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Sources of Middle Chinese Manner Types: Old Chinese Prenasalized Initials in Hmong-Mien and Sino-Tibetan Perspective*

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The author argues that in addition to the three series of stops commonly reconstructed (voiceless unaspirated; voiceless aspirated; voiced), Old Chinese possessed three prenasalized series, in which the prenasal element was a prefix N-. This prefix changed transitive verbs to intransitives, voicing a voiceless unaspirated obstruent root initial in the process. Prenasalization later disappeared, leaving behind the well-known Middle Chinese alternation between transitive verbs with voiceless obstruent initials and intransitive verbs with voiced obstruent initials. Voicing, however, occurred only if the root initial was a voiceless unaspirated obstruent: prenasalized voiceless *aspirated* initials were not affected: they evolved to Middle Chinese aspirated stops. A chronology of phonetic changes is proposed. Evidence from early Chinese loans to Miao-Yao is discussed. The intransitive N-prefix is shown to correspond to intransitive nasal prefixes in various Tibeto-Burman languages; while the connection to Written Tibetan *a-ch'ung*, also a nasal prefix, is regarded as spurious on functional grounds. It is proposed that the intransitive nasal prefixes in Sino-Tibetan languages go back to a proto-Sino-Tibetan intransitive m- prefix. The formal and functional similarity between intransitive voicing in Middle Chinese and the alternation known as "alternation of root initial" in Tibeto-Burman languages, which likewise contrasts transitive verbs with voiceless initials and intransitive verbs with voiced initials, raises the issue of the origin of this alternation in the Tibeto-Burman languages: considering that the Chinese alternation has turned out to have its origin in a nasal prefix, is the same also true of the Tibeto-Burman alternation? The question is for the moment left open.

Key words: Sino-Tibetan, Miao-Yao, morphology, intransitive, prefix

The strength of historical linguistics as a science is its capacity to constrain hypotheses by requiring them to be compatible with multiple and independent bodies of evidence. Here I present a new hypothesis on the development of manner types from

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Old Chinese (OC) to Middle Chinese (MC), which is constrained by (a) Chinese-internal evidence of morphological alternations; (b) loans to Hmong-Mien languages, and Hmong-Mien historical phonology; and (c) morphological evidence from related Tibeto-Burman languages.

Middle Chinese had three manner types for stops and affricates: plain voiceless, voiceless aspirated and voiced. Opinions vary on how these three types developed, but it is now clear that at least part of the MC voiced stops and affricates is of secondary, morphological origin.

1. Chinese intransitive voicing

A morphological alternation existed among Middle Chinese verbs whereby a transitive verb with voiceless initial alternated with an intransitive verb with voiced initial. This process is formally and functionally identical with what Benedict (1972:124) called “Tibeto-Burman alternation of root initial”.¹ For Chinese, lists of pairs can be found in Downer (1959:263), Chou Fa-kao (1962), Zhou Zumo (1966:116-118), Pulleyblank (1973:114), and Mei Tsu-lin (1988:175). Here is a composite list, in Baxter’s Middle Chinese notation:

見 kenH ‘to see’ : 現 henH ‘to appear’²
 別 pjet (III) ‘to separate, distinguish’ : 別 bjet (III) ‘to take leave’
 會 kwajH ‘to assemble (trans.)’ : 會 hwajH ‘to assemble’ (intrans.)
 敗 paejH ‘to defeat’ : 敗 baejH ‘to be defeated’
 壞 kweajH ‘to destroy, ruin’ : 壞 hweajH ‘to be ruined’
 斷 twanH ‘to cut, sever’ : 斷 dwanH ‘broken off, cut off from; to cease’
 折 tsyet ‘to break, to bend’ (trans.) : 折 dzyet ‘to bend’ (intrans.)
 屬 tsyuwk ‘to assemble’ : 屬 dzyuwk ‘to be connected with’
 箸 trjak ‘to put something in a certain place’ : 箸 drjak ‘to occupy a fixed position’
 解 keaiX ‘to separate, untie’ : 解 heaiX ‘loosened’
 降 kaewngH ‘to go down, send down’ : 降 haewngH ‘to lie down, submit to’
 繫 kejH ‘to attach’ : 繫 hejH ‘be attached to’
 檢 kjemX (III) ‘to restrain’ : 儉 gjem (III) ‘poor, in dire straits’
 張 trjang ‘to stretch’ : 長 drjang ‘long’

¹ Benedict regards a contrast between intransitive verbs with voiced initials and transitive verbs with corresponding voiceless initials, as manifested in Tibetan, Kiranti, and Bodo-Garo, as “an inherited TB feature”.

² In Baxter’s Middle Chinese notation, /h/ represents the voiced velar fricative, a Middle Chinese reflex of OC *g-.

增 tsong ‘to add, to double’ : 層 dzong ‘in two stories, double’
 夾 keap ‘to press between’ : 狹 heap ‘narrow’

Pulleyblank (1973) argued that in the Chinese pairs, the transitive members are basic, and that a prefix *fi-*, cognate with Written Tibetan *a-ch’ung*, is responsible for initial voicing in the derived intransitive verbs. The connection with *a-ch’ung* cannot be real, however (Sagart 1999), because Written Tibetan *a-ch’ung* does not derive intransitive verbs out of transitive ones. Yet, as argued in Sagart (1994), Pulleyblank was right that Chinese intransitive voicing is secondary and due to a prefix: that prefix, a nasal, is indirectly observable in paired transitive ~ intransitive Mien verbs, exclusively of Chinese origin, cited by Downer (1973:14sq):

tsheʔ₇ (< Proto-Mienic *tsh-) ‘to pull down, pull apart’ : dzeʔ₇ (< Proto-Mienic *ntsh-) ‘to be cracked, as earth’
 khai₁ (< Proto-Mienic *kh-) ‘to open’ (transitive) : qai₁ (< Proto-Mienic *ŋkh-) ‘to open’ (intransitive)

We can be sure that the voiced initials in the intransitive members of these pairs are the result of the normal Mien-internal phonological development from earlier voiceless aspirated prenasalized stops, because: (a) there are no corresponding intransitive verbs with voiced initials in Chinese that could explain the Mien voiced initials; and (b) the Mien tones are high-series tones, indicative of earlier voiceless initials.³

Downer proposed to account for these alternations in terms of a Mien nasal prefix capable of changing transitive verbs into intransitive ones. He noted that his best examples were Chinese loanwords, but could not explain why. I agree with Downer’s reconstruction of an intransitivizing nasal prefix, but the fact that this morphological process only occurs with Chinese loanwords clearly indicates that we are dealing with Chinese, not Mien, morphology. Based on these and other Hmong-Mien forms, I reconstructed an Old Chinese intransitive prefix *N-* (Sagart 1994, Sagart 1999) which Baxter and I regard as responsible for Chinese intransitive voicing in the pairs cited at the beginning of this paper (Baxter and Sagart 1998), since prenasalization very often leads to voicing of voiceless stops. Until now, I had assumed that OC intransitive *N-* caused all voiceless stops, plain and aspirated, to become voiced in Middle Chinese. In

³ In Houei Sai Mun, a Mien language of northern Laos where the aspiration contrast among voiceless stops has been replaced by a tonal contrast, the tone of the word ‘to open’ (intransitive) is 1', precisely the tone expected for a proto-Mienic prenasalized voiceless aspirated *ŋkh- (D. Strecker, p.c.).

this paper I argue that only unaspirated voiceless stops became voiced in Middle Chinese when preceded by intransitive N-.

The two pairs cited by Downer correspond to (Middle) Chinese 坼 *thraek* ‘to destroy, be cracked’ and 開 *khøj* ‘open’ (tr. and intr.). Notice that the two Chinese words are not part of transitive ~ intransitive pairs, have *aspirated* initials, and have both transitive and intransitive uses.⁴ Now, if I am right that the voiced initials in the intransitive members of the Mien pairs point to a Chinese nasal prefix, which caused an Old Chinese voiceless initial to become voiced in Middle Chinese, why can we not find intransitive verbs with voiced initials in Chinese corresponding to the intransitive members of these Mien pairs? That is, why do we not have Middle Chinese words *goj* ‘to open’ (intr.), and *draek* ‘to be cracked, as earth’, with voiced *g-* and *dr-* reflecting OC N-kh- and N-thr- ?

The answer to that question, I believe, is because Old Chinese voiceless aspirated stops with N- did not evolve to Middle Chinese voiced stops. In the list of Middle Chinese pairs I gave at the beginning of this paper, there are no pairs in which the transitive member has an aspirated initial and the intransitive member a voiced one. True, examples of such pairs have occasionally been presented in the literature, but the fact remains that our best examples of the voiceless-transitive vs. voiced-intransitive alternation are found with an *unaspirated* initial in the voiceless-transitive member of the pair. Mei Tsu-lin (1988:175) does not cite one single example with aspirated initial (out of 17 pairs). Indeed, pairs involving an aspirated initial are problematic: thus 被 *phje* (III) ‘to cover oneself with’ and 被 *bjeX,H* (III) ‘to be covered’ (Pulleyblank 1973) are not a minimal pair—the tones are not matched—and the two are moreover difficult to distinguish both semantically and from the point of view of transitivity. With 覆 *phjuwk* ‘to turn over, overthrow’ and 復 *bjuwk* ‘to return’ (Pulleyblank 1973), the voiced-initialled member 復 has an alternative reading MC *pjuwk*, occurring in transitive constructions in the *Zhou Li*, *Li Ji*, and *Zuo Zhuan*, according to the *Jing Dian Shi Wen* (p.1907 in the Pan Zhong-gui edition): this *pjuwk* is thus quite possibly the immediate transitive counterpart of *bjuwk* ‘to return’, even though 覆 *phjuwk* is undoubtedly cognate on a more distant level. The apparent lack of good pairs with aspirated initials in the voiceless-transitive member of the pair suggests that while such pairs did exist in Old Chinese, whatever phonetic distinction existed between them was lost in Middle Chinese, giving Middle Chinese aspirates for both the transitive and the intransitive members.

That no Chinese pairs distinguished by initial voicing correspond to the two Mien pairs should be understood in terms of the explanation just proposed for the lack of

⁴ Transitive examples of 坼 are rare in Old Chinese texts, but they do exist, for instance in the *Lü Shi Chun Qiu*, *Yin Chu* chapter.

pairs with an aspirated initial in the transitive member in Middle Chinese: I assume there existed Old Chinese pairs corresponding to the Mien pairs at the time of borrowing, and that the contrast was later erased by phonetic evolution in Chinese. Specifically, in this case, (late) Old Chinese would have had a distinction between transitive 開 *^akhij and intransitive 開 *^aN-khij, and between transitive 坼 ^athrak and intransitive 坼 ^aN-thrak; these pairs would have been borrowed into Mienic, which maintained the distinction faithfully; but the distinction would subsequently have been lost in Chinese, with OC kh- and N-kh- merging as MC kh-, and OC thr- and N-thr- merging as MC thr-. In other words, Mien would preserve a distinction lost by Middle Chinese.⁵

Hmong-Mien, of course, does not reflect OC intransitive N- only when the root initial was aspirated. Here are examples of loanwords in which prefix N- precedes Old Chinese voiceless unaspirated root initials, evolving to Middle Chinese voiced initial:

- The Hmong-Mien languages have various forms for ‘middle’, reflecting at least three separate borrowings of different words, all from the family of 中 MC trjuwng ‘middle’. One of these forms, restricted to the Mienic branch (Mien dong₅, Biao Min dong₅; cf. Wang and Mao 1995:214), requires a voiceless prenasalized proto-Mienic initial *nt- or *ɲt- and *qusheng* in the Chinese word: the Chinese source is clearly 仲 drjuwngH ‘to be in the middle; 2nd of 3’, which is itself the voiced-intransitive counterpart of 中 trjuwngH < *^btrung-s ‘to hit the centre’. I reconstruct 仲 *^bN-trung-s, in agreement with Mienic. In proto-Hmongic, one has *ɲtuŋ_A (with prenasalization directly visible in all Hmongic ‘dialects’). This would correspond exactly to the Mienic form if it were not for tone A in Hmongic indicating *pingsheng* in the Chinese source. This source is apparently an unattested Chinese word *^bN-trung ‘middle’ (in the meaning ‘middle’, both 中 *^btrung and 仲 *^bN-trung-s are attested, but *^bN-trung is not). Although the Mienic and Hmongic forms appear to have been borrowed separately from Chinese, both support the view that Chinese once had a voiceless prenasalized initial in some members of this word family. If we supposed that the Mien forms owe their voiced initial to the Chinese source from which the word was borrowed, we would need to explain: (a) why this non-prenasalized voiced initial did not evolve to a modern Mien voiceless initial, as one

⁵ Downer cited a third example of his Mien intransitive N- prefix: *gaat* ‘thirsty’ < PHm-M *ɲkh-, with prenasalization directly observable in the White Miao cognate *nqhe4* ‘id.’. This etymon, however, clearly corresponds to Ch. 渴 MC *khat* ‘thirsty’, which I therefore reconstruct as OC ^aN-khat. Although this example is not paired in Mienic, it constitutes another piece of evidence in support of the view that Old Chinese voiceless aspirated stop initials with the N- prefix do not become voiced in Middle Chinese.

would expect had the loan been into Proto-Mien; (b) why the Mien tone is a high series-tone; and (c) why the corresponding word does not apparently occur in modern Chinese dialects.

- PHm-M *NqwjAng_A ‘bright, brilliant’ is clearly from 皇 or 煌, both MC hwang ‘bright, brilliant’, which is the voiced-intransitive counterpart of 光 MC kwang < ^akwang ‘light; bright, brilliant, glory’. Although this last word either occurs as a noun or a stative verb in the received literature, in the Shang inscriptions it occurs principally as a transitive verb ‘to glorify, make brilliant’ (see Schuessler’s *Dictionary of early Zhou Chinese*). 皇 and 煌 should, therefore, be reconstructed as ^aN-kwang.
- PHm-M (Wang and Mao 1995) *NGe:p ‘narrow’ almost certainly corresponds to Chinese 狹 heap ‘narrow’, which, as we have seen, is the voiced-intransitive counterpart of 夾 keap < *^akrep ‘to press between’. Our Old Chinese reconstruction for ‘narrow’ should therefore be *^aN-krep. Prenasalization is directly observable in Hmongic, e.g Bunu (Qibainong) ŋka₈.
- PHm-M *NGwɔ:t ‘slippery, polished’ most likely reflects Chinese 滑 hwat ‘smooth, slippery’, which I reconstruct as *^aN-krut because it is probably built on a variant *^akrut of the transitive verb 括 *^akrot ‘to scrape, polish’. Here, too, prenasalization is directly observable in Hmongic, for instance in Bunu (Qibainong) ŋku₈.

Note that corresponding to Chinese N- plus voiceless unaspirated root initial, ‘to be in the middle’ and ‘bright’ have a *voiceless* prenasalized initial while ‘narrow’ and ‘slippery’ have PHm-M *voiced* prenasalized initials. This can be explained in terms of a chronological difference, with ‘to be in the middle’ and ‘bright’ representing an older layer of borrowings than ‘narrow’ and ‘slippery’. The chronology of changes in voiceless stops with prefixed N- from Old Chinese to Middle Chinese can be represented as follows:

OC I	p-	ph-	Np-	Nph-
OC II	p-	ph-	Nb-	Nph-
MC	p-	ph-	b-	ph-

According to this interpretation, the words for ‘to be in the middle’ and ‘bright’ were loaned during period OC I, before N- caused a following voiceless stop to become voiced; while ‘narrow’ and ‘slippery’ were borrowed during period OC II, after voicing had taken place. The Mien pairs corresponding to 坼 thraek ‘destroy, be cracked’ and

開 *khøj* ‘open’ may have been borrowed in either of OC I or OC II; but OC II is more likely since the forms are only reflected in Mien, which suggests a loan effected in a southern context, after the separation between Mienic and Hmongic, at a relatively late date. Note that 開 displaced 啓 in the meaning ‘to open’ as a result of a taboo on the name of emperor Jing Di of the Han, who died in 140 BCE (Sagart 1999:76 note 3): 開 was therefore probably loaned to Mienic after that date.

What we do *not* have, and this requires an explanation, is evidence of intransitively prefixed verbs with *voiced stop* root initials. Such pairs (e.g. *b-transitive vs. *N-b-intransitive) would not be detectable in Middle Chinese pronunciation if the evolution had been N-b- > MC b-, but they would in principle be detectable in loans to Hmong-Mien, as b- vs. mb-

To summarize:

- 1) Old Chinese had an intransitivizing prefix N- which derived intransitive verbs out of transitive ones. This conclusion had already been reached in Sagart (1994).
- 2) Old Chinese voiceless unaspirated stop initials with this prefix evolve to Middle Chinese voiced initials, and are reflected in loans to Hmong-Mien by prenasalized initials, either voiceless (earlier loans) or voiced (later loans).
- 3) Old Chinese voiceless aspirated stop initials with this prefix merge into original voiceless aspirated initials in Middle Chinese, but the Old Chinese distinction is preserved in loans to Mien.
- 4) There is no evidence that Old Chinese voiced stop initials could be preceded by intransitive N-.

2. Tibeto-Burman nasal prefixes which make transitive verbs intransitive

In a conference paper (Sagart 1990), I argued that Chinese and the Tibeto-Burman languages were less closely related to each other than Chinese was to Austronesian. I now fully recognize that this was an error, and I accept that Sino-Tibetan, consisting of Chinese and the Tibeto-Burman languages, is a valid construct (Sagart 2001 and forthcoming).⁶ As indicated in Sagart (1999), some Tibeto-Burman languages have nasal prefixes which have been linked to intransitivization of transitive verbs, and which should be compared with Chinese intransitive N-.

⁶ I now consider that Austronesian is coördinate with Sino-Tibetan as a whole, not just with Chinese.

In Written Tibetan a verbal prefix *m-* was characterized as ‘neuter (inactive intransitive)’ by Wolfenden (1929:30), and as ‘durative, reflexive, intransitive’ by Benedict (1972:117). Wolfenden gave these examples:

mgu-ba ‘to rejoice, be glad’
mched-pa ‘to spread, gain ground’ (as fire, plague, etc.)
mthun-pa ‘to be in agreement or harmony’
mnar-ba ‘to suffer, be tormented’
mnam-ba ‘to smell, stink’
mnga-ba ‘to exist, to have’
mtho-ba ‘to be high’
mnal-ba ‘to sleep’
mdza-ba ‘to be in agreement or accord, to love’
mnab-ba ‘to dress oneself’
etc.

Wolfenden (1929:76) linked this Written Tibetan *m-* prefix with a similar prefix in Kachin (a.k.a Jingpo), also intransitive:

ma-nam ‘to smell’ (intr.)
ma-den ‘to grow, to expand’
ma-ni ‘to laugh’

Wolfenden and Benedict noted cognates of these words in several other Tibeto-Burman languages, usually with a *m-* or *mə-* prefix. In particular cognates of Written Tibetan *mnam*-ba, Kachin *ma*-nam ‘to smell, be odorous’ are intransitive throughout Tibeto-Burman, while the unprefix stem may be either transitive or intransitive (Benedict 1972:117).

For Loloish, Matisoff (1970, 1972) reconstructed a stative prefix *N-*, which he linked with the Written Tibetan *m-* prefix. His examples are predominantly intransitive. Here are some Loloish pairs from Yi of Xide 喜德 (Dai Qingxia 1992:43), where *N-* is preserved in the form of prenasalization:

*ti*₅₅ ‘to suspend’ (tr.) : *ndi*₅₅ ‘to be suspended’ (intr.)
*tu*₅₅ ‘to kindle, set on fire’ : *ndu*₅₅ ‘to burn’ (intr.)
*tɕhi*₅₅ ‘to pull off’ (tr.) : *ndzi*₅₅ ‘to fall off’ (paint)
*po*₃₁ ‘to roll’ (tr.) : *mbo*₃₃ ‘to roll’ (intr.)

The verb stems in these pairs do not necessarily have etymologically voiceless initials. For instance ‘to kindle’ goes back to Proto-Lolo-Burmese *duk in Matisoff’s reconstruction. With the first three pairs in the above list, indeed, the high tone indicates that the root initial is originally voiced. The voiceless aspirated initial in ‘to pull off’ apparently reflects a Proto-Lolo-Burmese voiced stop with transitive or directive prefix s- or ʔ-. Yet prenasalization in the intransitive members is not part of the root, and it clearly is related to the intransitive meaning in these verbs. The form ndu₅₅ ‘to burn’ (intr.), for instance, goes back to Proto-Lolo-Burmese *N-duk.

In Gyarong, intransitives may be derived from transitives through prenasalization and voicing of the initial of the intransitive stem. Here voicing of the initial is best considered a secondary effect of prenasalization. Examples from Lin Xiangrong (1993: 193):

ka-tʃop ‘to set fire to’ : kə-ndzop ‘to catch fire’
 kə-klək ‘to wipe off’ : kə-ŋglək ‘to fall’
 kə-phək ‘to split’ : kə-mbək ‘to be rent’
 kə-tʃhop ‘to break’ : kə-ndzop ‘to be broken’

Gyarong contrasts aspirated and unaspirated voiceless stops, and intransitive prenasalization apparently voices both kinds of initials.

It can be seen, then, that a nasal prefix makes transitive verbs intransitive in Chinese, Burmese-Lolo, Written Tibetan,⁷ Gyarong, and Kachin. It makes sense that this prefix should be reconstructed for PST. Its original shape must have been m-, as evidenced by Written Tibetan and Kachin, but it had a tendency to assimilate its point of articulation onto the point of articulation of a following stop, thereby changing to prenasalization (N-), as evidenced by Old Chinese, Burmese-Lolo, and Gyarong, at times with secondary voicing of these stops, typologically a common enough sound change.

3. Conclusion

In this paper, I have shown that the intransitive nasal prefix N- of Old Chinese caused voiceless unaspirated, but not voiceless aspirated, root initials to become voiced in Middle Chinese, the existence of N-prefixed verbs with aspirated initials in Old Chinese being demonstrated by Chinese loans to Mien. I have also compared the Old Chinese intransitive prefix N- to similar nasal prefixes in Tibeto-Burman, and argued

⁷ WT has both intransitive m- prefixation and root alternation in the habitual sense (Benedict 1972).

that an intransitive nasal prefix *m-* should be reconstructed for Proto-Sino-Tibetan. Hmong-Mien evidence for other Old Chinese nasal prefixes, both verbal and nominal (most of them reviewed in Sagart 1999) will be discussed elsewhere.

That Middle Chinese “root alternation” has evolved out of an Old Chinese process of intransitive prenasalization raises the interesting question of the relationship between “root alternation” and intransitive nasal prefixation in Tibeto-Burman languages. These two processes are normally considered distinct (Benedict 1972): Written Tibetan, for instance, has both. Yet, one may wonder whether root alternation in Written Tibetan is not a special manifestation of *m-* prefixation in certain contexts of verbal conjugation. The possibility that “Tibeto-Burman root alternation” in general is one of the manifestations of *m-* prefixation will be explored in a separate paper.

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中古漢語發音方法類型的來源： 從苗瑤與漢藏語的觀點看古漢語冠鼻音聲母

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作者主張古漢語除了一般所構擬的三套塞音聲母（不送氣不帶音、送氣不帶音、帶音）外，還具有三套冠鼻音聲母；這些聲母的冠鼻音成分來自前綴 N-。前綴 N- 具有將及物動詞轉換為不及物動詞的作用，並且在附加過程中使詞根不帶音不送氣的阻塞音聲母變為帶音。冠鼻音聲母後來消失了，只留下中古漢語著名的及物動詞伴隨不帶音阻塞音聲母與不及物動詞伴隨帶音阻塞音聲母的交替。然而，只有詞根聲母為不帶音不送氣時才會使聲母帶音；冠鼻音化的送氣不帶音聲母並不受影響，它們發展為中古漢語的送氣塞音。作者並提出語音變化的年代學。早期借至苗瑤語的漢語借詞的證據亦在討論之列。不及物的 N- 前綴與許多藏緬語言的不及物鼻音前綴表現出對應關係——儘管書面藏語的 a-ch'ung（也是個鼻音前綴）與此 N- 前綴因功能不同而無法對應。本文並提出漢藏語言的不及物鼻音前綴可溯源至原始漢藏語的不及物 m- 前綴。中古漢語不及物帶音與藏緬語著名的「詞根聲母交替」（同樣為及物動詞伴隨不帶音聲母與不及物動詞伴隨帶音聲母的對比）在形式和功能上的相似引發了藏緬語此類交替的來源的問題。漢語的交替既已證明來自於鼻音前綴，則藏緬語的交替似亦不無可能。不過，這個問題目前暫時不下定論。

關鍵詞：漢藏語，苗瑤語，構詞學，不及物，前綴