	'go!'
<i>kdé</i>	'to go homeward'

<i>ákda kdá</i>	‘go back and get yours!’
<i>ákkittowe</i>	‘to watch out for ones own’
<i>šžíka ákkittowá</i>	‘take good care of the baby!’

A number of examples are included here so that it will be clear that imperatives are formed with a suffixed *-á* and that "ablaut" is nothing more than a result of the collapse of *-e+a* to *-a*. Note that in the case of more marked stem final vowels (‘drink, draw, break’, above), the vowel cluster is sometimes even preserved, and Dorsey often wrote the imperative as an enclitic.

The next most revealing case is that of the negative morpheme, which has the form **-aži* throughout the Dhegiha subgroup. The strongest evidence that speakers segment the *-a* of the following examples with the suffix instead of with the verb stem (as is traditionally done by linguists), comes from the other Dhegiha languages (i.e., not Quapaw) in which the negative enclitic is actually conjugated as an auxiliary verb, with *m-*, a 1st singular actor prefix allomorph, preceding cliticized *-aži*. Note, though, that segmentation and conjugation of the negative, **-aži*, as an auxiliary must be recent, as an original reflex of the clitic-initial *a-* is still stranded on the verb stem, to the left of the pronoun and negative.⁶ We shall see that Quapaw retains an earlier form of this construction.

Omaha (author’s field notes. Page references are in Dorsey 1890):

<i>dábe</i>	‘to see’
<i>wittába-m-áži</i>	‘I do not see you’ (p.484) ⁷
<i>štábažl</i>	‘you do not see’
<i>waxpani</i>	‘to be poor’
<i>qwáxpani-m-áži</i>	‘I am not poor’ (p.484)
<i>đe</i>	‘to go’
<i>šubđa-m-áži</i>	‘I am not going to you’ (p.497)
<i>xďíaži</i>	‘uttering no sound’ (p.23)

Osage (Quintero (p.c.); Laflesche 1932):

<i>đe</i>	‘to go’
<i>bďá m-qži</i>	‘I do/did not go’
<i>štáži</i>	‘you do not go’
<i>wanóbďe</i>	‘to eat a meal’
<i>awánqbďa m-qži</i>	‘I fasted’

Quapaw actually preserves the weakest evidence for this segmentation and reconstruction, since the first person negative auxiliary is not conjugated in Quapaw.

<i>šike</i>	'to be bad'
<i>mažǫ šikáži</i>	'pre-war (literally: land bad-not)'
<i>dé</i>	'to go'
<i>dáži</i>	's/he does/did not go'
<i>bdáži tte</i>	'I shall not go'

Examples with nasal or high vowels preceding and (partially) overriding:

<i>ánqɣʔǫ</i>	'to listen'
<i>áanqɣʔqži</i>	'I do/did not heed him'
<i>kdí</i>	'he came back'
<i>kdíži</i>	'he had not come back'
<i>sísi</i>	'to be active'
<i>qsísiži</i>	'I am not active'
<i>háži</i>	'No!'
<i>hqʔeqžé</i>	'(it is) not so (? JOD)'

In the last example, the *é* of *-ažé*, which appears under accent, suggests that the correct reconstruction (and underlying form) for the negative enclitic is **-aže* rather than **-aži*, but since Dorsey was unclear about the exact meaning and segmentation of this example, we have to be satisfied with the suggestion. The final vowel of the underlying form for the negative may also depend on whether the speaker is male or female.

The pan-Siouan cognate set for this enclitic lends additional support to my reconstruction with the initial vowel: Its semantics in the several languages varies among 'dubitative', 'adversative' and 'negative'.

negative/dubitative		
PS	<i>*aši(*aše ?)</i>	
MA	<i>a-xi</i>	negative
LA	<i>A-š</i>	adversative
AS	<i>-šj</i>	negative
ST	<i>-šj</i>	negative
CH	<i>š-kú-ñj</i>	negative
WI	<i>-ži</i>	'at least'
WI	<i>š-gų-nj</i>	weak dubitative
OP	<i>aži</i>	negative
KS	<i>aži</i>	negative
OS	<i>aži</i>	negative
QU	<i>aži</i>	negative
BI	<i>ačí</i>	'Oh, no!'

Here, Assiniboine (AS) and Stoney (ST) nasalization is probably a product of long association of *ši* 'adversative' with **-rj* 'negative', cf. LA and DA *š-ni* 'negative'. This nasality is found nowhere else in Siouan. Mandan shows the *x* fricative grade. The *a-* preceding *x* here is the "ablauting" vowel. Linguists have segmented it with verb stems rather than with the suffix under the influence of Dakotan linguistics. The historical segmentation, however, is **-axi*.⁸ The reflexes of this morpheme are widespread with Mandan and Biloxi in addition to Dhegiha lending support for its initial *a-*. Note that in Biloxi the expression has the status of a separate word which includes initial *a-*.

The next environment illustrating Quapaw replacement of stem-final *-e* with *a*, is the plural. Once again, a Dakotacentric analysis of the affix as simply *-wi* (corresponding to Dak. *-pi*) in Quapaw leads to an incorrect segmentation and the appearance of irregularity. But again there is evidence in the languages for more straightforward phonological conditioning.

The actual shape of the plural marker varies considerably. Like the negative, in which an apparently more conservative form, **-aže*, has raised to modern *-aži*, there seems to be a tendency for 'plural' to raise from *-awe* to *-awi* to *-ai*.⁹ And again, in the following examples of 'plural', enclitic-initial *a-* is overridden if the verb stem ends in one of the more marked nasal or high vowels.

Quapaw examples:

<i>dé</i>	'to go'
<i>dáwe</i>	'they went'
<i>dáwi</i>	'they went'
<i>dái</i>	'they went' (all three versions from the same Dorsey narrator.)
<i>ttíkde</i>	'to keep house'
<i>íe</i>	'to say'
<i>tíkda<i>wi</i> iyawe</i>	'they kept house, they say'
<i>knj</i>	'to sit'
<i>knj<i>wi</i></i>	'they camped'
<i>dathé</i>	'to eat'
<i>kdatháwe</i>	'they ate their own' (<i>k-</i> 'suus')
<i>pá</i>	'to call'
<i>apá<i>wi</i></i>	'they called me'

Dorsey's handwritten notes contain a few instances of plurals in which speakers simply did not do the expected vowel truncation or coalescence. He tends to normalize these in his typescript texts.

<i>ité</i>	'to ache, have pain'
<i>wáteqwe</i>	'we are in pain' (<i>*wátawè</i> expected)

In closely related languages such as Osage, where vowel length has been more conscientiously transcribed by Quintero, there are clear examples of verb stems acquiring length in the plural, additional evidence of an underlying initial *a-* of the plural suffix/clitic. The same will no doubt be found in other Dhegiha dialects when they receive a comprehensive phonetic and phonological treatment. Earlier presence of stem-final *-e* is signaled by synchronic length.

<i>ǰé</i>	‘to go’
<i>šcé</i>	‘you sg. go’
<i>štáape</i>	‘you pl. go’
<i>wahó</i>	‘to address, speak to’
<i>wawihǰǰpi</i>	‘I address you (pl.)’

The complete cognate set(s) for these pluralizers follows:

	plural		with
PS	*ape		*a:pe
CR			á:ppa: ‘with’
HI			a:pi ‘with (a unity)’
LA	A-pi	‘pl’	apá ‘some’
CH	awi	‘def.pl.’	
OP	abi	‘pl’	
KS	abe	‘pl’	
OS	ape	‘pl’	
QU	awe	‘pl’	

This plural set is found for certain only in Mississippi Valley Siouan. Partly outside of MVS there is a potentially related set glossed ‘with’ (second column above) which has cognates in Crow and Hidatsa, but a relationship between these two sets is speculative at the moment. The Riggs Dakota gloss for PSi ‘with’, namely ‘some, a part, as of a mass of anything’ has always suggested to me that this morpheme might be related to the numerous plural markers with the proto form *ape. The initial *a-* of ‘with’ may be an independently occurring morpheme, PSi *?a-, glossed ‘comitative’ in the Comparative Siouan Dictionary.¹⁰ This would account for the long initial vowel in Crow and Hidatsa.

Recapping, in my analysis the internally reconstructed forms of the first three of the so-called "ablauting" clitics in Quapaw, ‘imperative’, ‘negative’ and ‘plural’, are *-á*, *-aži* and *-awe* respectively, and the "ablaut" itself seems to be nothing more than a usually-unaccented *-e* followed by an enclitic-initial *a-* collapsing to *a(•)*.

The fourth environment in which a reduced form of ablaut seems to occur is preceding continuative auxiliaries. This is not the expected sort of Siouan ablaut, as it appears only to affect the *irrealis* enclitic, *tte*, (cf. Dak. *kte* ~ *kta*) which often precedes the continuatives, and which, then, takes the form *tta*. The continuatives, although they may follow verb stems themselves, do not cause "ablaut" in such stems at all.

wanǫbde 'to have a meal'
wanǫbde niǫhé 'he was (sat) eating' (no ablaut)

dé 'to go'
bdé anihé 'I am going' (no ablaut)

Verb stems immediately preceding continuatives do not ablaut, but 'irrealis' or 'potential' does change:

bdé tte 'let me go'
bdé tta niǫhé 'I will go'.
bdé tta anihé 'I will be going'

Why only the potential/irrealis marker, *-tte* should be affected by a following continuative auxiliary remains a mystery, but it is this way throughout Dhegiha, and in Dakotan and Chiwere Siouan the continuative is also one of the clitics that conditions the *-a* form of verbs.

Reduplicated forms of verbs ending in *-e* also show the *-a* variant irregularly. At the moment no mechanism is suggested for this phenomenon. Since reduplicated verb roots may also retain *-e*, this appears to be an alteration that has spread analogically and/or via dialect borrowing in Siouan, i.e., via "lexical diffusion". Since reduplicated forms are often emphatic, sound symbolism may well be involved.

bakkówiye 'push around'
bakkówiya 'push round and round' (reduplicated)

The widespread association of ablaut with the continuative and its fairly widespread association with reduplication suggests that there are at least some grammatical conditioning factors to be dealt with yet, i.e., we are not dealing with a simple sound change in these instances, and the changes involved seem to be analogical rather than phonological. This exhausts the environments in which Dhegiha languages regularly show older and underlying *-e* alternating with later *-a*.

Let us now examine Dakotan alongside of Dhegiha to summarize what parallels we have found. Since the term *ablaut* in Dhegiha and Dakotan refers to different processes -- with opposed directionality in fact, DH $e > a$ vs. DA $a > e$ -- I will use the somewhat puerile-sounding but more descriptive terms "-A form of the verb" and "-E form of the verb" in the discussion that follows. Shaw (1980:134f.) lists the Dakotan enclitics which require the *-A* form of the verb. The order of some of the items on her list has been rearranged to facilitate comparison with Dhegiha.

	Dakotan	*Dhegiha
plural: (verb stem)	-A-pi	-ape
adversative/neg:	-A-š	-aži
female imperat:	-A-é	-á(-e) (-e 'female spkr.')
male imperative:	-A-ó	-á(-hau) (-hau 'male spkr.')
continuative:	-A-hą	(various)

Thus far there is near complete agreement. The same morphemes take the A form of the verb in both subgroups. These are the enclitics or suffixes that I take actually to possess initial *a-*, and I have segmented Dhegiha accordingly. Dakotanists segment their upper case *-A* with the verb instead of with the clitic, and I have left that segmentation intact, writing the vowel in upper case. That segmentation is a Dakotan reanalysis however. The male and female imperatives are particularly interesting; the imperative itself clearly has the form *-á*, but in Dakotan the imperative has fallen together with a citation (ordinarily 3rd person sg.) form of the verb, which also has *-a*, forcing reanalysis of the gender-marking particles themselves as imperative markers. Dhegiha preserves the historically separate enclitics for imperative and speaker's gender, the latter in parentheses here.

Continuing with Shaw's list, there are a few cases in which Dakotan and Dhegiha appear to disagree on the verb stem vowel.

		Dakotan	*Dhegiha
habitual:	(verb stem)	-A-šna	-e-šna
indefinite:		-A-wa	-e-wi
interrogative:		-A-he	-e-ê (with falling pitch / [^] /)

The most perplexing case is 'habitual' where there is no accounting for the disagreement. Dhegiha shows no hint of an older initial **a-* for this morpheme. The 'indefinite' markers are not actually cognate, although both form the basis for the numeral 'one' in their respective languages. The interrogative sentence-final clitics may or may not be cognate.

For the rest of Shaw's list of clitics requiring the *-A* form of the verb in Dakota there are apparently no Dhegiha cognates. In fact, at the moment there are no cognates visible for these enclitics anywhere in Siouan, but a careful search may unearth some.

in spite of:	eš
because:	čħaké
and then:	yŭkhá
indef. det.:	čha
suppose:	(ithó)...ke
whenever:	kheš
quotative:	škhá
manner adv.:	kel

Lack of cognates for this list is important because it renders the list a problem for Dakotanists but not for linguists dealing with the other Siouan languages. The lack of cognates elsewhere suggests that, historically, most of these enclitics were innovated in Dakotan (alone) since the time at which verb stems with Proto-Siouan *-e* were reanalyzed as having final Dakotan *-a* instead. The enclitics were then simply grafted late onto the reanalyzed base form.

The extensive list of Dakotan enclitics which take the *-E* form of the verb should require no comment at all of course, except for a reminder that all of the so called "ablauting" verbs of

Dakota originally ended in *-e*. So historically these enclitics represent the environment in which no change actually took place. No wonder it is hard to find a comprehensive listing of such clitics: the list is potentially open ended.¹²

To summarize, we have seen that by positing the historically present vowel *-e* as underlying in so-called ablauting verbs, by reanalyzing three enclitics (imperative, negative and plural) to include clitic-initial *a-*, and by positing a fairly simple rule collapsing vowel sequences of *e+a* to *a*, we are able to account both diachronically and synchronically for nearly all instances of ablaut in Quapaw and by extension, Dhegiha and Chiwere Siouan.¹³ The occasional ablaut in reduplicated forms is the only form of the phenomenon not covered at all by this solution, and it may involve size-sound symbolism. It should be added that in numerous instances reduplicated forms in *-e* are found, so the *-a* forms are apparently spreading by lexical diffusion.

When dealing with recalcitrant morphophonological problems such as this, our evaluation metric always prizes a phonological over a morphological/lexical solution. The solution presented here is overwhelmingly natural and phonological in nature. The received solution traditionally given by Dakotanists is 100% morphological/lexical. History is long, and minor exceptions (e.g. the conjugated first person Dhegiha negative or the *-A* reduplicanda) may creep into some paradigms, but the systematic loss or replacement of stem-final *-e* preceding enclitic initial *a-* is overwhelmingly regular. And it explains the vast majority of traditionally perplexing cases. One is entitled to ask why stem-final **-e* was the primary vowel affected by this change, while other final vowels were often kept, overriding the initial *a-* of enclitics. This is a reasonable question. It may have to do with relative phonological markedness: More peripheral and nasal vowels may score higher on a strength hierarchy. Some phoneticians have considered [e] to be the least-marked of the vowels. But within Siouan linguistics neither the question nor these possible answers are of great consequence. It is simply demonstrable that *e* is weaker phonologically than the other vowels.

- Final unaccented *-e* is regularly lost in Winnebago; other vowels are not.
- Final unaccented *-e* frequently devoices in Dhegiha dialects.
- Final unaccented *-e* is optionally lost in Mandan (Hollow 1969) and sometimes in Tutelo.

The remaining final vowels are retained in all of these languages and generally throughout Siouan. The relative weakness of *-e* is simply a phonological fact that Siouanists have to deal with.

Another non-phonological attempt to resolve the problem of “ablaut” in Siouan involves the assumption that the ablauting vowel “must be a morpheme”. That would solve the problem by fiat. But in order for this solution to work, it would have to be shown that *-e* has a meaning that is present when the vowel is present and absent when the vowel is absent. And given the broad variety of enclitics that supposedly “cause” the vowel to alternate (if we do not consider it as an integral part of the enclitic), morphemic status for the ablauting vowel is not a realistic solution, either synchronically or diachronically. Some have considered the ablauting vowel a “stem formative”, but why would we want to say that if it doesn’t appear with all stems. The hypothesis was current before it was realized that Siouan accent is frequently determined by

vowel length. For Dhegiha, Chiwere and Winnebago the phonologically-based solution sketched here is the only one that deals with the facts in a natural way.

Such a synchronic solution would not work as well for Dakotan however, because *-a* has been generalized analogically to the underlying form of the verb causing linguists (and perhaps speakers, although this has yet to be shown) to reanalyze the underlying phonology and to treat *-a* as basic. After generalization of *-a* took place in the Dakotan *-e* stems, a significant number of verb stems which had historically ended in (the invariant) etymological *-a* joined the ablauting verb class. This analogical extension of ablaut was easy, since ablauting and non-ablauting *a* are identical phonetically. Even some Dakotan verbs ending in nasalized *-q* joined the ablauting class by analogy, where they too now alternate with *-e*. It is these coopted verbs, that had etymologically real **-a* or **-q*, that tend to ablaut variably in the different Dakotan dialects. Needless to say, true *-a* and *-q* stems never ablaut in other Mississippi Valley Siouan languages; the coopting process is unique to Dakotan because of the homophony of ablauting and non-ablauting *-a* is unique to Dakotan.

Because of the extension of ablaut to verbs ending in etymological *-a* and in nasal-*q*, *phonologists should never expect to find a principled, i.e., purely phonetically motivated, solution to the problem as it is posed by Dakotan.* The solution I have outlined for Dhegiha would account for much of Dakotan ablaut with actual, phonetically motivated phonological rules or constraints however. Synchronically there will be loose ends that will have to be dealt with in whatever semi-arbitrary way current synchronic phonological theory dictates. These problematic cases will include the treatment of verbs in nasal *-q* and some of the innovated enclitics. It might be worthwhile trying the solution I have sketched for MVS in Dakotan however. Irregularity cannot be greater than it is with the current solutions -- where it is virtually 100% -- and even partially phonologically motivated accounts are generally to be valued over completely irregular ones.

No comparative study of "ablaut" across all of Siouan has yet been undertaken, but in Marsh's notes on Chiwere he mentions that the 'plural, imperative' and 'continuative' are again centrally involved.¹³ So is a particle often translated 'and' which exists as a separate conjunction in Quapaw and, predictably, has an initial *a-*. So it seems clear that the rest of Siouan presents a much more conservative situation than Dakotan. I do not pretend, however, that this treatment of the problem in the Mississippi Valley languages will resolve all of the questions surrounding the phenomenon in Missouri and Ohio Valley Siouan languages. The situation is complex, and analogy has played a key role in the generalization and/or reanalysis of verb morphology over three thousand years of Siouan linguistic history. In most Siouan languages all verb stems that end in *-e* (or its local reflex) appear to ablaut to *-a* preceding a small set of suffixes or enclitics, most or all of which will probably be found to have had initial **a-*.

It is my hope that experts in the several Siouan languages will undertake a detailed study of so-called ablaut in their respective languages and that, as at least one alternative, they will start from base forms ending with the historically present *-e* rather than *-a*, no matter how prevalent *-a* seems to be in citation forms or in paradigms. This will enable all of us to learn a good deal more than we now know about how ablaut developed, both overall and in the individual languages. In order to accomplish this we will have to ignore completely the way ablaut has been treated in Dakotan -- from Riggs right down to the present. Succumbing to the

temptation to use the published treatments of Dakota as a model in the rest of Siouan would be a fatal error.

Even with our expanding comparative knowledge, it is hard to be certain what the core environments for this phonological phenomenon were outside of the Mississippi Valley subgroup.¹⁴ And without detailed language-specific studies we will never know much more than an armchair typologist could put together by going to the library and checking out a stack of mediocre grammars. Real, objective, language-specific expertise is badly needed.

NOTES

¹ Forms with the nasal high front vowel develop from reanalysis as a part of the verb stem of a following *-i* 'optative'. Optative follows the verb stem and precedes the 'irrealis/potential' clitic in Dakotan. Note its nasalized cognate in Winnebago *-ikje* 'intensive', older **ikte*. Rood (1983) also finds a probable cognate for *i* in Omaha with an optative meaning, so **i-kte* was no doubt bi-morphemic. The source of this particular ablaut "grade" is fairly clear then (v. also Jones 1983), and it will not be discussed further here. Dakotan stems in *-q* that undergo ablaut are discussed below. Dakotan is the only language in which this sort of ablaut occurs.

² Dunnigan and Truitner (1975) proposed that Ablaut was conditioned by the class of adjacent syntactic boundary, but the attempt was shown to be a failure by Shaw (1980:135ff.), who cited their work.

³ It has been fashionable in synchronic treatments of Dakotan phonology since Boas and Deloria to consider the unaccented, ablauting final vowels in *cvcA* words "epenthetic" in order, among other things, to explain why accent, normally on the second syllable, is on the initial syllable. This can be made to work synchronically in Dakota, but the most cursory examination of the cognate sets in this paper reveals that the ablauting vowel in these languages is not epenthetic. The word-final *-e* correspondence set is present in virtually every Siouan language from Montana to Virginia and thus is reconstructible to Proto-Siouan. Otherwise, multiple, independent but virtually identical epentheses would have to be postulated. And postulating epenthesis 3000-plus years ago in the proto language is unnecessary in any event. The fact is that accent falls where it does in most of the words in question because they have lost initial syllables or because the initial syllable contained a long vowel – shortened in Dakotan. This is demonstrable in several classes of words:

(a) Verbs beginning with an aspirate. Aspiration was a feature of second syllable onsets (Carter's Law). The missing initial syllable is generally preserved in the non-Mississippi Valley Siouan subgroups.

(b) Verbs beginning with a consonant cluster. Most, if not all, such clusters are the product of initial syllable vowel syncope. In the clusters *pt-*, *ps-*, *pš-*, *bl-*, *mn-* the labial element is normally a reflex of **wa-* 'absolute' (with *bl-* sometimes it is 1st sg. *wa-*). In clusters *kt-*, *ks-*, *kš-*, *gl-*, *gm-*, *gn-* the velar is usually a reflex of **ki*, which can be from 'dative/possessive, suus' or 'vertitive'. Most of the velar-initial syllables are even internally reconstructible within Dakotan. Initial clusters *sC*, *šC*, *xC* generally are broken up by vowels in the Missouri River and Ohio Valley subgroups. A very few initial clusters are unexplained.

(c) Stative verbs. These are a bit more problematic, but the category certainly behaves as if it had lost a syllable, perhaps an initial **i-*.

In all of these cases, accent has remained where it was historically. The remaining Dakotan examples, those with single initial consonants, are for the most part not words with cognates in other Siouan languages. They may have simply entered the language with initial accent, or they may have had a proto Siouan long vowel that attracted tonal accent. Long vowel shortening and short vowel syncope create problems for synchronic Dakotan phonology, of course, but not for the historian -- except that he would like to understand the source of these unruly lexemes.

Lastly, note that, although these ablauting vowels cannot be historically epenthetic in any realistic sense in most Siouan languages, this cannot be said with certainty about Dakotan. Dakotan, like Winnebago, may have simply lost final unaccented *-e*, developing "consonant-final stems" of precisely the sort Boas and Deloria, Carter, Shaw and others have postulated. The replacement vowel, *-a*, might then actually have been generalized analogically from enclitics elsewhere in the paradigm. This is hard to prove historically one way or the other for Dakotan, but it can be shown to have occurred in the related Winnebago.

⁴ In the case of 'go' and 'die' final accented vowels appear to undergo ablaut, not only in Quapaw but also in Dakotan, Hidatsa, etc., but an examination of the cognate sets for these verbs shows that each had a final unaccented syllable in the proto language. It was this syllable that provided the unaccented ablauting vowel. In Mississippi Valley Siouan final proto-Siouan syllables **-re* and **-he* have both collapsed with the preceding syllable leaving an apparent accented ablauting vowel. This disposes of another synchronic ablaut anomaly, the so-called accented ablauting vowels. Dakotan *kte* 'kill', an apparent ablauting *-e* stem, was also formerly disyllabic (and may (or may not) incorporate 'die'). The author does not propose to debate the enclitic vs. suffixal status of the post-verbal particles here because ablaut phonology can be understood without it.

⁵ Among the productive phonological processes that can be seen at work in Quapaw, there is a general tendency towards coalescence of mid and low vowels (sometimes including high vowels), so that nearly all *e + a > a* at affix or clitic boundaries. Vowel coalescence is also illustrated in, for example, QU *í-kkik-káŋ-q-kí-dé* [ikkikkákide] 'he traded it on me' (where 'it' was a horse). Features of both vowels may occasionally be preserved at a very recent compound boundary, e.g., *šŋke+a-kni* 'dog+sit-on' > [šŋkeákni ~ šŋgǎgni] 'horse'. There is a hierarchy of vowel strength however, and other vowel clusters may coalesce in the opposite direction depending on their relative strength. Vowel clusters at morpheme boundaries of a certain age and type resulted in insertion of a glide, **r*, (Quapaw *d*), e.g., *o-i-thi* > [odothǐ] (lit. locative-instrumental-strike) 'to pelt with'. This does not by any means exhaust the inventory of vowel alternations.

⁶ The fact that a reflex of the initial *a-* of 'negative' is stranded to the left of the 1st person inflectional *m-* in these forms strongly suggests that conjugation of the negative is an innovation in Omaha-Ponca and Kansa-Osage, and probably not a feature lost in Quapaw. There are not very many instances attested of such modal particles becoming inflected stems, but this seems to be one.

⁷ *wí- t-tŋba-m-áži* 'I do not see you'
I/you I-see -I-NEG

In this sentence there are three distinct allomorphs for 1sg. agent. The portmanteau, *wi-* collapses **wa-* '1sg agent' and **yi* '2sg patient' and is analogous to Dakotan *čhi-*. 'See' is a T-stem, which in Dhegiha means that 1sg **wa-* undergoes the usual Mississippi Valley Siouan initial syllable syncope, and then the remaining **w-* assimilates completely to a following stop, so *w + t > tt*. The third marker is the *m-* of the NEG auxiliary. The first two suffer from varying degrees of opacity, which in some verbs tends to generate double marking throughout the Dhegiha subgroup of MVS. The last is the normal prefix in frequently postposed glottal or vowel-initial auxiliaries such as **ʔo* 'do' or **ikhé* 'continuative-sitting', whose 1sg forms in Dhegiha are *m-ŋ*, *m-ikhé* respectively. Koontz (personal communication) suggests that *maži* actually contains a reflex of **mŋ* 'I do'. This analysis would not seem to be motivated semantically in the case of negative stative verbs however, nor would it explain why there is no reflex of *žŋ* in the 2nd person negative.

⁸ Just as the correct Dakotan internal reconstruction of 'adversative' is best considered to be **aši*, the initial *a-* having been reanalyzed as part of the preceding verb stem.

⁹ The particle-final vowels here are a separate question however, and one made more complex by the use of postposed gender and/or status markers, one of which is *-e*. For a more thorough treatment of them and of some their uses in Dakotan see Sistrunk (1996).

¹⁰ The Dhegiha animate plural classifier **-aWa* could also be derivationally related to the above set, although this is more doubtful and would require much justification. Here the **W* implies a morphologically complex form, since *W* elsewhere is traceable to an earlier sequence of **w-w*. In this regard, note the CR geminate however.

¹¹ Citation forms are those most often given in response to requests for translation. They may be nominalizations but Dakotan speakers have no trouble producing them in any event. They are not the imperatives that are offered as translations for English infinitives in many languages. Rood (personal communication) points out that they are variable and that Dakotan speakers will indeed often give citation forms with *-e* rather than *-a*.

¹² With such evidence available, it strikes me as at best Dakotacentric or at worst obscurantist to consider this phenomenon "ablaut" in the sense used by Indo-Europeanists to describe the *apophony* that occurs there. Nevertheless, passage of *tte* 'potential' to *tta* preceding conjugated forms of *nikhe* 'continuative' as well as the presence of the fairly frequent *-a* variant in reduplications remain phonetically unexplained in this scenario.

¹³ Chiwere (from the Siouan Archives Marsh file): Certain verb stems terminating in *-e* and one or two in *-í* show a replacement of this *-e*, *-í* before certain morphological elements: *-nq* 'it is [sic RLR]' (used to connect several verbs or several nouns in a sequence and hence often translated 'and'); *-wi* an element indicating the definite plural; *-ñe/-na* an element indicating indefinite plural; *le/le* a particle characterizing imperative sentences [N.B. this is probably the gender marker; the real imperative is the preceding *-a* as in Dakota, cf. Shaw 1980:134. RLR]; *če* a particle characterizing interrogative sentences; *-ñe* of the indefinite plural appears as *-na* before this particle; this particle is often omitted but the *-a* of the final verb form indicates that the form is interrogative; in forms compounded with the verb *nqhé* 'to be' having a progressive (continuative) sense.

é; áwi; áñe; ánq

He says; they (def.) say; they (ind.) say; he said

kłé; kłáwi; kłáñe; kłánq; kłá le; kłá če; so xé

He digs; they dig; they dig; he dug; dig!; did he dig?; bury

lé; láwi; aláñe; lánq; lá le

He goes; they go; they go; he went; go!

čłé; tłáwi; tłáñe; (ičłé)

He dies; they die; they die; (talk -- similar construction)

lučhé; lutháwi; lutháñe; lučhéwqšku

He crosses; they cross; they cross; they two cross, it is said

čhéhka tok xqñe

Cow male big = bull

čhéhka tóke-xqñe

.Cow male-big

N.B. The sequence *ñe* has to be derived in both cases above. In 'big' it is from **xáte* (cf. Otoe *xáje*) 'big'; in the affix *-áñe* the preceding vowel is not marked as nasal. Nevertheless, the *ñ* here has to be secondary (perhaps from **-áte* or **áRe?*).

ihánqhÊ [sic?] khe

I was saying it

čłá-hq`ke

She was lying dead

uwá-mqñi

He went by walking

¹⁴ It is, in fact, not clear that there is really any complete overlap between the major subgroups. That is, there may be no "core" environments for ablaut across Siouan, in which case ablaut may be nothing more than a superficially similar, but historically unrelated, set of vowel assimilations based on a relatively universal hierarchy of vowel

strength. Parallelism would be due to the fact that [e] is the least marked vowel and the one most regularly replaced; it is also the statistically most common final vowel. Replacement of *-e with -a in reduplicates and nouns can be seen, by its lack of uniformity, to be the product of analogical, not phonological, change, and it therefore cannot serve as a historical counter argument.

REFERENCES

- Boas, Franz. 1906. Notes on the Ponka Grammar. *Proceedings of the 15th International Congress of Americanists*, vol. 2. Québec.
- Boas, Franz and Ella Deloria. 1941. *Dakota Grammar*. Memoirs of the National Academy of Sciences 23, Part 2. Washington: GPO.
- Carter, Richard T. 1974. *Teton Dakota Phonology*. University of Manitoba Anthropology Papers, no. 10. Winnipeg: Univ. of MB.
- Carter, Richard T., A. Wesley Jones, Robert L. Rankin, *et al.* In preparation. *Comparative Siouan Dictionary*.
- Dorsey, James Owen. 1890. *The cegiha Language*. Contributions to North American Ethnology VI. Washington, DC: Government Printing Office.
- Dorsey, James Owen. 1890-1894. Quapaw texts and dictionary ms. Manuscript collection of the National Anthropological Archives. Smithsonian Institution, Washington, DC.
- Dunnigan, Tim and Kenneth Truitner. 1975. Boundary marking and vowel alternation in Dakota. Paper read at the American Anthropological Association, annual meeting. Cited by Shaw 1980.
- Hollow, Robert. 1969. *A Dictionary of Mandan*. University of California doctoral dissertation. Berkeley, CA.
- Jones, A. Wesley. 1983. On Proto-Siouan Ablaut and Nasalization, *Napao, a Saskatchewan Anthropology Journal*, 13:29-30.
- La Flesche, Francis. 1932. *A Dictionary of the Osage Language*. Bureau of American Ethnology Bulletin 109, Washington, DC: Government Printing Office.
- Patterson, Trudi A. 1990. *Theoretical Aspects of Dakota Morphology and Phonology*. University of Illinois Doctoral Dissertation. Urbana, IL.
- Rankin, Robert L. 1977. From Verb, to Auxiliary, to Noun Classifier and Definite Article: Grammaticalization of the Siouan Verbs Sit, Stand, Lie. R.L. Brown, *et al.*, eds., *Proceedings of the 1976 Mid-America Linguistics Conference*, Minneapolis, 1977, 273-83.
- Rood, David S. 1983. A Preliminary Consideration of Proto-Siouan Ablaut. *Napao, a Saskatchewan Anthropology Journal*, 13:24-28.
- Rood, David S. and Allan R. Taylor. 1997. Lakhota sketch. William Sturtevant, ed., *Handbook of North American Indians*, vol. 17. Washington: Government Printing Office.

Shaw, Patricia A. 1980. *Theoretical Issues in Dakota Phonology and Morphology*. New York: Garland Press.

Sistrunk, Sara. 1996. Women say 'yelo'; men say 'yele': What the exceptions to the rules in Lakhota show. In Jule Gómez de García and David S. Rood, eds., *Proceedings of the 1993 Siouan-Caddoan Conference*. Boulder: University of Colorado Linguistics Department.

A version of this paper was originally presented at the
Siouan and Caddoan Linguistics Conference,
Albuquerque, NM, 11-12 July 1995
Current version: July 16, 2006

Robert L. Rankin
Department of Linguistics
University of Kansas
Lawrence, KS 66045-2140
rankin@ku.edu