

## CHINESE \*s-NASAL INITIALS

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We make six basic assumptions about nasal and oral initials which appear in the same phonetic-compound series. The first two of these, which have to do with the reconstruction of Chinese prenasalized stops in absolute-initial position, were given a more detailed presentation in Chang and Chang 1976. The remaining four underlie our reconstruction of nasals and prenasalized stops preceded by \*s-. In testing these assumptions, we rely partly on internal evidence, such as doublets, and partly on comparisons with non-Chinese languages, primarily Tibetan. Our Chinese reconstructions are for the period when the phonetic compounds were established and incorporate suggestions made in Tung 1944, 1948, Li 1971, and Chang and Chang 1972; in parentheses following these we give Karlgren's *Grammata Serica Recensa* reconstructions. Our Proto-Tibetan reconstructions are based on Chang 1971; on the transcription of written Tibetan a-chung as N-, see Chang and Chang 1976.

### Assumptions:

1. An Ancient Chinese nasal initial alternating with an Ancient Chinese oral-stop initial in a phonetic-compound series derives from a prenasalized stop. For example: Chinese 礙 and 闕 (K937 t-u: \*ngəg) are found in a phonetic-compound series whose members have \*k-, \*k'-, \*g'-/ɣ- as their Archaic/Ancient Chinese initials in Karlgren's reconstruction. We infer a prenasalized stop which, taking a clue from written Tibetan N-khegs-pa, khegs 'to hinder', we posit as voiceless aspirated; for the period of the phonetic compounds we reconstruct, then, \*N-khəg for 礙 and 闕 (K937 t-u).

2. An Ancient Chinese oral-stop initial alternating with a nasal initial in a phonetic-compound series also derives from a prenasalized stop. The nasal preinitial may voice a following voiceless stop, as in 浣 \*N-kwan or \*N-gwan (K257 o: g'wân), WT N-khrud-pa, bkrus 'to wash'. [Initials in K257: \*k'-, \*g-/j-, \*g'-/ɣ-, \*ng-.]

3. An Ancient Chinese fricative initial alternating with an Ancient Chinese nasal initial in a phonetic-compound series derives from a nasal preceded by a fricative: \*s- ~ nasal ← \*s- + nasal; \*ɣ- ~ nasal ← \*ɣ- [← \*s-] + nasal.

This principle underlay the Archaic Chinese reconstructions of Karlgren (1957), with one major exception: where the nasal was a velar, Karlgren reconstructed an Archaic fricative for the Ancient fricative (Chart 1), though apparently with some qualms when the Ancient fricative was dental or palatal; twice, on series 289 and 330, he noted that the \*s-: \*ng-alternation could be the vestige of "some Archaic initial combination".

## Chart 1

## Ancient Chinese Fricatives in Series with Nasals:

## Karlgren's Archaic Chinese Reconstructions

- A. \*s-, \*ʃ- in series with nasals.      B. \*ɣ- in series with nasals.

Ancient Chinese      Archaic Chinese      *Grammata Serica Recensa* Series

A.			
1.	*n- *s-	*n- *sn-	94, 134, 354, 359, 730
2.	*ń- *s-	*n- *sn-	1076
3.	*ńź- *ʃ-	*ń- *ʃń-	94, 330, 638, 670, 730, 1164

4.	*ńź- *s-	*ń- *sn-	467, 730
5.	*n- *ś-	*n- *ś-	1031 (This series includes words with affricate initials.)
6.	*ŋ- *s-	*ŋ- *s-	279, 289, 330
7.	*ŋ- *ś-	*ŋ- *ś-	1125

## B.

1.	*m- *χ-	*m- *χm-	17, 103, 294, 457, 503, 583, 584, 742, 902, 904, 947, 1137
2.	*ń- *χ-	*n- *χn-	1164
3.	*ŋ- *χ-	*ŋ- *χ-	2, 19, 27, 60, 252, 517, 540, 613, 652, 681, 873, 1118, 1140, 1164, 1216

It remained for Li (1971) to suggest that the \*χ- in alternation with \*ŋ- might also stem from a consonant cluster or, more precisely, a nasal with a prefix, which had yielded an Archaic voiceless nasal, \*hŋ-; this was an expansion on Tung T'ung-ho's speculation that the Ancient \*χ- in phonetic-compound series with \*m- derived from an Archaic voiceless labial nasal. Li's Archaic system includes, then, voiced nasals in absolute-initial position, voiced nasals preceded by \*s-, and voiceless nasals. In essence (omitting, for example, initials followed by \*-j- and \*-r-), the phonetic-compound contacts which imply voiceless nasals as opposed to \*s- + voiced nasals are of the following types:

	Ancient	Archaic	Ancient	Archaic
(1)	*m-	*m-	*m-	*m-
	*ɰ-	*hm-	*s-	*sm-
(2)	*n-	*n-	*n-	*n-
	*th-	*hn-	*s-	*sn-
(3)	*ŋ-	*ŋ-	*ŋ-	*ŋ-
	*ɰ-	*hŋ	*s-	*sŋ-

We suggest that the \*s- ~ \*N- and \*ɰ- ~ \*N- alternations both had the same Proto-Chinese source, namely, nasals preceded by \*s-, and that the Ancient velar fricative implies a change either in the manner of articulation of the nasal—from voiced to voiceless—or in the preinitial—a backing of \*s-. (Note changes in \*s- in Tibeto-Burman languages a number of which involve backing, e. g. \*s- to ʃ-, h-, ɰ-, h- in southern Ch'iang, \*s- to ʃ-, ʃ-, r- in Gyarong, \*s- to r- in written Tibetan.)

Our reasons for positing one preinitial, \*s-, are the skewed, almost complementary distribution of \*s- and \*ɰ-, and the correlation, in at least some examples, of Tibetan s- or \*s- with both the \*s- and the \*ɰ- of Chinese.

\*s- in phonetic compounds with \*m- is so rare that it is not found in the whole of Karlgren's *Grammata Serica Recensa*; Li's example (Type I, example 1, below) we interpret as the residue of a change from \*s- to \*ɰ- before \*m-. \*s- in alternation with \*ŋ-, though more common, is still outnumbered by ɰ-. When the nasal is dental or palatal, however, there is just one instance of \*ɰ-, and in a series with predominantly velar initials; we present evidence to show that this nasal, too, should be reconstructed as velar (Type III, example 5, below). The \*n- ~ \*th- alternation we derive, along with parallel labial and velar alternations, from prenasalized stops; the prenasalized voiced dental stop has more often yielded Ancient Chinese \*n, as in, for example, 'to tie', Chinese 紐 \*s-N-djəug (K1076 g: \*nĭôg), WT N-dogs-pa, btags. Could a voiceless nasal

derived from an earlier \*s- + nasal sequence but going through the [<sup>h</sup>\*nth-] stage Li suggests also have been put in one of these series? This is the sort of question which comparative evidence might some day help us answer.

Among the southern Ch'iang dialects of Szechuan, there is a parallel restriction on the development of a velar fricative in the reflexes of \*s-nasal initials. These reflexes are most often voiceless nasals. In some cases, however, a dialect retains the voicing. (Clusters of \*s- and voiced stops are also subject to double developments: \*s- either devoices the stop ['garlic', WT sgog-pa, Lopu Chai škə, Chiutzu Ying hkəhtya] or is voiced by it ['round', WT sgor-mo, Chiutzu Ying hgu].) If the nasal is labial or velar, the \*s- may then have a voiced velar fricative reflex in the Chiutzu Ying dialect. This reflex is never found when the nasal is dental or palatal. Chiutzu Ying nasals are:

Voiceless	Voiced	<u>h</u> - + Voiced
ɲh-	ɲ-	<u>h</u> ɲ-
mh-	m-	<u>h</u> m-
nh-	n-	
ñh-	ñ-	

#### Examples:

- a. 'silver' (\*s-ɲ-), Jota Chai ɲhu, Chiutzu Ying hɲu
- b. 'name' (\*s-m-), Jota Chai mhi, Chiutzu Ying hmə
- c. 'emperor' (\*s-m-), Lopu Chai ʒmətsʃi, Chiutzu Ying hmətsui
- d. 'nasal mucus' (\*s-n-; cf. WT snabs), Waszu nhe, Chiutzu Ying nhe
- e. 'red' (\*s-n-; cf. Chang and Chang 1975.430), Waszu nhə, Chiutzu Ying ñhi

4. An Ancient Chinese nasal initial alternating with an Ancient Chinese fricative initial in a phonetic-compound series also derives from a nasal preceded by a fricative. Double readings, one with an Ancient nasal initial, the other with an Ancient fricative initial, derive, then, from the

same source, a nasal preceded by a fricative: in one development, the fricative was lost; in the other, the nasal was lost. Examples: 殄 (K457 f: \*miən/mien:, \*mwən/muən, \*χmwən/χuən) 'blinded', 撓 (K1164 s: \*nog/ńau, \*χnog/χâu) 'to trouble, disturb', 伋 (K517 m: \*ngiət/ngiət and \*χiət/χiət) 'great, powerful'. (See also Type I, example 7, below on the arguments for reconstructing Karlgren's \*ngwâ [K27 m] as \*χ-N-gwâ.)

5. An Ancient Chinese fricative initial alternating with both nasal and oral-stop initials in a phonetic-compound series derives from a prenasalized stop preceded by a fricative at the time when the phonetic compounds were established: \*s- or \*χ- ~ stop ~ nasal ← \*s- + prenasalized stop.

6. An Ancient Chinese nasal initial alternating with both fricative and oral-stop initials in a phonetic-compound series also derives from a prenasalized stop preceded by a fricative.

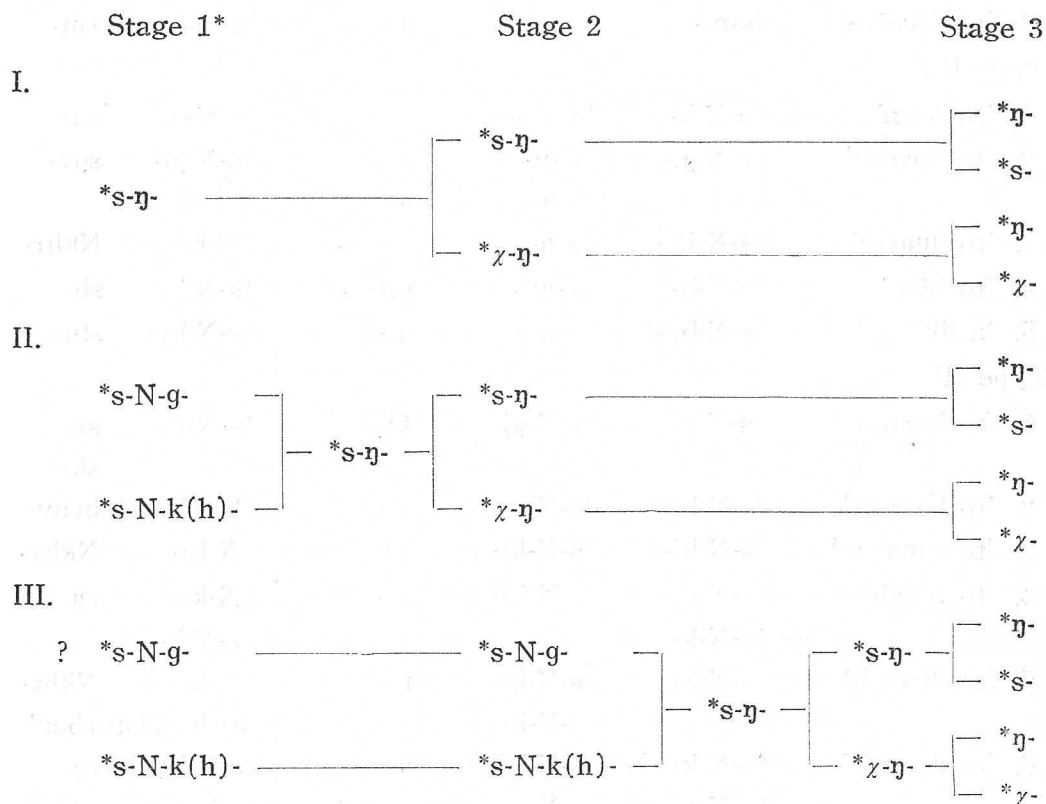
We give below examples of Ancient Chinese fricatives and nasals for which we reconstruct Proto-Chinese \*s- followed by either a simple nasal or a prenasalized stop. In Chart 2 we diagram the changes which these fricative-nasal sequences may be assumed to have undergone from Proto-Chinese to Ancient Chinese. (The use of velar nasals and stops to represent nasals and stops of all points of articulation is a convenient abstraction; in fact, the particular changes a fricative-nasal sequence underwent depended in part on whether it was a velar, labial, or dental which followed the fricative.) In Chart 3 we summarize various stages reconstructed for the initials of our examples and their Tibetan counterparts.

Our classification distinguishes nasals for which there is no evidence of a prenasalized-stop origin (Type I) from those for which there is such evidence (Types II and III). This evidence may be in the form of cognates for which prenasalized-stop initials are reconstructed (Type II); the later discovery of such evidence for a Type I example would, then, mean reclassification to Type II. The subgroup of words for which phonetic compounds constitute at least part of this evidence (Type III) was

## Chart 2

## Some Developments of Proto-Chinese Fricative-Nasal Sequences

- Type I. The nasal is one for which there is no evidence of a prenasalized-stop origin.
- Type II. The nasal derives from the merging of a nasal and a stop before the establishment of phonetic compounds. (Nasals are not in series with stops.)
- Type III. The nasal derives from the merging of a nasal and a stop after the establishment of phonetic compounds. (Nasals are in series with stops.)



\* Stage 1, Proto-Chinese; Stage 2, The Chinese of the period reflected in the phonetic compounds; Stage 3, Ancient Chinese.

Chart 3  
Summary of Examples

Type I	Chinese*			Tibetan**	
	1	2	3	1	2
1. 'to lose'	*s-m-	*s-m-	*s-, *m-		
2. 'dark'	*s-m-	*χ-m-	*χ-, *m-	*s-m-	sm-
3. 'confused'	*s-m-	*χ-m-	*χ-, *m-	*s-m-	rm-
4. 'dusk'	*s-m-	*χ-m-	*χ-	*m-	m-
5. 'many'	*s-m-	*χ-m-	*χ-	*s-m-	rm-
6. 'river bank'	*s-ŋ-	*χ-ŋ-	*χ-	*ŋ-	ŋ-
				or *b-ŋ-	dŋ-
7. 'property'	*s-ŋ-	*χ-ŋ-	*χ-	*b-ŋ-	dŋ-
8. 'to deceive'	*s-m-	*χ-m-	*m-	*s-m-	rm-
Type II					
1. 'to burn'	*s-N-b-	*χ-mj-	*χj-	*s-N-b-	sb-
2. 'to govern'	*s-N-gj-	*s-ŋj-	*sj-	*s-N-gj-	sgy-
		*χ-ŋj-	*ŋ-		
3. 'to quarrel'	*s-N-kr-	*χ-ŋ-	*χ-	*N-kr-	Nkhr-
4. 'to hide'	*s-N-b-	*χ-mj-	*mj-	*s-N-b-	sb-
5. 'a fly'	*s-N-br-	*χ-mr-	*m-	*s-N-br-	sbr-
Type III					
1. 'to burn'	*s-N-r-	*s-N-gj-	*śj-	*s-N-r-	sr- skr-
2. 'to borrow'	*s-N-kj-	*s-N-tj-	*śj-	*bs-N-kj-	brny-
3. 'to come to'	*s-N-kj-	*s-N-kj-	*χj-	*N-kj-	Nkhy-
4. 'to inhale'	*s-N-kr-	*s-N-kj-	*χj-	*N-kr-	rŋ-
	or *s-N-k-			or *s-N-k-	
5. 'to disturb'	*s-N-kr-	*s-N-kr-	*n-	*N-kr-	Nkhr-
		*s-N-k-	*χ-		'to be disturbed'
6. 'to deceive'	*s-N-k(h)-	*s-N-k(h)-	*ŋ-	*s-N-k(h)-	rŋ-
	or *s-N-g	*s-N-g		or *s-N-g	

\* 1, Proto-Chinese; 2, Chinese of the period reflected in the phonetic compounds; 3, Ancient Chinese.

\*\* 1, Proto-Tibetan; 2, Written Tibetan.



characterized by greater resistance to the merging of nasal and stop. Words with labial initials do not, on the whole, belong to this subgroup. That is, in the period before the establishment of phonetic compounds there was more merging after fricatives of nasals with labial stops than with velar stops and there are, therefore, fewer labial stops in series with nasals and fricatives.

The complex correspondences of vowels and endings in Chinese and Tibetan deserve, and will receive, separate and detailed treatment in other papers. We must, however, emphasize here that these are not, and cannot be, of a one-to-one nature; languages are not monoliths. Should, for example, written Tibetan u be granted just one legitimate Chinese correspondence per environment? Which should it be, then, in example 5, Type III below, \*au, as in \*s-N-kraug and \*kiaug, or \*əu, as in \*krəuk? We show that there are parallel examples to support both correspondences and, obviously, as long as there are doublets there must have been double, or multiple, developments.

## EXAMPLES

### Type I

1. 'to lose, destroy'. Chinese 喪 \*s-maŋ (K705 a-d: \*sâŋ/sâŋ-). Cf., with the same phonetic element, 亡 \*χ-mwjaŋ (K742 a: \*miwang/miawang) 'disappear, exile, die, destroy'. [Initial in K705: \*s-; initials in K742: \*m-, \*χm-/χ-.] Doublets: 薨 \*χ-muəŋ (K902 g: \*χmwəŋ/χwəŋ) 'to die (said of kings and princes)', 崩 \*pəŋ (K886 m: \*pəŋ/pəŋ) 'die (said of prominent people)'. [Initials in K902: \*m-, \*χm-/χ-; in K886: \*p-, \*b'-.] The stop initial of K886 m suggests, of course, that the nasals of 喪 (K705 a-d), K742 a, and K902 g may derive from prenasalized stops.

Karlgren gives 喪 (K705 a-d) as the only character in his series 705. That this character shared a common phonetic element with the

characters which he gives in his series 742 was, however, recognized by Shen (1945:529-33); also, as Li (1971) points out, the *Shou-wen* glossed 喪 \*s-maŋ (K705 a-d) with 亡 \*χ-mwjaŋ (K742 a).

2. 'dark, obscure, darkness'. Chinese 晦 \*χ-mæg (K947 t: \*χmwæg/χuəi-). [Initials in K947: \*m-, \*χm-/χ-.] WT smag- 'dark, darkness'. Doublet: 每 \*χ-mæg (K947 i-k: \*mwæg/muəi:) 'dark, confused'.

WT a: Chinese \*ə before valars:

- a. WT N-khyag(s)-pa 'to freeze, coagulate', Chinese 凝 \*ŋjəŋ (K956 h: \*ŋjiəŋ)
- b. WT džag-pa 'robber', Chinese 賊 \*dzək (K907 a-b: \*dz'ək) 'murderer, bandit, villain'
- c. WT N-thag-pa, btags 'to weave', Chinese 織 \*tjək (K920 f: \*tjək)
- d. WT sdaŋ-ba, sdaŋs 'to hate', Chinese 憎 \*tsəŋ (K884 d: \*tsəŋg) [\*sd- → \*st- → \*ts-]

3. 'confused, obscure'. Chinese 芒芒 \*χ-maŋ (K742 k, d': \*χmwāŋ/χwāŋ and \*mwāŋ/mwāŋ) and 慌 \*χ-maŋ (K742 g': \*χmwāŋ/χwāŋ). [Initials in K742: \*m-, \*χm-/χ-.] WT rmoŋ-ba, rmoŋs-pa (\*s-moŋ-ba, \*s-moŋs-pa 'obscured [chiefly of the mind]').

WT o: Chinese \*a before velars:

- a. WT sgrog(s) 'cord', Chinese 絡 \*glak (K766 o: \*glāk)
- b. WT N-thogs-pa, N-thogs 'to take up', Chinese 拓 \*thak (K795 m: \*t'āk)
- c. WT dŋo 'edge of a knife', Chinese 鏢 \*ŋak (K788 m: \*ngāk)

4. 'dusk, evening, darkness'. Chinese 昏昏 \*χ-mən (K457 j-l: \*χmwən/χuən). [Initials in K457 j-l: \*m-, \*χm-/χ-.] WT mun-pa 'obscurity, darkness; obscure, dark; night'.

WT u: Chinese \*ə ~ \*wə before dentals [\*ə after labials, \*wə after nonlabials]:

- a. WT N-bud-pa, N-bud 'to disappear, die', Chinese 沒歿 \*mət (K492 b, c: \*mwət)
- b. WT btsun-pa 'of high rank', Chinese 尊 \*tswən (K430 a-h: \*tswən)

- c. WT N-drud-pa, drud 'to drag, pull along on the ground', Chinese 豚 \*dwən (K428 a-c: \*d'wən) 'drag the feet in walking'
- d. WT N-dud-pa, btud 'to bow down', Chinese 頓 \*twən (K427 j: \*twən)
- e. WT N-gul-ba 'to shake, move', Chinese 杙 \*ŋwət (K487 b: \*ngwət)
5. 'many'. Chinese 夥 \*χ-muəŋ (K902 g: \*χmwəŋ/χwəŋ). [Initials in K902: \*m-, \*χm-/χ-.] WT (Tun-huang; see Nishida 1975.51) rmaŋ-po. On the relationship of \*uə to \*a after \*m-, see the doublets in example 1 above.
6. 'river bank'. Chinese 滸 \*χ-ŋag (K60 k: \*χo/χuo:). [Initials in K60: \*ng-, \*χ-.] WT ŋogs, dŋo.  
WT o: Chinese \*a before velars. See Type I, example 3.
7. 'property, goods'. Chinese 貨 \*χ-ŋwa (K19c: \*χwâ/χuâ-). [Initials in K19: \*ng-, \*χ-.] WT dŋos-po.  
WT o: Chinese \*wa:
- a. WT khol-po 'bubbling', N-khol-ba 'to boil, ferment', Chinese 滷 \*kwan (K157 f: \*kwân) 'to bubble'
- b. WT go-la 'ball', Chinese 丸 \*hwan (K163 a: \*g'wân)
- c. WT N-khor-ba 'to turn round', Chinese 桓 \*hwan (K164 f: \*g'wân)
- d. WT N-tshod-pa, btsos 'to cook', Chinese 爨 \*tshwan (K177 a: \*ts'wân)
- e. WT ko-ba 'leather', Chinese 鞞鞞 \*kwak (K774 h-i: \*kwâk)
- f. WT rŋod-pa 'to deceive', Chinese 譌 \*s-N-k(h)wa or \*s-N-gwa (K27 m: \*ngwâ) 'deceive; false'. [Initials in K27: \*k-, \*g-/j-, \*ng-, \*χ-.] (This example is given as Type III, example 6.) Arguments for reconstructing 譌 (K27m) with a fricative prefix:
- (1) It seems more than coincidental that Chinese doublets for 'false' should occur twice in series 27 (m: 譌 and k: 僞), and again in series 19 (e: 訛), where fricatives also alternate with nasals.
- (2) Tibetan r- before nasals may derive from \*s- (cf. Type I, example 3, and Type III, example 4); that is, rŋod-pa 'to deceive' may derive from \*s-ŋod-pa ← \*s-N-k(h)od-pa or \*s-N-god-pa.

(3) Lepcha nyók-bo 'false' may be derived from \*s-ŋok-bo; cf. Lepcha nyǎn (\*s-ŋ-) 'to fix, place', causative to ŋan 'to be situated'. \*s-ŋok may, in turn, be derived from, say, \*s-N-khok or \*s-N-khot. (See Chang and Chang 1976 on the Lepcha merging of nasal and stop in nasals and Lepcha velar endings corresponding to Tibetan dental endings.)

8. 'to deceive'. Chinese 罔 \*χ-mwjaŋ (K742 l: \*miwang/miwaŋ:). [Initials in K742: \*m-, \*χm-/χ-.] WT rmoŋ-par [\*s-moŋ-par] byed-pa 'to perplex, deceive' (i.e. 'to confuse'; cf. example 3 above).

WT o: Chinese \*wa. See Type I, example 3. (\*-j- is secondary here: \*χ-mwjaŋ ← \*χ-mwaŋ.)

## Type II

1. 'to burn'. Chinese 焜 \*χ-mjud ← Proto-Chinese \*s-N-bud (K583 e: \*χmiwər/χiwɛi:). [Initials in K583: \*m- \*χm-/χ-.] WT sbud-pa 'to light, kindle, set on fire (i.e. cause to burn)' ← Proto-Tibetan \*s-N-bud-pa (cf. Chang 1971:VII.5).

WT u: Chinese \*u between labial initials and dental endings:

- a. WT sprug-pa 'to shake', Chinese 拂 \*phjut (K500 h: \*p'iwət) and 奮 \*pjun (K473 a: \*piwən)
- b. WT spyug-pa 'to expel', Chinese 祓 \*phjut and \*pjəud (K276 o: \*p'iwət and \*piwǎd)

Note: Chinese has apparent doublets to 焜 \*χ-mjud: 焚 \*bjun (K474 a-b: \*b'iwən) and 燔 \*bjəun (K195 i: \*b'iwǎn). There are, however, parallel examples which could equally well support us in relating all of these forms to Tibetan s-bor-ba, s-bar (\*s-N-bor-ba, \*s-N-bar) 'to light, kindle, inflame', causative to N-bar-ba 'to burn'.

2. 'to govern'. Chinese 辭 \*s-ŋjat (K289 a-c: \*sɿat/sɿät) 'to correct, control, govern'. [Initials in K289: \*s-, \*ng-.] WT sgyur-ba 'to drive (a carriage); to govern' ← \*s-N-gyur-ba (Chang 1971:VII.20 on sgyur-ba 'to transform'. Doublets: 御 \*χ-ŋjag ← \*s-ŋjag (K60 l-o: \*ngio/ngiwo-)

and 馭 \*ɲjag (K80 a-b: \*ngio/ngiwo-) 'drive a chariot; govern, direct', 又 \*ɲjəud (K347 a: \*ngiǎd/ngini-) 'goven, regulate, control'. [Initials in K60: \*ng-, \*ɣ-; K80: \*ng-; K347: \*ng-] We suggest that 辭 (K289 a-c) derived from \*s-N-gjur in the following way: \*s-N-gjur → \*s-ɲjur → \*s-ɲjug → \*s-ɲiag → \*s-ɲjad → \*s-ɲjat.

(1) WT -r: Chinese \*-g/\*-k:

- a. WT tsher-ma 'thorn', Chinese 束 \*tshjig (K868 a-c: \*tshjĕg)
- b. WT N-khur-ba 'to carry', Chinese 克 \*khək (K903 a-e: \*khək)
- c. WT N-tšhar-ba, šar 'to rise', Chinese 作 \*tsak (K806 l: \*tsāk)
- d. WT tšha-ra (\*tsyar-ba?) 'oak', Chinese 柞 \*tsak and \*dzak (K806 p-q: \*tsāk, \*dz'āk)
- e. WT sbyor-ba, sbyar 'to prepare', Chinese 蒔備 \*bjĕg (K984 a-c, d-e: \*b'jĕg)
- f. WT phor-pa 'cup', Chinese 杯栳 \*pĕg (K999 o, p: \*pwĕg)
- g. WT dar 'banner', Chinese 纛 \*dəuk, \*dəug (K1016 b: \*d'òk, \*d'òg)

(2) WT u: Chinese \*ja before a velar ending (Chinese \*-u- → \*-ju- → \*-ja-):

- a. WT lugs 'method', Chinese 略 \*gljak (K766 v: \*glijak)
- b. WT tshugs-pa 'to wound, hurt', Chinese 傷 \*tshjaŋ, \*sthjaŋ (K720 i': \*ts'jaŋ, \*s'jaŋ), 傷 \*sthjaŋ (K720 j': \*s'jaŋ)

(3) WT -g/-ɲ after a, e, i: Chinese \*-d/\*-n:

- a. WT skrag-pa 'to be afraid', Chinese 契 \*khiad (K279 b: \*khiad)
- b. WT skyag-pa, rkyag-pa 'dirt, excrement', Chinese 穢 \*ʔwjəud (K346 i: \*i'wǎd) 'dirt, filth'
- c. WT tshaŋ-ba 'entirely', Chinese 盡 \*tsjin, \*dzjin (K381 a-b: \*tsjĕn, \*dz'jĕn)
- d. WT mkhraŋ(-ba) 'solid', Chinese 堅 \*khjin, \*khrin (K368 a-b: \*k'jĕn, \*k'ǎn), 堅 \*kin (K368 c: \*kien), and 擊 \*khin, \*khrin (K368 d: \*k'ien, \*k'ǎn)
- e. WT N-phren-ba 'cord', Chinese 緝 \*mjĕn (K457 x: \*mjĕn)

- f. WT rtsig- in e. g. rtsig-dpon 'master mason', rtsig-bzo-pa 'mason', Chinese 匠 \*tsjæt (K923 c: \*tsjæt) 'masonry'
- g. WT -niŋ 'year' in e. g. kha-niŋ 'last year', Chinese 年 \*nin (K364 a-d: \*nien)
- h. WT šig 'louse', Chinese 蝨 \*srjit (K506 a: \*šjet)

The doublet 御 \*χ-ŋjag (← \*s-ŋjag; K60 l-o) may be taken as support for the derivation of 辟 \*s-ŋjat (K289 a-c) via \*s-ŋjug → \*s-ŋjag → \*s-ŋjad, rather than through \*s-ŋjug → \*s-ŋjud → \*s-ŋjad. Parallels to the WT -yu-: Chinese \*-jəu- of WT sgyur-ba 'to govern', Chinese 义 \*ŋjəud (K347 a):

- a. WT spyug-pa 'to expel', Chinese 被 \*phjut and \*pjəud (K276 o: \*p'iwət and \*piwäd)
  - b. WT N-phur-ba 'to fly', Chinese 飛 \*pjud (K580 a: \*piwər), 翳翳 \*pjun (K471 e-f: \*piwən), and 拚 \*phjəun (K220 d: \*p'iwän)
3. 'to quarrel'. Chinese 鬭 \*χ-ŋik (K873 q: \*χiek/χiek) 'to wrangle'. [Initials in K873: \*ng-, \*χ-, \*ń-/ńž-, \*m-.] WT N-khrug-pa, N-khrugs 'to quarrel; to fight'

WT u: Chinese \*i before velars:

- a. WT sgug-pa, bsgugs 'to wait', Chinese 俟 \*gig (K876 i: \*g'ieg).
- b. WT N-bru-ba, brus 'to examine', Chinese 覷 \*N-bik and \*N-brik (K848 d: \*miek and \*mwëk). [Sharing the phonetic element of K848, but not listed by Karlgren, is 派 \*phrig.]

4. 'to hide'. Chinese 微 \*χ-mjud ← Proto-Chinese \*s-N-bjud (K584 d-e: \*m-, \*χm-/χ-.) WT sbed-pa, sbas, sba, sbos 'to hide, conceal' ← Proto-Tibetan \*s-N-bed-pa, \*s-N-bas... (Chang 1971: VII.5). Doublets: 扉 \*bjud (K579 n: \*b'iwər) 'hidden, obscure', 隄 \*bjud (K579 s: \*b'iwər) 'conceal', 𪔐 \*N-bjan (K224 a: \*mjan) 'hidden'. [Initials in K579: \*p-, \*p'-, \*b'-; K224: \*p-, \*m-.]

WT e: Chinese \*u between labial initials and dental endings:

- a. WT spel-ba 'to mix', Chinese 紛 \*phjun (K471 h: \*p'iwən) 'mixed'
- b. WT phye-ma 'flour', Chinese 粉 \*pjun (K471 d: \*piwən)

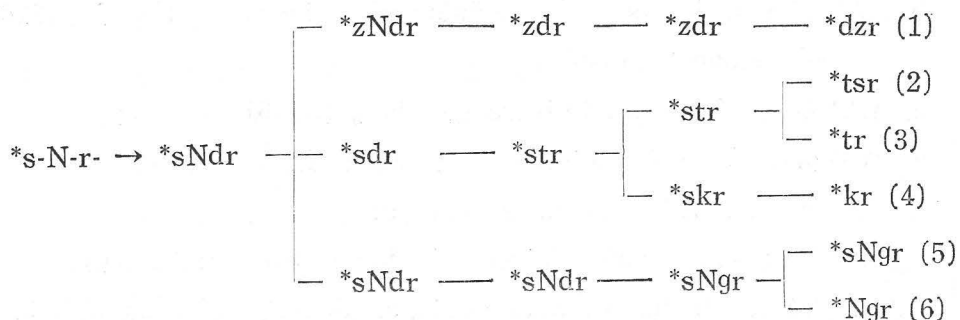
5. 'a fly'. Chinese 袁𧈧 \* $\chi$ -mraŋ ← Proto-Chinese \*s-N-braŋ (K742 s-t: \*mang/m<sup>ang</sup>) 'gadfly, horsefly'. [Initials in K742: \*m-, \* $\chi$ m-/ $\chi$ -.] WT sbraŋ-bu, sbraŋ-ma 'fly, and similar insects without a sting' (Proto-Tibetan \*s-N-braŋ). Lepcha sũm-bryoŋ 'fly'. Jäschke gives 'bee' as another meaning for sbraŋ-ma in Central Tibetan, but Chinese 蜂螽 \*phjuŋ (K1197 s-t: \*p'iung) 'bee' and \*bjœum (K626 e: \*b'iwām) 'bee' would appear related, rather, to WT buŋ-ba 'bee'. [Initials in K1197: \*p-, \*p'-, \*b'-; K626: \*p'- \*b'-.]

WT a: Chinese \*a before velar endings:

- WT N-tšhar-ba, šar 'to rise', Chinese 作 \*tsak (K806 l: \*tsâk)
- WT tšha-ra (\*tsyar-ba?) 'oak', Chinese 柞 \*tsak and \*dzak (K806 p-q: \*tsâk, \*dz'âk)
- WT gral 'row, series, class', Chinese 行 \*graŋ, \*haŋ (K748 a-d: \*g'âng, with a double reading \*g'âng for other meanings) 'rank, row'

### Type III

1. 'to burn'. Chinese 燒 \*s-N-gjaug ← \*s-N-glaug ← \*s-N-graug ← \*s-N-draug ← \*s-N-raug (K1164 t: \*šújog/šjäu). [Initials in K1164: \*k-, \*k'-, \*g'-, \*ng-, \* $\chi$ -, \*n-/ń-, \*ń-/ńž-, \*šń-/š-.] WT sreg-pa 'to burn, roast' (Proto-Tibetan \*s-N-r-), WT skrag in ša skrag 'roast meat' (skr- ← \*str- ← \*sdr- ← \*s-N-d-r- ← \*s-N-r- [Chang 1971:IV.6, 10]). For the Chinese doublets of 'to burn, roast' we posit changes which, in large part, parallel those posited for Tibetan:



- (1) 樵 \*dzjaug (K1148 i: \*dz'jog) 'to burn (fuel)'. [Initials in K1148: \*ts-, \*ts-/tʃ-, \*dz'-.]
- (2) 焦焦 \*tsjaug (K1148 a, b: \*tsjog) 'roast, burn'.
- (3) 炙 \*tjrak, \*tjrag (K791 a: \*tʃäk, \*tʃäg) 'roast, broil'. [Initial in K791: \*t-/tʃ-.]
- (4) 灼 \*kjauk → \*tjauk (K1120 f: \*tʃiok) 'to burn'. [Initials in K1120: \*'- (i.e. \*?-), \*t-, \*d-/i-, \*t-/tʃ-, \*d-/z-.]
- (5) 燒 \*s-N-gjaug (K1164 t: \*sújog/šjäu) 'to burn'. [Initials in K1164 are listed above.]
- (6) 烙 \*N-glak (K766 n: \*gläk/läk) 'to burn'. [Initials in K766: \*kl-/k-, \*k'l-/k'-, \*gl-/l-, \*g'l-/ɣ-, \*ngl-/ng-.]

WT dental + r: Chinese velar + \*-l-, \*-j-:

- a. WT N-drul-ba 'rotten', Chinese 爛 \*glan (K185 l-m: \*glân)
- b. WT rtog-pa (\*trog-pa) 'to search into', Chinese 究 \*kjœug (K992 o: \*kiôg).

WT e: Chinese \*au before velar endings:

- a. WT phye-ma 'dust, powder', Chinese 霰票 \*phjaug (K1157 a-b: \*p'jog) 'dry and powdery'
- b. WT dpe 'example', Chinese 表 \*pjaug (K1153 a: \*piog) 'set an example', 譬 \*phjig (K853 t: \*p'jěg) 'example'
- c. WT legs-pa 'good, beautiful', Chinese 僚 \*ljaug (K1151 h: \*liog) 'fine, good, lovely'

WT a: Chinese \*au before velar endings:

- a. WT (m)khray 'solid, firm', Chinese 確 \*khrauk (K1117 d: \*k'ök)
- b. WT N-tshar-ba, tshar 'to be finished', Chinese 醺 \*tsjaug (K1148 f: \*tsjog) 'exhaust, finish'
- c. WT las-pa 'laborer', Chinese 寮 \*liaug (K1151 i-l: \*liog)
- d. WT grwa 'school', Chinese 校 \*graug (K1166 i: \*g'ög)

WT e: Chinese \*a before velar endings:

WT khex-pa 'proud', Chinese 仉 \*khaŋ (K698 c: \*k'âng)

WT a: Chinese \*a before velar endings. See Type II, example 5.



2. 'to borrow'. Chinese 攝 \*s-N-tjap (K638 e: \*śnjap/śjāp). [Initials in K638: \*n-/ń-, \*ń-/ńž-, \*t- (tń-?)/tś-, \*śń-/ś-.] WT brnya-ba. Burmese hṇà.

The Burmese velar without a following glide in hṇà suggests that there were changes in articulation before \*-j- [-y-] in Chinese and Tibetan:

Chinese: \*s-N-kja-ba → phonetic-compound-time \*s-N-tja-b → \*s-nja-p  
→ \*śnjap → Ancient Chinese \*śjap

Tibetan: \*bs-N-kja-ba → \*bs-ṇja-ba → \*brṇja-ba → WT brnya

Burmese: \*s-N-ka → \*s-ṇa → hṇà

There is evidence, both internal and comparative, of a Chinese change in the place of articulation of initial stops, from velar to palatal or dental, before \*j/\*i: in this position, Chinese has velar stops alternating with dental stops in both double readings and doublets, and there are examples in which Chinese has a palatal or dental stop followed by \*j or \*i where written Tibetan has a velar stop followed by r or y. The interpretation of such evidence is, however, not without complications, since both Chinese and Tibetan appear to have had dental to velar changes before \*r as well as \*r to y changes. (On the dental to velar change before \*r in Tibetan, see Chang 1971, Chang and Chang 1975.426 f.; in Chinese, Type III, example 1, above. For examples of \*r → y in Tibetan, cf. Chang and Chang 1975.499,503; for \*r → \*j [y] in Chinese, see 'to shake' under Type II, ex. 1, and 'to be afraid', 'solid', 'cord' under Type II, example 2.) Double readings and doublets with dental to velar stops before \*j/\*i could, then, derive from \*dr ([1] → \*dy; [2] → \*gr → \*gy), from \*gr ([1] → \*gy; [2] → \*gy → \*dy), or from \*gy ([1] → \*gy; [2] → \*dy). A dental stop before \*j/\*i corresponding to a Tibetan velar stop has the same range of possible sources. In the following examples, introduction of \*r into the Chinese reconstructions leads us to reconstruct dental stops followed by \*r for both Chinese and Tibetan:

- a. 蓄 \*hjəuk and \*trhjəuk (K1018 c: \*χiôk and \*t'iôk) 'to collect', 摘 \*thik and \*trik (K877 p: \*t'iek and \*t'ëk) 'to pluck', WT sgrug-pa 'to collect, pluck'
- b. 友 \*hjəug (K995 e: \*giǔg) and 儔 \*drjəug (K1090 k: \*d'iôg), 儔 \*drjəug (K1090 l: \*d'iôg) 'companion, friend', WT grogs
- c. 張 \*trjaŋ (K721 h: \*tiang) 'to swell', WT skraŋ-ba
- d. 趙 \*drjaug (K1149 u-v: \*d'iog) 'to hasten', WT rgyug-pa

Examples for which we tentatively posit a velar to dental change in Chinese before \*j:

- a. 鵲 \*tshjak (K798 n: \*ts'jak) [\*s-k(h?)jak → \*s-t(h?)jak → \*tshjak] 'magpie', WT skya-ka, skya-ga, Tzu-ta Gyarong khartšak (\*kha-s-tšak, Chang and Chang 1975:431)
- b. 將 \*tsjaŋ (K727 f: \*tsiang) [\*s-kjaŋ → \*s-tjaŋ → \*tsjaŋ] 'attend to, nurse, support', WT skyoŋ-ba, bskans
- c. 唳 \*dig (K870 d: \*d'ieg) [\*grag → \*gjaŋ → \*gjig → \*gig] 'cry out', WT N-grags-pa, grags (Common Tibetan-Gyarong \*gr-; Chang and Chang 1975:495)
- d. 敦噉 \*kiaug (K1162 a, b: \*kiog), 的 \*kiauk → \*tiauk (K1120 h: \*tiok) [cf. 灼 \*kjauk → \*tjauk, K1120 f, 'to burn' under Type III, example 1], and 昭 \*tjaug (K1131 m: \*tiog) 'bright'. WT khrol-khrol.
- e. 經 \*kiŋ (K831 c-d: \*kieng) and 政 \*tjiŋ (K833 r-s: \*tiëŋ) 'law, rule' (WT khrims)

The suggestion that a sound long familiar to us as a simple nasal was not always this may not be easy to accept. There is, however, possible support within Tibetan for the reconstruction of a prenasalized stop here: brnya-ba, brnyan-pa (\*bs-kja-ba, \*bs-kja-n-pa) 'to borrow' may be related to skyi-pa 'to borrow', skyin-pa 'a loan'.

3. 'to come to'. Chinese 迄 \*s-N-kjət (K517 k-l: \*χjət). [Initials in K517: \*k-, \*k'-, \*g'/ɣ-, \*ng-, \*ɣ-.] WT N-khyol-ba, N-khyol. Doublets: 詣 \*N-kid (K552 k: \*ngiər), 稽 \*N-kid (K552 o: \*kiər), 至 \*tjid (K413 a-c: \*tiəd). The reconstruction of a simple stop for 稽 \*N-kid (K552 o)

would not account for the inclusion of this character in a mixed stop/nasal series: K552 has as its initials \*k-, \*k'-, \*g'-, \*ng-, \*t̪-, \*d̪-, and \*ʃ-. 詣 (K552 k) and 稽 (K552 o) differ, not in their proto-form or their form at the time when the phonetic compounds were devised, but in the changes they underwent: merging of nasal and stop in the one case, loss of the nasal in the other. On the change of \*kj- to \*tj- in 至 (K413 a-c), see Type III, example 2.

WT o: Chinese \*ə before dental endings:

- a. WT N-khon-pa 'to hate', Chinese 恨 \*hən (K416 f: \*g'ən)
- b. WT N-khrol-ba 'to resound', Chinese 磬 \*kwən (K417 e: \*kwən) 'resounding'

WT o: Chinese \*i before dental endings (\*jo → \*jə → \*ji → \*i?):

- a. WT N-džoms-pa, btšom 'to destroy; to subdue', Chinese 殄 \*diən (K453 k: \*d'ien) 'to destroy', 填 \*din, \*trjin (K375 u: \*d'ien, \*tiĕn) 'to subdue'
  - b. WT N-bol-pa 'gentle', Chinese 謐 \*N-bjit (K405 t: \*miĕt). [Initials in K405: \*p-, \*b'-, \*m-.]
4. 'inhale'. Chinese 吸 \*s-N-kjəp (K681 j: \*χiəp/χiəp). [Initials in K681: \*k-, \*g'-, \*ng-, \*χ-.] WT rjub-pa 'to draw in (dbugs 'air', snar 'into the nose')', 'to breathe'. Doublet: 呿 \*khjab (K642 c: \*k'jab) 'to breathe with open mouth'.

WT u: Chinese \*ə before labial endings:

- a. WT (g)sum 'three', Chinese 三 \*səm (K648 a-c: \*səm)
- b. WT sgrub-pa 'to furnish, supply', Chinese 給 \*kjəp (K675 p: \*kijəp)
- c. WT skum-pa 'to contract', Chinese 歛 \*hjəp (K675 s: \*χiəp)
- d. WT N-gum-pa, bkum 'to kill', Chinese 戮 \*khəm (K651 v: \*k'əm) and 戢 \*khəm (K658 q: \*k'əm)

Two possible derivations of 吸 \*s-N-kjəp and WT rjub:

(1) Chinese: \*s-N-krub → \*s-N-kjub → \*s-N-kjəp

Tibetan: \*N-krub → (\*N-grub? →) \*ŋrub → rjub. Cf. 'sweat', Old Burmese khruy (Proto-Burmese \*khr-: Okell 1971.44),

Chinese 汗 \*gan (K139 t: \*g'ân [← \*N-kh-?], WT ɳɯl  
 (← \*ɳrɯl ← \*N-grɯl? \*N-khrɯl?))

(2) Chinese: \*s-N-kub → \*s-N-kəp → \*s-N-kjəp

Tibetan: \*s-N-kub → (\*s-N-gub →) \*s-ɳub → ɳub

5. 'to trouble, disturb'. Chinese 撓 \*s-N-kraug and \*s-N-kaug ← \*s-N-kraug  
 (K1164 s: \*nǒg/ánu: and \*χnog/χâu). [Initials in K1164: \*k-, \*k'-, \*g'-,  
 \*ng-, \*χ-, \*ń-/ńz-, \*śń/ś-, \*n-/ń-, \*χn-/χ-.] WT N-khrug-pa, N-khrus ←  
 \*N-krug-pa, \*N-krus 'to be disturbed', dkrug-pa 'to disturb'. Doublets:  
 撓 \*krəuk (K1038 i: \*kôg/kau:) 'disturb', 梟 \*kiaug (K1070 m: \*kiôg/  
 kieu) 'disturb; disorder'. [Initials in K1038: \*k-, \*k'-, \*g'-/ɣ-, \*-;  
 K1070: \*k-, \*χ-.]

For a stage between that of the phonetic compounds and Ancient  
 Chinese we posit \*s-ɳr- for 撓 (K1164 s). The change from velar \*ɳ  
 to dental n, so that we now have, for example, modern Mandarin nao  
 apparently took place in the environment \*s...-r-. That is:

\*s-ɳr —  $\begin{cases} \text{— } *sɳr \rightarrow *snr \rightarrow *nr \text{ (for Karlgren's } *nǒg) \rightarrow *n- \\ \text{— } *sɳ \rightarrow *sɳ \rightarrow *χɳ \text{ (for Karlgren's } *χnog) \rightarrow *χ-} \end{cases}$

To reconstruct an Archaic dental nasal which yielded to an Ancient  
 palatal which returned to dental leaves unanswered such questions as  
 why a dental nasal was in a series with velar initials and why a form  
 with such an initial had a double reading with a velar fricative initial.  
 WT u: Chinese \*au before velar endings:

- WT thug-pa 'to arrive', Chinese 到 \*taug (K1132 a-b: \*tog)
- WT skud 'ointment', Chinese 膏 \*kaug (K1129 i: \*kog)
- WT snyug-ma, smyug-ma 'rush, reed', Chinese 莠 \*ñjauk (K1123 b:  
 \*ñjok) 'rush for making mats'
- WT nub-pa 'to sink', Chinese 溺 \*niauk (K1123 d: \*niok)

WT u: Chinese \*əu before velar endings:

- WT sgrug-pa 'to collect', Chinese 掇 \*kjəug (K1066 g: \*kiôg)
- WT drug 'six', Chinese 六 \*ljəuk (K1032 a-d: \*liôk)

- c. WT sbrul 'snake', Chinese 虺 \*phjəuk (K1034 j: \*p'îôk)
- d. WT spub-pa 'turn upside down' (WT N-bub-pa 'to be turned over, overthrown'), Chinese 覆 \*phjəuk (K1034 m: \*p'îôk)
6. 'to deceive'. Chinese 譌 \*s-N-k(h)wa or \*s-N-gwa (K27 m: \*ngwâ/nguâ). [Initials in K27: \*k-, \*g-/ɣ-, \*ng-, \*ɣ-.] WT rnod-pa. (Discussed under Type I, example 7.) WT o: Chinese \*wa: see Type I, example 3.

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## 中 文 摘 要

這篇文章希望說明有關構擬漢語鼻音聲母和前置鼻音的幾個原則。所用的證據除了諧聲字以外還有藏語的同源字。第一：在諧聲系統中，要是按中古音的讀法，有鼻音聲母的字和塞音聲母的字同用一個聲符，這個鼻音聲母本來可能是一個塞音聲母前邊帶有一個前置鼻音。第二：有的塞音聲母，特別是濁塞音聲母，可能本來也是一個塞音聲母前邊帶有一個前置鼻音。這個前置鼻音可能濁化塞音聲母之後而消失。第三：有的擦音聲母字和鼻音聲母的字在諧聲系統上同用一個聲符，這些擦音聲母，可能本來是一個鼻音聲母，前邊有一個前置 \*s-。第四：這些鼻音聲母的字，既然和擦音聲母的字在諧聲系統上發生關係，本來也是鼻音聲母前邊有一個前置 \*s-，所以有些在中古讀成擦音，有些讀成鼻音，是因為一個複合聲母可能有兩種不同的變化。第五：最初可能有一種複合聲母塞音前有一個前置鼻音，前置鼻音前有一個前置 \*s-，這種複合聲母在後來有的讀塞音，有的讀擦音，有的讀鼻音。第六：也有時，這種複合聲母都變成擦音和鼻音，沒有塞音的痕跡了。