A New Reconstruction of Kiowa-Tanoan Ablaut
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1. INTRODUCTION.* Throughout the Kiowa-Tanoan language family, under certain morphosyntactic conditions the initial consonants of some verbs alternate. For example, in (1a) are listed the ablauting consonants in the Northern Tiwa language Picurís. There are three types: roughly, voiced (>nasalized) alternating with voiceless, glottalized alternating with non-glottalized, and a third somewhat heterogeneous group. Some examples of ablauting verbs from Picurís are given in (1b).

(1)a.

m ~ p	pˀ ~ p	ʔ ~ k
	tˀ ~ t	w ~ kʷ
	cˀ ~ č	w ~ xʷ
	kˀ ~ k	h ~ x

(1)b.

mą	~	pą	'bring'
tˀel	~	tel	'grind'
cˀən	~	čən	'enter'
ʔa	~	ka	'plant'
wįn	~	kʷįn	'stand'
howe	~	xowe	'believe'

Example (2) from the same language illustrates one of the synchronic morphosyntactic contexts of this ablaut. The subordinate verb *xʷęl* 'dig' in (2a) is ablauted, while main verb *węl* 'dig' in (2b) is not.

(2)a. toxʷiałołe phal-ma ma-xʷęl-sai
coyote.old.man hole-into 3sg.reflx.-dig-begin
'The old coyote began to dig into the hole.'

b. Ø-na-węl-men
3sg.abs.-agr.-dig-subord.
'As he dug'

From the earliest work on Kiowa by Harrington (1928), and continued in the work of subsequent scholars, for example Trager (1946), Hale (1962; 1967), Speirs (1966), F. Trager (1968), Zaharlick (1977), Watkins (1977; 1984), Sprott (1992), this ablaut was described for Proto-Kiowa-Tanoan and synchronically as the replacement of a voiced or glottalized initial consonant of a verb by a voiceless or unglottalized consonant in the corresponding secondary form of the verb. In other words the voiced/glottalized form was considered to be the basic form of the root, and the voiceless/unglottalized to be the secondary form of the verb. Hale (1967), for instance, reconstructs the ablaut alternations in (3) for Kiowa-Tanoan. The consonant on the left is established as the basic form and the

consonant on the right its ablauted form. This conception of ablaut assumes that a process of devoicing or deglottalization applied to the initial consonant of the root.[1] For now I leave aside the third group of ablauting forms but will return to them later.

(3)

Basic	~	Ablauted
*b	~	*p
*d	~	*t
*z	~	*c
*glottalized stop	~	*plain stop
*?	~	*k
*g^w	~	*k^w
*h	~	*kh
(Tanoan? *g^w	~	*kh^w)

The primary aim of the present study is to suggest that the ablaut alternations as reconstructed in (3) do not correctly identify which is the basic form of the consonant and which is its secondary ablauted form. I will argue that the original KT ablaut alternations were in fact the opposite of those given above. Specifically, I suggest reconstructing KT ablaut in the proto-language as having consisted of (1) a process of voicing, and (2) a process of glottalization. The reconstruction of the two classes of ablaut alternations I propose is shown in (4).[2]

(4)

Basic	→	Ablauted
*voiceless	→	*voiced
*plain	→	*glottalized

This proposal for the analysis of ablaut in Kiowa-Tanoan will have several consequences. I will eventually argue for the relevance of the directionality of KT ablaut to morphosyntactic reconstruction, including a relocation of the reconstructed site of ablaut, as well as point out implications for comparison with Uto-Aztecan.

In (5) I give a sketch of KT verbal morphology, based loosely on Picurís (Northern Tiwa), which with some minor differences is representative of the family in general.

(5) pronom.-special-neg.-narr.-fut.-quantifier-N-V_2-V_1-deriv.-infl.
clitic agr.

I wish to draw attention in particular to the structure of verb complementation. There are basically two types. In one type of complementation, the subject of the subordinate clause has no role in the argument structure of the main clause. Here the subordinate verb is marked by a complementizer suffix - *?e* , for example as in (6). "She wanted the men to work".

(6) sənenę ʔą-tʾala-tʾa-či-ʔe Ø-miau-mẹn
men 3pl.abs./3sg.dat.-work-do-modal-comp. 3sg.abs.-want-sub.
'She wanted the men to work for her'

In the second type of complementation, that which will be relevant to the discussion of consonantal ablaut, the subject of the lower clause has some role in the argument structure of the main clause and is co-referent with either the main clause subject or object. The subordinate verb in this case will be incorporated into the main verb complex. Examples are *xai-ɬeu* 'get-send' as in 'he sent them to get it' and *pẹ-miau* 'go-want' as in 'he wanted to go'. There is no overt complementizer in such cases, and the subordinate and main verb are part of the same morphological word. The history of ablaut in KT will have something to say about this type of complementation structure historically, as well as synchronically. I will touch on these points in the course of the paper.

2. REVISING THE DESCRIPTION OF KIOWA-TANOAN ABLAUT. In traditional accounts of ablaut in Kiowa-Tanoan (e.g. Hale 1967), the description of the synchronic distribution of ablaut consists of a three-part statement. When 'ablauted' is understood as 'voiceless' or 'unglottalized', ablauted forms appear to occur (i) in nominalizations, (ii) as the first member of a verb compound (i.e. where a subordinate verb has been incorporated into a higher verb), (iii) in the stative members of related stative/active pairs. Examples below come from Picurís (Northern Tiwa). (Data are from Harrington and Roberts (1928).) All three types of ablaut are unproductive.

(7)a.	cʾi	'tie'	
	ci	'be tied'	
b.	mo	'see'	(m < *b)
	tə-po-ne	'student'	[writing-see-nom.]
c.	tʾel	'grind'	
	tel-sai	'start to grind'	

I will eventually suggest that historically there were not three different types of ablaut as reflected in these three different morphosyntactic contexts, but rather only a single type of ablaut. For now, I leave statement (iii) aside and consider (i) and (ii) concerning the distribution of KT ablaut. Assuming that ablaut was originally conditioned phonologically by material to the left of the consonant undergoing ablaut[1], if we compare the morphosyntactic environment to the left of deverbal nouns and verb compounds, we find that the two have little in common. A nominalized verb may be preceded by Ø, possessor agreement, or an incorporated noun. The first verb of a verb compound may be preceded in its phonological word by a number of elements (depending on the language), for example: Ø, pronominal clitic, narrative particle, modal particles, negative, future, certain quantifiers and adverbials, or an incorporated noun.[2]

The lack of a shared morphosyntactic context for these categories suggests that we should not be looking here for the original phonological trigger of the ablaut. In other words, instead of assuming that the underlined forms in (8) are ablauted forms of the verbs, I propose that we assume these forms are not ablauted and that the ablauted form of the verb is to be found elsewhere. If it indeed is the case that the *p* of *pǫ* in (8a) is untouched by ablaut, we must go back to the reconstructed ablaut pairs given in (3) and switch the left and right columns as I have suggested in (4). Now we identify *p* as the consonant in the unablauted or basic form of the verb and *b* as its ablauted counterpart. The two phonological processes responsible for ablaut should now be described as voicing and glottalization.

(8)a.	tə-**pǫ**-ne	'student'	[writing-see-nom.]
b.	**pǫ**-wəle	'go out to see'	[see-go.out]
cf.	mǫ	'see'	(m < *b)

The reconstruction I propose gives us a new notion of what we should identify as ablaut and consequently a new notion of the contexts in which ablaut occurred historically. I have suggested that ablauted consonants are those which have been voiced or glottalized, not **devoiced or **deglottalized as under the traditional hypothesis. The question is, where do these ablauted consonants occur? I suggest that the ablauted form of the verb is still found in the verb compound, though its locus is not the one pointed out by the traditional description.

For a verb that undergoes ablaut, the initial consonant of the stem will differ depending on whether it is the first or second verb of a verb compound. For example, as (9) shows, Picurís 'go' shows initial consonant *p when occurring as the first member of such a compound but reflects an earlier *b when it is the second member of the compound. 'go' will also show this reconstructable *b in its use as a simple verb.

(9)a.	**pe**-sai	
	go-start	
b.	pǫ-**me**	(m < *b)
	see-go	
c.	**me**	(m < *b)
	go	

Having determined that the form with *p represents the unablauted form, *b must represent the ablauted form of the verb's initial consonant. Therefore it is the *second* verb of a verb compound that underwent ablaut in Proto-Kiowa-Tanoan.

2.1. RECONSTRUCTION OF THE ORIGINAL SITE OF ABLAUT. As I have said, a result of the new reconstruction of the basic and ablauted forms is the discovery that the original KT ablaut was conditioned in verb compounds in a location different from that assumed previously.

Under the traditional hypothesis, so-called ablaut (that is, devoicing or deglottalization) affected the first verb and so was located at the left edge of a verb compound. As verb compounds are right-headed, it was therefore the subordinate verb that was presumed to show ablaut (marked in (10) with an underscore).

(10) Traditional analysis * * [C- ...]SUB - [C- ...]MAIN

For example, in the Picurís examples below, *pę* and *čən* in (11a) would have been identified as ablauted forms and *mę* and *c'ən* in (11b) as the basic forms of these stems.

(11)a.	pę-sai	čən-sai	(č < *c)
	go-start	enter-start	(m < *b)
b.	kal-mę	kal-c'ən	
	eat-go	eat-enter	

Under the proposal I have made concerning the identification of ablaut, however, it is the second verb of the compound that reflects the historically ablauted form of the verb root. Ablaut is therefore reconstructable as having originally been conditioned by an element or elements located *between* the verbs of the compound, as shown in (12). And it is *mę* and *c'ən* in (11b) that are the Picurís reflexes of the ablauted forms of these verbs. One can speculate as to whether the source of ablaut might have been a suffix to the subordinate verb or a prefix to the main verb. There is some evidence at this point to consider one over the other, and I will make a suggestion concerning this later on.

Ablaut Trigger

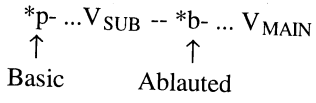
(12) * [C- ...]SUB - ↓ - [C- ...]MAIN

2.2. THE SOURCE OF CONFUSION: LANGUAGE INTERNAL REINTERPRETATION OF THE SITE OF ABLAUT. Two types of regular alternations of verb stem consonants are now reconstructed for KT, voicing and glottalization. Through some change, perhaps in the conditioning element itself , the phonological bases of these alternations probably became obscure. Since the consonant alternations were no longer phonologically conditioned, at this point ablaut was grammaticalized as morphosyntactically conditioned. Specifically, ablaut was attributed to the subordinate syntactic configuration.

It seems that upon this grammaticalization, ablaut in these verb compounds underwent profound reanalysis: when subordination became the trigger of ablaut, ablaut was reanalyzed as affecting the subordinate verb instead of the main verb. I illustrate this in (13). V_{SUB} and V_{MAIN} here represent different lexical items; I have represented them both with initial bilabials so that the proposed changes can be more easily understood.

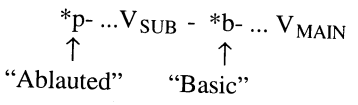
Originally, of two verbs in the relevant configuration, the first appeared in its basic form and the second was ablauted.[4]

(13)a.



When the trigger of ablaut was reanalyzed as being the subordinative configuration, the form of the subordinate verb was reanalyzed as an ablauted form.

(13)b.



This reanalysis changed the synchronic locus of ablaut. In (13a), the main verb bears real phonological ablaut. In (13b) the subordinate verb bears what one might call secondary morphosyntactic ablaut.

Example (14) shows the nature of this grammaticalization of ablaut in Picurís. Here two subordinate verbs, both complements of the verb 'know how to' with identical subjects, are conjoined so that neither can be incorporated morphologically into the higher predicate (as the verb in the second type of complementation structure described earlier usually does). Note however that the ablauting verb 'see' does show ablaut in this syntactic context. This indicates that the original description of ablaut as occurring in the first member of a verb compound is not quite right, at least for Picurís (and also Jemez for which I have a similar example later on). Rather it is the subordinate syntactic role of that first verb in such a compound that triggers ablaut.

(14) ʔo-wa-tə-pǫ wi ʔo-wa-tə-pia
3sg.erg./pl.abs.-neg.-writing-see nor 3sg.erg./pl.abs.-neg.-writing-make

Ø-nipę
3sg.abs.- know.how

'He could neither read nor write.'

The grammaticalization of ablaut resulting from the loss of synchronic rules of voicing and glottalization, appeared to create new processes of devoicing and deglottalization of the subordinate verb. Both types of ablaut continue to function in this direction, opposite to that of original ablaut, in the synchronic grammars of the daughter languages. The traditional understanding of KT ablaut as illustrated in (3) reconstructs KT ablaut directly based on the synchronic pattern in the daughter languages But due to the reanalysis described in (13), this pattern should be reversed in order to reconstruct the original locus of ablaut in Proto-Kiowa-Tanoan.

One consequence of the change resulting in the identification the subordinate verb as ablauted was the generalization of the original ablauted form as the basic form of the verb root.[3] Therefore we must be careful to reconstruct for the daughter languages the form of such alternating verbs found in simple clauses as the ablauted form.

Since all branches of the Kiowa-Tanoan family attest what I reconstruct as the ablauted forms of alternating verbs as the basic form synchronically, for example 'look for' shown in (15), (also see data in Hale (1967), Speirs (1966), Sprott (1992), Watkins (1984)), it can be concluded that the reanalysis of KT ablaut, and the replacement of the unablauted form by the ablauted form in the lexical entry of the verb, took place already in Proto-Kiowa-Tanoan.

(15)

	Picurís	Tewa	Jemez	Kiowa	
* t ~ d (*d>n in some cases)	nǫ	nų.	nɨ́	don	'look for'

2.3. FURTHER UNIFYING THE MORPHOSYNTACTIC DISTRIBUTION OF ABLAUT. I now turn to the third context in which ablaut is found, the stative/active stems related by an ablauting initial consonant. Though this type of ablaut is generally limited in most of the branches of Kiowa-Tanoan, Tewa shows a relatively greater number of such stems, with all the phonological types of ablaut represented (perhaps a clue that this ablaut is related to the ablaut in subordinate verbs already discussed). Examples are given in (16).

(16) Rio Grande Tewa (Speirs 1966)

	Completive	Stative
'bring'	ma:	pą?an
'fill'	p'íre	pi?ren
'paint'	?aeñu	kae?ñun
'break'	háve	xa?ven
'stand up'	wínú	kʷi?nun

In all the branches of KT these stative verbs are main verbs with lexical stative meaning and take inflectional suffixes. The inflectional suffixes themselves require a closer look. In Southern Tiwa the stative present inflectional suffix is *-m* . The stative suffix is *-mo* in Taos (Northern Tiwa) and *triggers ablaut* on the verb it accompanies, shown in (17). Compare these to Picurís (Northern Tiwa), *-mo* , which forms a stative predicate, as in Pic. *xai-mo* 'be ready'. (cf. *xai- ?ąn* 'get ready'). Pic. *-mo* can carry inflection on its own, however, as shown in (18), indicating that *-mo* is lexically a verb.

(17) S. Tiwa -m stative present
Taos (N.Tiwa) -mo stative

Ta. hoy 'take'
xoy-mo 'be taken'

Picurís (N. Tiwa) -mo stative

cf.	Tewa	-mù:	be, exist
	Towa	-mɨ:	be
	Kiowa	-bé (~ -mé ~ -dé)	stative

(18) ʔą-xia-mo .... ta-mo (cf. xai-ʔąn 'get ready')
2sg.abs.-ready-stative 1sg.abs.-stative
'Are you ready? ... Yes I am (ready).'

These facts suggest the following model for the development of ablaut in stative verbs. (i) Stative constructions probably can be reconstructed as a lexical verb + a stative verb (though not necessarily the one illustrated in (17)). As discussed above, it is the second verb, not the first, in such a sequence that was historically ablauted.[4] (ii) The verb used to form stative predicates underwent grammaticalization as an inflectional suffix, creating in these environments a new stative root with an initial consonant morphophonemically related to the active root. Finally, (iii) as proposed earlier, the ablauted form of a verb was reanalyzed as unablauted and generalized as the basic, active, form of the verb. The result of (iii) is that the active form of the verb, like other syntactically main clause verbs, is historically ablauted, while by (i) and (ii) the stative form of the verb is historically unablauted. In this way a semantic contrast, formally reflected in the presence vs. absence of the stative verb, has been grammaticalized in the ablaut of the initial consonant of the verb. Synchronically, according to the reanalysis proposed in (13b), this means the stative stem appears to be ablauted and the active stem unablauted.

2.3.1. INTERACTION OF ABLAUT WITH INFLECTION. That stative/active ablaut may be due to the grammaticalization process I have outlined is supported by other evidence of inflectional suffixes interacting with ablaut. This evidence is somewhat sketchy, and I will only mention one other of these here, yet I think as a whole they may form a plausible model of the morphosyntactic origins of ablaut in the proto-language.

This example comes from Jemez (Towa)[5]. The verb kyʔá 'lie, be lying down, be in position' has an ablauted form ká: minus the glottalization and palatalization. This alternation apparently does not correspond to a stative/active alternation, however, as is found with cognates of this verb elsewhere in the family. The Jemez ablauted form ká: is found in subordinate constructions, where ablaut is expected synchronically, shown in (19a). Note that this example is somewhat different in that ablaut shows up in the first type of complementation, where the subordinate verb is contained in a separate clause marked by a complementizer - *ʔe* .[6] More to the point, this synchronically ablauted form of the stem ká: also occurs when the verb is not syntactically subordinate and is inflected with the future suffix -*hɨʔ* , shown in (19b). Based on this we may suspect that this future inflectional suffix -*hɨʔ* derives historically from a verb.[7] In this case the form ká: in this example would reflect the historically unablauted form of the subordinate verb of a verb compound.

(19) kyʔá 'lie, be lying down, be in position; 'have' + dative'
ká: (ablauted form)

a. tɨmɨví ɨ-ká:-dae-ʔe ɨ-wa:mɨ
car 1sg.dat.-'have'-irreal.-subord. 1sg.abs.-want
'I want to own a car'

b. nį́: tɨmɨ́ví ɨ́-ká:-hɨ́?
1st car 1sg.dat.-'have'-future
'I will own a car'

Thus there appears to be some evidence to support the idea that stative/active ablaut originated for the same structural reason as ablaut in other types of subordinate constructions. As a result, we can condense the description of the historical distribution of ablaut to a single morphosyntactic context.

3. 'ABERRANT' ABLAUT. Another result of the reanalysis of Kiowa-Tanoan ablaut proposed here is the opportunity to provide a phonological account for some of the ablaut alternations that do not appear to fit the traditional characterization of ablaut as **voiced --> devoiced. (20) states two of these alternations vis-à-vis the assumptions of the present study. Reflexes of the consonants on the left occur in the subordinate verb of a verb compound, and reflexes of the consonants on the right occur in the main verb of such a compound.

(20)

Basic	~	Ablauted
*kh	~	*h
*k	~	*ʔ

3.1. *kh ~ *h. This alternation is interesting in that it may provide a clue as to how to reconstruct the trigger of voiced ablaut (though I admit the conclusions drawn here are somewhat speculative and represent only a first attempt).

The existence of the ablaut alternations *kh ~ *h and *kh^{w} ~ *g^{w} may indicate that the original trigger of ablaut should be reconstructed as a velar consonant. Note, first of all, that although there are five aspirated stops reconstructed {*ph, *th, *ch, *kh, *kh^{w}}, only *kh and *kh^{w} have ablauted forms. {*ph *th *ch} remained unaffected by ablaut. This situation contrasts with the unaspirated voiceless stops, where the stop at each point of articulation has an ablauted form: *p ~ *b, *t ~ *d, *c ~ *z, *k ~ *g (>ʔ). This possibly suggests some connection with velar point of articulation.

The lack of ablauted forms for most of the voiceless aspirates may follow from the aspiration, which may have blocked the spread of voicing. Now take *kh, a voiceless aspirate that does have an ablauted form. The ablaut alternation *kh ~ *h does not correspond to the phonological pattern *voiceless ~ *voiced that relates the rest of the ablaut pairs. If the trigger of ablaut was a voiced velar *g however, the velar point of articulation of *kh together with the velar point of articulation of the ablaut trigger may account both for the existence of an ablauted form of *kh as well as for the phonological shape of that ablauted form as *h.

The phonetic sequence [gk^{h}] resulting from the juxtaposition of the ablaut trigger *g and initial consonant kh is ambiguous. The sequence [gk^{h}] can be analyzed either (i) as a sequence of two segments /g/ and /k^{h}/, or (ii) as two segments /g/ /h/ where the voiceless velar [k] portion of phonetic [gk^{h}] is

interpreted as the right edge of g devoiced by following h. The possibility of such a phonetic ambiguity would suggest that ablaut trigger *g and the following verb were in close proximity, as one might expect in a context where ablaut develops.

Such an ambiguity, if present, could have led to the reinterpretation of [gkʰ] as the sequence /g/ + /h/. Consequently */h/ was set up as the ablauted form of *kh, analogous to the alternations of other verb initial consonants under similar conditions. Where point of articulation of the hypothetical trigger *g and target do not match, as in the case of *g and {*ph, *th, *ch}, no such phonetic ambiguity is possible

In summary, the fact that among voiceless aspirates it is the velar consonants which have ablauted forms suggests the reconstruction of a velar consonant as ablaut trigger.

3.2. The Alternation *k ~ *?. As for alternation B, I used to think (Nichols (1994) that this type of ablaut could be assimilated to the regular voicing type of ablaut, in the following way.

According to Hale (1967) 'the ablaut of /g/ to /k/ is not attested for Tanoan'. This he says is probably due to 'the extreme rarity of Tanoan stems beginning in /g/'. First of all based on the reconstruction in the present study, the alternation in question should be revised from *g ~ *k to *k ~ *g. Although there are no attestations of *k ~ *g ablaut in Tanoan, the alternation *k ~ *? is attested. I suggested reconstructing *k ~ * ? as the alternation *k ~ *g and posited the change *g > *?. All branches of the family attest this alternation, including Kiowa, indicating the change *g > *? would have occurred before the breakup of the Proto-language.

But the possibilities concerning the *kh ~ h alternation suggest an alternative hypothesis. If voiceless velar k is the initial consonant of the verb, an ablaut trigger *g would, according to the observed pattern, voice this to g. Here again, phonological ambiguity may have played a role. The sequence [g g] is ambiguous between /g/ and /g/, or /g/ + Ø. In other words, I suggest the ablauted form of a verb beginning with k may have been reanalyzed as formed by consonant deletion, with glottal stop inserted by phonetic rule.

This second hypothesis adds weight to the speculation that the trigger of ablaut may have been the voiced velar stop *g. Although I realize this reconstruction is indeed speculative, it at least gives us a clue as to the kinds of morphemes it might be fruitful to consider when looking for the trigger of KT ablaut.

In particular, the location of this ablaut trigger historically between the two verbs suggests a couple of possible morphosyntactic identities of the ablaut trigger, either (a) some type of prefix, perhaps pronominal inflection, to the main verb, or (b) a suffix to the subordinate verb. The most likely candidate however, would seem to be (c) a complementizer. The grammaticalization of ablaut as triggered by subordination, as I described earlier, where the initial consonant of the subordinate verb now reflects ablaut would therefore have merely shifted the overt mark of subordination from a complementizer between the two verbs to ablaut on the subordinate verb, rather than having created a new syntactic construction.[8]

Therefore, although the existence of a complementizer with the form of a voiced velar *g is purely hypothetical at this point, it is interesting to note that

both Kiowa and Taos (Northern Tiwa) have velars in their subordinating clitics and particles, given in (21).[9]

(21) Taos gǫ̀ / k̓óy
Kiowa gɔ̀ / k̓ɔ̀t

This suggests that the reconstruction proposed in this paper for ablaut may be along the right track, though we are surely only still at the beginning of the story.

4. IMPLICATIONS FOR COMPARATIVE STUDIES. In this study I have suggested that a reanalysis of ablaut in the verb compound took place in Proto-Kiowa-Tanoan. As a result, an originally unablauted subordinate verb was reidentified as 'ablauted' and an originally ablauted main verb as 'unablauted'. This new 'unablauted' form, based on the original ablauted root form, was generalized as the basic form of the verb root. For this reason extra care must be taken when doing lexical comparison involving Proto-Kiowa-Tanoan roots. If the 'ablauted' form of the verb root in the descendent languages is indeed the reflex of the originally unablauted root in the proto-language, it is this form of the root that must be considered when undertaking more distant lexical comparison.

4.1. THE AZTEC-TANOAN HYPOTHESIS is a case in point. Sapir was the first to propose a Kiowa-Tanoan : Uto-Aztecan linguistic relationship (Sapir 1929). Subsequently, Whorf and Trager (1937) submitted a list of 102 forms reconstructed for Aztec-Tanoan, based on reconstructions for Uto-Aztecan and Tanoan. According to Davis (1979), the Aztec-Tanoan relationship was generally accepted, though Davis cites both Newman (1954) and Miller (1959) as regarding some of the reconstructions as inconclusive or dubious. Davis concludes (p.409):

> "Supporting evidence for the Uto-Aztecan and Proto-Tanoan reconstructions is in many cases quite meager, and few items attest regular correspondences in more than a single consonant and vowel. At the same time, the differences between Uto-Aztecan and Kiowa-Tanoan both in phonology -- the former with a single stop series in contrast to the four way contrast in Kiowa-Tanoan stops -- and grammar are striking. Whatever relationship exists between the two language groups is certainly remote, and the validity of Aztec-Tanoan as discrete entity might be questioned."

The comparisons made by Whorf and Trager (1937) on which the Aztec-Tanoan classification is based must be reviewed in light of the suggestions concerning Kiowa-Tanoan ablaut made in the present study. Reconstructions based on the synchronic 'unablauted' form of the root are now suspect. Whorf and Trager (1937) reconstruct several Aztec-Tanoan forms that rely on a Proto-Tanoan reconstruction based on what are now suspected to be ablauted forms. For example, AT *maw(a) 'see' is reconstructed based on UA *mạwa and PT *mow; AT *yeŋ(a) 'sit' based on UA *yaŋ, PT ę ; AT *ʔạ 'bathe, wash' based on UA *ʔaḷa, PT *o. The (Kiowa-)Tanoan forms should instead be reconstructed with the initial consonants, *p, *k, *k, respectively.

5. FINAL REMARKS. I will admit that one of the drawbacks of the present study is that certain arguments may appear somewhat speculative and partly rely on

phonetic reconstruction. I hope, however, that the study does serve to bring up a few suggestive lines of investigation into the history of Kiowa-Tanoan ablaut, namely what we might look for as the trigger of ablaut and where we might look for it. And I hope to have underscored the the importance of considering the morphosyntactic evidence bearing on ablaut, in addition to the phonological evidence.

* I am grateful Ken Hale, Mark Hale, Calvert Watkins and especially Laurel Watkins for reading earlier versions of this ms. and for extremely helpful discussion of the problem. I would also like to thank Sally Thomason for an opportunity to present the paper at the 6th Workshop on Theory and Method in Linguistic Reconstruction held at the University of Pittsburgh in March 1996, as well as the audiences at both Berkeley and Pittsburgh for their comments. Kiowa-Tanoan consists of Kiowa, Jemez (Towa), Tewa (Rio Grande Tewa and Arizona Tewa), Tiwa (Southern Tiwa: Isleta, Sandia; Northern Tiwa: Picurís, Taos). Internal grouping is still somewhat controversial and is not indicated here.

[1] An assumption that may turn out to be wrong but that for now is a good working hypothesis.

[2] Of course not all categories are found in every branch of the family.

[3] Assuming ablaut was conditioned by some suffixal element of the subordinate verb. If ablaut was conditioned by some prefixal element to the main verb, then ablaut would have affected all main verbs, in simplex as well as in complex clauses, and there would be no need to posit such a generalization.

[4] Note that the stative morpheme in (17), reconstructable with initial consonant *b, may historically have this *b as the result of ablaut.

[5] I am indebted to Ken Hale for pointing out this example to me.

[6] Despite the fact that the subjects of the two clauses are coreferent.

[7] Note incidentally that *h* is the historically ablauted form of *kh*, which, although conclusive evidence is still lacking in the present case, is suggestive that this *h* may be the result of ablaut of a former main verb.

[8] One might argue in support of the analysis of verb incorporation proposed by Baker (1988) that the ablaut on the subordinate verb is a sign that this verb passes through C(omp) on its way to incorporating into V_1.

[9] Thanks to Laurel Watkins for pointing this out to me.

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