

Proto-Tai reconstruction of 'maternal grandmother' revisited

**na:j^A, *ta:j^A or *ta:j^B?*

Hanbo Liao

Payap University

The word 'maternal grandmother' presents irregular modern forms in Tai languages. It is *ta:j^{B1}* in most Northern Tai (NT) varieties, *ta:j^{A1}* in most Central Tai (CT) varieties, *na:j^{A2}* in most Southwestern Tai (SWT) varieties, and *ja:j^{A2}* in Standard Thai. Li (1971) reconstructs the proto-form of this word as **na:j^A*, positing that the later forms changed by analogy with semantically similar words. This paper discusses two alternative hypotheses **ta:j^A* and **ta:j^B*, and argues that the proto-form was **ta:j^B*. The analysis indicates that the sound changes of this word in Tai languages are caused by the "contamination" in kinship terms with paired semantic contents in CT/SWT, and by dissimilation from the otherwise homophonous word 'to die' in SWT. As a result, the proto-form of 'maternal grandmother' **ta:j^B* is preserved in the vast majority of NT and a cluster of CT. In most CT/SWT the original **B* tone changed to **A* tone, and then in SWT the initial **t-* underwent further change to **n-* in order to avoid homophony with the taboo word 'to die'. This issue of homophony arose only in this branch due to the merger of **t-* and **tr-* (or **p.t-*). This proto-form **ta:j^B* is supported by historical evidence and other non-Tai languages in the Daic family. Other exceptional irregularities in some CT languages are also discussed as they are crucial to the determination of the **ta:j^B* hypothesis. Analogous examples from several Tai varieties also support the occurrence of aberrant development due to taboo avoidance.

Keywords: Proto-Tai, reconstruction, analogy, phonological contamination, taboo avoidance

1. Background

This paper discusses two alternative reconstructions of the word ‘maternal grandmother’ in Tai languages, and the proposed sound changes involving tones, initials, and vowels in the daughter languages of Proto-Tai. Many of these sound changes present as analogical changes and aberrant developments. Tai tones, especially the concepts of proto-tones and tone categories in Tai languages play an important role in these sound changes.

When illustrating tones in Proto-Tai (hereafter PT) or comparing tones among modern Tai languages, Fang-Kuei Li’s system of numbering the PT tones (cf. Li 1977:25–28) is most commonly used, and that convention will be followed in this paper as well. It is generally believed that PT had a system of three tone categories on syllables ending in a continuant (vowel, semivowel, or nasal), and a fourth tone on syllables ending with a stop (*-p*, *-t*, *-k*). These tones are designated by Li as tone *A*, *B*, *C* and *D*. Later these tones split into two series based on the voicing of the initial consonant. Li designated 1 for those from a proto-voiceless initial, and 2 for those from a proto-voiced initial. Furthermore *D* was divided into *L* for a long vowel or cluster of two vowels, and *S* for a short or simple vowel respectively, since vocalic length is crucial to explaining the varying developments in different dialects.

Cognates normally have the same tone category in different daughter languages. For example, the ten tone categories in the urban variety of Debao County Yang Zhuang (of Central Tai) present as the following tone values: *A1*=353 (high rising and falling), *A2*=31 (mid falling), *B1/DL1/DS1*=55 (high level), *B2/DL2*=33 (mid-level), *C1*=24 (low rising), *C2*=213 (low falling and rising), and *DS2*=21 (low falling). Reflexes of the same tone category often present different tone values in the various modern Tai languages. For example, *C1* tone is 24 (low rising) in Debao Zhuang, as in *ha*:²⁴ ‘five’, but is 41 (high falling) in Standard Thai, as in *ha*:⁴¹ ‘five’. Despite the different tone values, both of them are of the same tone category, *C1*. In the following discussions, only proto-tones and tone categories, such as *A*, *B*, *A2*, *B1* will be used to discuss the process of tone changes.

The proto-form of the word for ‘maternal grandmother’ in PT is reconstructed as **naai*^A by Li (1971), and as *na:j*^A by Pittayaporn (2009:336).¹ Both of them give

1. Li’s notation *-aai* actually is equivalent to Pittayaporn’s *-a:j*. Except within quotes, hereafter the following notation is used: long vowels are indicated by *-:* rather than double vowels, e.g. Thai *k^ha:^{A1}* ‘foot’ rather than *k^haa^{A1}*; final semivowels of a syllable are treated as glides *-j*, *-y*, *-ɥ*, and *-w*, and so Tai notations in the Sinitic circles such as Jingxi *p^hei^{A1}* ‘ghost’, *jeu^{C1}* ‘to cheat’, Wuming *θau^{C2}* ‘to buy’ and Debao *ɬɔy^{C2}* ‘to buy’ are re-transcribed as *p^hej^{A1}*, *jeu^{C1}*, *θau^{C2}*, and *ɬɔy^{C2}* respectively; Non-IPA symbols are re-transcribed as IPA symbols: *č*-, *š*-, *ň*- and *ɲ*- are re-transcribed as *tɕ*-, *ɕ*-, *ɲ*- and *ɲ*- respectively.

the same initial *n-* to this word. However, only modern Southwestern Tai languages (hereafter SWT) and a few Central Tai (hereafter CT) languages have forms reflecting this initial, such as *na:j^{A2}* in Black Tai and Lao (Li 1971),² *na:j^{A2}* in Sapa and *na:j^{A2}* in Bao Yen³ (Pittayaporn 2009:336). All Northern Tai (hereafter NT) and most CT languages have forms reflecting proto-initial **t-* for this word.⁴ In Zhang et al. (1999:655), this word presents as *ta:j^{A1}* in seven varieties of Southern Zhuang (of CT) and one variety of Northern Zhuang (of NT), and as *ta:j^{B1}* in twenty one varieties of Northern Zhuang and two varieties of Southern Zhuang. In short, although both Li and Pittayaporn give **n-* as the proto-initial for the word ‘maternal grandmother’, it has as its modern forms *ta:j^{B1}* in most NT languages, *ta:j^{A1}* in most CT languages, *ja:j^{A2}* in Thai and *na:j^{A2}* in other SWT languages. Examples from specific languages are shown in Table 1.

For the irregularity of the initials of this word in SWT, CT and NT, Li (1971:337–338) has pointed out that one should not reconstruct a special proto-initial for this word alone, since there are no other examples having initials *n-* in SWT languages, *t-* in CT and NT languages. It would obviously be an erratic reconstruction to assume a PT initial on the basis of one word, without support from parallel examples.

Li (1971) reconstructs **na:j^A* as the proto-form of this word and suggests that the later sound changes were ‘contamination’ by analogy with words that are semantically similar. The reconstruction of initial **n-* agrees with most varieties in SWT, such as Black Tai *naai^{A2}* ‘maternal grandmother’, White Tai *me^{B2} nai^{A2}* ‘man’s mother-in-law’, Shan *nai^{A2}* ‘grandmother, a respectful appellation for any

2. Note that Li’s Lao form *na:j^{A2}* here might be problematic, since all normative sources of Modern Lao show that the Lao form for the word ‘maternal grandmother’ should be *naai^{A2}*. In his response to Li (1971), Matisoff (1992:112) has pointed this out by the following statement: “There appears to be a discrepancy between Li’s citation of the Lao form (page 180, example 14) and current, spoken Lao. Old Lao for maternal grandmother is *naai*, and grandparents collectively are *puɯnaa taɯnaai*. Current Lao for maternal grandmother is *mɛɛ thaw*, *mɛɛ tuu*, or *mɛɛ naai*”. The Modern Lao form of this word might have undergone a process of analogical change similar to that in Thai, since both **j-* and **n-* in Proto-Tai merge into *n-* in modern Lao, so that *na:j^{A2}* ‘maternal grandmother’ > *na:j^{A2}* due to the analogy of the initial of *naa* ‘paternal grandmother’. However, Li’s inaccurate citation of the Lao form does not affect the pivotal discussion since other SWT varieties still retain the older form *na:j^{A2}* for this word.

3. Bao Yen is a CT language which is spoken in an area next to SWT areas in Northwestern Vietnam. The term *na:j^{A2}* ‘maternal grandmother’ in Bao Yen may be influenced by the forms in its neighboring SWT languages.

4. The tripartite division of the Tai branches into Southwestern Tai, Central Tai, and Northern Tai was proposed by Fang-Kuei Li (1977) and has long been accepted in the field of comparative Tai linguistics.

Table 1. The word of ‘maternal grandmother’ in representative Tai languages

Language	The gloss of ‘maternal grandmother’ in Tai languages					
	Southwestern Tai		Central Tai		Northern Tai	
	Standard Thai	Black Tai	Lungchow	Debao	Wuming	Tiandong
Modern form	<i>ja:j^{A2}</i>	<i>na:j^{A2}</i>	<i>ta:j^{A1}</i>	<i>ta:j^{B1}</i>	<i>ta:j^{A1}</i>	<i>ta:j^{B1}</i>
Proto-form reflected	* <i>ja:j^A</i>	* <i>na:j^A</i>	* <i>ta:j^A</i>	* <i>ta:j^B</i>	* <i>ta:j^A</i>	* <i>ta:j^B</i>
Agreement	None	Agrees with most SWT languages	Agrees with most CT languages	Agrees with most NT languages	Agrees with most CT languages	Agrees with most NT languages

aged female’, and Lu *nai^{A2}* ‘wife’s mother’ (Li 1971:337). In the case of ‘maternal grandmother’ *ja:j^{A2}* in Standard Thai, he considers the initial to be aberrant as it does not agree with other SWT varieties, and suggests that in Standard Thai the initial consonant of the proto-form **na:j^A* was replaced by the initial of ‘paternal grandmother’ (*jaa^{B2}*), possibly due to ‘contamination’ from common expressions such as *puu^{B1} jaa^{B2} taa^{A1} jaa^{A2}* ‘ancestors, paternal and maternal grandparents’ (Li 1971:338–339).

In CT and NT languages, he suggests that the dental stop initial for the word ‘maternal grandmother’ (*ta:j^{A1}* in CT and *ta:j^{B1}* in NT) is also the result of initial change, this time by analogy with a different set of semantically similar words. He proposes that in these languages the initial consonant of ‘maternal grandmother’ has been replaced by the initial of ‘maternal grandfather’ **ta:^A*, and further suggests that the source of ‘contamination’ may come from expressions such as *ta:^{A1} ta:j^{B1}* ‘maternal grandparents, wife’s parents’ in Po-ai (Li 1971:339).

Based on the reconstruction of **na:j^A*, Li proposes that this Tai proto-form ‘maternal grandmother’ may relate to Ancient Chinese 孀 **niei* (also **nai[?]*) ‘mother’, or the term for ‘mother’ in Ancient Chu and Ancient Yi (or Loloish) as recorded in the historical documents *Guǎngyǎ* (廣雅) and *Qièyùn* (切韻). Agreeing with Li’s proposal, Matisoff (1992:114–115) further suggests that this term may relate to the Loloish **yay³* ‘mother; grandmother; maternal aunt’, indicating a possible co-territorial early contact between Tibeto-Burman and Tai languages in Southern China. Other possible sources of influence for this PT reconstruction **na:j^A* are also mentioned, for example Old Khmer: *ataa* ‘maternal grandmother’ and the hypocoristic universal (Matisoff 1992:115). Pittayaporn (2009:336) seems to agree with Li’s aforementioned hypothesis on the development of ‘maternal grandmother’ from PT to modern Tai languages, in that he gives **na:j^A* as the proto-form of this word in his reconstruction.

The hypothesis of influence from Ancient Chinese 孀 **niei* (also **nai*²) with *shǎng* tone, though inspiring, sounds weak. Ancient Chinese loanwords in *shǎng* tone regularly correspond to *C* tone in Tai (vs. **na:j^A* with *A* tone). Furthermore the use of 孀 as ‘grandmother’ is not to be found among the Southern Chinese dialects which have a long history of contact and are co-territorial with Tai languages.⁵ The hypothesis of possible loans from Loloish or Khmer to Tai, or the hypocoristic universal, may also hardly stand as the term ‘maternal grandmother’ has good cognates among all Daic languages outside of the areas of contact with Loloish and Mon-Khmer languages.

While this paper agrees with Li’s observation on the development of SWT *na:j^{A2}* to Standard Thai *ja:j^{A2}*, it considers the reconstruction of the PT form **na:j^A* to be doubtful. First, this hypothesis does not explain the tone difference of this word between NT (*ta:j^{B1}*) and CT (*ta:j^{A1}*). Second, just because there is a case of analogical change in the development from SWT to Standard Thai does not mean that there is any predisposition for a parallel process to occur in the development of the common modern forms in NT and CT from PT. In the following section two alternative hypotheses for the proto-form of ‘maternal grandmother’, namely **ta:i^A* or **ta:i^B*, are proposed, and will be discussed in detail.

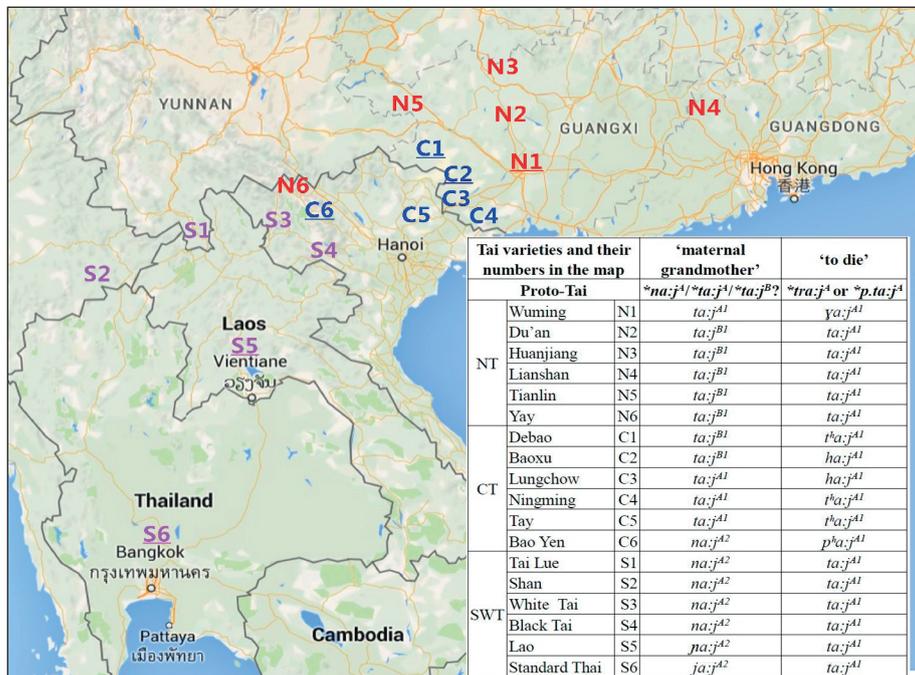
2. Alternative explanations: Proto-Tai **ta:j^A* and *ta:j^B*

The tonal behavior of the word ‘maternal grandmother’ should be one of the most critical points in the discussion of how these forms relate. As Li (1971: 338) noticed, although both NT and CT languages contain the same dental stop initial *t-* for this word, NT languages tend to have tone *B1*, while CT languages tend to have tone *A1*. Li does not explore the cause of this phenomenon. Here we propose two possible explanations.

The first possible explanation suggests that the reconstruction **ta:j^A* should be true. Since all SWT languages reflect a proto-tone *A* for this term, the *A1* tone in most CT languages can be supposed to retain the proto-tone *A* while the *B1* tone in most NT languages is an aberrant development. If the hypothesis of PT **ta:j^A* is true, then the aberrant development in both the tone in NT and the initial in SWT could be motivated by the speakers’ intention to prevent the word ‘maternal grandmother’ from being homophonous with the taboo word ‘to die’. For the word

5. The Southern Chinese dialects which had heavy historical contact with Tai languages are Pinghua in Guangxi, and Cantonese in Guangdong and Guangxi. The relevant words in these two dialects are as follows: Cantonese *ma^{A2}* ‘paternal grandmother’ and *p^hɿ^{A2}* ‘maternal grandmother’; Pinghua (Binyang) *pow²¹³* ‘paternal grandmother’ and *tej³³ me⁵⁵* ‘maternal grandmother’.

‘to die’, Li (1977:119) gives the proto-form **tra:j^A*, and Pittayaporn (2009:96, 357) gives **p.ta:j^A*. In the majority of modern NT and SWT languages, the word for ‘to die’ is *ta:j^{A1}*, while in all modern CT languages, this word presents as an aspirated initial or an initial with spread feature (*h-*), such as *t^ha:j^{A1}* in Debao, *p^ha:j^{A1}* in Bao Yen, and *ha:j^{A1}* in Lungchow.



Map data ©2015 Google

Figure 1. Mapping of ‘maternal grandmother’ and ‘to die’ in Tai languages

A fuller range of dialectal data for ‘maternal grandmother’ and ‘to die’ in representative Tai varieties grouped into NT, CT, and SWT sub-branches are shown in Figure 1 above.⁶ All of the NT varieties, with the exception of Wuming (see discussion in §4), have the same initial but different tones for these two terms. The opposite holds in CT where all varieties except Debao and Baoxu have the same tone but different initials for these two terms. For SWT varieties, all tones of these two terms reflect the same proto-tone **A*.

6. The base map in Figure 1 is adopted from the Google Maps. The map may not reflect the boundary accurately. The underlined varieties in Figure 1 present irregularities on either the initial or the tone of the two terms within their own sub-branch. For example, Debao of CT has tone *B1* for the term ‘maternal grandmother’ which has tone *A1* in the other CT languages.

It can be supposed that in a period after PT developed into different daughter languages, in both NT and SWT languages, the PT initials $*t-$ and $*tr-$ (or $*p.t-$) merged into $t-$, such that $*tra:i^A / *p.ta:j^A > ta:i^{A1}$ ‘to die’. This process caused the taboo word ‘to die’ to become homophonous with the word ‘maternal grandmother’. In order to avert this situation, in NT the word ‘maternal grandmother’ altered its tone category from A to B : (PT) $*ta:j^A >$ (NT) $ta:j^{B1}$, while in SWT it altered the manner of articulation of its initial from an oral stop to a nasal stop: (PT) $*ta-ai^A >$ (SWT) $naai^{A2}$. In CT the initials $*t-$ and $*tr-$ (or $*p.t-$) did not merge, so that (PT) $*t- >$ (CT) $t-$, and (PT) $*tr-$ (or $*p.t-$) $>$ (CT) $t^h- / h- / p^h-$. Therefore in most CT languages the word ‘to die’ becomes $t^ha:j^{A1}$ (such as Tay) / $ha:j^{A1}$ (Lungchow) / $p^ha:j^{A1}$ (Bao Yen), while the word ‘maternal grandmother’ remains $ta:i^{A1}$. Since the words did not become homophonous, there was no reason for speakers to make any idiosyncratic changes in the way they pronounced ‘maternal grandmother’. The process being posited is shown in Table 2.

Table 2. ‘to die’ and ‘maternal grandmother’: in the case of homophonous taboo avoidance in both SWT and NT

‘to die’				
Proto-Tai	Merger		Modern form	Language
$*tra:i^A$ or $*p.ta:j^A$	$*tr- / *p.t- >$	$t-$	$ta:j^{A1}$	SWT
		$t-$	$ta:j^{A1}$	Most NT
		$t^h- / h- / p^h-$	$t^ha:j^{A1} / ha:j^{A1} / p^ha:j^{A1}$	CT
‘maternal grandmother’				
Proto-Tai	Development		Modern form	Language
$*ta:j^A$	$*t- > *n- > n-$		$na:j^{A2}$	Most SWT
	$*A > *B > B1$		$ta:j^{B1}$	Most NT
	$*A > \text{Preservation} > A1$		$ta:j^{A1}$	Most CT

However, because quite a few CT varieties such as Debao, Jingxi, Napo, Tiandeng, Daxin, Baoxu, Zuozhou, and Cao Bang do have $B1$ tone, agreeing with the NT form for this word (these exceptional cases will be discussed in the following §4), here we cannot ignore the second hypothesis of proto-tone $*B$ for this word. Under this hypothesis, $ta:j^{B1}$ in most NT languages and quite a few CT languages may be explained as retention, while $ta:j^{A1}$ in most CT languages as well as $na:j^{A2}$ in SWT are of aberrant development. If the hypothesis of PT $*ta:j^B$ is true, the aberrant development in the tone in CT/SWT and in the initial in SWT can be respectively explained as follows.

First, in both CT and SWT (as well as Wuming in NT) the proto-form of the word for ‘maternal grandmother’ $*ta:j^B$ would have undergone an analogical change (or contamination as in Li (1971)) replacing its tone by the tone of the

word for ‘maternal grandfather’ $*ta:A$ (cf. Li 1977:97). The change originated perhaps from such expressions as PT $*ta:A$ $ta:j^B$ ‘maternal grandparents, wife’s parents’. Phonological contaminations in kinship terms are very commonly found in the modern Tai varieties. This will be discussed further in §4.

Second, the initial consonant in SWT would have to be explained by the same process as was invoked for both SWT and NT languages under the first alternative reconstruction, namely avoiding homophony with the taboo word ‘to die’. Under this second alternative reconstruction, the process of taboo avoidance did not apply to NT languages because the hypothesized sound change of proto-tone $*B$ to $*A$ for ‘maternal grandmother’ did not apply there. For most NT languages, the retention of $B1$ means that even after the merger of the initial consonants, the words ‘to die’ and ‘maternal grandmother’ still have distinct tones. As for most CT languages, as mentioned above, the sound change involving the initial $*tr-$ (or $*p.t-$) does not lead to merger with the initial $*t-$, and so the two words have distinct pronunciations in these languages as well. For example the initial of Tay and Debao $t^h a:j^{A1}$ ‘to die’ contrasts with that of $ta:j^{A1}$ or $ta:j^{B1}$ ‘maternal grandmother’. It is after these two processes of tone change and then $*tr-$ (or $*p.t-$) $>$ $*t$ caused the merger of initials in SWT languages that the taboo word ‘to die’ became homophonous with the word ‘maternal grandmother’ only in those languages. In order to avert this situation of homophony, in SWT the manner of articulation of the initial was altered from an oral stop to a nasal stop: (PT) $*ta:j^A >$ (SWT) $na:j^{A2}$. Thus although the scope of languages in which taboo avoidance applies under this alternative reconstruction is narrower, this same process is still invoked under each of the two alternatives.

The process being posited is shown in Table 3.

Table 3. ‘to die’ and ‘maternal grandmother’: in the case of homophonous taboo avoidance only in SWT

‘to die’				
Proto-Tai	Merger		Modern form	Language
$*tra:A$ or $*p.ta:j^A$	$*tr- / *p.t- >$	$t-$	$ta:j^{A1}$	SWT
		$t-$	$ta:j^{A1}$	Most NT
		$t^h- / h- / p^h-$	$t^h a:j^{A1} / ha:j^{A1} / p^h a:j^{A1}$	CT
‘maternal grandmother’				
Proto-Tai	Development		Modern form	Language
$*ta:j^B$	$*B > *A > A1; *t- > *n- > n-$		$na:j^{A2}$	Most SWT
		$*B > *A > A1$	$ta:j^{A1}$	Most CT
	$*B > \text{Preservation} > B1$		$ta:j^{B1}$	Most NT

The two hypotheses differ in the presence or absence of the analogical change triggered by the expressions that are semantic pairs, namely ‘maternal grandmother’ and ‘maternal grandfather’, after the split of NT and CT/SWT. The first hypothesis ignores this possibility but only focuses on the phonological changes happening with the tones in NT and the initials in SWT respectively due to the same taboo avoidance, while the second hypothesis admits phonological changes due to analogy in CT/SWT and taboo avoidance in SWT. No matter which proposal is more reasonable, at least phonological change due to taboo avoidance is posited to have happened after the split of CT and SWT languages. More discussion about sound changes motivated by taboo avoidance will be provided in §5.

The words for ‘eye’ $*tra:A$ (Li 1977:119) or $*p.ta:A$ (Pittayaporn 2009:96, 323) and for ‘maternal grandfather’ $*ta:A$ (Li 1977:97) form a similar pair with the words ‘to die’ and ‘maternal grandmother’ in that the proto-initials of ‘eye’ and ‘die’ are the same, and the proto-initials of ‘maternal grandfather’ and the proposed reconstruction of ‘maternal grandmother’ are also the same. In the case of ‘eye’ and ‘maternal grandfather’, however, the vast majority of SWT and NT languages show them merging as homophones $ta:A1$ when the proto-initial of ‘eye’ $*tr-$ / $*p.t-$ becomes $t-$. Furthermore, this merger in SWT and NT does not lead to additional changes dissimilating the word ‘maternal grandfather’ from the word ‘eye’ since the latter does not have a taboo meaning.

Only if the proto-form of ‘maternal grandmother’ is actually $*ta:j^A$ or $*ta:j^B$ but not $*na:j^A$, can the different tonal behaviors of this word in NT and CT/SWT languages as well as the different initials of this word in CT and SWT languages be reasonably and consistently explained. The only remaining problem is how to decide between the two alternative reconstructions of ‘maternal grandmother’ with tone $*A$ or $*B$.

3. Evidence from the historical record and other Daic languages

The PT reconstruction of the word ‘maternal grandmother’ as $*ta:j^A$ or $*ta:j^B$ is further supported by historical evidence and other non-Tai languages in the Daic language family.

Tai (2006:21–22) noticed that several Daic words are recorded in the 12th century book *Ling Wai Dai Da* (嶺外代答, *Answering for the Lingnan Region*), which was written by the Chinese geographer Zhou Qufei (周去非 1175–1189 AD) about the present-day Guangxi and Guangdong provinces of China. The word for ‘maternal grandmother’ is one of the items that is recorded in this book; it is denoted by the Chinese character 低. The reconstruction of this character in Middle Chinese is $*tiet^A$, and its modern pronunciation is tai^{55} in Cantonese and ti^{55} in

Mandarin. This shows that the initial of ‘maternal grandmother’ in Daic languages in South China was **t-* and not **n-* at least 800 years ago. Note also that the tone of 低 **tiei^A* is A, which regularly corresponds to tone **A* in Tai.

The historical record lends strong support to the proposal for an initial **t-* in this term. However, one could doubt this evidence since there is a problem determining the dates of divergences among the sub-groups or dialects of Tai and genetically related languages. The Daic Family, including Li’s (1977) three Tai sub-groups, can be illustrated as in the following Figure 2.

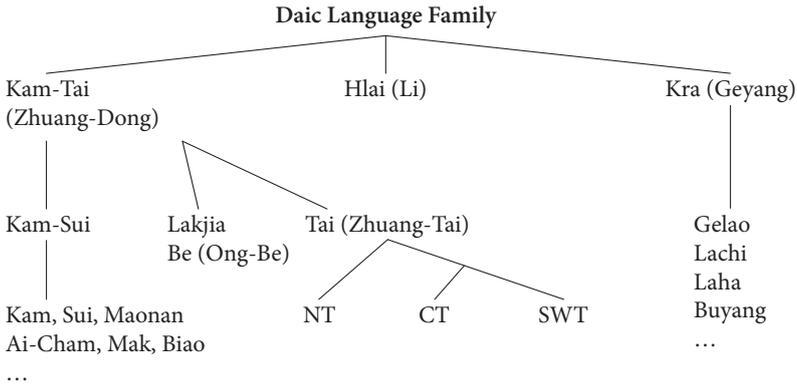


Figure 2. Tai-Kadai language family tree (composite from Diller 2008:7 and Gedney 1989:65–66)

Li’s tripartite division of the three Tai sub-branches, SWT, CT, and NT, has long been accepted as standard in the field of comparative Tai linguistics. However, the primary classification of the Tai branch, that Li’s CT and SWT sub-branches can form a sub-group of which the NT sub-branch is a sister, seems to be more reasonable due to the suggestion of the two-plus-one taxonomy proposed by Gedney (1989). Although admitting that CT and SWT have basic differences in lexical and phonological criteria, Gedney proposes that the scale of these differences is less than that between NT and CT/SWT languages. He uses evidence of some dialects that are intermediate between SWT and CT to show that they form a coherent subgroup (Gedney 1989:65–66). Thus it is accepted that the divergence between NT and CT/SWT was much earlier than the divergence between CT and SWT.

So far, there is not yet any comprehensive research that confidently provides the dates of the divergence among languages in the Daic Family and between the NT and CT/SWT sub-groups. However, previous studies do provide some clues. Diller (1998:14) points out that most linguists working in the field accept a time depth of less than two thousand years for Li’s PT. He further cites Wyatt (1984:6–11) to point out that it was during the later Tang period (c. 800 AD) when

ancestors of the SWT might have immigrated to the south of the Red River from their homeland, that is “the region encompassing parts of the watersheds of the Xi River system in Guangxi extending to northern tributaries of the Red River in Vietnam” (Diller 1998:15). This suggests that while the divergence of NT and CT/SWT languages should be not more than 2000 years ago, the separation of CT and SWT might have begun some 1200 years ago.

If these hypotheses of Tai divergence are even close to the real situation, then the divergence between SWT and CT may pre-date the 800-year-old record of Zhou Qufei. How can that record then be used to prove initial **t-* in PT, when it could perhaps reflect an innovation in CT after CT diverged from SWT? However, because the divergence of NT and CT must be much earlier than the separation of CT and SWT, the logic suggests that the initial of this word must still be **t-* since both branches of the earlier separated NT and CT languages have been sharing **t-* through the long history, dating back at least until Zhou Qufei’s written record 800 years ago. This indicates **n-* in SWT rather than the **t-* in CT should be an innovation.

If one suspects that the initial **t-* shared in NT and CT might be a result of compact contact to form an areal trait, evidence from other non-Tai languages in the Daic Family can confirm the **t-* hypothesis. In Liang & Zhang (1996:138), the data of the word for ‘maternal grandmother’ from non-Tai languages in the Daic language family are listed as follows: *te*¹ in Southern Kam (Kam-Sui), *te*¹ in Maonan (Kam-Sui), *te*¹ in Ai-Cham (Kam-Sui), *te*⁶ in Mak (Kam-Sui), *ta*¹ in Biao (Kam-Sui), and *ta*³ in Hlai (Hlai). The initial of these forms is supposed to develop from proto-Kam-Tai (hereafter PKT) **t-* and presents the same modern form *t-* in these languages (cf. Liang & Zhang 1996:137–146). Within the vowels of these forms, at least *-e*, *-ε*, *-i* in Kam-Sui (hereafter KS) languages, and *-a* in Biao correspondence to *-a:j* in Tai languages, and all these forms are reconstructed as proto-Kam-Tai **-jai* by Liang & Zhang (1996:503, 543–546). The correspondence can be illustrated by the following comparison⁷ in Figure 3 with Longzhou (of CT) representing Tai:

7. All of this data is adopted from Liang & Zhang (1996:137–138, 543–546).

	maternal grandfather	maternal grandmother	sell	dam	goiter	wire
Tai (Longzhou)	<i>taː¹</i>	<i>taːj¹</i>	<i>kʰaːj¹</i>	<i>pʰaːj¹</i>	<i>ʔaːj¹</i>	<i>laːj¹</i>
Southern Kam	<i>ta¹</i>	<i>te¹</i>	<i>pe¹</i>	<i>pi¹</i>	<i>se¹</i>	<i>se¹</i>
Maonan	<i>ta¹</i>	<i>te¹</i>	<i>pje¹</i>	--	<i>ʔe¹</i>	<i>se¹</i>
Ai-Cham	<i>ta¹</i>	<i>te¹</i>	<i>ɬe¹</i>	--	<i>ʔe¹</i>	<i>ze¹</i>
Mak	<i>te⁶</i>	<i>te⁶</i>	<i>ɬe⁶</i>	<i>ve¹</i>	<i>ʔe¹</i>	<i>ze¹</i>
Biao	<i>to¹</i>	<i>ta¹</i>	<i>pʰa¹</i>	<i>fa¹</i>	--	--
Hlai	--	<i>ta³</i>	--	--	--	<i>daːj¹</i>

Figure 3. Sound correspondence among Tai and other non-Tai languages within Daic

The correspondences indicate that at least in KS languages the word ‘maternal grandmother’ is cognate with Tai. Thus the related languages outside of the Tai branch also strongly support reconstructing the proto-initial of the word ‘maternal grandmother’ as **t-*.

Note that all KS forms of this word have tone *A1* (tone *1* in Sinitic circles) with tone *6* in Mak being a seeming exception.⁸ Actually tone *A1* with proto-voiceless unaspirated stop initials and glottal initials always merges with tone *B2* (tone *6*) in Mak, and this is very rarely found in other languages in the same family (Liang & Zhang 1996:819). This clarifies that tone *6* for the word ‘maternal grandmother’ in Mak is still consistent with an earlier **A* tone. If the hypothesis of **taːj^A* for Tai is true, the tones on all forms in KS is of straightforward development.

However, if the other hypothesis of **taːj^B* is correct, the correspondences in Figure 3 would indicate that the original tone (**B*) of this word had undergone the process of analogical change from its original tone **B* to **A* due to the contamination by the tone of **taː^A* ‘maternal grandmother’ not only in Wuming of NT, most CT and all SWT languages, but also in all of these KS languages as well.

The first hypothesis (**taːj^A*) is more plausible just on the face of things as the **A* tone is commonly reflected by KS, CT and SWT languages. The comparative method holds that common features shared by languages spoken far apart are likely retentions, while the different features in languages distributed between them might be innovations. After all, SWT/CT languages and KS languages are not in contact with each other since there are wide NT areas separating them. If we give priority to the second hypothesis (**taːj^B*), the same analogical change (the tone of ‘maternal grandmother’ was replaced by the tone of ‘maternal grandfather’) must be explained in all of these widely distributed language groups. This explanation

8. Hlai is not of the KS branch (cf. Figure 2). Varieties of Hlai constitute a single branch within the Daic family. Since the split of Hlai from Daic might have been much earlier than the split between the KS and Tai branches, and tones in Hlai have much less correspondence to KT tones. Here we do not aim to discover the etymology of the terms among Hlai, KS, and Tai.

depends on such an amazing confluence of independent yet identical changes that it strains all plausibility.

4. Further discussion on kinship terms contaminations: determining the tone change direction between $*ta:j^A$ and $*ta:j^B$

One of the limited exceptions to the tonal behavior of this term in NT, which normally has *B1* tone, is Wuming, which has ‘maternal grandmother’ as tai^{A1} (cf. Li 1971:338). Note that the tone remains *A1* ($*ta:j^A$ hypothesis) or has changed to *A1* ($*ta:j^B$ hypothesis) like its neighboring CT varieties. Also unlike other NT languages, in Wuming PT $*tr-$ or $*p.t-$ did not merge with $*t-$, but has developed to merge with $*r-$ ($> \gamma-$), so that the word for ‘to die’ in this dialect is yai^{A1} . If the $*ta:j^A$ hypothesis is true, the explanation is as follows: just as in the majority of CT languages, it is not necessary for this dialect to change the tone of ‘maternal grandmother’ in order to disambiguate these two words, because the initial of ‘to die’ ($\gamma-$) does not merge with the initial of ‘maternal grandmother’ ($t-$). But if the $*ta:j^B$ hypothesis is true, the explanation is as $*ta:j^B > *ta:j^A$ due to the analogical change caused by the tone of $*ta:A$ ‘maternal grandfather’, just like what happened in its neighboring CT languages.

We will finally end the dispute of these two hypotheses by analyzing another interesting exception occurring in a cluster of CT dialects which consists of Debao, Jingxi, Hurun, Tiandeng, Baoxu, Zuozhou, and Cao Bang. In these adjacent areas, the word for ‘maternal grandmother’ is $ta:j^{B1}$, with *B1* tone instead of the expected *A1* tone in the majority of CT languages. In these languages, PT $*tr-$ or $*p.t-$ also did not merge with $*t-$, but has developed to t^h- (all except Baoxu) or $h-$ (Baoxu), so the word for ‘to die’ in these dialects is $t^h a:j^{A1}$ or $ha:j^{A1}$. If we give priority to $*ta:j^A$ hypothesis, as it has been pointed out for all CT dialects, there was no motivation for speakers to change the tone of ‘maternal grandmother’ to *B1* because it was still distinguishable from the word ‘to die’ (t^h-) due to the distinct initials. In this cluster of dialects however, the tonal change unexpectedly did occur anyway. Although one would suspect that this aberrant development can be treated as an areal feature that is shared with the majority of NT languages since some of these languages are spoken along the NT-CT border, this argument is not very convincing because some languages like Baoxu and Cao Bang are spoken in the concentrated CT area far away from NT-CT border. Moreover, the tone of the word for ‘maternal grandfather’ in this cluster of CT languages has also undergone tone change ($*ta:A > ta:B1$ which is discussed at the end of this section). Thus, the $*ta:j^A$ hypothesis meets with serious difficulties when we take these CT varieties into deliberate consideration. This exceptional case is problematic only

because the $*ta:j^A$ hypothesis proposes $*A$ as the original tone of this term. If the proto-form were $*ta:j^A$, then neither avoiding homophony with a taboo word nor language contact nor changing the tone by analogy could explain this data. Only if we give priority to the $*ta:j^B$ hypothesis can the forms in this cluster of CT dialects be explained at all.

Therefore, the preference is finally given to the $*ta:j^B$ hypothesis, namely $B1$ tone in the vast majority of NT and in a cluster of CT is explained as straightforward development, while $A1$ or $A2$ tones in the other dialects are innovations. Only if this hypothesis is relied on could the cases that languages reflecting $*A$ tone in the term ‘maternal grandmother’ be more reasonably explained as a result of analogy, namely the contamination of the tone of $*ta^A$ ‘maternal grandfather’.

However, we must face the challenges from the reflected $*A$ tone of KS languages discussed at the end of §3, and from that the Chinese character 低 $*ti^A$ with the corresponding A tone with Tai recorded in the historical document to denote the Daic term ‘maternal grandmother’. These challenges will lose their force once we learn more about the kinship terms in Daic languages which seem to have gone through a lot of analogical changes or so-called phonological contaminations. These are also like Li’s observation on the development of SWT $na:j^{A2}$ to Standard Thai $ja:j^{A2}$ (Li 1971:338–339), and are additional cases of analogical change with words of paired semantic contents in Tai languages, similar to those partially analyzed below.

The first pair of semantically paired words we will look at as further examples of this phenomenon are ‘younger sibling’ and ‘elder sibling’ described in Table 4 in Tai, KS and Ong-Be (OB) languages.⁹ This two terms normally have the same tonal category or reflect the same proto-tone $*C$ in NT, KS, and OB, but reflect $*C$ and $*B$ tones respectively in the all SWT varieties and the vast majority of CT with Bao Yen as an exception.

9. In this chart, the data of Yay and Saek is adapted from Pittayaporn (2009:336), the data of Baoxu is from the author’s own field notes, and the remaining data including the PKT initials and vowels are adapted from Liang & Zhang (1996:201, 319, 668, 731). The proto tones of these two terms are supposed by the author.

Table 4. 'elder sibling' and 'younger sibling' in Daic languages

Daic varieties		'younger sibling'	'elder sibling'	Explanation to tonal irregularity of 'elder sibling' among Daic
Proto-Kam-Tai		*nuɔŋ ^C	*bwiɛj ^B	
NT	Wuming	nuɔŋ ^{C2}	pej ^{C2}	*B > *C
	Du'an	nu:ŋ ^{C2}	pej ^{C2}	*B > *C
	Tiandong	nuan ^{C2}	pi: ^{C2}	*B > *C
	Yay	nuɔŋ ^{C2}	pi: ^{C2}	*B > *C
	Saek	nuɔŋ ^{C2}	ph ⁱ :B ²	Retention or Influence by SWT?
CT	Debao	no:ŋ ^{C2}	pej ^{B2}	Straightforward
	Lungchow	no:ŋ ^{C2}	pi: ^{B2}	Straightforward
	Baoxu	nɔ:ŋ ^{C2}	ph ⁱ :B ²	Straightforward
	Bao Yen	nɔ:ŋ ^{C2}	pi: ^{C2}	*B > *C
SWT	Tai Lue	nɔ:ŋ ^{C2}	pi: ^{B2}	Straightforward
	Chiang Mai	nɔ:ŋ ^{C2}	pi: ^{B2}	Straightforward
	Khon Kaen	nɔ:ŋ ^{C2}	ph ⁱ :B ²	Straightforward
	Thai	nɔ:ŋ ^{C2}	ph ⁱ :B ²	Straightforward
KS	Kam	nɔŋ ^{C2}	ta:j ^{C2}	*B > *C
	Sui ¹⁰	nu: ^{C2}	fa:j ^{C2}	*B > *C
	Mulam	nuŋ ^{C2}	fa:j ^{C2}	*B > *C
	Maonan	nuŋ ^{C2}	va:j ^{C2}	*B > *C
	Biao	–	po ^{B2}	Straightforward
OB	Lingao	nuŋ ^{BC2}	boj ^{BC1}	Either one of the two possibilities

Since all Daic languages in the chart reflect the same proto-tone *C for the word 'younger sibling', there is no doubt that this is the original tone for this etymon. The problem is the term 'elder sibling', which has different tones, either B2 or C2. Because there is no convincing environment for the change from C2 to B2, it is proposed that in NT and KS languages as well as Bao Yen of CT, the proto-tone *B

10. In Sui, the term 'younger sibling' seems to have lost its original velar nasal coda due to being influenced by the term 'elder sibling' which has no nasal coda. This seems to be another case of analogical change with words of paired semantic content, *bwiɛj^B*nuɔŋ^C 'siblings; brothers and sisters', in KS languages.

of the word ‘elder sibling’ $*bwiej^B$ has been replaced with the tone $*C$ of the word for ‘younger sibling’ $*nu\eta^C$, and it originates perhaps from such extremely common expressions as PT $*bi^B nwo:\eta^C$ ‘siblings; brothers and sisters’, cf. $pej^{C2} nu\eta^{C2}$ in Wuming, $pej^{B2} no:\eta^{C2}$ in Debao, and $p^hi:B2 n\eta:\eta^{C2}$ in Standard Thai. Those cases, therefore, that have $B2$ on the term ‘elder sibling’ can be treated as straightforward reflections of the proto-tone $*B$.

The term ‘elder sibling’ in Saek is an exception within NT in that it has an unexpected $B2$ tone, agreeing with SWT/CT. Tonal straightforward development of this term is possible. While considering Saek is spoken in the only NT dialect island in the SWT areas far apart from concentrated NT area, the term in this dialect may be influenced by the surrounding SWT languages. Note that Biao is a special case that also has unexpected $B2$ tone for this term within KS. This is possible because the etyma of ‘younger sibling’ is not found in this language, so that the term ‘elder sibling’ keeps its development along the straightforward tract without influence from a semantic pair. Lin’gao represents another particular case that the proto-tones $*B$ and $*C$ merged after their divergence from Kam-Tai languages, so that $*B$ and $*C$ are of the same proto-tonal category ($*BC$) in this language. $*BC$ further splits into two tones depending only on the voicing of the proto-initial. These two terms in Lin’gao have initials $b-$ and $n-$ which developed from proto-voiceless (tonal series 1) and proto-voiced (tonal series 2) initials respectively. Therefore the tones of these two terms in Lin’gao can be treated as either straightforward development after the merger of $*B$ and $*C$, or a case of contamination before the merger of $*B$ and $*C$ in pre-Ong-Be.

Another typical pair with phonological contamination in Tai is ‘father’s younger brother’ and ‘father’s younger sister’. In most CT varieties and in Saek of NT, the two terms are γaw^{B1} and γa^{A1} reflecting different proto-tones $*B$ and $*A$ respectively. In most NT varieties and some SWT languages such as Tai Lue and Lao, the latter term $*\gamma a^{A1}$ ‘father’s younger sister’ is the same as the one in NT and CT, but the former term γaw^{A1} ‘father’s younger brother’ has $A1$ tone, which is the same as the tone on the latter term ‘father’s younger sister’. This tone change can be analyzed as another example of analogical change due to the common expression pairing them together: $*\gamma aw^{B1} * \gamma a^{A1}$ ‘father’s younger siblings’ > $\gamma aw^{A1} \gamma a^{A1}$.

In the vast majority of SWT and NT, na^{C2} ‘mother’s younger sister’ may have undergone contamination to replace its original tone $*B$ with $*C$, which was the tone of its counterpart $*pa^{C2}$ ‘mother’s elder sister’, while in CT varieties (such as Yang Zhuang varieties, Lungchow and Cao Bang), this word is na^{B2} , which may reflect its original tone $*B$. The kinship terms with phonological contamination in Tai are not limited to Tai etyma but apply to Chinese loans as well. In the Debao Urban variety of Yang Zhuang, most kinship terms which were borrowed from Chinese, such as ma^{A1} ‘mother’, pa^{A1} ‘father’, ko^{A1} ‘elder brother’, tce^{A1} ‘elder

sister', *ti*:^{A1} 'younger brother', *mej*^{A1} 'younger sister', *ji*:^{A1} 'mother's younger sister', *ku*:^{A1} 'father's younger sister', and *kuŋ*^{A1} 'paternal grandfather', all share the same tone, even though their Chinese sources actually have different tones. The contamination may have spread from *ma*:^{A1} 'mother' to all the other terms.

In short, many kinship terms in Daic languages seem to have gone through phonological contamination, especially tone changes. It is interesting that within the cluster of CT languages which is so crucial to arguing for proto-tone **B* on the term 'maternal grandmother' (Debao, Jingxi, Hurun, Tiandeng, Baoxu, Zuozhou, and Cao Bang), not only has the tone of the word for 'maternal grandmother' (*ta*:^{jB1}) preserved *B1*, but the tone of the word for 'maternal grandfather' has also undergone tone change (**ta*:^A > *ta*:^{B1}). It is proposed that in these languages the proto-tone **A* of the word 'maternal grandfather' *ta*:^{B1} has been replaced with the tone of the word for 'maternal grandmother' *ta*:^{jB1}, and it originates perhaps from such expressions as Debao and Jingxi *ta*:^{jB1}*ta*:^{B1} 'mother's mother and mother's father, maternal grandparents, wife's parents'. The process is shown in Table 5.

Table 5. 'maternal grandmother' and 'maternal grandfather': from PT to modern CT languages

'maternal grandmother'			
Proto-Tai	Development	Modern form	Central Tai
<i>*ta</i> : ^{jB}	Straightforward development as in NT	<i>ta</i> : ^{jB1}	Debao, Jingxi, etc.
	<i>*B</i> > <i>*A</i>	<i>ta</i> : ^{jA1}	Other CT
	Analogical change by the tone of <i>ta</i> : ^{A1} 'maternal grandfather'		
'maternal grandfather'			
Proto-Tai	Development	Modern form	Central Tai
<i>*ta</i> : ^A	<i>*A</i> > <i>*B</i>	<i>ta</i> : ^{B1}	Debao, Jingxi, etc.
	Analogical change with <i>ta</i> : ^{jB1} 'maternal grandmother'		
	Straightforward development	<i>ta</i> : ^{A1}	Other CT

The high frequency of phonological change due to analogy or "contamination" in kinship terms in Daic, especially in Tai languages, suggests that the **ta*:^{jB} hypothesis for the term 'maternal grandmother' is more plausible than the **ta*:^{jA} one, since it can more reasonably explain the tonal behavior of this term in the cluster of CT languages. This suggests that **A* tone reflected in all KS languages for this term is also the result of contamination. As for the tone **A* of Chinese character 低 **tiei*^A which denotes the Daic word 'maternal grandmother' more than 800 years ago, we can surmise that the process of contamination causing **B* tone to become **A* tone had already been established in some of the Daic languages by

that time. Therefore, $*ta:j^B$ is preserved in the vast majority of NT languages and in a cluster of CT languages, but changes its original $*B$ tone to $*A$ in most CT/SWT languages, and then changes its initial $*t-$ to $*n-$ for taboo avoidance triggered by the merger of $*t-$ and $*tr-$ (or $*p.t-$) which would have caused ‘to die’ to be homophonous with ‘maternal grandmother’ in SWT.

To summarize, the whole process which applied to the interrelated words ‘maternal grandmother’, ‘maternal grandfather’, ‘to die’ and ‘eye’ in Tai languages can be described as in the Table 6.

Table 6. Development of $*t-$ and $*tr-/*p.t-$: from PT to modern Tai languages

Proto-initial	Proto-gloss	Modern form	Modern language		
$*t-$	$*ta:j^B$ ‘maternal grandmother’	$ta:j^{A1} \rightarrow na:j^{A2}$ (Aberrant development on MOA of its initial because of merger 1)	Most SWT	SWT	
		$ja:j^{A2}$ (Analogical change by the initial of $ja:.B2$ ‘paternal grandmother’)	Standard Thai		
		$ta:j^{B1}$ (Straightforward development)		NT, some CT	
		$ta:j^{A1}$ (Analogical change by the tone of $ta:.A1$ ‘maternal grandfather’)		CT, some NT (such as Wuming)	
	$*ta:.A$ ‘maternal grandfather’		$ta:j^{A1}$ (Straightforward development)		SWT, NT, CT
			$ta:.B1$ (Analogical change by the tone of $ta:j^{B1}$ ‘maternal grandmother’)		Some CT (such as Debao)
$*tr-$ or $*p.t-$	$*tra:j^A$ or $*p.ta:j^A$ ‘to die’	$ta:j^{A1}$ (Merger 1: with ‘maternal grandmother’ in SWT)		SWT, NT	
		$t^h a:j^{A1} / ha:j^{A1} / p^h a:j^{A1}$ (Initial change without ambiguity)		CT	
	$*tra:j^A$ or $*p.ta^A$ ‘eye’	$ta:.A1$ (Merger 2: with ‘maternal grandfather’)		SWT, NT	
		$t^h a:.A1 / ha:.A1 / p^h a:.A1$ (Initial change without ambiguity)		CT	

5. Further discussion on phonological change due to taboo avoidance: more analogous cases in some Tai varieties

The proposal that $*ta:j^A > *na:j^A$ in SWT due to taboo avoidance after phonological merger will be tested in this section.

As has been shown in previous studies, even though taboo avoidance could never be a major factor in controlling sound change, it is one of the most typical types of homophony avoidance. In view of the research of word taboos in the comparative Austronesian languages, Simons (1982:157) points out that the communities of a language change the pronunciation or replace the whole word when

a word becomes taboo, and this potential effect is significant. Homophony avoidance has also occurred in the history of Chinese even though the language is not remarkably rich in taboo words. Sampson (2013:589) mentions one case in which Middle Chinese **pjie* ‘inferior’ has become modern Mandarin *bēi* rather than the expected *bī* which should be the result of the regular sound changes, since this regular sound change would cause the term to become homophonous with *bī* ‘vagina’. He further points out that avoiding homophony with taboo words is a special case of homophony avoidance although it is an uncontroversial phenomenon (Sampson 2013:589).

Although taboo words in Tai languages are not numerous, we can still find some other cases of analogous sound changes in some Tai dialects for the same type of reason we are positing motivated aberrant sound changes for the word ‘maternal grandmother’ in SWT. In this section we will show that ‘maternal grandmother’ is not an isolated case of avoiding homophony with taboo words. In Debao and Jingxi varieties of CT analogous sound changes are also observed in cases of averting homophones with taboo words related to ‘erotic’ and ‘genitalia’ terms.

Debao and Jingxi are classified as Yang Zhuang under the same language code ISO 639-3 by SIL (originally known as the Summer Institute of Linguistics, Inc.) (Jackson et al. 2012); there are, however, many distinctive dialectal features among different varieties of Debao and Jingxi. For example, the word for ‘to deceive’ or ‘to cheat’ in three varieties of Yang Zhuang are as follows.

Jingxi urban:	<i>jew^{CI} je^{CI}</i>
Debao urban:	<i>?jew^{CI} ze^{CI}</i>
Debao Ma'ai:	<i>?jew^{CI} zi^{CI}</i>

These three different varietal forms are obviously cognates from the same root. The first syllables of these words exemplify the regular correspondence of Debao *?j-* with Jingxi *j-* which arises because the PT contrast between pre-glottalized initial **?j-* and initial **j-* is still preserved in Debao, while in Jingxi varieties **?j-* has merged into *j-*.

The second syllable of this word presents three different forms in these three varieties. Looking first at the initials, in urban Jingxi it is *j-*, but the two Debao varieties have a plain glottal stop *?-* without the *-j-* glide. If we look at more phonological data from Debao varieties, we see that the pre-glottalized initial *?j-* from PT **?j-* never occur before high front vowels such as *-i-*, *-y-*, and *-e-*, in this environment *?j-* merges with *?-*. For example, in the word ‘to hesitate’, the initials of both syllables come from PT **?j-*, but only the vowel in the second syllable is high and front, and so we see the secondary rule of *?j-* merging with *?-* applying in the second syllable of this word in Debao. The word is *jəp^{DS1} ji:ŋ^{B1}* in Jingxi urban due to

the merger of $*ʔj-$ into $j-$ there, and is $ʔjəp^{DS1} \gamma y:\eta^{B1}$ in Debao varieties.¹¹ These same rules apply to the word ‘to cheat’ if we postulate that the proto-form of this word in proto-Yang Zhuang was $*ʔjəw^C *ʔje:C$. The merger of $*ʔj-$ into $j-$ in Jingxi varieties yields the Jingxi urban form $jəw^{C1} je:C1$, and the conditioned merger of $ʔj-$ with $ʔ-$ before high front vowels gives the Debao urban form $ʔjəw^{C1} ʔe:C1$.

Although these regular historical changes can explain the different initials on both syllables in the word ‘to cheat’, the differences in the vowels cannot be explained by any regular sound changes. The vowel in the second syllable of this word presents as $-e:$ in both Jingxi urban and Debao urban, but as $-i:$ in Debao Ma’ai. There are no other examples of words which have the vowel $-e:$ in both Jingxi urban and Debao urban, but have the vowel $-i:$ in Debao Ma’ai. Just as Li (1971) pointed out for the word ‘maternal grandmother’, one should not reconstruct a distinct proto-segment based on the single word in the daughter languages, so we do not propose to do so for the word ‘to cheat’ either. The irregularity among these three varietal forms needs a more reasonable explanation, which we find when we look at the problem in terms of analogical sound change, just as in the case of the word for ‘maternal grandmother’ in NT and in SWT.

If we posit the proto-form of the word for ‘to cheat’ in proto-Yang Zhuang as $*ʔjəw^C *ʔje:C$, then the second syllable of this word being $je:C1$ in Jingxi urban and $ʔe:C1$ in Debao urban is a straightforward development, while $ʔi:C1$ in Debao Ma’ai is the aberrant development which needs an explanation.

The crude word for ‘copulation’ in many CT and NT languages in Western Guangxi, including Debao, Jingxi, Tianyang (NT), and Tiandong (NT), is $ʔe:C1$. In Debao urban, therefore, the merger of $*ʔjəw^C *ʔje:C > ʔjəw^{C1} ʔe:C1$ causes the second syllable of the word ‘to cheat’ to become homophonous with the taboo word ‘copulation’ and gives the word a whole new meaning: ‘to cheat sb. into having sex’ or ‘to seduce’. People in urban Debao usually leave the second syllable out when using this word in a normal conversation. Speakers of Debao Ma’ai, on the other hand, adopted a strategy to avoid the merger of the second syllable of the word ‘to cheat’ with the word ‘to copulate’; they altered the vowel of that syllable from $-e:$ to $-i:$. This soundly motivated idiosyncratic sound change for this one word explains the development in Debao Ma’ai as $*ʔjəw^C *ʔje:C > ʔjəw^{C1} ʔi:C1$. In Jingxi varieties, no vowel changes happened since the merger there of the pre-glottalized glide with plain $j-$ meant that no homophony with any taboo word ever arose, so that $*ʔjəw^C *ʔje:C > jəw^{C1} je:C1$. The development of the word ‘to cheat’ in the three varieties of Yang Zhuang discussed above are summarized in Table 7.

11. The vowel $-y:$ in many Yang Zhuang varieties developed from PT $*-uə$ and contrasts with $-i:$, while PT $*-uə$ has merged with $-i:$ in Jingxi urban variety.

Table 7. Development of the word ‘to cheat’ in Yang Zhuang varieties

Proto-form	Development	Modern form	Modern variety
* ² jew ^C * ² je: ^C	* ² j- > j-	jew ^{C1} je: ^{C1}	Jingxi urban
	* ² j- > ² j-/_V[-high, -front]	² jew ^{C1} ze: ^{C1}	Debao urban
	* ² j- > ʔ-/_V[+high, +front]	(2nd syllable merges with ‘copulation’ and is often omitted)	
	* ² j- > ² j-/_V[-high, -front]	² jew ^{C1} zi: ^{C1}	Debao Ma'ai
	* ² j- > ʔ-/_V[+high, +front]	(To avoid merging with ‘copulation’ 2nd syllables’s vowel went from -e: to -i:)	

Another example from Jingxi varieties of Yang Zhuang can confirm this kind of sound change due to taboo avoidance. In many Yang Zhuang varieties the word for ‘street market’ is *høʏ*^{A1} developing from PT **huu*:^A, and the word for ‘vagina’ is *hej*^{A1} developing from PT **hi*:^A. In Jingxi urban variety and some rural varieties of Jingxi and Debao, the diphthong -*øʏ* has merged with the diphthong -*ej*, such as *θøʏ*^{A1} > *θej*^{A1} ‘book’, *t^høʏ*^{A1} > *t^hej*^{A1} ‘to hold’, and *θøʏ*^{C2} > *θej*^{C2} ‘to buy’. If this diphthong merger were to apply to the word ‘street market’ as well, it would cause it to become homophonous with the taboo word ‘vagina’ *hej*^{A1} in these varieties.

In order to avert this situation, in the varieties like Jingxi urban the word ‘street market’ altered its vowel from diphthong -*øʏ* to another diphthong -*uj* instead of merging with -*ej*. The process is as follows: PT **huu*:^A > pre-Yang Zhuang *høʏ*^{A1} > Jingxi urban *huj*^{A1}. In many other Yang Zhuang varieties, such as Debao Ma'ai, the diphthong -*øʏ* did not merge with -*ej*, and ‘street market’ and ‘vagina’ did not tend to become homophonous; therefore the word ‘street market’ keeps the form of *høʏ*^{A1}. Jiuzhou, which is a famous scenic spot in Jingxi County, has a local Yang Zhuang name which presents as *høʏ*^{A1} *kew*^{B1} in many Yang Zhuang varieties and as *huj*^{A1} *kew*^{B1} in Jingxi urban and some other varieties.¹² Only if the process of this sound change is actually **huu*:^A > *høʏ*^{A1} > *huj*^{A1} because of a taboo avoidance, can this aberrant development be reasonably explained. The process being posited is shown in Table 8.

The aforementioned examples of sound change due to taboo avoidance in some Tai varieties are strong support for the hypothesis that avoiding homophony with a taboo word also motivated the sound changes of the word ‘maternal grandmother’ in SWT. Moreover, these kinds of phenomena also suggest that when reconstructing a proto-form by comparing data from different daughter languages,

12. Both Jiuzhou (舊州) in Chinese and *høʏ*^{A1} *kaw*^{B1} or *huj*^{A1} *kaw*^{B1} in Yang Zhuang mean ‘the old street market’ or ‘the ancient town’, since it was the historical seat of Jingxi County.

Table 8. Development of the PT **-u:* and **-i:* in the urban variety of Jingxi

Development	Examples	Type of development
$*-u:$ > $-ou$ <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> </div>	<i>te</i> ^{jA1} ‘book’ <i>t^hej</i> ^{A1} ‘to hold’ <i>te</i> ^{jC2} ‘to buy’ <i>ke</i> ^{jB1} ‘now’	Straightforward development
	<i>hu</i> ^{jA1} ‘street market’ (To avoid becoming homophonous with the taboo word <i>he</i> ^{jA1} ‘vagina’, the vowel went from $-ou$ to $-uj$ instead of to $-ej$)	Aberrant development
$*-i:$ > $-ej$	<i>he</i> ^{jA1} ‘vagina’ <i>p^hej</i> ^{A1} ‘ghost’ <i>me</i> ^{jA2} ‘to have’ <i>k^hej</i> ^{C1} ‘excrement’ <i>te</i> ^{jB2} ‘place’	Straightforward development

in addition to comparison principles and analogical changes, we also have to consider the situation of aberrant development due to some sociolinguistic factors. For some irregularities on the sound correspondence of a cognate in daughter languages, such as the irregularity of ‘maternal grandmother’ in Tai languages, and ‘to cheat’ and ‘street market’ in Yang Zhuang varieties, it would not be correct to reconstruct a special proto-form for them alone without support from parallel phenomena. Sociolinguistic factors, such as taboo avoidance, have provided the clue for explaining these complex irregularities, and this strategy may well prove to be productive in other cases as well.

6. Conclusion

Instead of Li’s reconstruction **naai^A*, this paper proposes two alternative PT reconstructions **ta:j^A* and **ta:j^B* for the word ‘maternal grandmother’, and finally suggests that positing the proto-form **ta:j^B* allows for reasonable and motivated developments of the word in each of the daughter languages examined in this paper. It is proposed that the irregularity of this word in NT, CT and SWT are sound changes which are either due to so-called “contamination” in kinship terms with paired semantic contents in CT/SWT, or else served to dissimilate this word from the otherwise homophonous word ‘to die’ in SWT.

In most CT and all SWT varieties, the contamination with **ta:^A* ‘maternal grandfather’ cause the term ‘maternal grandmother’ to change its original **B* tone to **A* tone. This hypothesis is supported by many other similar cases of analogical sound changes in kinship terms in Daic languages.

Later, in SWT the PT initials **t-* and **tr-* (or **p.t-*) merged into *t-*, causing the two words ‘to die’ and ‘maternal grandmother’ to become homophones. In order to dissimilate ‘maternal grandmother’ from the taboo word ‘to die’, in SWT it altered the manner of articulation of its initial (PT) **ta:j^A* > (SWT) *na:j^{A2}*. In CT the initials **t-* and **tr-* (or **p.t-*) did not merge, as the word ‘to die’ becomes *t^ha:j^{A1}* (Tay) / *ha:j^{A1}* (Longzhou), and so the word ‘maternal grandmother’ remains *ta:j^{A1}*. Some analogous examples from other Tai varieties also support the idea that this kind of aberrant development due to taboo avoidance is a possibility that linguists need to consider.

Given this explanation, we can see that the majority of Tai languages (both NT and CT) reflect the proto-initial of the word for ‘maternal grandmother’ as **t-*, and the proto-form for this word should be **ta:j^B*.

From the reconstruction of the single PT word ‘maternal grandmother’, we have discovered the complicated diachronic sound changes including analogical changes applying to some of the daughter languages as well as taboo avoidance applying to other daughter languages. Sometimes these changes are simultaneous but some are ordinal and independent. Furthermore, these phenomena give a clue that some sociolinguistic factors may hide behind irregularities of sound correspondence among different daughter languages. It suggests that when reconstructing a proto-form by comparing data from different daughter languages, in addition to the comparative method, which is based on regular sound correspondence, we also have to consider analogical changes, and the situation of aberrant development due to some sociolinguistic factors, like taboo avoidance, which may provide some clues for explaining the complexities of irregular sound correspondences.

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Author's address

Hanbo Liao
Linguistics Department
Payap University
Chiang Mai, 50000
Thailand
mayxreux@gmail.com

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