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On *w and *y in Kiowa-Tanoan

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Some ten years ago now Ken Hale (1967) presented a first reconstruction of Proto-Kiowa-Tanoan (PKT) phonology.¹ It was roughly twenty years ago that the Tragers (1959) and Wick Miller (1959) separately argued for inclusion of Kiowa in the Tanoan family. Despite the very close relationships within Kiowa-Tanoan, that relationship was only relatively recently demonstrated. Hale included in his article comments on various grammatical features that are likely reconstructible to PKT and emphasized the need for careful reconstruction of both PKT and Proto-Uto-Aztecan (PUA) before a comparison of the two proto-languages could be undertaken. Far more progress has been made in Uto-Aztecan than in Kiowa-Tanoan, but the time is ripe, with recent field work on several of the KT languages, to remedy the sketchy understanding we have of these languages and their historical development.

A brief look at some of the correspondences presented by Hale reveals the closeness of the family. The ejective and plain stops and the nasals remained the same in all four subgroups, Tiwa, Tewa, Towa and Kiowa. The aspirates developed into spirants in several of the Tanoan languages but remained aspirates in Kiowa. *b and *d descended as m and n in Tanoan where Kiowa retained b and d. The *b and *d correspondences are especially interesting for their participation in voicing ablaut, a feature no doubt of the proto-language, which is reflected in the modern alternations Tanoan m~p but Kiowa b~p, Tan. n~d K. t~d, Tan. y~c K. z~c and, attested only in Kiowa, g~k.

Vowel correspondences have so far yielded no clear picture of the vocalic system of the proto-language. Kiowa seems the most divergent, several proto-vowels having collapsed in Kiowa, leaving a disproportionate number of correspondence sets with low vowels. Trager (1942) remarked on the considerable vocalic differences between Tiwa and Tewa, which are otherwise the closest of the four subgroups. In the end, the certainty of the proposed cognate sets rests on a better understanding of the vocalic correspondences, but we will have to proceed without that understanding for the moment.

My concern in this paper will be with two parts of Hale's reconstruction: the status of *w and the addition of *y to the proto-inventory. The development of the labialized velars and the affricates is of related interest. The revisions I propose here are built on Hale's considerable contribution to Aztec-Tanoan studies, and will, I hope, bring us a step closer to a detailed assessment of the status of the Aztec-Tanoan stock.

First, a look at one of Hale's poorly attested sets, *w > Tiwa, Tewa, Towa w, Kiowa y, the single example of which is the word for 'two': Ti wi-, Te wiye, To wi-, K yi'. This set is suspect on two counts. First, the w:y correspondence is an unlikely shift.²

Second, the vocalic correspondence i:i:i:i occurs uniquely in this set. The fault with the cognates for 'two' lies solely in the Kiowa form, however, the other three correspondences being supported by additional cognate sets (1).

(1) a.	* <u>w</u> 'neg. pfx' (W)	b.	* <u>w</u> 'again/back' (W)	c.	* <u>w</u> 'good' (W)
	Ti <u>w</u> o-		<u>w</u> iwa		--
	Te <u>w</u> i		<u>w</u> é·		(hi·) <u>w</u> o
	To - <u>w</u> o-		--		<u>w</u> ó'
	K --		óy		ó·

There are gaps in the sets, but only the lack of a Kiowa cognate for the negative prefix (1a) is certain. The picture is clear nevertheless: *w remained w in the Tanoan languages but emerged as a rounded vowel in Kiowa. In 'again,back' (1b), *w has become [+ syllabic] before an unrounded vowel, that vowel becoming [- syllabic], perhaps conditioned by an accent shift.

The validity of the set is strengthened by the occurrence of the form 'again, back' in identical syntactic environments in Tewa and Kiowa. Among other elements that may be compounded in the KT verb are a group of adverbials which must occur between the pronominal prefix and the verb stem. Tewa wé· and Kiowa óy belong to this class (2).³

(2)	Te	na- <u>w</u> é·-m̄	(3s-back-go)	'he went back'
		do- <u>w</u> é·-m̄	(1/3s-again-see)	'I saw it again'
	K	em- <u>óy</u> -á·	(2s-back-come)	'come back!'
		hó bē- <u>óy</u> -hó	(Q 2s/inv-back-carry)	'did you take it back?'

The set meaning 'good' (1c), which functions also as an intensifier in both Towa and Kiowa, suggests that *w disappeared before a rounded vowel in Kiowa. Again, the syntactic contexts in which these morphemes are found support their cognate status. The examples in (3) show Towa wó' and Kiowa ó· in preverbal position.

(3)	To	í- <u>w</u> ó'-š̄i	(1-truly-full)	'I'm truly full'
	K	à- <u>ó·</u> -th̄á·	(1s-good-feel)	'I'm happy'
		gyá-pí- <u>ó·</u> -s̄é·	(p-food-good-smell)	'it smells delicious'

The modern reflexes of the plain and aspirated labialized velars nicely corroborate the evidence for the development of *w in Kiowa. *k^w remained k^w in Tiwa and Tewa but has descended as a non-labialized velar followed by a rounded vowel, a development we might predict from the preceding discussion of *w. In (4a), the labial portion of the proto-segment has become [+ syllabic], the following non-round vowel [- syllabic] in the second syllable of 'young woman'. The development exactly parallels that of 'again, back' (1b). The aspirated labialized velar *k^{wh} has similar reflexes, 'drag' (4b). An earlier pronunciation of the modern Kiowa u as uɔ, recorded by Mooney (1896) and Harrington (1928) both, reinforces the parallel. *w, then, clearly reconstructs to

PKT. Only the putative cognate for 'two' in Kiowa must be rejected. A possible Tanoan cognate for Kiowa 'two' was in fact recorded by Harrington (1910): Taos yíăbata 'second, other'.

(4) a. *k ^w	'woman (in prime)'	b. *k ^{wh}	'drag'
Ti	<u>k^wəl-</u>		--
Te	<u>k^wi-</u>		<u>x^wa·</u>
To	--		<u>hⁱ·se</u>
K	<u>yókóy</u> (W)		<u>k^hú(ɔ)-</u>

One other correspondence set involves w in the modern languages: *g^w > Ti, Te w, To k^w, K g. Hale presented the cognates for 'tooth' and 'blow' (5a and 5c) without discussing the two Kiowa reflexes g and z. These sets, and (5b) and (5d) from his unpublished cognate list, deserve some discussion since they involve different Kiowa reflexes and reveal one source of Kiowa z, whose PKT antecedents are not fully identified. *g^w is reflected in Kiowa z (5a and 5b) as well as Kiowa g (5c and 5d). Both are followed by a rounded vowel, the expected Kiowa reflex of labialized velars.

(5) a. *g ^w	'tooth'	b. *g ^w	'pine'	c. *g ^w	'blow'	d. *g ^w	'breast'
Ti	<u>wiɛ</u>		<u>wɛ</u>		wɔ- (W)		--
Te	<u>wɛ</u>		wen		wá·		<u>wá</u>
To	<u>k^wq̄·</u>		<u>k^wni-š</u>		<u>k^wini-š</u>		<u>k^wò</u>
K	<u>zq̄· ~ zém</u>		<u>zq̄·-</u>		<u>gqm-</u>		<u>gú·</u> ('rib')

An examination of the vowels of each set suggests an explanation for the different reflexes in Kiowa. While vocalic correspondences are not yet well understood, it is fairly clear that Tiwa and Tewa provide better clues to the quality of the proto-vowel than does Kiowa, especially following velars. Sets (5a) and (5b) have mid or high front vowels i, ie, or e in Tiwa and Tewa. Sets (5c) and (5d), on the other hand, have back vowels a or o. Palatalization will account for Kiowa z in sets (a) and (b) where *g^w preceded front vowels.

Set (5a) 'tooth', in which Kiowa exhibits the vocalic alternation e ~ o, may also provide a clue to the source of the hitherto unexplained e ~ o ablaut in Kiowa. While there are a few other alternations,⁴ e ~ o is the most numerous and is, with one exception, restricted to morphemes with initial alveolar fricatives or affricates: zq̄· ~ zém 'tooth', zq̄· ~ zé-p 'flow', só· ~ sé-p 'sew', só· ~ sé-p 'descend', c'ó· ~ c'é-p 'lay sg. obj.', t^hq̄· t^hem 'bone'.

Tanoan cognates have not been uncovered for any of the items but 'tooth', but the forms with e and final -p, all perfectives of the verbs in question, appear to reflect an earlier bi-morphemic structure, the -p cognate with either Tanoan 'happen, become' Ti puo, Te po ~ puwa or 'make, do' Proto-Tanoan *pa, neither of which has an independent cognate in Kiowa. The initial consonants are possible products of palatalization, by which we have accounted for Kiowa z < *g^w. The e ~ o alternation most likely derives

from two sources: e from the original proto-vowel and o from the labial element of the proto-segment.

Let us turn now to the second part of the question, *y. Hale does not reconstruct *y, positing instead *ʒ > Ti, Te y, To z, K d. He was motivated both by a desire for symmetry, that is, for a four-way distinction in the affricates paralleling the stops and by the exceedingly general statements that could be made about ab-lauting consonant pairs. Specifically, the Ti, Te pair y~c 'walk, move about' could be understood as the reflex of PKT voicing ab-laut if modern y were descended from the voiced affricate *ʒ. In this way, PKT would have had alternating affricates *ʒ~*c, just as it had *b~*p and *d~*t.

(6)	* <u>ʒ</u>	~ * <u>c</u>	'walk, move about'
	Ti <u>y</u> ia	~ <u>c</u> ia	
	Te <u>y</u> i	~ <u>c</u> i	

The evidence is good for accepting Hale's y:y:z:d set (7). The vocalic correspondence in 'song' (7a) and 'command, request' (7b) is one of the most common, so these sets are fairly secure. The set meaning 'sleep' (7c) poses some problems, first in the lack of correspondence in nasalization, and second in the unexpected d where Jemez should have z. Neither is necessarily serious. While the nasal correspondences are on the whole quite regular, there are occasional discrepancies in items that are otherwise clearly cognate.

(7)	a. 'sing/song'	b. 'command/request'(W)	c. 'sleep'(W)	d. 'grasp/ fight(W)
	Ti <u>y</u> o-	yoy-i	<u>y</u> ia	--
	Te --	yon	<u>y</u> ó' / <u>y</u> q'	<u>y</u> á(-lā)
	To <u>z</u> æ·	<u>z</u> æ-yi	<u>d</u> ʃ·	--
	K <u>d</u> ʃ·-	<u>d</u> ʃ·pe	<u>d</u> ê·	<u>d</u> ɔ · 'kill'

Jemez d, rather than z, may reflect a morphophonemic alternation peculiar to Jemez in which l affects a following consonant, resulting in palatalization in some cases, affrication in others. Jemez l preceding z regularly yields d or the affricate ʒ.⁵ Supporting the correctness of this cognate set is the occurrence of these items in similar syntactic positions, incorporated immediately preceding the main verb in three of the four subgroups. Examples from Tewa, Towa and Kiowa, with a cognate main verb as well, 'be lying down, sg.', are given in (8).

(8)	Te na-yó'-k'o'	(3s-sleep-be lying) 'he's sleeping'
	To a-se-dʃ'-k'a	(2s-just-sleep-be lying) 'you're just sleeping'
	k Ø-dê'-k'ɔ·	(3s-sleep-be lying) 'he's sleeping'

There are, in addition, two incomplete sets in which the Kiowa reflex appears to be z, not d (9). They are especially important

because they both involve ablaut pairs and ought, therefore, to be derived from *z. The Kiowa cognate for 'walk, move about' (9a) is questionable, as is its ablaut pair cá·, since normally the pairs differ only in the initial consonant, vowels remaining identical. 'pull out' (9b), however, looks good, with agreement in nasalization and the Kiowa ablaut pair cón. This is the only instance of a Kiowa affricate participating in voicing ablaut parallel to the y ~ c alternation of Tiwa and Tewa. cón 'pull out', with initial voiceless affricate presumably derived from *c, has apparently been prevented from undergoing the normal development of *c > t in Kiowa by its ablauting status.

(9)	a. 'walk, move about'	b. 'pull out' (W)
	Ti <u>yia</u> (~ <u>cia</u>)	--
	Te <u>yi</u> (~ <u>ci</u>)	<u>yan</u>
	To --	--
	K <u>ze</u> · (-ma) (~ <u>cá</u> ·)	<u>zón</u> (~ <u>cón</u>)

If these two sets, identical in the Tanoan languages, but with Kiowa d in some items, Kiowa z in others, are correct, we must explain the different Kiowa reflexes. With so few examples it is difficult to make much of a case one way or the other, but the Ti, Te vowels in 'walk, move around' (9a) suggest that the Kiowa reflex of *z is z/__*i(a) and d elsewhere. 'pull out' is troublesome though, and this hypothesis cannot be confirmed without more cognates.

To further complicate matters, several sets appear with Kiowa c corresponding to Te y, To z. According to Hale, PKT affricates *c, *c', *c^h and *z collapsed with the stops *t, *t', *t^h and *d in Kiowa. The result ought to be the complete absence of modern affricates, but Kiowa clearly does have c⁶ and its source remains problematic.

Although Tiwa and Towa cognates are lacking, the Tewa, Kiowa correspondences in (10) seem quite close. Given *z > Ti, Te y, To z, K d/z, and no apparent conditioning factors that might explain this new set, we are forced to posit an additional proto-segment, *y. The reflexes of *y and *z, then, fell together in the Tanoan languages but remained distinct in Kiowa. Because of the several palatal/alveopalatal/alveolar reflexes, *y seems a plausible choice, considering also the absence of *y in Hale's proto-inventory. In addition, this permits us to retain *z for those sets that participate in voicing ablaut. It appears, moreover, that *y can be reconstructed medially and remains y, at least in Tanoan: Ti ǝ-ya, Te sa-ye', To t^yo-y'e 'to boil'.

(10)	a. 'mother'	b. 'pierce/awl' (W)	c. 'liquid' (W)
	Ti --	--	--
	Te <u>yiya</u>	<u>yun</u>	(so-)yo 'urine'
	To <u>ze</u>	--	--
	K <u>có</u> ·	<u>có</u> ·	(sa-)co-y 'urine'

A question worth posing at some point after the PKT reconstructions are established is what sort of correspondences can be found in PUA for the sets we have just examined. Without fully reconstructed forms for PKT, it is premature to expect much from the comparison, but some interesting parallels do emerge. PUA 'mother' *y_i/y_e compares favorably with KT 'mother' (10a), where I have proposed an antecedent *y. PUA also has a set of motion verbs, one of which may be cognate with PKT 'walk, move about' (9a) with initial *z: PUA *ya 'come, pl.', *ye 'come, sg.', and *ya 'run (walk, flow)' (Miller, 1967). The usual correspondences between PUA and PKT involve the collapse of distinctions in PUA, for example the collapse of the four-way stop distinction posited for Proto-Aztec-Tanoan on the basis of PKT to a single voiceless unaspirated series for PUA. This need not be the case for the glides, of course.

No firm conclusions can be drawn, certainly, but these examples are suggestive of the plausibility of reconstructing *y for one, if not both, of the KT sets involving y-reflexes. We must ask whether the criteria of symmetry and generalizability which prompted the reconstruction of *z should be maintained in the face of competing evidence. It would not be strange, for example, to find the affricates a defective set compared with the stops. No modern KT language has the phonemes c^h or z.

What is lacking, if we propose *y as the source for both sets, which after all are required only by the Kiowa correspondences, is an explanation for the developments in Kiowa. That explanation may lie in the northern Plains and contacts the Kiowa had there, presumably after they split from the Tanoans. Although the ultimate origin of the Kiowa-Tanoans remains a mystery, we do know from Mooney's (1896) 'Calendar History of the Kiowa Indians' that during early historical times and most likely for some time in late pre-history, the Kiowa were in the north, near the headwaters of the Missouri and Yellowstone Rivers. There is personal testimony on the part of the Kiowa and neighboring tribes, particularly the Northern Arapaho, that "the friendship between the Kiowa and Crow was close and intimate" (Mooney 1896:156). Kiowa and Crow learned each other's language, and even after the Kiowa had moved south across the Platte and Republican Rivers some time during the last half of the 18th century, the Kiowa are reported to have sent their children to live among the Crow and learn their language. At the time of Mooney's writing, he reported that "several old people among the Kiowa (had) considerable Crow vocabulary acquired in (that) way" (156).

The reflexes of Proto-Siouan *y range from y and ɣ in Ohio Valley Siouan, ʒ and ʝ in the Dhegiha languages to ç^h and d in Dakota and d initially but s/i in Crow-Hidatsa (Wolff, 1950). Close contacts with northern Siouan speakers could have influenced the direction of change in Kiowa, making *y all the more plausible as antecedent to Kiowa d, z, and c.

By way of conclusion, I would like to emphasize two major weaknesses in this study, apart from the scarcity of cognates, as areas deserving careful investigation by Kiowa-Tanoanists. They are the problems in the reconstruction of the vowels and the virtual absence

of comparative data on pitch and stress phenomena. Many other gaps remain in our understanding of Kiowa-Tanoan structure. Until those gaps are filled, we are still far from the point at which we can fruitfully compare proto-languages. But refinements such as those presented here are essential if we are ever to reach that point.

Appendix: Kiowa-Tanoan (initial) Consonants (from Hale, 1967)

	Tiwa (Taos)	Tewa (Hano/Sta Clara)	Towa (Jemez)	Kiowa
*p	p	p	p	p
*t	t	t	t	t
*c	c	c	s	t
*k	k	k	k	k
*k ^w	k ^w	k ^w	g	g
*p'	p'	p'	p'	p'
*t'	t'	t'	t'	t'
*c'	c'	c'	t'	t'
*k'	k'	k'	k'	k'
(*k ^{w'})				
*p ^h	p ^h	p ^h /f	∅	p ^h
*t ^h	t ^h	t ^h /θ	ʒ	t ^h
*c ^h	s	s	ʒ	t ^h
*k ^h	x	k ^h /x	h	k ^h
*k ^{wh}	x ^w	k ^{wh} /x ^w	h	k ^h
*b	m	m	m	b
*d	n	n	n	d
*ʒ	y	y	z	d
(*g)				
*g ^w	w	w	k ^w	g/(z)
*m	m	m	m	m
*n	n	n	n	n
*s	ʃ	s	t ^y	s
*h	h	h	∅	h
*ʔ	ʔ	ʔ	ʔ	(∅)
*w	w	w	w	y

Footnotes

1. Ken Hale, whose generosity is greatly appreciated, has provided me with copies of his unpublished Kiowa-Tanoan Cognate List and Jemez notes. He is not at all responsible for the use I have made of them, however. Cognate sets or individual items marked by (W) are those I am proposing and have been drawn from sources listed in the bibliography, or, in the case of Kiowa, from my own field notes.

I owe thanks, too, to Bob Rankin for pointing out to me the possible Siouan influence in the northern Plains.

2. This could be explained by loss of w and subsequent y-epenthesis, but given the apparent development of *w and the labialized velars, such a solution for 'two' seems unlikely.

3. ɔy also functions as an independent stative verb, 'be many'.

4. They are: u~o, e.g., k'ú-~k'óp 'lay pl. obj.', gú-~góp 'hit', and i~a, e.g., k'í-~k'yá'hí 'man'.

5. Hale describes this in more detail in his unpublished Jemez notes.

6. For example, Ti culo-, Te cé, K cé- 'dog'. There are also examples of c' in Kiowa: Ti má-c'ele, Te má-c'ə ('scratch'), K món-c'ó 'fingernail (hand + nail/claw/feather)'(W).

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