The Evolution of Vowel Length and Final Consonants in Dai

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Scholars generally agree that two of the characteristic features of the languages of the Dong-Dai (= Kam-Tai) stock are (a) length distinctions in vowels and (b) the existence of final consonants such as $-\underline{m}$, $-\underline{n}$, $-\underline{n}$, $-\underline{p}$, $-\underline{t}$, $-\underline{k}$. The Dai language belongs to the Zhuang-Dai (= Tai) family of the Dong-Dai stock. Modern Dai dialects in most of the areas where Dai is spoken (e.g. Xishuangbanna (= Sipsongphanna) [$\overline{\mathcal{T}}$ $\overline{\mathcal{K}}$]) still retain these characteristics. In some areas, however, important changes have taken place: the distinction between long and short vowels has disappeared and the final consonants have dropped. This paper will study this process and try to discover its rules through a comparison of various modern Dai dialects, and by comparing the Sipsongphanna Dai Writing created in the 13th century (hereafter Dai Writing or Written Dai¹) with modern Dai dialects.

I. The Weakening of the Length Distinction in Dai Vowels

In the past there was a clear opposition between long and short vowels in Dong-Dai languages. However, in some modern languages and dialects (e.g. Dai and Lao) the number of long and short vowel-pairs has been greatly reduced, or even reduced to zero (e.g. the Dai dialects spoken in Wuding $[\overrightarrow{T}, \overrightarrow{T}]$, Yongren $[\overrightarrow{T}, \overrightarrow{T}]$, and Luchun $[\overrightarrow{T}, \overrightarrow{T}]$). The current status of the length distinction in modern Dai can be described as follows:

1. The reflexes of the vowel length distinction vary in the different dialects. Generally speaking, the distinction now has a much more limited scope than it apparently did in former times. For simple vowels in open syllables there is no length distinction at all, either in modern Dai dialects or in Dai Writing. Only vowels followed by other final vowels or consonants have long and short pairs. Furthermore, even in closed syllables, among the nine simple vowels *a, *i, *u, *e, *e, *o, *o, *o, *o, *u in Dai Writing, only the four vowels *a, *i, *u, *o have long and short pairs. When these nine single vowels are followed by -?, they can only be short, with no long counterparts. When the five vowels *e, *e, *o, *o, *u are followed by -p, -t, -k, they have no length distinction. In most modern Dai dialects, only a has a long-short pair, which, however does not exist in Wuding, Yongren and Luchun dialects. Please compare:

beard	*hno:t*	not	lot	nut	not	nuv ⁵ '
bird	*nok*	nok ^a	lok ^s	noŋ³	nok ^{7,8}	nau4''
foot	*ti:n ¹	tin ¹	tin ¹	tin ¹	tin ¹	tiŋ ^{2,1}
tongue	*lin4	lin4	lin⁴	lin4	lin⁴	liŋ⁴
children	*lu:k ^{\$' 10}	luk ^s	luk³	luk ¹⁰	luk	ləu ^{2,10}
rise	*luk ⁸	luk ^s	luk ^s	luŋ ^s	luk ^s	
girl	*sa:u1	sa:u ¹	sa:u1	sau	sau	saui
pillar	*sau ¹	saui	saui	seu	sau ¹	Sau ¹
shame	*?a:i ¹	a :i ¹	a:i*' '	ai"	ai"	Di ²⁷¹⁷
cough	*?ai ¹	ai ¹	ai"' 1	ei1'	ɔi¹'	ai ^{2,1}
	傣文	版纳②	德宏③	武定	永仁	绿春
	Written Dai	Banna ²	Dehong ³	Wuding	Yongren	Luchun

2. <u>Replacement of the vowel length distinction by differences in vowel quality</u>. In dialects of this type (e.g. Wuding, Yongren), the original $\underline{*a/*a:}$ contrast has been replaced by a contrast in vowel quality. The vowels replacing short $\underline{*a}$ may have either back tongue position (e.g. \underline{v}), or lip-rounding (e.g. $\underline{)}$). Please compare:

	Written				
	Dai	Banna	Dehong	Wuding	Yongren
	傣文	版纳	德宏	武定	永仁
	**	/ W 71			
flow	*hlai ¹	lai ¹	lai ¹	l e i ¹	loi1
many	*hla:i1	la:i ¹	la:i1	lai ¹	lai
horn	*xau ¹	xau ¹	xau ¹	XEU1	xau ¹
white	*xa:u ¹	xa:u1	xa:u ¹	xau ¹	xau ¹
seed	*fhan ²	fan²	fan²	fen²	fon ²
musk	*ffia:n ²	fa:n²	fa:n²	fan²	fan²
black	*?dam1	d am 1	lam ¹	len''	lom1'
thorn	*hna:m1	na:m1	la:m ¹	nan'	nami

3. The disappearance of the length distinction in vowels when they are followed by final -u, -p, -t, or -k.

The replacing of the length distinction by a vowel-quality distinction does not occur in every case. In the table above we can see that the <u>a</u>-quality of the vowel in Yongren words with final -<u>u</u> remains regardless of whether the original vowel was long or short.

In the Jinping Black Dai dialect, in live syllables there are both long and short forms for <u>a</u>. But in dead (=stopped) syllables the distinction no longer exists. Thus Tone 7 has merged with Tone 9, and Tone 8 with Tone 10. For instance:

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		pillar	girl	sweep	cut	chop	whip		gnaw	
Ва	anna	sau	sa:u	pat	pa:t ⁹	faks	fa:t	¹⁰ lap ⁸	ka:p 10	
Ji	nping	₄au¹	4a:u [:]	pat ⁷	pat'''	fak ⁸	fat ⁸ '	10 lap ⁸	kap ^{8'10}	
In	Wuding	Dialec	t the l	ength	distinct	ion for	a has	disappeare	ed in stoppe	d syl-
.ables.	For i						_			
	P	cL	-	ick	louse	punch	steal	pull		
	Banna	h	-	a:b,	mat ⁷	ma:t°	lak ⁸	la:k 10		
	Wudin	g h	at' h	at""	mat ⁷	mat ^{7'9}	laŋ ⁸	lak 8,10		
4. The d	complet	e disap	pearanc	e of v	owel l en	gth dist	inctio	ns.		
In	the Lu	chun di	alect,	the le	ngth dis	tinctior	n has c	ompletely	disappeared	l, but
in diffe					particu					
	(a) Wh	en vowe	el <u>a</u> is .n Luchu	tollow	ed by ti	nal - <u>u</u> c	ΣΣ -Ŋ ,	there is a	no length	
	uistin	pil		girl	horn	whit	e scal	le master	r	
	Wr.	· -		*sa:u ¹	*xau ¹	*xa:		an' *dza:ŋ		
	Bann	a san	u 1	sa:u ¹	\mathbf{xau}^1	xa:u	tsan	ŋ⁰ tsa:ŋ⁰		
	Deho	ng san	uı	sa:u'	xau	xa:u	1 tsar	gʻ tsa:ŋʻ		
	Luch	un sau	u	sau ¹	xau ¹	xau ¹	tsar	g' tsaŋ'		
	(b) Th			.,						
			diphtho	ne va:	i has me	rged in	the Lu	ichun dial	ect with the	e reflex
									ect with the as " o i") the	
	of * <u>j</u> i	, yield	ling a n	new dip		uai] (t	ranscri	ibed here	ect with the as " <u>v</u> i") the	
	of * <u>j</u> i	, yield distind	ling a n ct from	new dip <u>ai</u> (th	ohthong [uai] (t) of show	ranscri	ibed here		
	of * <u>j</u> i still	, yield distind fl	ling a n ct from	new dip <u>ai</u> (th	ohthong [he reflex	uai] (t) of show	ranscri rt * <u>ai</u>)	ibed here):		
	of * <u>ji</u> still Wr	, yield distind fl . Dai	ling a n ct from .ow n hlai ¹	new dip <u>ai</u> (th meny	ohthong [ne reflex (mountain)	uai] (t: of shor cough *?ai ¹	ranscri rt * <u>ai</u>) shame	ibed here): (sugar)		
	of * <u>ji</u> still Wr Ba	_, yield distind fl . Dai • nna la	ling a m at from .ow m hlai¹ ai ¹	new dip <u>ai</u> (th many *hla: i ¹	hthong [ne reflex (mountain) (*?dɔi ¹)	uai] (t: cof shor cough *?ai' ai'	ranscri rt * <u>ai</u>) shame *?a:i ¹	ibed here (sugar) (*?oi')		
	of * <u>ji</u> still Wr Ba De	, yield distind fl . Dai nna la hong la	ling a n ct from .ow n hlai¹ ai ¹	new dip <u>ai</u> (th many *hla: i ¹ la:i ¹	hthong [ne reflex (mountain) (*?doi ¹) (doi ¹)	uai] (t: of sho: cough *?ai ¹ ai ¹ ai ⁹	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹	ibed here (sugar) (*?5i ³) (5i ³)		
	of * <u>j</u> i still Wr Ba De Lu	, yield distind fl Dai " nna la hong la chun la	ling a n ct from .ow n hlai ¹ ai ¹ ai ¹	new dip <u>ai</u> (th meny *hla:i ¹ la:i ¹ la:i ¹ lbi ¹	<pre>bhthong [ne reflex (mountain) (*?doi') (doi') (loi*) (lpi*'')</pre>	uai] (t: of sho: cough *?ai' ai' ai' ai'	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹ a:i ⁴ pi ^{2/1/}	ibed here (sugar) (*?oi') (oi') (oi') (oi')	as " <u>vi</u> ") tha	at is
	of * <u>j</u> i still Wr Ba De Lu (c) In	_, yield distind fl . Dai * nna la hong la chun la Luchun	ding a m at from ow m hlai ¹ ai ¹ ai ¹ ai ¹ ai ¹	new dip <u>ai</u> (th many *hla:i ¹ la:i ¹ la:i ¹ loi ¹ bles wi	hthong [ne reflex (mountain) (*?doi') (doi') (loi*) (loi*) (loi*) th <u>-m</u> or	uai] (t: cof shor cough *?ai' ai' ai' ai' ai', the	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹ a:i ⁴ pi ^{2/17} e final	ibed here (sugar) (*?si') (si') (si') (pi') consonan		at is
	of * <u>ji</u> still Wr Ba De Lu (c) In and th	, yield distind Dai fl . Dai k hong k chun k Luchun e short the sa	ling a n ct from .ow n hlai' ai' ai' ai' syllab c vowels ume:	new dip <u>ai</u> (th many *hla :i ¹ la:i¹ la:i ¹ lbi ¹ oles wi s * <u>a</u> an	<pre>whithong [ne reflex (mountain) (*?doi') (doi') (loi*) (loi*''') th _m or d *<u>u</u> ha</pre>	<pre>uai] (t: cough cough *?ai' ai' ai' ai' -n, the ve turne</pre>	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹ a:i ⁴ pi ^{2/1} e final ed into	<pre>ibed here (sugar) (*?oi') (oi') (oi') (oi') consonan b *<u>\$</u>, but</pre>	as " <u>o</u> i") tha ts have drop	at is
	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain	, yield distind fl . Dai nna hong chun Luchun e short the sa seed	ling a n ct from .ow n hlai' ai' ai' ai' syllab c syllab c vowels ime: l mus	new dip ai (th nany •hla:i ¹ la:i ¹ la:i ¹ loi ¹ les wi s *a an sk wa	hthong [ne reflex (mountain) (*?doi') (doi') (loi*) (loi*)'') th <u>-m</u> or d * <u>u</u> ha tter th	<pre>uai] (t: cof shore cough *?ai' ai' ai' ai' n, the ve turne orn n:</pre>	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹ a:i ⁴ oi ²⁷ 1' e final ed into ight	<pre>ibed here (sugar) (*?oi') (oi') (oi') (oi') consonan ; *<u>\$</u>, but table</pre>	as " <u>o</u> i") tha ts have drop	at is
	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da	, yield distind fl Dai Dai di hong chun Luchun e short the sa seed i *ffa	ling a n ct from .ow n hlai' ai' ai' ai' syllab c syllab c vowels ime: l mus n ² *ffa	new dip ai (th nany *hla:i ¹ la:i ¹ la:i ¹ lbi ¹ lles wi ; * <u>a</u> an ; * <u>a</u> an a:n ² *n	wither th ame reflex (mountain) (*?doi') (doi') (loi') (loi''') th <u>-m</u> or ad <u>*u</u> ha am' *hn	<pre>uai] (t: cough cough *?ai' ai' ai' ai'''' <u>-n</u>, the ve turne orn n: a:m¹ *g</pre>	ranscri rt * <u>ai</u>) shame *?a:i ¹ a:i ¹ a:i ⁴ pi ²⁷ 1' e final ed into ight jfuun ² 4	<pre>ibed here (sugar) (*%i*) (3i*) (3i*) (0i*) (0i**) consonan (0) \$</pre>	as " <u>o</u> i") tha ts have drop	at is
	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da Banna	, yield distind fl Dai Dai di chun Luchun e short the sa seed i ffma fan	ling a n ct from ow n hlai ¹ ai ¹ ai ¹ a syllab c vowels me: l mus n ² *ffa ² fa:	new dip ai (th nany *hla:i' la:i' la:i' loi' bles wi s *a an sk wa a:n ² *n n ² n	whithong [ne reflex (mountain) (*?dsi') (dsi') (lsi*) (lsi*) (lsi*) (lsi*) (lsi*) (lsi*) (lsi*) (ha* morther am' has	uai] (t: of short cough *?ai' ai' ai' ai''' <u>-n</u> , the ve turne corn n: a:m' *? ;m' x	ranscri rt * <u>ai</u>) shame *?a:i' a:i' a:i' pi ¹ '' e final ed intc ight jhum ² fum ²	<pre>ibed here): (sugar) (*?oi') (oi') (oi') consonan *<u>\$</u>, but table *phun' phun'</pre>	as " <u>o</u> i") tha ts have drop	at is
	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da Banna Dehong	, yield distind fl Dai nna kong chun Luchun e short the sa seed i ffia fan fan	ling a n ct from ow n hlai ¹ ai ¹ ai ¹ a syllab c vowels me: l mus l mus c ² ffa: ² fa::	new dip ai (th nany *hla:i ¹ la:i ¹ lbi ¹ bles wi s * <u>a</u> an sk wa a:n ² *n n ² n	whthong [ne reflex (mountain) (*?doi') (doi') (loi*) (loi*) (loi*'') th <u>-m</u> or id * <u>u</u> ha tter th am' hn am' na: am' la:	<pre>uai] (t: of shore cough *?ai' ai' ai' ai'' ai'' ai'' ai'' -n, the ve turne orn n: a:m' * x m' x</pre>	ranscri rt * <u>ai</u>) shame *?a:i' a:i' a:i' oi'''' e final ed into ight ofiun ² cun ² cun ²	<pre>ibed here): (sugar) (*?oi') (oi') (oi') consonan % £, but table *phun' phun' phun'</pre>	as " <u>o</u> i") tha ts have drop	at is
F-	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da Banna Dehong Luchun	, yield distind fl Dai nna hong chun Luchun e short the sa seed i ffna fan fan fe ²	ling a n ct from ow n hlai' ai' ai' ai' ai' ai' ai' ai' ai' ai'	new dir ai (th any *hla:i ¹ la:i ¹ la:i ¹ loi ¹ bles wi s * <u>a</u> an sk wa a:n ² *n n ² la n ² la	whithong [ne reflex (mountain) (*?doi') (doi') (loi*) (<pre>uai] (t: cough cough *?ai' ai' ai' ai'' -n, the ve turne orn n: a:m' *g :m' x m' x</pre>	ranscri rt * <u>ai</u>) shame *?a:i' a:i' a:i' oj'''' e final ed into ight jfiun ² cun ² cun ²	<pre>ibed here (sugar) (sugar) (oi') (oi') (oi') consonan * table *phun' phun' phun' phun' phun' phun'</pre>	as " <u>o</u> i") tha ts have drop the long vov	oped wels
	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da Banna Dehong Luchun om the	, yield distind fl Dai Dai di chun Luchun e short the sa seed i ffia fan fan fc ² above d	ling a n ct from ow m hlai ¹ ai ¹ a syllab c vowels t mus t mus t mus t ² fa: ² fa: fa ² fa:	new dip ai (th nany *hla:i' la:i' la:i' la:i' lo: bles wi s *a an sk wa a:n ² *n n ² n can su	whithong [ne reflex (mountain) ("?doi') (doi') (loi") (loi") (loi"'') th <u>-m</u> or id * <u>u</u> ha tter th am ⁴ ha am ⁴ ha am ⁴ la: ϵ^4 na unmarize	uai] (t: of shore cough *?ai' ai' ai' ai'' ai'' -n, the ve turne orn n: corn corn corn n: corn corn corn corn corn corn corn corn	ranscri rt * <u>ai</u>) shame *?a:i' a:i' a:i' oj'''' e final ed into ight jfiun ² cun ² cun ²	<pre>ibed here (sugar) (sugar) (oi') (oi') (oi') consonan * table *phun' phun' phun' phun' phun' phun'</pre>	as " <u>o</u> i") tha ts have drop	oped wels
length	of * <u>ji</u> still Wr Ba De Lu (c) In and th remain Wr. Da Banna Dehong Luchun om the distinc	, yield distind fl Dai Dai chun Luchun e short the sa seed i ffia fan fan fc ² above d	ling a n ct from ow m hlai ¹ ai ¹ ai ¹ a syllab c vowels l mus l mus l mus c fa: fa: fa: fa: tai a syllab c vowels l mus l mus l mus c fa: tai tai tai tai tai tai tai tai	new dip ai (th nany *hla:i' la:i' la:i' lbi' bles wi s *a an sk wa a:n ² *n n ² n n ² la can su owels a	whithong [ne reflex (mountain) ("?doi') (doi') (loi') (loi''') th <u>-m</u> or id * <u>u</u> ha tter th am' ha am' ha am' la: sfollow	uai] (t: of shore cough *?ai' ai' ai' ai'' -n, the ve turne orn n: a:m' *g :m' x m' x the prod	ranscri rt * <u>ai</u>) shame *?a:i' a:i' a:i' oi'''' e final ed into ight jfhun ² fhun ² cun ² ccss of	<pre>ibed here): (sugar) (*?oi') (oi') (oi') consonan % £, but table *phun' phun' phun' phun' the disa</pre>	as " <u>o</u> i") tha ts have drop the long vov	oped wels

Actually, the distinction is now only viable for the vowel <u>a</u>.

(2) The former opposition of *long and *short \underline{a} has been taken over by different vowels in some dialects.

(3) Even in those dialects where there is no synchronic distinction between long and short <u>a</u>, the former opposition between <u>*ai</u> and <u>*a:i</u> is still reflected by their modern reflexes. (E.g. <u>*a:i</u> in some cases merged with <u>*ji</u>, while <u>*ai</u> remained distinct.) However, the opposition of <u>*au</u> and <u>*a:u</u> has disappeared in some dialects (e.g. Yongren and Luchun); in other areas, old people still distinguish between long and short <u>a</u> before <u>-u</u>, but younger people no longer do (e.g. the Dai dialect spoken by the Daba Brigade of the Muchang Commune in Maguan County). From this fact we can deduce that the length distinction with vowel <u>a</u> disappeared first in syllables with <u>-u</u>, and only later in syllables with <u>-i</u>.

(4) The vowel length distinction disappeared first in stopped ("dead") syllables.

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II. The Dropping of Final Consonants

1. Syllables with nasal final consonants.

In most modern Dai dialects, the three nasal final consonants still remain. However, they have been changing in the following ways in Wuding and Luchun dialects:

a. In Wuding dialect -m has merged with -n:⁵

	three	gold	needle	fragrance	ask	bitter
Wr. Dai	*sa:m1	*gham ²	*xim ¹	*hom1	*tha:m ¹	*xum1
Banna	sa:m1	xam²	xim ¹	həmʻ		
Dehong	sa:m ¹	xam ²	xem^1	homʻ	tha:m ¹	xom
Wuding	sani	xen²	sin¹	huan ¹	than ¹	khun ¹

b. In Luchun dialect, there remains only $-\eta$, while -m and -n have both dropped. The process has been influenced by the length of the preceding vowel:

(1) The $-\underline{m}$ and $-\underline{n}$ have dropped after the long vowels $\underline{*a}$, $\underline{*a}$, $\underline{*a}$, $\underline{*a}$, $\underline{*a}$, and after the short vowels $\underline{*o}$ and $\underline{*i}$ (or $\underline{*e}$). During the process the vowel $\underline{*a}$ has changed into \underline{u} ; the vowel $\underline{*o}$, long and short, has changed into \underline{u} ; while the other vowels have remained the same. Please compare:

	Written Dai	Thai ⁶	Banna	Luchun		Written Dai	Thai	Banna	Luchun
sweet	*hva:n1	va:n1	va:n¹	vai	three	*sa:m ¹	sa:m1	sa:m ¹	sai
sleep	*non²	no:n²	non²	nuəʻ	fragrance	*hom1	ho:m1	h əm ʻ	huəʻ
home	*rən²	ru:ən²	hən²	hə²	python	*hləm¹	lu::əm'	ləm1	lə¹
garden	*so:n1	suani	soni	sui	immerse	*tho:m	⁵ thuam ⁵	thom ⁵	thu ^s
man	*gon²	khon²	kun²	ku²	sour	*som ³	som ³	sum³	su³
eat	*kin ¹	kin2'''	kin¹	tsiŋ²'''	overflow	*tim ¹	tem ² ''	tim ¹	ti ^{2''''}
stink	*hmin ¹	men ⁱ	min'	mi ¹	ginger	*xiŋ'	khiŋ'	xiŋ'	s eŋ¹
table	*phɯn¹	phu:n'	phun	phui					

(2) The $-\underline{m}$ and $-\underline{n}$ after short $\underline{*i}$ and $\underline{*u}$ have merged with $-\underline{n}$. During the process vowel $\underline{*i}$ has not changed while $\underline{*u}$ has changed into $\underline{u}\underline{\epsilon}$.

	Written			Written					
	Dai	Thai	Banna	Luchun		Dai	Thai	Banna	Luchun
tongue	*lin4	lin⁴	lin⁴	liŋ⁴	brim	*rim ²	rim ²	him²	hiŋ²
warm	*?un ⁵	un ^s	un³	uɛŋ⁵	hug	*?um ³	um ³	um ³	uɛŋ³

(3) The $-\underline{m}$ and $-\underline{n}$ after the short vowels $\underline{*a}$ and $\underline{*u}$ have dropped, with the vowels changed into \underline{s} .

	Written								
	Dai	Thai	Banna	Luchun		Dai	Thai	Banna	Luchun
sun	*van²	van ²	van ²	VE ²	water	*nam4	nam ⁴	nam4	n£4
see	*han ¹	han ¹	h an'	he	husk	*tam ¹	tam ^{2'1'}	tam ¹	tε²'''
uphill	*xun³	khun³	xuin ³	xε ³	firewood	*fhun ²	fun²	fuin²	fɛ²