Reconstructing the *s- Prefix in Old Chinese

Laurent Sagart[1] and William H. Baxter[2]
CRLAO[1]
University of Michigan[2]

This paper presents the treatment of the Old Chinese *s- prefix in the Baxter-Sagart system of Old Chinese reconstruction. The main functions of the prefix are to increase the valency of verbs and to derive oblique deverbal nouns. The phonetic evolutions to Middle Chinese of *s- with different kinds of OC root initials are discussed. Two salient features of the proposed system are (1) that *s- plus plain sonorants go to MC *s-* or *sr-*, and (2) that *s-* preceding voiced obstruents becomes voiced. Problems within a competing proposal by Mei Tsu-Lin, in which OC *s- devoices both sonorants and voiced obstruents, are pointed out.

Key words: Old Chinese, reconstruction, morphology, *s-* prefix

Mei Tsu-Lin (2012) presents a theory that an Old Chinese (OC) causative and denominative prefix *s-, of Sino-Tibetan (ST) origin, is responsible for two kinds of alternation in Middle Chinese (MC): an alternation between sonorants and voiceless obstruents and another between voiced and voiceless stops. An example of the first alternation is (in Mei's reconstruction; our Middle Chinese notation is added in square brackets):

(1) 滅 *mjiat > *mjat* [*mjiet*] 'extinguish, destroy'
     威 *s-mjiat > *xjwat* [*xjwiet*] 'to cause to extinguish, destroy' (Mei's gloss)

Examples of the second are:

(2) 敗 *brads > *bwai* [*baejH*] 'ruined, defeated'
         *s-brads > *pwai* [*paejH*] 'to ruin, to defeat'
     別 *brjat > *bjat* [*bjet*] 'to be different, leave'
         *s-brjat > *pjat* [*pjet*] 'to divide, to separate'

Mei's theory has the advantage of simplicity: an *s- prefix devoices both sonorants and voiced obstruents, imparting a causative meaning to the derived words.

Our views are different. We regard the first kind of alternation as reflecting a contrast in OC between voiced and voiceless sonorants (Baxter 1992, Sagart 1999). As Mei points out, this view goes back to Tung T'ung-ho (1944[1967]) and was accepted by Li (1971). In our current reconstruction, the first pair is:

(3) 滅　*met > *mjiet > *miè* 'destroy'
　　威　*m̥et > *xjwiet > *xuè* 'extinguish, destroy'[1]

We do reconstruct *s-m- in OC but reserve it for cases where MC shows *s-*, for instance in (4), which is the phonetic element in the two forms in (3):

(4) 戌　*s-mit > *swit > *xū* '11th earthly branch'

We reconstruct the pairs in (2) as:

(5) 別　*N-pret > *bjet > *bié* 'be separated (intr.)'
　　　　*pret > *pjet > *bié* 'separate (tr.)'
　　敗　*N-pˤrat-s > *baejH > *bài* 'suffer defeat'
　　　　*pˤrat-s > *paejH > *bài* 'defeat (v.t.)'

The idea behind our proposal is that in pairs like (5), the derived member is the voiced one, and voicing is due to the effect of an intransitive prefix *N-, a nasal which takes on the place of articulation of the consonant that follows it. This proposal was first made in Sagart's review of Baxter's book (Sagart 1993:244). Voicing of voiceless stops by preceding nasal consonants is a very common process cross-linguistically: it occurred, for instance, in Mienic, Japanese, Modern Greek and rGyalrong. Chinese loans to Hmong-Mien where the proposed prefix corresponded to prenasalization (see Table 2 for examples) were cited in support of this proposal.[2] The proposal was offered as an improvement on Pulleyblank's earlier theory (Pulleyblank 1973), in which the voicing prefix was a laryngeal, *ɦ-, said by him to be cognate with the Tibetan prefix often referred to as *a-ch'ung*. Sagart (1994:280-281) discussed the proposed Chinese nasal prefix in the context of Sino-Austronesian comparison. Baxter & Sagart (1998) preferred the new theory to Pulleyblank's because it could explain Hmong-Mien prenasalization in intransitive verbs borrowed from Chinese. Sagart (1999:74) explicitly rejected Pulleyblank's idea that the Chinese voicing prefix was cognate with Written Tibetan

---

[1] Note that we disagree on the meaning of the second member of the pair. This is further discussed below.

[2] So far, Mei has not commented on this external evidence.

(WT) *a-ch'ung*, a present tense marker unrelated to transitivity, even though, confusingly, WT *a-ch'ung* was probably a nasal too (see Sagart 1999:74, fn.1 and references therein).[3] Sagart (1999) cited two examples of Tibeto-Burman (TB) intransitive nasal prefixes: Wolfenden's 'inactive intransitive' *m- (Wolfenden 1929: viii, 30), and a rGyalrong intransitivizing nasal prefix. In Sagart (2003) Matisoff's Lolo-Burmese 'stative *N-' (Matisoff 1970) was added. Sagart (2006) discussed intransitive nasal prefixes in Sino-Tibetan languages, proposing that an intransitive nasal prefix should be reconstructed at proto-Sino-Tibetan level.

   *N- is not the only nasal prefix we assume in Old Chinese. We also reconstruct an *m- prefix which in its verbal uses derives volitional (自主) verbs. Our *N- and *m- are phonemically contrastive: the former assimilates its place of articulation from the following consonant, the latter is a labial. Both prefixes voice a following stop in MC; both are reflected as prenasalization in loans to Hmong-Mien. Certain southern Chinese dialects distinguish the two nasal prefixes.[4] For details, see Sagart (1999) and Sagart & Baxter (2010, 2011). After vehemently rejecting the idea of an intransitive nasal prefix (Mei 2008), Mei is now moving cautiously towards accepting it,[5] at least in a limited number of pairs. This is a move in the right direction, but Mei still relies on his devoicing causative *s- prefix to explain most verb pairs where voicing correlates with intransitivity.

   As far as Chinese is concerned, disagreements between Mei and us relate to the derivations we posit to explain pairs of the kind of (1) and (2). Differences also bear on the semantics of the words involved in these alternations. Mei thinks the main functions of *s- are causative and denominative; we think of *s- as an increaser of verb valency (including transitivizing and causative functions) and a deriver of oblique deverbal nouns. A further disagreement relates to whether or not pairs like (1) and (2) reflect the same morphology. Mei thinks they do; we think they do not. A first indication of a problem in Mei's theory is that while we know many MC pairs of verbs like those in (2), we know very few like those in (1): indeed, pairs which are phonetically of the type of (1) are not semantically well aligned with the pairs in (2).

   Our proposals on the OC *N- prefix have been adequately presented, as we have already indicated, but our views on *s- have not. Partly in response to Mei's paper to

---

[3] Mei (2008) incorrectly states that we accept that the Tibetan *a-ch'ung* is related to the Chinese intransitive prefix.

[4] For these reasons, Mei's statement (2012:15) that "Sagart's proposal says (...): PTB *N-k- (...) is a (...) sufficient reason for OC to have *g-" does not describe our theory.

[5] Mei's justification for this change of mind (2012:2) is that Sagart's proposal was supported by examples from a single TB language. That is not accurate. Sagart (1999, 2003, 2006) presented pairs form rGyalrong, Lolo-Burmese, and Written Tibetan.

this symposium, we discuss the fate of the Old Chinese *s- prefix preceding sonorant and obstruent root initials. The scheme we present here is that used in the Baxter-Sagart system of OC reconstruction.[6]

1. *s- plus sonorant initials

Mei (2012:9) argues that when Old Chinese roots with a sonorant initial occur with the *s- prefix, the prefix turns the initial into a voiceless sonorant, which then evolves to a voiceless obstruent in MC:

OC *s-m- > hm- > MC *x*-
OC *s-n- > hn- > MC *th*-
OC *s-ŋ- > hŋ- > MC *x*-
OC *s-l- > hl- > MC *th*-

It appears that in Mei's system *s-r- is an exception to this pattern, however; for example, he reconstructs 使 *srjəgx > ṣi [*sriX* in our MC notation] 'to send' (p.9), 森 *srjəm > ṣjəm [*srim*] 'thicket' (p.13), agreeing with Li Fang-Kuei on this point; another exception is *s-lj-, which according to Mei loses *s-* and becomes MC *z-*, with the voicing intact.

He gives these examples:

(6) 滅 *mjiat > *mjat* [*mjiet*] 'extinguish, destroy'
     威 *s-mjiat > *xjwat* [*xjwiet*] 'to cause to extinguish, destroy'

He supports his reconstruction of the *s- prefix by claiming the second form is a causative of the first, citing Ode 192, where both verbs occur (the translation is Karlgren's) (p.10):

燎之方揚   when the fire is just flaming high,
寧或滅之   how can anyone <u>extinguish</u> it?
赫赫宗周   the majestic Tsung Chou,
褒姒威之   (lady) Sï of Pao <u>has destroyed</u> it.

Mei finds a causative meaning in 威, connecting it to the *s- which is known to have causative uses in the TB languages. However it is hard to see any difference in argument structure between the two verbs in that passage. The first means 'put out (a fire)', the

---

[6] Online at http://crlao.ehess.fr/document.php?id=1217

second 'destroy'. Both take an animate subject and an object pronoun. Mei glosses the second as 'cause to be destroyed', but he might just as well have glossed the first as 'cause (a fire) to be put out'. Both the Mao commentary and the *Shuowen* gloss 威 simply as 滅, we see no compelling reason to treat 威 as a causative. In any case, Tibeto-Burman *s- causatives are of the type 'cause to destroy' rather than 'cause *to be* destroyed'.

Mei's next example is:

(7) 墨 *mək 'ink' (our *C.mˤək > mok > mò 'ink')
    黑 *s-mək 'black' (our *m̥ˤək > xok > hēi 'black')

Mei (2012:7) compares 黑 xək (his OC *smək) 'black' with Written Tibetan *smag* 'dark, darkness'. Here we should remember that ST morphology remained productive for a long time after the breakup of PST, and that it was still largely productive in WT and OC. An ST root *mək with semantics relating to 'black' can occur in Chinese and Tibetan with different affixes yet have similar meanings. In other words, that the root occurs with *s- in Tibetan is no guarantee that it also occurred with *s- in OC.

Mei writes that 黑 *smək 'black' is an example of the denominative function of *s-. The precise path of semantic changes Mei has in mind is not explicit, but his characterization of the example as denominative implies, at least, that /mək/ is a nominal root ('ink'?) out of which a (stative) verb 'to be black' is derived by means of *s-. However there are some unresolved issues here. First, we do not know of cases where *s- derives stative verbs in TB languages. Here are WT examples from Conrady (1896:4-5) and Japhug rGyalrong examples from Jacques (2008:66):

WT:

goŋ-po 'mass, heap'	*s-goŋ-pa* 'make round, make into a ball'
gril-pa 'a roll'	*s-gril-pa* 'to roll'
nyam-s 'the capacity of feeling and thinking'	*s-nyam-pa* 'to think'
nyod-pa 'food'	*s-nyod-pa* 'to take food, eat or drink'
nad 'illness'	*s-nad-pa* 'to injure'
bam-po 'a bundle'	*s-bam-pa* 'to put together'
bug-pa 'hole'	*s-bug-pa* 'to perforate'

Only 'to think' can be regarded as stative, and it is a different kind of stative verb from 'to be black'.

Japhug rGyalrong:

tɯ-jaʁndzu 'finger'	*sɯjaʁndzu* 'point with the finger'

A second problem is that the word for 'ink' 墨, which allegedly consists of the unaffixed root, was loaned to Tai as *hmïk D1S 'id.' (Li 1977:75, 264). The initial points to a voiceless element before the root in Chinese at the time of borrowing. Our reconstruction is *C.mˤək. The identity of the *C element is uncertain, but its existence means that one cannot be sure that 墨 is the bare root, and consequently that the root is nominal. In the end, Mei's characterization of the derivation as denominative (which is the ground on which he says an *s- prefix is involved) is doubtful. Moreover, the voiceless *C element in 'ink' could be involved in the changes that led to the initial of 'black' to become voiceless.

Mei's third example (2012:12, ex. no. 12) is:

(8) 脫 *s-luat > *hluat > *thuat* 'to take off, to peel off, escape, careless' 0324m
        (our *l̥ˤot > *thwat* > *tuō*)

which he characterizes as 'causative': but this is not evidently borne out by the semantics: 'to take off; to peel off; to escape; careless'. The root seems to mean 'loose'; a related, unaffixed form is:

(9) 悅 *lot > *ywet* > *yuè* 'pleased'

A causative of 'loose' would be 'to loosen'. Compare the true *s-* causative in the related Written Burmese (WB) word *hluat* (< *s-lwat) 'loosen, set free' (opposite WB *lwat* 'be free').

Baxter (1992), Baxter & Sagart (1998)[7] follow Li (1971) in reserving Old Chinese *s-m-, *s-n-, *s-ŋ-, *s-l- for another usage:[8]

OC *s-m- > MC *s-*
OC *s-n- > MC *s-*
OC *s-ŋ- > MC *s-*
OC *s-l- > MC *s-*

That is, we take it that MC *s-* normally implies OC initial *s-; but when a character has a phonetic element which indicates a nasal or a liquid, or when a convincing word-family

---

[7] Incidentally, it is not true that Baxter & Sagart (1998) "has (...) no causative *s-* prefix" (Mei 2012:2). Examples (53) and (54) in Baxter & Sagart (1998:53) are there characterized as *s-causative derivations.

[8] It is not always necessarily the case that the *s- is a prefix in such combinations, at least not synchronically at the Old Chinese stage; in some cases we might simply have roots beginning with *s-clusters.

connection indicates a nasal or a liquid root initial, we reconstruct a pre-initial or prefixal *s with a nasal or liquid root initial.[9] Let us examine examples of these developments.

1.1 OC *s-m- > MC *s-*

(10) 喪 *s-mˤaŋ > *sang* > *sāng* 'mourning, burial'
      喪 *s-mˤaŋ-s > *sangH* > *sàng* 'lose'

The root is related to:

(11) 亡 *maŋ > *mjang* > *wáng* 'flee; disappear'

which is also seen in TB, e.g. Lushai *mang* 'to die, to die out, to become extinct' (Lorrain 1940). The *Shuowen* says: "喪, 亡也, 从哭亡聲".[10] Mei (2012:8) rejects the *Shuowen*'s statement that 亡 *maŋ is phonetic. He cites Yu Xingwu (1979:75-77) as saying "that in the oracle bone inscriptions 喪 *sang was written with the graph used to write 桑 *sang 'mulberry' and that the 亡 *wáng* component was entirely absent". Mei goes on to say:

> In the bronze inscriptions the 亡 graph was added to the 桑 graph, to distinguish 喪 meaning "suffer the loss of" from *sang 桑 indicating a type of tree. Therefore in the oracle bone inscriptions 桑 *sang "mulberry" is a loan for 喪 *sang "suffer the loss of", and in the bronze inscriptions, 桑 *sang "mulberry" is the phonetic of 喪 and 亡 *mjang "to lose" is the signific. *Shuowen* got it all wrong.

Yu Xingwu does say that oracle-bone forms use 桑, without 亡, to write 喪 'lose'. But his analysis of the bronze-inscription characters is that 亡 was indeed phonetic: i.e., that in this respect, the *Shuowen* got it right.[11] Li Xiaoding and Zhang Risheng [Cheung Yat-shing] also take 亡 to be a phonetic element in these bronze forms (quoted in *Guwenzi Gu Lin* 2:190). An example of the bronze forms is the following, from the vessel *Qi ding* 旂鼎 (#2555; Yu Xingwu calls it "*Qi zuo fu wu ding* 旂作父戊鼎"). Yu

---

[9] There is an interesting gap with laterals. When the main syllable initial was *lˤ-, evolution to MC *s- is seen only when the vowel was front. We do not know what the MC outcome of *s-lˤ- was when the vowel was nonfront.

[10] The Xu Xuan 徐鉉 version (Da Xu version, 大徐本) says: "亡也. 从哭, 从亡, 會意, 亡亦聲"; the Xu Kai 徐鍇 version (Xiao Xu version, 小徐本) says: "从哭, 亡聲".

[11] "按許氏謂从亡聲是也" (Yu 1979:76).

Xingwu dates it to the Shang dynasty; according to the CHANT database it is from early Western Zhou. The 亡 component can be seen at the bottom:

Even though the oracle-bone graph includes 桑 but not 亡, it is difficult to conclude that the word lacked an *m- and that *s- must be the root initial—we do not know how 桑 itself was pronounced. In the bronze script, 亡 was added as a secondary phonetic, a well-known phenomenon.

Mei's view that 亡 is a significic and not a phonetic is difficult to sustain in view of some of the ways 喪 is written in recently excavated texts. We cite only a few examples. In strip 1 of the Shanghai Museum text "*Zhao wang hui shi*" (昭王毀室) (Ma Chengyuan 2001–, 4:33), the expression 喪服 *sāngfú* 'mourning clothes' occurs, written as:

From the context it is clear that 喪服 is the intended meaning: the text tells how King Zhao of Chu 楚 (r. 515-489 BCE) had built a new palace and was about to dedicate it; but then a man wearing mourning clothes approached, saying that his parents' bodies were buried in front of the steps of the new palace, so now that the new palace was built, he had no way to sacrifice to them. Hearing this, King Zhao then ordered the palace to be torn down.

The second character above is 備, standing for 服 *fú* 'garment'.[12] In the first character, representing 喪, the left-hand side is 歹 *dǎi* 'bad', and on the right we have 屮 over 亡, generally interpreted as representing 芒 *máng* 'awn of grain'; that is, 歹 + 芒. Notice that there is no phonetic 桑: 歹 *dǎi* 'bad' is clearly significic, and it is difficult to see how 芒 *máng*, MC *mang* < *mˤaŋ (a type-A word, like 喪), could be anything but the phonetic.

---

[12] The use of 備 to write 服 is attested also in the silk manuscript "Jing Fa: Jun Zheng" (經法: 君正) from Mawangdui 馬王堆, where 衣服 *yīfú* 'clothing' is written as "衣備" (see *Hanyu Da Cidian*).

A similar case occurs in the line text accompanying hexagram 38, 睽 *kuí* in the *Zhou Yi* 周易. The received text has the following (Ma Chengyuan 2001–, 3:44; translation from Shaughnessy 1996:143):

初九：悔亡喪馬勿逐自復
Initial nine: Regret is gone. Losing a horse, do not pursue; it will of itself return.

Where the received version has "亡喪", the bamboo strip version in the Shanghai Museum has this:

The character seems to combine 屮 and 亡, as in the right-hand side of the character for 喪 cited above; and it is followed by a repetition mark: we may represent it as 芒﹦, in other words, "芒芒".[13] The Mawangdui version of the text represents 亡喪 simply as 亡 with a repetition mark (Shaughnessy 1996:142). There is little doubt that the second word really is 喪 'lose', which fits the context perfectly; the conclusion seems inescapable that 喪 is being written either with a phonetic compound in which 亡 is the phonetic element, or else with 亡 itself as a loan character.

The character 喪 is used with two meanings: a verbal meaning 'to lose' (as in the expression 喪眾 'to lose troops', common in the oracle-bone inscriptions) and a nominal meaning 'mourning, burial'. Prefixed *s- in the verbal meaning is transitivizing: "a horse is gone" would be 馬亡, with 'horse' as subject; "lose a horse" is 喪馬, with 'horse' as direct object. In 'mourning, burial', *s- is a deverbal prefix which frequently derives nouns of instrument, time or location, here perhaps 'circumstances of disappearance'. This function of *s-, first identified for OC in Sagart (1999:73), is quite common, and we shall see more examples of it below. It is also seen in TB languages, for instance in rGyalrong (Sun 1998:142). Ex. Caodeng *sɐ-wɛʔ* 'time, place, instrument of coming'. A WT example is *sbud-pa* 'a bamboo tube for blowing on a fire, bellows', cp. *'bud* 'to blow'.

Here is another example of OC *s-m- > MC *s-*:

(12)   戌 *s.mit > *swit* > *xū* '11th earthly branch'

---

[13] The Shanghai Museum editors treat it as 九 plus 亡; but Bai Yulan (2008:263) treats it as 芒. See discussion in Chi Hsiu-Sheng (2005:84-85).

As pointed out by Coedès (1935), the cyclical sign 戌 *xū* < MC *swit* is read as *mit* in SW Tai languages like Ahom and Shan. This led Li Fang-Kuei (1945, 1971) to reconstruct 戌 with *sm-.[14] Li also proposed that 戌 is phonetic in 滅. The *Shuowen* does not say that 戌 is the phonetic, but it recognizes that the character consists of 戌 and 火 *huǒ*, as confirmed by the Shuihudi 睡虎地 bamboo strips from the Qin period (*Guwenzi Gu Lin* 8:721):

減

The reason the *Shuowen* does not recognize 戌 as phonetic in 滅 is probably that 戌 *smit had already become *swit by the early 2nd century CE. However, Xu Shen uses 滅 *met as a sound gloss to explain the cyclical sign 戌 *smit, a gloss that had probably become traditional—another indication that there had been an *m in 戌:

戌，滅也。九月陽氣微，萬物畢成，陽下入地也。[15]
戌 [*sit* < *smit, 11th cyclical sign] is 滅 [*mjiet* < *met 'extinguish']. In the ninth month, the *yáng* ['bright'] *qì* is weak, the myriad things are all complete, and the *yáng* descends and enters the ground.

We follow Li's reconstruction on this point, reconstructing 戌 *xū* < *swit* < *s.mit. In this example, we cannot assign a morphological role to *s-: in such cases we use a period between pre-initial *s and the main syllable—instead of a hyphen— to indicate that we treat the sibilant as a pre-initial but not necessarily as a prefix. This notation does not imply any phonetic difference with *s-.

1.2 OC *s-n- > MC s-

(13) 攘 *naŋ-s > *nyangH* > *ràng* 'push away'
      襄 *s-naŋ > *sjang* > *xiāng* 'remove'

---

[14] Li (1945:340) says: "Anc[ient] Ch[inese] [i.e. Middle Chinese] *s-* is here represented by Ahom *m-* and Lü, Dioi *s-*. It is plain that the Anc. Ch. *s-* cannot be the original initial, for that leaves the Ahom *m-* inexplicable."

[15] This sound gloss is at least as old as Western Han; it also appears in the *Huainanzi: Tianwen xun* (淮南子: 天文訓).

The second member of the pair occurs in Ode 46《牆有茨》:

牆有茨，
不可襄也。
中冓之言，
不可詳也。
The tribulus grows on the wall,
And cannot be brushed away.
The story of the inner chamber,
Cannot be told.

襄 'remove' and 攘 'push away' belong to the same phonetic series and are probably morphologically related. An *s- prefix is needed to account for the MC initial of 襄. The function of the prefix appears to be to increase the verb's valency: 攘 is a simple transitive verb, while 襄 takes three arguments: for A to remove B (the tribulus) from C (the wall). Note that we also reconstruct an *s- prefix in the three-argument verb 詳 *s.ɢaŋ > *zjang* > *xiáng* 'explain in detail', put in parallel with 襄 at the end of the stanza.

Other examples:

(14)   信 *xìn* < *sinH* < *s-niŋ-s 'truthful, true, sincere, good faith'

The root in (14) appears to be related to 仁 *rén* < *nyin* < *niŋ 'kind, kindness' although the precise details of derivation are uncertain. It does seem that while 仁 *rén* means 'kindness' as a property of a single person, when 信 *xìn* is used, it refers to a quality directed to another person.[16] If this is right, then *s- in (14) is valency-increasing here.

The *Shuowen* treats 信 *xìn* as a *huiyi* 會意; possibly this is an indication that the change *sn- > *s- had already taken place by that time. But in excavated texts the phonetic is often 身 or 千. It would be hard to explain how such characters could be anything but phonetic compounds:

(15)   身 *shēn* < *syin* < *n̥iŋ 'body; self'
(16)   千 *qiān* < *tshen* < *s.n̥ˤiŋ 'thousand'

身 *n̥iŋ has sometimes been reconstructed in the past with initial *l̥- (e.g. *hljin in Baxter 1992), but we can now see that it must be *n̥-, because in excavated Warring

---

[16] Cf. *Lunyu*: 爲人謀而不忠乎? 與朋友交而不信乎? "In acting for others, have I been disloyal? In dealing with friends, have I been untrustworthy?"

States texts it is used as phonetic in:

(17) 仁 *rén* < *nyin* < *niŋ 'kindness'

As for 千 *qiān* < *tshen* < *s-n̥ˤiŋ, it is written in the oracle bones and later as a character 人 *rén* with a line through it:

'2,000' is 人 *rén* with two lines, and so forth. The Xiao Xu version of the *Shuowen* says that 人 *rén* is phonetic in 千 *qiān*, and both versions say that 千 *qiān* is phonetic in 年 *nián* < *C.nˤiŋ. In oracle bone forms, 年 *nián* generally consists of 禾 *hé* and 人 *rén*:

年 (粹 853)

But we also find forms with 禾 *hé* and 千 *qiān*:

年 (春秋: 郜公鼎)

So it is now possible to reconstruct the following forms with some confidence, although it is still difficult to be sure in each case whether the coda was *-n or *-ŋ, since *-in and *-iŋ usually merged as *-in (Baxter 1992:422-425):

(18) 人 *rén* < *nyin* < *niŋ '(other) person'
      信 *xìn* < *sinH* < *s-niŋ-s 'truthful'
      身 *shēn* < *syin* < *n̥iŋ 'body; self' (cf. Tibetan *snying* 'heart')
      仁 *rén* < *nyin* < *niŋ 'kindness'
      千 *qiān* < *tshen* < *s.n̥ˤiŋ 'thousand'
      年 *nián* < *nen* < *C.nˤiŋ 'harvest; year' (cf. TB *niŋ, *s-niŋ 'year')

From onsets involving alveolar nasals we thus appear to have MC *n-* (泥), *ny-* (日), *sy-* (書), *s-* (心), and *tsh-* (清). If we reconstruct only *n(ʔ)- and *sn(ʔ)- without voiceless *n̥(ʔ)-, it is difficult to see how this range of initials can be accounted for.

1.3 OC *s-ŋ- > MC s-

Mei points out that Ting (2002) has criticized a pair given in Baxter & Sagart (1998) and Sagart (1999) as an example of *s-ŋ-:

(19) 楔 MC *set > xiē* 'wedge put in teeth of corpse'
      齧 MC *nget > niè* 'gnaw'

We accept Ting's observation that 楔 also refers to wedges used in splitting wood, throwing doubt on the connection between that word and 齧 'gnaw'. But there are other examples of OC *s-ŋ- > MC *s-*:

(20) 諤 *ŋˤak > ngak > è* 'speak frankly and brusquely'
      愬 *s-ŋˤak-s > suH > sù* 'complain, accuse'

The simplex verb is intransitive:

《史記‧商君列傳》：
趙良曰：「千羊之皮，不如一狐之掖；千人之諾諾，不如一士之諤諤。」
Zhao Liang said: "A thousand sheepskins are not as good as a fox's armpit; a thousand men saying 'yes, yes' are not as good as a minister speaking frankly."

Here the prefix in 愬 *s-ŋˤak-s 'complain, accuse' is transitivizing rather than specifically causative.

1.4 OC *s-l- > MC s-

(21) 拽 *lat > yet > yè* 'to pull'
      緤 *s-lat > sjet > xiè* 'leading-string'
(22) 曳 *lat-s > yejH > yè* 'to drag, trail'
      絏 *s-lat > sjet > xiè* 'leading-string; rope, fetters'

Here we have a verbal root *lat or *let 'to pull, drag' (the vowel is ambiguous),

and an instrumental noun derived out of it by means of the *s- prefix. The pair is interchangeably written with phonetics 世 or 曳.

Examples (10), (12), (13), (14), (20), (21), and (22) show that the *s- prefix which OC inherited from PST gives *s- in MC when it precedes roots with sonorant initials: one could in principle assume that a different kind of OC cluster with prefixed *s- goes to MC sounds like *x*-, *sy*-, and *th*-, or that *s-clusters go to *s*- in certain dialects and to MC *x*-, *sy*-, and *th*- in others. However for the present we assume that OC had a series of voiceless sonorants and reconstruct:

(23) 威 *m̥et > *xjwiet* > *xuè* 'extinguish, destroy'
　　 黑 *m̥ˤək > *xok* > *hēi* 'black'
　　 脫 *l̥ˤot > *thwat* > *tuō* 'peel off'

Other examples:

(24) 漢 *n̥ˤarʔ > *xanX* > *hàn* 'dry'[17]
　　 身 *n̥iŋ > *syin* > *shēn* 'body; self'
　　 手 *n̥uʔ > *syuwX* > *shǒu* 'hand'
　　 海 *m̥ˤəʔ (F!) > *xojX* > *hǎi* 'sea'
　　 秏 *m̥ˤaw-s > *xawH* > *hào* 'k.o. millet'
　　 兄 *m̥raŋ > *xjwaeng* > *xiōng* 'elder brother'
　　 犧 *ŋ̊aj > *xje* > *xī* 'sacrificial animal'
　　 勢 *ŋ̊et-s > *syejH* > *shì* 'circumstances; setting'
　　 貸 *l̥ˤək-s > *thojH* > [*dài*] 'to borrow'
　　 湯 *l̥ˤaŋ > *thang* > *tāng* 'hot liquid'

It does not seem to us that the examples in (23) and (24) are particularly evocative of the semantics that are usually associated with *s- derivations. Another problem with attributing initial voicelessness in (23) and (24) to devoicing by *s- is that in certain words both a voiceless sonorant root initial *and* an *s- prefix are needed to account for the evolution to MC *tsh*- or *tshr*-:

(25) 次 *s-n̥ij-s > *tshijH* > *cì* 'put in order, next in order, second'
　　 千 *s.n̥ˤiŋ > *tshen* > *qiān* 'thousand'
　　 窗 *s-l̥ˤ<r>oŋ > *tsrhaewng* > *chuāng* 'window'

---

[17] Both OC *n̥- and *l̥- seem to give MC *th*- in eastern dialects and MC *x*- in central or western dialects (e.g. in the river name 漢 *Hàn* < *xanH* < *n̥ˤar-s*). See Baxter & Sagart (2008).

The character 次 'put in order, next in order, second' is said by Xu Shen to include 二 *nij-s > *nyijH* > *èr* 'two' as its phonetic. Indeed the graph includes 二 as early as the oracular inscriptions. Semantically also, and especially as 'next in order', 次 is related to the numeral 'two'. This makes it likely that the root in 次 is related to 二 *nij-s.

For 千 *s.n̥ˤiŋ 'thousand', early occurrences of the character involve 人 as phonetic, as noted above.[18] The function of *s here is unknown, so we write '*s.' (rather than '*s-') to indicate this.

In 'window', where the root is 通 *l̥ˤoŋ > *thuwng* > *tōng* 'penetrate' infixed with *<r> (for plurality), the *s- prefix is the same deverbal noun prefix we have seen in other examples above. By this analysis, a 'window' was originally 'one (of several) place(s) of penetration [of light]'. It is interesting that the Min dialects lose the prefix in this word: Xiamen /tʰaŋ 1/, Chaozhou /tʰeŋ 1/, Jian'ou /tʰœyŋ 1/ (*Hanyu Fangyan Cihui*:158). This would not happen if the OC initial had been an affricate.

To summarize: we propose that an OC *s- prefix or pre-initial preceding a sonorant root initial does not devoice that sonorant; the cluster formed by the pre-initial and the sonorant evolves to MC *s-* if the sonorant was voiced (*sr-* if the sonorant was *r-, not discussed here), and to MC *tsh-* if the sonorant was voiceless and acute (n̥, l̥, r̥).[19] If the sonorant was voiceless and grave (m̥, ŋ̥), we assume the evolution was to MC *s-*, as with the corresponding voiced sonorants, but cannot cite any secure examples.[20]

One puzzling aspect of Mei's theory is that the only way it has of explaining why nasal or lateral phonetic series can include words with Middle Chinese *s-*, such as those given above, is that *s-* was judged sufficiently similar to *m-*, *n-*, *ŋ-* or *l-* phonetically to alternate with these sounds in phonetic series (and vice versa). However, if those words (戌 *s.mit, 襄 *s-naŋ, 信 *s-niŋ-s, 愬 *s-ŋˤak-s, 緤 *s-lat etc.) really had a simple *s-* for their initial, then their assignment to labial, alveolar, velar or lateral series must be the result of random choices. One would then expect any of them to show some alternation between labial, alveolar, velar and lateral phonetics in paleographical materials. For instance 信 might have script variants with phonetics 民 or 申. That, however, is contrary to experience.[21]

Mei's criticism is that if we reconstruct voiceless sonorants for words like 威

---

[18] The Xiao Xu version of the *Shuowen*, says 从十, 人聲 "from 十 'ten', with 人 as phonetic"; the Da Xu version omits 聲, leaving 人 unexplained.

[19] An example of *s-l̥ > *tsh* is 帨 *s-l̥ot-s > *tshjwejH* > *shuì* 'kerchief'; an example of *s-r̥ > *tsh* is 青 *s.r̥ˤeŋ > *tsheng* > *qīng* 'green or blue'.

[20] We do not detail all the MC reflexes of all possible combinations of *s-*, a sonorant root initial and medial *-r-*.

[21] In fact 信, a character with 人 phonetic, has script variants with phonetics 身 and 千. All three phonetics indicate *n.

*m̥et, and *s- plus sonorants in words like 戌 *s-mit, then we are unable to connect the former with TB words reconstructed with *s- plus sonorants. In fact, this is not a problem; one can easily imagine scenarios where our OC voiceless sonorants are cognate to the *s-clusters of Tibeto-Burman.

For example, our reconstruction has two types of clusters: tight and loose. Tight clusters consist of a pre-initial consonant (whether prefixal or not) followed immediately by the main syllable initial; for instance *s.t-, *s.m-, *k.dz-; loose clusters have an intervening central vowel between the two consonants, e.g. *sə.t-, *sə.m-, *kə.dz-. In our reconstruction, it is the tight clusters of *s- plus sonorant (at the Old Chinese stage) which evolve to MC *s-: OC *s.m-, *s.n-, *s.l- etc. Yet it is entirely conceivable that at an earlier period—hypothetical pre-OC—, our OC *s.m-, *s.n-, *s.ŋ- were loose clusters: *sə.m-, *sə.n-, *sə.ŋ-, and that our OC voiceless sonorants were tight *s- clusters, as in Table 1 below:

Table 1: Origins of OC voiceless nasal: a hypothetical scheme

Hypothetical pre-OC		Old Chinese		Middle Chinese	Mei's reconstruction
*s.m-, *s.n-, *s.ŋ-	>	*m̥-, *n̥-, *ŋ̊-	>	x, th, x	*sm-, *sn-, *sŋ-
*sə.m-, *sə.n-, *sə.ŋ-	>	*s.m-, *s.n-, *s.ŋ-	>	s	?

Under the scheme in Table 1 there would be no difficulty in connecting TB forms like e.g. Proto Northern Chin *ʰnar[I], *ʰnar[III] 'nose, n.; breathe, snore, v.i.' (Button 2009:306); PTB *s-naːr 'nose' (Matisoff 2003:386) with 嘆, 歎 *tàn < *than* < *n̥ˤar 'sigh'.

But there are also cases where TB s-nasals correspond to our OC *s-nasals, e.g. WB *hnaŋ* A 'to drive, drive along, drive away', compare 襄 *s-naŋ > *sjang* > *xiāng* 'remove'. It does not seem to us that Mei can easily account for such cases.

With the scheme just described, we would be able to account for both kinds of examples. However, our aim is to reconstruct Old Chinese based on the evidence at hand, not intermediate stages between OC and PST. We know of no evidence from modern or ancient dialects, loans to or from neighboring languages, sound glosses, phonetic series, or any other source which points in the direction of an *s- onset at the Old Chinese stage in forms like the following: 漢 *n̥ˤarʔ > *xanX* > *hàn* 'dry', 身 *n̥iŋ > *syin* > *shēn* 'body; self', 手 *n̥uʔ > *syuwX* > *shǒu* 'hand', 海 *m̥ˤəʔ > *xojX* > *hǎi* 'sea', 秏 *m̥ˤaw-s > *xawH* > *hào* 'a kind of millet', 兄 *m̥raŋ > *xjwaeng* > *xiōng* 'elder brother', 犧 *ŋ̊aj > *xje* > *xī* 'sacrificial animal' or 勢 *ŋ̊et-s > *syejH* > *shì* 'circumstances; setting'. Therefore we reconstruct voiceless nasals.

2. *s plus obstruent initials

A discussion has to include these two aspects: (a) distribution of *s with respect to place of articulation of the following obstruent and (b) voicing interactions between *s and the main syllable initial.

2.1 Distribution of *s with respect to place of articulation

The *s- pre-initial is easiest to observe before alveolar root initials in type B syllables. We follow Baxter (1992:228-229) in treating words with MC *sy-* (書母) and with alveolar contacts as reflecting *st-. We assume that after *t- palatalized to *tsy-* in type B syllables, the *s- prefix caused a following *tsy-* to become a fricative: OC *s-t- > s-tsy- > MC *sy-*. An example is:

(26) 升 *s-təŋ > *sying* > *shēng* 'rise (v.), present to (a superior)'

The root is related to 登 *tˤəŋ > *tong* > *dēng* 'ascend' and 拯 *təŋʔ > *tsyingX* > *zhěng* 'lift up', despite unexplained but minor differences in tone and syllable type. In the meaning 'to present to (a superior)', the *s- prefix has a transitivizing function.

(27) 商 *s-taŋ > *syang* > *shāng* 'estimate (v.)'

The root is related to:

(28) 當 *tˤaŋ > *tang* > *dāng* 'have the value of, rank with'

To estimate is to give a value. Again *s- is transitivizing.

With alveolar affricates, we follow Mei (1989) in supposing the evolution OC *s-ts- > MC *s-* in words like:

(29) 膝 *s-tsik > *sit* > *xī* 'knee'

which is probably related to:

(30) 節 *tsˤik > *tset* > *jié* 'joint (of bamboo)'

The function of the prefix here is not clear. Perhaps we have a Chinese instance of the TB *s- animal (and body-part?) prefix from TB *sya- 'flesh'. Note that the *s- prefix has a fricativizing effect, just as in *s-t- just discussed.

Some words with OC labial stops have alveolar affricate reflexes in MC:

(31)　自　*S.bit-s > *dzijH* > *zì* 'to follow; from'

This word is written with the character for 'nose', as early as the oracular inscriptions.

(32)　鼻　*m-bit-s > *bjijH* > *bí* 'nose'

Another example of this development is:

(33)　匠　*jiàng* < *dzjangH* < *S.baŋ-s 'craftsman' (WT *spyang-ba* 'skill; skilful, clever')

which apparently includes 匚 *paŋ > *pang* > *fāng* 'cabinet' as phonetic. Although Karlgren does not recognize this graph to be a productive phonetic, it probably also occurs in that function in:

(34)　匡　*k.pʰaŋ > *khjwang* > *kuāng* 'square basket'

We write the prefixal element which conditioned the evolution of *b to MC *dz-* as *S. It is possible that it is identical with *s-, but the function of the prefix in (31) and (33) is not particularly *s-like.

　　With velar initials, in all type A syllables, and in type B syllables with nonfront vowels, *s-k- cannot be distinguished from *k-* in MC or in modern dialects. In type B syllables with *front* vowels, however, their reflexes are different: by itself, *k-* palatalizes to *tsy-* (Baxter 1992) while *s-k- evolves to MC *sy-*:

(35)　收　*s-kiw > *syuw* > *shōu* 'collect; harvest'

where the root is probably 糾 *k(r)iw 'unite'. *Yupian*《玉篇》: 糾, 收也. Another example is:

(36)　翅　*s.kʰe-s > *syeH* > *chì* (I!) 'wing'

where the phonetic is 支 *ke > *tsye* > *zhī* 'branch (of tree)'. The velar initial is preserved in western Min: Shaowu /kʰiɛ 7/ 'wing'. Perhaps we have here another example of the *s- body-part prefix, but we are not sure, so we write '.' between *s and the main syllable. We assume that the phonetic path leading from OC *s.k- or *s.kʰ- to MC *sy-* involves first the palatalization of the stop in type B before a front vowel (a change which is independent of the presence of *s-, and which must be supposed on independent

grounds): *s-k- > s-tsy-; after which the evolution is the same as in s-tsy- from OC *s-t- (above, exx. (26)-(27)): to MC *sy-*. Presumably OC *s-t- and *s-k- merged as s-tsy- preceding front vowels before *s- turned the following tsy- into a fricative.[22]

The fate of *s- preceding OC uvulars needs further deliberation and we shall defer discussion and examples to another occasion.

2.2 Voicing interactions between *s- and a following voiced root initial

Although Mei is now less radically opposed than in his 2008 paper to an intransitive nasal prefix causing voiceless obstruents to become voiced, he still assumes that in transitive vs. intransitive pairs like the following, the intransitive member is the simplex form, and the transitive member has been devoiced under the effect of 'causative' *s-.

(37) *bié* 別 MC *pjet* 'to separate (trans.)'
      bié 別 MC *bjet* 'to depart; to be different'

      zhé 折 MC *tsyet* 'to break, bend (trans.)'
      shé 折 MC *dzyet* 'to bend (intrans.)'

      bài 敗 MC *paejH* 'to defeat'
      bài 敗 MC *baejH* 'to suffer defeat'

      zhòng MC 中 *trjuwngH* 'to hit the target'
      zhòng MC 仲 *drjuwngH* 'to be in the middle > middle brother, second of
          three sons'

      jiá MC 夾 *keap* 'to press between'
      xiá MC 狹 *heap* 'narrow, pressed on both sides'

      zhāng MC 張 *trjang* 'to stretch (trans.)'
      cháng MC 長 *drjang* 'to be long'

As mentioned above, the intransitive members of some of these pairs (crucially *not* the transitive members) occur with prenasalization in Chinese loans to Hmong-Mien (HM). Compare:

---

[22] There is evidence for reconstructing clusters of *s. and velar stops preceding nonfront vowels in OC type A and B syllables, and evolving to MC velar stops. This evidence, which involves Vietic, will be presented elsewhere.

Table 2: Hmong-Mien prenasalization for Old Chinese intransitive *N-*

Chinese	Proto-Hmong-Mien (Wang & Mao 1995)
zhòng 仲 *drjuwngH* 'to be in the middle'	*ɳʈuŋ A 'middle' (some HM forms indicate *ɳʈuŋ C)
xiá 狹 *heap* 'narrow, pressed on both sides'	*ɴɢɛːp 'narrow'
cháng 長 *drjang* 'to be long'	*ndAːŋ A 'long sword'

On semantic grounds, Mei (2012:16) is reluctant to consider 長 'long' a derived form, perhaps because he relates it to 長 MC *trjangX* 'to grow up', a *shangsheng* word. However the simplex is more probably the *pingsheng* word *zhāng* 張 MC *trjang* 'to stretch (trans.)', so that *cháng* 長 *drjang* 'to be long' is from 'to be stretched'.

Note that in Table 2 the Hmong-Mien word for 'middle' has a voiceless initial while the words for 'narrow' and 'long sword' have voiced initials. We suppose that this is because 'middle' was borrowed before *N+voiceless stops became *N+voiced stops in Chinese, while the other two were borrowed after that change.

Table 2 gives evidence that in the pairs in (37), the intransitive members had a nasal element before the root in Old Chinese, indicating that the transitives are the simplex forms. It also seems to us that the examples in (37) refer to situations which by default have two arguments, and on semantic grounds alone it is more likely that it is the intransitive forms that are derived. A "defeating" situation presupposes both a defeating agent and a defeated patient; a "leaving" situation likewise presupposes an agent who is leaving, and a place or person that is being left. But in any language, some verbal notions by default have one argument, and others have two; and it is common to have both causative constructions which add an argument, and passivizing or intransitivizing constructions which remove one.

A "breaking" situation could be thought of in either way, so in the case of 折 MC *tsyet* 'to break, bend (trans.)' and MC *dzyet* 'to bend (intrans.)', the direction of derivation is harder to predict on semantic grounds alone.

Concerning the phonetics of *s- prefixation, our proposal is the opposite of Mei's. We assume *s- does not devoice a following voiced obstruent: rather, when preceding a voiced obstruent, interaction between *s and the obstruent produces MC sounds like *z-* (the 邪 initial), *zy-* (the 船 initial) or *dzr-* (the 崇 initial). Of these, MC *z-* comes exclusively from OC *s plus a voiced obstruent in our system.

Sonorants, as we have seen, do not voice a preceding *s-. But voicing assimilations between obstruents appear to be regressive in OC: any voiceless prefix or pre-initial assimilates in voicing to any voiced obstruent that follows it. This is a general principle in our system, not limited to *s-. Examples with *s-:

OC *s-d- > *z-*

(38)　席　*s-dak > *zjek > xí* 'mat'
(39)　寺　*s-dəʔ-s > *ziH > sì* 'hall; eunuch'

席 belongs to phonetic series 797 in *Grammata Serica Recensa* (GSR) (Karlgren 1957), which is itself a subseries of GSR 795, the phonetic series of 石 *dak 'stone'. As to 寺, it belongs to GSR 961 whose head-word is 止 *tə 'foot; stop'. It is not clear to us how Mei accounts for cases of MC *z-* in alveolar stop series, such as these two words. To suppose that words like 席 and 寺 had a lateral initial *lj- would make no sense of their placement in alveolar stops series, especially considering that good lateral phonetics were available: GSR 807 射 for syllables like *lak in the case of 'mat', and GSR 972 司 for syllables like *lə in the case of 'hall'. Word-family evidence confirms we are dealing with alveolar stops. In 'hall; eunuch', we think the root is as in:

(40)　侍　*dəʔ-s > *dzyiH > shì* 'accompany, wait upon' (GSR 961x)

The prefix in 寺 *s-dəʔ-s serves to derive two deverbal nouns out of that root. One is locative: 'hall' (= place of waiting upon (ancestors)), the other instrumental: 'eunuch' (= instrument of waiting upon/accompanying (ladies of the household)).

Note that while *s-t- evolves to MC *sy-*, the outcome of *s-d- in MC is *z-*. We might have expected MC *zy-*. We assume the evolution to MC *zy-* was pre-empted by an early change simplifying *zd- to *z-* (but not *st-* to *s-*) *before palatalization occurred.*

With the voiced alveolar affricate the evolution was:

OC *s-dz- > *z-*

A probable example is:

(41)　訾　*s-dze > *zje > zǐ* 'fault'

As with voiceless stops, cases where MC distinguishes OC *s.g- from *g- are limited to type B syllables with front vowels—because of palatalization. The end-result of *s.g-* is MC *zy-*:

(42)　示　*s-gijʔ-s > *zyijH > shì* 'show (v.)'

For the velar root initial, cf. the second reading of 示 as MC *gjie* (巨支切) 'earth spirit' in *Guangyun*. Also, in the same series as 示, note 祁 *grij > *gij > qí*, a place name

with phonetic 示, where palatalization was blocked by medial -r-. The root in 示 is:

(43)   視   *gijʔ > *dzyijX > shì 'look, see'

By Mei's principles it is impossible to reconstruct an *s- prefix in 示 'show' (ex. (42)).

Possible examples of *s-b-, reconstructed as *S-b-, were cited in (31) and (33) above.

Another source of MC z- is in lateral series. This at first sight seems to be an exception to the rule that *s- is not voiced by a following sonorant. In fact z- in lateral series is the *s- prefixed counterpart of MC zy-, not of MC y- (< *l-). Example:

(44)   食   *mə-lək > zyik > shí 'eat'
        食   *s-m-lək-s > ziH > sì 'feed'

In order to find a causative s- prefix in 'feed', Mei (who takes MC z- back to OC *lj-) has to abandon his central claim that s- devoices a following sonorant and add the *ad hoc* stipulation that *s- disappears before *lj-.

We assume that OC *l- in certain contexts evolves to MC zy-, a voiced obstruent, and that *s- was voiced to z- preceding that obstruent.

Note that our reconstructions for this last pair are very similar to what Bradley (1979) reconstructs for corresponding words in proto-Loloish:

(45)   #630   *m-lyak L   'to lick'
        #769c   *sə(m)-lyak L   'feed animals'

Another apparent exception to the principle that *s- remains voiceless before a following sonorant is in the cluster *s-lr-, which goes to MC dzr-. OC *lr- in type B becomes MC dr-, probably through the insertion of a parasitic alveolar stop between the *l and the *r in late Old Chinese, e.g. 腸 *lraŋ > drjang > cháng 'intestines'. When a prefix *s- was present, the shift of the sonorant cluster to an obstruent cluster led to the prefix becoming voiced as it normally would before original *dr-, thus giving z-dr-, which eventually became a voiced affricate dzr- in MC. Examples:

(46)   鋤   *s-l<r>a > dzrjo > chú 'hoe'
(47)   事   *s-lrəʔ-s > dzriH > shì 'service; affair'

The stem in 鋤 is probably 除 *l<r>a > drjo > chú 'to remove'. The prefix derives a

noun of instrument: a hoe is an instrument for weeding.[23] In 事 the root is 治 *lrə-s > *driH > *zhì* 'regulate, arrange'. Here the prefix is also deverbal but the exact type of deverbal noun is uncertain.

It was pointed out above in the discussion of ex. (25) 'window' 窗 *s-l̥ˤ<r>oŋ that the Min dialects treated that word as if it were OC l̥ˤ<r>oŋ, with no *s-. The same is true of 鋤 'hoe', Xiamen /ti 2/, and 事 'affair', pMin *d- C; cf. Norman (1996:29) 'speech': Zhenqian /ty 6/, Jian'ou /ti 6/, Jianyang /tɔi 6/, Wufu /toi 6/, Fuzhou /tai 6/.

3. Handling of TB evidence

A word must be said of the handling of Tibeto-Burman evidence in Mei's paper. Mei cites words which have a prefix in certain TB languages—either *s-* or a nasal. He tends to assume that these prefixed forms are not low-level innovations in some branch or other of TB, but that they are assignable to PTB; from this assumption he makes the further assumption that these alleged prefixed PTB words must have been inherited, in that same shape, from PST; and since he considers them to be prefixed in PST, when OC does not exhibit the reflexes he thinks our theory should lead us to expect, he considers them as counter-evidence to our theory. For instance, 'to fly' is *N-phur* in WT, Naxi has *mbi* 'to fly'; this (Mei assumes) reconstructs to PTB *N-p-, which must come from PST *N-p-; so why doesn't OC have a voiced initial?

First, the nasal prefix of WT known as *a-ch'ung* is an inflexional prefix marking present tense; we believe it has nothing to do with the intransitive *N- we reconstruct in OC, or with its TB counterpart, the stative nasal prefix which Matisoff (2003) reconstructs to PTB. Nevertheless, Mei compares WT *N-phur* 'to fly' with Naxi *mbi*, talking of a "PTB N- prefix", function unknown, which would give WT *a-ch'ung* and Naxi prenasalization. We doubt that Tibetan *a-ch'ung* and Naxi prenasalization are connected.[24] But even if they were connected, and even if evidence from Naxi and WT were sufficient to reconstruct to PTB (which we also doubt), that would still not convince us that in PTB—let alone in PST—the verb for 'fly' necessarily carried a nasal prefix—though it may have carried one in some contexts. Even if the PST verb 'to fly' always included a nasal prefix, we would definitely <u>not</u> expect that verb to evolve to OC *b-. In our theory, OC *m- and *N- voice a voiceless obstruent *after the OC stage.* So we might expect OC *N-p- (but why would 'fly' need to be turned into an intransitive?

---

[23] We find 除 *chú* in the specific sense "to remove unwanted plants" in *Zuozhuan*《左傳》, year 1 of duke Yin 隱.

[24] We also doubt, incidentally, that the WT and Naxi words are cognate, as Naxi *mbi* reflects an etymon reconstructed as *byam according to Matisoff (2003:68).

It already is one) or *m-p- (if 'to fly' can be considered a volitional activity), but not *b-. We might also expect *mə-p-, with the iambic (minor syllable with schwa) variant of the volitional *m- prefix (on iambic prefixes see Sagart 1999), which falls before MC without voicing the initial. As a matter of fact, the proto-Min softened initial *-p for 'fly' (Norman 1986:380) requires a minor syllable, but we do not know what the consonant was (we attribute the softening in Northern Min initials to lenition in intervocalic position in Old Chinese). We reconstruct:

(48) 飛 *Cə.pər > *pj+j > *fēi* 'fly (v.)'

Or consider the word for 'nine'. WT has *dgu*, and there is widespread evidence in TB for a dental stop before the velar, which led Benedict (1972) to reconstruct PTB *d-kuw. Mei observes that rGyalrong, Naxi and Loloish point to a nasal instead of a stop prefix, which leads him to reconstruct PTB *N-kuw alternating with *d-kuw 'nine'. He "suppose[s] this must also be the PST form" (2012:15); then he states that OC does not have *g- but *k-, which he says is counterevidence for our theory.

Now words for 'nine' with prenasalization have a restricted distribution within eastern TB. How can Mei exclude the likelihood that a nasal prefix in 'nine' is a low level-innovation in an eastern TB subgroup? How can he confidently assign it to PTB? And from then on to PST? Mei writes "We can of course assume that the voiced prefix *N- or *d- simply dropped in the transition from PST to Old Chinese" (2012:15). That may be, of course; but another possibility is that the Proto-Sino-Tibetan word for 'nine' never had a nasal pre-initial. As to an alveolar stop pre-initial, we do not at all exclude the possibility that the OC word for 'nine' had one:

(49) 九 *kuʔ or *tə.kuʔ > *kjuwX* > *jiǔ* 'nine'

The minor syllable *tə. in (49) would help explain why the graph for 'elbow' was felt to be an appropriate way of writing 'nine' in the oracular inscriptions (Chi Hsiu-Sheng 2010:991). We reconstruct:

(50) 肘 *t.kruʔ > *trjuwX* > *zhǒu* 'elbow'

where a pre-initial *t. must be supposed in order to account for the evolution to MC *tr-*. Compare rGyalrong *təkru*, WT *gru-mo* 'elbow'.

Or consider Mei's pair cited in (2), and reproduced below:

(51) 別 *brjat > *bjat* [*bjet*] 'to be different, to leave'
        別 *s-brjat > *pjat* [*pjet*] 'to divide, to separate'

Mei observes that a related pair occurs in Burmese:

(52)   *prat*   'be cut into; be cut off'
       phrat   'to cut into two; to break off'

Mei notes that Matisoff (2003:330) treats WB *phrat* as the result of devoicing of PTB *b- by *s- (note that PTB *b goes to WB *p- in Benedict's scheme). Under this account, the root in (52) is intransitive and it has a voiced initial. From this Mei infers that PTB must have had *b- vs. *s-b- for this pair; and that the same must be true for PST, and for Chinese. However, Jacques (2010, 2012) finds the same pair treated very differently in Japhug rGyalrong:

(53)   *prɤt*   'to cut'
       mbrɤt   'to be cut' (< *m-prɤt)

In (53), contrary to Matisoff's account of (52), the voiceless initial of a transitive verb root is transparently being voiced by a synchronically observable intransitive nasal prefix. As Jacques notes, a parallel situation is observed with the WB pair *kra* 1 'to fall' vs. *khra* 1 'to drop', which is *ŋgra* (< *m-khra) 'to fall' vs. *kra* 'cause to fall' in Japhug rGyalrong. The lack of agreement between Matisoff's account of (52) and rGyalrong is interesting; our OC reconstruction for this pair, reproduced under (54) below, is in perfect agreement with rGyalrong:

(54)   別   *pret > *pjet > *bié* 'separate (tr.)'
            *N-pret > *bjet > *bié* 'be separated (intr.)'

But in general, Tibeto-Burman comparisons cannot tell us how to reconstruct Old Chinese; Old Chinese needs to be reconstructed from Chinese-internal evidence, including the Chinese script and early Chinese loans to other languages. Tibeto-Burman evidence is relevant to reconstructing Proto-Sino-Tibetan, but no amount of Tibeto-Burman evidence can tell us that such-and-such a word did or did not have an *s-cluster in Old Chinese.

4. Conclusion

We now summarize our main arguments against Mei's theory. First, we find the idea that the same semantics are seen in MC word-family pairs of the *x-* : *m-* and *p-* : *b-* types forced. One can cite more than 15 verbal pairs of the *p-* : *b-* type with good transitive/intransitive semantics (below), but one would be hard pressed to cite even a

small number of verbal pairs of the of *x-* : *m-* type with comparable semantics.[25]

見 *kenH* 'to see' : 現 *henH* 'to appear'
別 *pjet* 'to separate, distinguish' : 別 *bjet* '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 *keaX* 'to separate, untie' : 解 *heaX* '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* 'to restrain' : 儉 *gjem* 'poor, in dire straits'
張 *trjang* 'to stretch' : 長 *drjang* 'long'
增 *tsong* 'to add, to double' : 層 *dzong* 'in two stories, double'
夾 *keap* 'to press between' : 狹 *heap* 'narrow'

Second, in early loans from Chinese, the Hmong-Mien languages sometimes attach prenasalization to one member of MC *p-* : *b-* type pairs. We have observed that in such cases the prenasalized member is always the intransitive one, so that the MC pair comes out as *p-* : *Np-* (early loans) or *p-* : *Nb-* (later loans) in Hmong-Mien (exx. in Table 2). It is fair to say that Mei's theory, which considers the intransitive forms to be the simplex members, simply ignores these facts.

Third, Mei's theory has no explanation for an important part of the evidence for Old Chinese: the occurrence of MC *s-* words in nasal and lateral phonetic series. Unless we reconstruct clusters like *s-n- and *s-l-, we must fall back on a supposed phonetic similarity of *s- with *m-*, *n-*, *ŋ-*, and *l-*, which does not explain the patterns we find.

Fourth, the question of what OC prefix is at work in verb alternations where voicing correlates with intransitivity is not a purely local question: it has consequences elsewhere in the system. We have cited evidence that, far from having a devoicing effect, *s- actually becomes voiced preceding a following voiced obstruent. This evidence includes particularly transparent simplex/causative verb pairs such as eat/feed and see/show (exx. (42)-(44)). It also includes evidence of words with MC *z-* in alveolar stops series, which can only be explained as OC *s-d- (席 'mat' and 寺 'hall', exx.

---

[25] Remember that we do not agree with Mei's gloss of (1) for example.

(37)-(38)). Any attempt to reconstruct Old Chinese needs to account for these phenomena as well; the reconstruction of one or two prefixes cannot be done in isolation from the reconstruction of the rest of the Old Chinese phonological system.

References

Bai, Yulan. 2008. *Jiandu Boshu Tongjiazi Zidian* [*A Dictionary of Loangraphs in Texts on Bamboo and Silk*]. Fuzhou: Fujian People's Publishing House. (In Chinese)

Baxter, William H. 1992. *A Handbook of Old Chinese Phonology*. Berlin & New York: Mouton de Gruyter.

Baxter, William H., and Laurent Sagart. 1998. Word formation in Old Chinese. *New Approaches to Chinese Word Formation: Morphology*, *Phonology and the Lexicon in Modern and Ancient Chinese*, ed. by Jerome L. Packard, 35-76. Berlin & New York: Mouton de Gruyter.

Baxter, William H., and Laurent Sagart. 2008. Old Chinese: the Baxter-Sagart reconstruction (Version 0.98). Talk given at the 41st International Conference on Sino-Tibetan Languages and Linguistics, September 20, 2008. London: SOAS, University of London.

Benedict, Paul K. 1972. *Sino-Tibetan: A Conspectus*. Cambridge: Cambridge University Press.

Bradley, David. 1979. *Proto-Loloish*. London & Malmö: Curzon Press.

Button, Christopher. 2009. *A Reconstruction of Proto Northern Chin in Old Burmese and Old Chinese Perspective*. London: SOAS, University of London dissertation.

Chi, Hsiu-Sheng. (ed.) 2005. *Shanghai Bowuguan Cang Zhanguo Chu Zhushu* (3) *Duben* [*The Shanghai Museum Chu Manuscripts on Bamboo Strips* (3): *Reader*]. Taipei: Wanjuanlou. (In Chinese)

Chi, Hsiu-Sheng. 2010. *Shuowen Xin Zheng* [*New Evidence on the Shuowen*]. Fuzhou: Fujian People's Publishing House. (In Chinese)

Coedès, Georges. 1935. L'origine du cycle des douze animaux au Cambodge. *T'oung Pao* 31:315-329.

Conrady, August. 1896. *Eine Indochinesische Causativ-Denominativ-Bildung und ihr Zusammenhang mit den Tonaccenten*. Leipzig: Otto Harrassowitz.

Department of Chinese Language and Literature, Peking University. (eds.) 1995. *Hanyu Fangyan Cihui* [*The Vocabulary of Chinese Dialects*] (2nd edition). Beijing: Language and Literature Press. (In Chinese)

Editorial Committee of *Guwenzi Gu Lin*. (eds.) 1999-2004. *Guwenzi Gu Lin* [*The Explanatory Dictionary of Ancient Chinese Characters*]. 12 vols. Shanghai:

Shanghai Education Press. (In Chinese)

Jacques, Guillaume. 2008. *Jiarongyu Yanjiu* [*Research on the rGyalrong Language*]. Beijing: Nationalities Press. (In Chinese)

Jacques, Guillaume. 2010. Sino-Tibetan morphology from a Rgyalrong perspective. Paper presented at the International Symposium on Sino-Tibetan Comparative Studies in the 21st Century, June 24-25, 2010. Taipei: Academia Sinica.

Jacques, Guillaume. 2012. Agreement morphology: the case of Rgyalrongic and Kiranti. *Language and Linguistics* 13.1:83-116.

Karlgren, Bernhard. 1957. Grammata Serica Recensa. *Bulletin of the Museum of Far Eastern Antiquities* (*BMFEA*) 29:1-332.

Li, Fang-Kuei. 1945. Some Old Chinese loan words in the Tai languages. *Harvard Journal of Asiatic Studies* 8.3-4:333-342.

Li, Fang-Kuei. 1971. Shangguyin yanjiu [Studies on Archaic Chinese phonology]. *Tsing Hua Journal of Chinese Studies*, New Series 9.1-2:1-61. (In Chinese)

Li, Fang-Kuei. 1977. *A Handbook of Comparative Tai*. Honolulu: University Press of Hawaiʻi.

Lorrain, J. Herbert. 1940. *Dictionary of the Lushai Language*. Calcutta: Asiatic Society.

Ma, Chengyuan. (ed.) 2001–. *Shanghai Bowuguan Cang Zhanguo Chu Zhushu* [*The Shanghai Museum Chu Manuscripts on Bamboo Strips*]. Shanghai: Shanghai Chinese Classics Publishing House. (In Chinese)

Matisoff, James A. 1970. Glottal dissimilation and the Lahu high-rising tone: a tonogenetic case study. *Journal of the American Oriental Society* 90.1:13-44.

Matisoff, James A. 2003. *Handbook of Proto-Tibeto-Burman: System and Philosophy of Sino-Tibetan Reconstruction*. Berkeley: University of California Press.

Mei, Tsu-Lin. 1989. The causative and denominative functions of the *s- prefix in Old Chinese. *Proceedings of 2nd International Conference on Sinology*: *Section on Linguistics and Paleography*, 33-51. Taipei: Academia Sinica.

Mei, Tsu-Lin. 2008. Shanggu Hanyu dongci zhuo-qing bieyi de laiyuan [The origin of voicing alternations in Old Chinese verbs]. *Minzu Yuwen* [*Minority Languages of China*] 2008.3:3-20. (In Chinese)

Mei, Tsu-Lin. 2012. The causative *s- and nominalizing *-s in Old Chinese and related matters in Proto-Sino-Tibetan. *Language and Linguistics* 13.1:1-28.

Norman, Jerry. 1986. The origin of the Proto-Min softened stops. *Contributions to Sino-Tibetan Studies*, ed. by John McCoy & Timothy Light, 375-384. Leiden: E. J. Brill.

Norman, Jerry. 1996. Tonal development in the Jennchyan dialect. *Yuen Ren Society Treasury of Chinese Dialect Data* 2:7-41.

Pulleyblank, Edwin G. 1973. Some new hypotheses concerning word families in Chinese. *Journal of Chinese Linguistics* 1.1:111-125.

Sagart, Laurent. 1993. New views on Old Chinese phonology. *Diachronica* 10.2:237-260.

Sagart, Laurent. 1994. Proto-Austronesian and Old Chinese evidence for Sino-Austronesian. *Oceanic Linguistics* 33.2:271-308.

Sagart, Laurent. 1999. *The Roots of Old Chinese*. Amsterdam & Philadelphia: John Benjamins.

Sagart, Laurent. 2003. Sources of Middle Chinese manner types: Old Chinese pre-nasalized initials in Hmong-Mien and Sino-Tibetan perspective. *Language and Linguistics* 4.4:757-768.

Sagart, Laurent. 2006. On intransitive nasal prefixation in Sino-Tibetan languages. *Cahiers de Linguistique – Asie Orientale* 35.1:57-70.

Sagart, Laurent, and William H. Baxter. 2010. Shanggu Hanyu de *N-* he *m-* qianzhui [The *N-* and *m-* prefixes of Old Chinese]. *Han-Zangyu Xuebao* [*Journal of Sino-Tibetan Linguistics*] 4:62-69. Beijing: The Commercial Press. (In Chinese)

Sagart, Laurent, and William H. Baxter. 2011. OC onsets in the Baxter-Sagart 1.00 system: tables of correspondences and examples. Online at http://crlao.ehess.fr/document.php?id=1217. Accessed July 22, 2011.

Shaughnessy, Edward L. 1996. *I Ching: The Classic of Changes*. New York: Ballantine Books.

Sun, Jackson T.-S. 1998. Nominal morphology in Caodeng rGyalrong. *Bulletin of the Institute of History and Philology Academia Sinica* 69.1:103-149.

Ting, Pang-Hsin. 2002. Morphology in Archaic Chinese: a review of *The Roots of Old Chinese* by Laurent Sagart. *Yuyanxue Luncong* [*Essays on Linguistics*] 26:1-11. Beijing: The Commercial Press. (In Chinese)

Tung, T'ung-ho. 1944[1967]. *Shanggu Yinyun Biao Gao* [*Draft Phonological Tables for Old Chinese*]. Taipei: Institute of History and Philology, Academia Sinica. (In Chinese)

Wang, Fushi, and Zongwu Mao. 1995. *Miao-Yaoyu Guyin Gouni* [*A Reconstruction of the Sound System of Proto-Miao-Yao*]. Beijing: China Social Sciences Press. (In Chinese)

Wolfenden, Stuart N. 1929. *Outlines of Tibeto-Burman Linguistic Morphology*. London: Royal Asiatic Society.

Yu, Xingwu. 1979. Shi *sang* [Explaining the character 桑 *sang*]. *Jiagu Wenzi Shi Lin* [*Studies in Oracle Bone Characters*], 75-77. Beijing: Zhonghua Book Company. (In Chinese)

Laurent Sagart and William H. Baxter

Laurent Sagart
CRLAO
49bis, avenue de la Belle Gabrielle
75012 Paris, France
laurent.sagart@gmail.com

William H. Baxter
Department of Linguistics
University of Michigan
Ann Arbor, MI 48104-1608
USA
williambax@gmail.com

上古漢語 *s- 前綴的構擬

沙加爾[1]　　白一平[2]

法國東亞語言研究所[1]

密西根大學[2]

本論文討論白–沙上古漢語構擬體系對上古漢語 *s- 前綴的處理。*s- 前綴的功能主要有兩個：一個是提高動詞的配價 (valency)，另一個是由動詞衍生出指處所、受惠者或工具的名詞。本文還討論 *s- 前綴對各種聲母的語音發展的影響。我們的體系的兩個重要特點是：(1) *s- 加次濁聲母多半演變到中古的 s-（心母）或 sr-（生母）；(2) *s- 加全濁聲母演變到中古的濁擦音或濁塞擦音。還提出梅祖麟關於 *s- 前綴的假設的一些問題。

關鍵詞：上古漢語，構擬，構詞法，s- 前綴