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Multiple Origins of Tibetan *o*

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Widespread agreement prevails that Tibetan *o* is the result of the merger of several distinct sounds in proto-Tibeto-Burman. Here I attempt to reconcile Matisoff and Gong's presentations of the origins of Written Tibetan *o*, making fuller use of philological evidence than Matisoff and taking advantage of a more recent version of Old Chinese than Gong. A number of sound laws are proposed to explain the relevant vowel correspondences among Tibetan, Burmese, and Chinese.

Key words: Old Tibetan, Tibeto-Burman, vowels

1. Introduction

Roy Andrew Miller has remarked upon the "glacial celerity with which Tibetan linguistic studies advance along their tortuous path" (1982:83). Viewed from the lofty heights our colleagues in Indo-European linguistics have reached, our achievements are indeed humble. The willingness of Tibeto-Burman historical linguists following in the tradition of Benedict (1972) and Matisoff (2003) to eschew the search for exceptionless phonetic correspondences has been one stumbling block (cf. Miller 1974, Sagart 2006, Hill 2009). Despite this reticence to embrace sound laws, widespread agreement prevails that Tibetan *o* is the result of the merger of several distinct sounds in proto-Tibeto-Burman (PTB) (Benedict 1972:58, Gong 1980[2002:23-28], 1995[2002:84-87], Jacques 2009:141).[1] James Matisoff notes three correspondences of Written Tibetan (WrT) *o* in Written Burmese (WrB).

Table 1: Correspondences of WrT *o* in WrB following Matisoff (2003)[2]

PTB	WrT	WrB
*-wa	o	wa
*-o, -aw, and -a:w	o	o
*-ow	o	u

[1] I have unfortunately been unable to consult the work of Peiros & Starostin (1996).
[2] Matisoff analyzes the <o> of Burmese writing as /au/ in closed syllables (2003:xl).

Gong Hwang-cherng notes several correspondences of WrT *o* in Old Chinese (OC). In all cases Gong reconstructs the Chinese form in PTB.[3]

Table 2: Correspondences of WrT *o* in OC following Gong (1995[2002])

WrT	OC
-o-	-^{w}a-
-o-	-^{w}ə-
-o-	-ua-
-o-	-aw-

Here I attempt to reconcile these two presentations of the origins of WrT *o*, making fuller use of philological evidence than Matisoff and taking advantage of a more recent version of OC than Gong.[4] The correspondences Matisoff puts forth, which I examine in turn, present a convenient point of departure.

2. The correspondence WrT *o* to WrB *wa*

Because Inlaut WrB -*wa*- originates from -*o*- in the early Old Burmese (OB) of the Myazedi (1113 CE) and Lokatheikpan (circa 1120 CE) inscriptions (Ba Shin 1962:27-28 and 38-39, Wun 1975:89, Nishida 1972:258, Pan 2000:19-20, Dempsey 2001:222-225) it is necessary to consider separately WrB Anlaut *wa* and WrB Inlaut *wa*.[5]

For Burmese Anlaut *wa*-, Laurent Sagart points out a frequent correspondence to *g*- in Tibetan (2006:211).[6]

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[3] 'Sino-Tibetan' in Gong's terminology.

[4] For Chinese I provide the character followed by Baxter's Middle Chinese (1992), an OC reconstruction compatible with the current version of Baxter and Sagart's system, and the character number in Karlgren (1964). Like in Baxter's own recent work, for Middle Chinese I use 'ae' and 'ea' in place of his original 'æ' and 'ɛ'. I do not follow him in changing 'ɨ' to '+'. The current version of Baxter and Sagart's Old Chinese system has not yet been published. In general it is similar to the system presented in Sagart (1999), with the changes that type b syllables are unmarked and type a syllables are marked (following Norman 1994) with pharyngealized consonants. The current version also posits final -*r* for 諧聲 Xiesheng series which mix final -*n* and -*j*, and uvulars for 諧聲 Xiesheng series that mix velar and glottal initials (cf. Sagart & Baxter 2009).

[5] I prefer the term 'Anlaut' to 'initial' because in research on Tibeto-Burman languages 'initial' is often used to refer to the 'p' in a word such as *spring* rather than to the 's'. I prefer 'Inlaut' to 'medial' because 'medial' is often used as a synonym for 'glide' or 'semi-vowel'.

[6] Matisoff does not like these comparisons (2007:437-438) but Sagart still does (2008:154).

Table 3: Correspondences of WrT *g-* to WrB *w-*

WrT	meaning	WrB	meaning
go	space	awaʔ	space
gro-ma	potentilla anserina	waʔ	tuber
sgor-mo[7]	round	wanḥ	round

Gong suggests that the labial feature of OC lavio-velars (and presumably labio-uvulars if he recognized them) before the vowels *a* and *ə* regularly correspond to Tibetan *o*. He consequently reconstructs *^{w}a and *^{w}ə as two sources of Tibetan *o* (1980[2002: 24]).[8]

Table 4: Correspondence of OC ^{w}a

OC	meaning	WrT	meaning	WrB	meaning
攫 kjwak < *Cəq^{w}ak (0778b)	seize	ɣgog	take away forcibly		
于 hju < *ɢ^{w}(r)a (0097a)	go	ɣgro	go[9]		
芋 hjuH < *[ɢ]^{w}(r)as (0097o)	taro	gro-ma	tuber	waʔ	tuber
羽 hjuX < *[ɢ]^{w}(r)aʔ (0098a)	feather	sgro	feather		
僞 ngjweH < *ŋ^{w}ajs (0027k)	false, cheat	rn̥od	deceive		
戶 huX < g^{ʕ}aʔ (0053a)[10]	door	sgo	door		
樺 hwaeH < *[ɢ]^{wʕ}ras (0044-)[11]	birch	gro-ga	birch bark		

[7] Sagart cites this as 'gor', probably deriving this form from *gor-mo* 'round' in Jäschke (1881). However, Jäschke cites clearly his source as the extremely unreliable Schroeter (1826). This work was compiled by F. Francesco Orazio della Penna (1680-1745) as a Tibetan-Italian glossary. Schroeter died while revising the work and learning Tibetan; the editors who saw the work through publication knew no Tibetan (cf. Simon 1964, Bray 2008).

[8] The lack of a Chinese cognate prevents the correct placement of Burmese *awaʔ* 'space' and *wanḥ* 'round' in either Table 4 or 5. Their absence from these tables should not be taken as skepticism of their legitimacy as cognates.

[9] Gong gives a Burmese cognate *krwa*, but I cannot confirm the existence of this word.

[10] Gong reconstructs a labio-velar (*g^{wʕ}aʔ in the system used here) and notes that this character "is the phonetic in 扈, which is a *ho-k'ou* [合口 *hekou*] word" (1980[2002:25]).

[11] I have added this final example myself.

Table 5: Correspondence of OC $^{w}ə$[12]

OC	meaning	WrT	meaning	WrB	meaning
胃 hjwɨjH < *[G]^{w}wə[t]s (0523a)	stomach	grod	stomach		
友 hjuwX < *[G]^{w}əʔ (0995e)	friend	grogs	friend		
違 hjwɨj < *[G]^{w}ə[j] (0571d)	go against	ɣgol	part, deviate		
歸 kjwɨj < *[k]^{w}əj (0570a)	return (v.)	ɣkhor	circle		
熊 hjuwng < *G^{w}əm (0674a)	bear	dom	bear	wam	bear

Noting that in the two cases where there is a Burmese cognate it has Anlaut *wa-*, and that many of the Tibetan examples begin with *g-*, one may combine Sagart and Gong's observations and divide Matisoff's correspondence into two.

Table 6: Summary of correspondences

PTB	OC	WrT	WrB
*^{w}a	-^{w}a-	-o-	wa-
*^{w}ə	-^{w}ə-	-o-	wa-

As mentioned, WrB Inlaut -*wa*- originates from OB -*o*-. Not cognisant of this change in the history of Burmese, Matisoff regards Tibetan as innovative, having undergone a change *wa* > *o* (2003:167).[13] Gong, also giving precedence to WrB *wa* over OB *o* and following Li Fang-Kuei's reconstruction of OC, notices this correspondence as WrT *o*, OC *ua*, WrB *wa* and reconstructs *ua for PTB (1980[2002:26-28]). Taking into account the change OB *o* > WrB *wa* and converting Gong's examples into the reconstruction system of William Baxter and Laurent Sagart results in the beautifully straightforward correspondence WrT *o*, OC *o*, OB *o* (cf. Pan 2000:20).

[12] Gong also includes the comparison of OC 掘 gjut < *[g]ut/gjwot < *[g]ot (0496s) 'dig out (earth)' to WrT *rko* 'dig out'. However, in the reconstruction of Baxter and Sagart it no longer participates in this correspondence.

[13] Other scholars treat this correspondence similarly (e.g. Benedict 1972:34, Coblin 1994:117, Jacques 2009).

Table 7: Correspondence WrT *o*, OC *o*, WrB *o*[14]

WrT	meaning	OC	meaning	WrB < OB	meaning
rkon	net			kwan < *kon	casting net
glod	loose, relaxed	脫 thwat < *l̥^{ʕ}ot (0324m)	peel off	lwat < lot	be free
ɣjol	to hang down	垂 dzywe < *[d]oj (0031a)	hang down		
tho-le	to spit	唾 thwaH < *t^{hʕ}ojs (0031m)	spit		
thoṅ	plough			thwan < *thon	plough
mtho	a span			thwā < *tho	a span
doṅ	pit			twaṅḥ < toṅḥ	pit
nor	cattle			nwāḥ < *noḥ	cow
brod	job, joyful	悅 ywet < *lot (0324o)	pleased		
sbom	thick, stout			phwaṁʔ < *phoṁʔ	fat, plump
so	tooth			swāḥ < *soḥ	tooth

Faced with such a correspondence one has no choice but to reconstruct *-o in PTB.

Table 8: Summary of correspondences

PTB	OC	WrT	WrB < OB
*^{w}a	-^{w}a-	-o-	wa-
*^{w}ə	-^{w}ə-	-o-	wa-
*o	-o-	-o-	-wa- < -o-

3. The correspondence WrT *o* to WrB *o*

If one reconstructs *o in cases where Matisoff reconstructs *wa, one must provide some alternative account for those cases which Matisoff reconstructs as *o. This can be done by distinguishing "that *o* in Old Burmese which has today become *wa*" (Maung Wun 1975:89) from those instances of *o* which remain in WrB. I mechanically represent these vowels respectively as o_1 and o_2 in OB and recapitulate the correspondences suggested by Matisoff, with appropriate amendment.

[14] I have excluded three of the examples Gong gives. He compares OC 絕 dzjwet < *[dz]ot 'cut off' to Tibetan *gcod* 'cut' *chod* 'be cut'. However, the root of the Tibetan verb is simply √cad without the vowel *o*. On the *potentialis* form of the verb *chod* see Zeisler (2002). In the two examples WrT *dpon* 'master, lord', WrB *wan* 'government, officer' and WrT *spobs* 'dare' WrB *wam?* 'to dare', the Burmese words with Anlaut *w*- did not originate from *o* in OB. To Gong's examples I have added WrT *thoṅ* 'plough' : WrB *thwan* 'plough'.

Table 9: Correspondences of WrT *o* in OB distinguishing o_1 and o_2

WrT	WrB < OB
o	wa (Anlaut)
o	wa < o_1 (Inlaut)
o	o_2
o	u

All examples of the correspondence WrT *o* : WrB o_2 occur before velars (Matisoff 2003:294, 377). Indeed, with the exception of two open syllable grammatical morphemes, the vowel o_2 only occurs before velars (Yanson 1990:68).

Table 10: Examples of WrT *o* : OB o_2

Tibetan	meaning	Burmese	meaning
skog	shell, peel	khok	bark
skyoṅ	guard	kyoṅ	feed, tend cattle
dkrog	scare	krok	fear
stoṅ	thousand	thoṅ	thousand
ɣbroṅ	wild yak	proṅ	buffalo, bison
ɣog	below	ʔok	under part

Because the correspondence WrT *o* : OB *u* does not occur before velars, one may suggest that in the history of Burmese *u* changed to *o* before velars.[15] Assuming that *u* changed to o_2 before velars and that some cases of WrT *u* are inherited from the proto-language, yields the prediction that OB should also have *o* as the correspondence to WrT *u* in this position. Indeed, WrT *u* does correspond to *o* in OB before velars.[16]

Table 11: Correspondence WrT *u* : WrB o_2

Tibetan	meaning	Burmese	meaning
kluṅ	stream, river	khloṅḥ	river
dguṅ	sky	koṅḥ	sky
dug	poison	tok	poison
drug	six	khrok	six

The Chinese cognates 六 ljuwk < *[r]uk (1032a) ‘six’ and 毒 dowk < *dˤuk ‘poison’ (1016a) confirm that Burmese is innovative. A look at the same word in the

[15] This suggestion requires that Tibetan √bu ‘open, unfold’ and Burmese *pho* ‘to be swelled’ proposed by Miller (1956:39) be rejected as cognates. Gong also questions this pair (1980 [2002:26]).

[16] There is no way to distinguish OB cognates of WrT *u* and *o* before velars; they both come out as o_2.

Burmish languages suggests that the change *u* > *o* took place after the breakup of proto-Burmish; Dempsey reconstructs *uk in proto-North Burmish for 'six' (2003:97).[17]

Table 12: Burmish cognates of OB o_2[18]

Burmese	meaning	Achang	Xiandao	Atsi	Lashi	Maru	Bola
khrok	six	xzo?^{55}(N)	chu?^{55}(N)	khju?^{55}(N)	khjuk^{55}(N)	khjauk^{55}(N)	khjau?^{55}(N)
koṅḥ	sky	k^{h}oŋ^{32}(M)		khûŋ(Y)		gauŋ^{51}(M)	

Because the change of *u* > o_2 before velars is an innovation that occurred in the history of Burmese and *u* and o_2 are in complementary distribution in WrB, there is no need to distinguish, as Matisoff does, OB o_2 from *u* among the cognates of WrT *o* in the reconstruction of PTB.

Table 13: Correspondences of WrT *o* in OB distinguishing o_1 and o_2, and reflecting the distribution of o_2

WrT	WrB < OB
o	wa (Anlaut)
o	wa < o_1 (Inlaut)
o	u (and o_2 before velars)

4. The correspondence WrT *o* to WrB *u* (and o_2 before velars)

In the third of Matisoff's correspondences WrT *o* is paired with WrB -*u*-. Matisoff reconstructs this correspondence as *-ow (2003:222). As previously discussed, because Burmese changed *u* to o_2 before velars, the correspondence of WrT *o* to WrB o_2 before velars (cf. Table 10) can be combined with this correspondence. It is perhaps noteworthy that all of the Burmese open syllable examples are in the high tone.

Table 14: Correspondences of WrT *o* and to WrB *u*

Tibetan	meaning	Burmese	meaning
tho-ba	a large hammer	tū	hammer
do	an equal, match	tū	be similar
√bo	to sprout	phū	to bud
tsho-ba	fat	chū	be fat

[17] The Achang reflexes suggest that the change of *u* to *o* before velars might be an isogloss that groups Burmese and Achang together.

[18] In reporting evidence from the Burmish languages I employ the following abbreviations for sources: 'M' Mann (1998), 'N' Nishi (1999), 'Y' Yabu (1982).

One cannot suggest *u as the source of this correspondence, because this reconstruction is more appropriate for the correspondence of WrT *u* to WrB *u*, a correspondence that occurs in the high and creaky tone for open syllables and as expected with WrB o_2 before velars codas.

Table 15: Correspondences of WrT *u* and to WrB *u*

Tibetan	meaning	Burmese	meaning
lus	body	lūmyuiḥ	person
su	who?	sū	him
spus	knee	puʔ	knee

Table 16: Correspondence WrT *u* : WrB o_2 (same as Table 11)

Tibetan	meaning	Burmese	meaning
kluṅ	stream, river	khloṅḥ	river
dguṅ	sky	koṅḥ	sky
dug	poison	tok	poison
drug	six	khrok	six

The three available Chinese cognates to words showing the correspondence of WrT -*o*- with WrB -*u*- agree with Tibetan in having *o*.[19]

Table 17: Correspondences of OC *o*, WrT *o*, and WrB *u*

OC	WrT	WrB	meaning
殼 khaewk < *[k^{h}]^{ɕ}rok (1226a)	skog	khok < *khuk	shell
段 twanH < *t^{ɕ}o[n]-s (0172a)	tho-ba	tū	hammer
膞 tsjwenX < *tsonʔ (0235b)	tsho-ba	chū	fat

Miller reconstructs this correspondences as *o (1956:39). However, because there is no clear conditioning environment for a split of PTB *o into -*o*- and -*u*- in Burmese, in order to distinguish the correspondence OC *o*, WrT *o*, WrB o_1 from OC *o*, WrT *o*, WrB *u* (and o_2 before velars), it is necessary to distinguish two vowels in the proto-language. Although there is no evidence for a final semi-vowel -*w* among the three languages considered here, I follow Matisoff in reconstructing *ow for this correspondence.[20]

[19] In the Chinese forms medial -*r*- in 'shell' and the final -*n* in 'hammer' and 'fat' require explanation.

[20] Matisoff bases the -*w* on -*ou* in Lushai (also called Mizo) (2003:222).

5. A Sino-Bodic isogloss (?)

Both Chinese and Tibetan merge PTB *o and *ow as *o*. This shared innovation in these two languages suggests that they are members of the same branch of the Tibeto-Burman Stammbaum. This isogloss thus supports the Sino-Bodic hypothesis proposed by George van Driem (1997). However, because it is also possible that the merger of these two vowels occurred independently in the Bodic and Sinitic branches, it would be premature to accept the Sino-Bodic theory as proven. It is of course also possible that the distinction set up here between PTB *o and *ow is spurious and that the divergent WrB reflexes can be accounted for on the basis of an as yet undiscovered conditioning environment.

Table 18: Summary of correspondences

PTB	OC	WrT	WrB
*^{w}a	-^{w}a-	-o-	wa-
*^{w}ə	-^{w}ə-	-o-	wa-
*o	-o-	-o-	-o-
*ow	-o-	-o-	-u-

6. The correspondence WrT *o* to WrB *ō*

Gong gives examples of OC *aw* corresponding to WrT *o* (1995[2002:84-87]).[21]

Table 19: Correspondence of OC *aw* to WrT *o*

OC	meaning	WrT	meaning	WrB	meaning
耄 maw < *m^{ʕ}aws (1137h)	very old	rmo-rmo	grandmother		
謠 yew < *law (1144j)	sing, song	lo	talk, report		
號 haw < *[g]aw (1041q)	call out	sgo	say	khō	call
弱 nyak < *nawk (1123a)	soft, tender	ñog-ñoṅ	soft, tender		
爚 yak < *lawk (1119f)	to shine	glog	lightning		

For the one example where Gong provides a WrB cognate the vowel is *ō*. Matisoff provides an additional example of the same correspondence with WrT *ro* 'corpse' and WrB *rō* 'withered' (2003:225). It is the position of the letter ဪ in the alphabet which suggests the value of a 'long o'. The Library of Congress system recommends the

[21] Gong also compares OC 醪 law < *ru (1069r) 'spirits with sediment' with WrT *ro* 'flavor'. However, this example does not match the correspondence in the system of Baxter and Sagart.

transliteration -o‘ based purely on the graphic similarity of the hook on the upper right part of the letter to the *virāma*, transliterated similarly. One might also transliterate this vowel as -*au*, viewing it as structurally equivalent to a Devanāgarī औ. The paleographic origin of this symbol and the phonetic value in the OB period of those words written today with this symbol are topics deserving of further study.[22]

Matisoff transcribes all examples of ‘o’ in WrB as <au> (2003:xl) and Gong regards open syllable *o* as deriving from *aw (1980[2002:5-6]). Although it may be unwarranted, there appears to be precedence for analyzing *o* in the level tone as -*au*. One need not ask whether this analysis should be applied to open syllable *o* only in the level tone or for open syllable *o* in all three tones, because the two potential cognates happen to occur in the level tone. Here I will assume words written with this symbol were indeed pronounced -*au* in OB. One must however bear in mind that this assumption is likely to be revised in light of future research. If the OB value is -*au*, it appears that -*au* reflects a retention from the Ursprache. In this case Tibetan has innovated.

7. Conclusion

There are five separate origins of Tibetan *o*. The most frequently discussed correspondence between Tibetan *o* and Burmese (namely WrT *o* : WrB *wa*), must be divided into three separate correspondences. The proto-language had two vowel phonemes for which there is compelling evidence to reconstruct *o (OC *o*, WrT *o*, OB *o*, PTB *o and OC *o*, WrT *o*, OB *u*, PTB *ow). The merger of these two vowels in Chinese and Tibetan supports the Sino-Bodic hypothesis, that these two languages may belong to the same branch of Tibeto-Burman. This conclusion however I put forward tentatively.

Table 20: Summary of correspondences

PTB	OC	WrT	WrB < OB
*^{w}a	-^{w}a-	-o	wa- (Anlaut)
*^{w}ə	-^{w}ə-	-o	wa- (Anlaut)
*o	-o-	-o-	wa < -o_1- (Inlaut)
*ow	-o-	-o-	-u- (o_2 before velars)
*aw	-aw	-o	-ō [au]

[22] Yanson’s observation that with the exception of two grammatical morphemes o_2 does not occur in open syllables in OB (1990:68) suggests that if such words are attested in OB they are written with a different vowel.

Appendix 1: Summary of proposed sound changes

Tibetan sound laws

PTB *^{w}a, *^{w}ə, *o, *ow, *aw > WrT *o*

Burmese sound laws

PTB *^{w}a, *^{w}ə > OB *wa*

PTB *o > OB o_1

PTB *ow > OB *u*

pre-Burmese *uK > OB o_2K

OB o_1 > WrB *wa*

Chinese sound laws

PTB *o, *ow > OC *o*

Appendix 2: Sources of OB *wa-* and *-o-* in LB

Indo-Europeanists do not customarily give full consideration to the evidence of the Nuristani languages before directly comparing Sanskrit to other ancient languages such as Greek. Full consideration of Loloish languages before employing OB in the reconstruction of Tibeto-Burman is no more necessary. However, for the convenience of the reader I assemble some relevant forms from Bradley (1979). Rows left blank reflect WrB words not found in Bradley's monograph.

WrB < OB	meaning	Lisu	Phunoi	Bisu	Akha	Mpi	Common Lahu
awaʔ	space						
waʔ	tuber						
wanḥ	round[23]	waw^{6}	ʔǎ bón	ʔaŋ bun	g'awˇ-eu	woŋ^{3}	g'aw^{-}
kwan < *kon	casting net						
lwat < lot	be free[24]	hu^{3}krgh^{3}	phó khàt		law-eu		leˆ
thwā < *tho	a span						
twaṅḥ < toṅḥ	pit						
nwāḥ < *noḥ	cow						
phwaṁʔ < *phoṁʔ	fat, plump[25]	hpē^{6}			puˬ-eu	peʔ^{L}	hpo˄
swāḥ < *soḥ	tooth[26]	si^{5} hchi^{3}	she phé	sɔ phjɛ̀	seuˬ	ʔɑ^{2}so^{2}	

[23] *woŋ^{2} (Bradley 1979:348-349 #567).

[24] *k-lwat^{H} (Bradley 1979:358-359 #688).

[25] *C-pwam^{2}/ap^{L} (Bradley 1979:364-365 #740).

[26] *swa^{2} (Bradley 1979:350-351 #96).

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藏語 *o* 的多重起源

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學術界普遍同意，藏語的 *o* 來自原始藏緬語不同元音合併的結果。本文的論證，企圖結合馬蒂索夫 (2003) 和龔煌城 (1995[2002]) 各自對書面藏語 *o* 類元音起源的推理，利用了比馬蒂索夫更多的文獻語料為證據，及援引比龔煌城更新的上古漢語音韻構擬的版本。最後，本文建議藏語的 *o* 來自 *^{w}a, *^{w}ə, *o, *ow, *aw；同時以數則音韻規律，解釋古藏語、緬語和漢語的元音對應關係。

關鍵詞：藏緬語，古藏語，元音