

On a mode of borrowing from Middle Chinese into Proto Tibetan

(A new look at the problem of the relationship between Chinese and Tibetan)

FERLUS, Michel

Abbreviations:

- MC Middle Chinese (Karlgren Ancient Chinese): the stage of the *Qie⁴ Yun⁴* reflected in the *Yun⁴ Jing⁴*.
OC Old Chinese (Karlgren Archaic Chinese): the stage of the rhymes of the *Shi¹ Jing¹*.
WT Written Tibetan
PT Proto Tibetan (The stage just before the Middle Chinese influence)
PST Proto Sino-Tibetan (in a restricted sense)
TB Tibeto-Burman

Introduction:

It is well known that Chinese and Tibetan are genetically related. But it has been asserted by some scholars that an important part of the supposed common vocabulary represents an ancient layer of borrowings from Middle Chinese into Ancient Tibetan. Depending of the point of view, Chinese and Tibetan can be considered as more or less genetically related. It is important to separate the loanwords from inherited vocabulary in order to evaluate the closeness of the relationship.

The study of loanwords depends on the relationship of the languages in contact. When the languages are not genetically related, it is in general relatively simple to sort out loanwords. In this process the borrowing concerns the whole of one word. But when genetically related languages are in contact with a degree of intercomprehension and in a hierarchical relationship of prestige, more complex types of influence can occur. This kind of process works only with one segment in a word, the borrowing affects one syllable in a dissyllabic word or one constituent (consonant, vowel or rhyme) in a syllable. This phenomenon has been observed, with more or less degree of importance, by the author in several cases of linguistic contacts in the Southeast Asian area.

This process will be illustrated here by borrowings, or partial borrowings, from Middle Chinese (MC) into Proto Tibetan (PT), a stage of the language that preserved a

part of its vocabulary still relatively closed to Proto Sino-Tibetan (PST). Results of these influences are reflected in Written Tibetan (WT).

Reminder of the theory of monosyllabization from OC to MC

Before any further developments it seems useful to remind our theory on the phenomenon of monosyllabization that happened between OC and MC (Ferlus 1998). Without the knowledge of it, the following explanations will not be clearly understood.

Old Chinese was a disyllabic language. It means that one part of the vocabulary was constituted of monosyllabic words, while the other part was constituted of disyllabic words, more precisely of the sesquisyllabic type (according to J. Matisoff's definition). This type is still widely represented in many austroasiatic languages of Southeast Asia (Ferlus 1996). A sesquisyllable is a type of disyllable made of a main syllable preceded by a presyllable. The main syllable is similar to a monosyllabic word while the presyllable is a reduced and unstressed syllable without phonemic vowel. The presyllable can be a morphological prefix as well as a neuter element without any signification.

monosyllable: CV(C)
sesquisyllable: C-CV(C)

Sesquisyllables of OC developed a tenseness (T) while by contrast monosyllables developed a laxness (L). Then, sesquisyllabic words shifted in monosyllabic by losing presyllables. Consequently, the former contrast of syllabic type C-CV(C) vs CV(C) was replaced by the new contrast *tense* vs *lax* (T/L). This phenomenon was associated to a vowel splitting showing vowel lowering in T syllables and vowel rising in L syllables. Later, at a second step, after these changes, the softening of medial -r- came blurring the situation. It is the stage of MC characterized by the famous four divisions system: the T syllables belong to division I/IV (no medial -r- in OC) or to division II (medial -r- in OC), while the L syllables belong to division III (with or without medial -r- in OC) characterized by the famous *yod* of Karlgren's reconstructions (1957).

Old Chinese (OC)		Middle Chinese (MC)	divisions
C-CV(C) (<i>tenseness</i>)	>	CV(C) / T (<i>vowel lowering</i>)	I/IV (- r) or II (+ r)
CV(C) (<i>laxness</i>)	>	CV(C) / L (<i>vowel rising</i>)	III (± r)

In my system the symbol [ə], called here the *proteus*, is the mark of the division III. It indicates a certain lowering and centralization of the vowel associated with (what I suspect to be) a breathy voice. The symbol [ɣ], called here the *spirans*, is the mark of the division II. It results from the softening of OC medial -r- and seems to indicate a kind of spirantized velar sound. The Division II is nothing more than a variety of division I (and IV). In L syllables the softening of OC medial -r- has been absorbed by the breathiness of the vowel, it is the reason why it doesn't exist a variety of division III, as division II is for division I. The division IV is in complementary distribution with the division I and seems to be just a device to describe the single MC front diphthong. There is no mark to indicate the divisions I/IV.

Schema résumé:

	no medial -r-		medial -r-	
	(OC)	MC	(OC)	MC
tense syllables	(-)	I/IV / T	(-r-)	II / Tr
lax syllables	(-j-)	III / L	(-rj-)	III / Lr

Some examples: The presentation is taken from Baxter (1992), I only added my own phonetic interpretation between square brackets.

T I	納	$na^4 < nop [n\Lambda p] < *nup [T(C-)nup]$	"send in" (695h)
L III	入	$ru^4 < nyip [n^{\partial}ip] < *n-j-up [Lnup]$	"enter" (695a)
T IV	銘	$ming^2 < meng [mi\epsilon\eta] < *meng [T(C-)men]$	"inscription" (826d)
L III (>IV)	名	$ming^2 < mjieng [m^{\partial}jen] < *m-j-eng [Lmen]$	"name" (826a)
T I	股	$gu^3 < ku^X [k\upsilon^?] < *ka? [T(C-)ka?]$	"thigh" (51a)
Tr II	假	$jia^3 < k\ae^X [k^{\partial}\ae^?] < *k-r-a? [T(C-)kra?]$	"false, simulate" (33c)
Lr III	莒	$ju^3 < kjo^X [k^{\partial}\Lambda^?] < *k-rj-a? [Lkra?]$	"round basket" (76j)

Before this complete and structural phenomenon of monosyllabization that affected the whole sesquisyllabic vocabulary, it could happen a kind of slow and aleatory monosyllabization that affected the vocabulary word by word.

Brief presentation of the mode of borrowing from MC into Proto Tibetan

Proto Tibetan (PT) is defined as the stage of the Tibetan language just before the MC influence. PT could be as well called pre Old Tibetan.

One language A (here MC) is in a dominating position with a genetically related language B (here PT). Language A is regarded as prestigious by speakers of B who, by a kind of affectation, are led to imitate some characteristic sounds of A unknown in B. This results in a phonetic compromise, a segment of an A word being borrowed and put in place of the corresponding segment of the cognate B word. The characteristic sounds of MC that don't exist in PT are the segments (rhymes or main syllables) involved by the division III (presumed breathiness marked by the *proteus* [∂]) and the division II (spirantized velar sound marked by the *spirans* [∂]). Speakers of PT tried, unconsciously or not, to imitate these unfamiliar sounds of MC because their pronunciation by Chinese speakers was felt as more prestigious. But, at the difference of the usual process of borrowing that concerns the entire word, ancient speakers of PT borrowed only the segment bearing the characteristic sound in a MC word.

This process will be first illustrated with the numbers "one" to "ten" and "hundred".

Comparision of Tibetan and Chinese numerals

The *Chart 1* shows principal reconstructions and interpretations of the set of numerals "one" to "ten" and "hundred": OC > MC: Karlgren (1957), Coblin (1986), Baxter (1982), Ferlus (1998), Sagart (1999). PST: Coblin (1986). TB: Coblin (1986), Benedict (1972). EMC: Pulleyblank (1991).

The *Chart 2* is the reference chart for the following demonstrations.

CHART 1

	Karlgren (1957)	----- Coblin ----- (1986)	Benedict (1972)	Pulleyblank (1991)	Baxter (1992)	Ferlus (1998)	Sagart (1999)	WT
	Ar C / An C	PST	TB	EMC	OC > MC	OC > MC	OC > MC	
1 zhi ¹ 隻	— / tɕiäk	gtyik	t(y)ik	ɕiajk	(tjek > tsyek)	ʰtek > tɕʰek	-----	gcig
2 ɛ ⁴ 二	n̥iær / n̥zi-	gnyis	g-nis	ɲi ^h	(n̥jits > nyij ^H)	ʰnits > ɲʰi ^h	bni[ji]-s > nyij ^H	gnyis
3 san ¹ 三	səm / sām	gsum	g-sum	sam	sum > [sam]	ʰksum > [sam]	a ^s -hl̥im > sam	gsum
4 si ⁴ 四	s̥iəd / si-	b̥yid	b-liy	si ^h	s(p)ij/ts > sij ^H	ʰslits > s̥ʰi ^h	b ^s -hli[j]-s > sij ^H	bzhi
5 wu ³ 五	ngo / nguoi:	lngay	l-ŋa	ŋɔ?	nga? > ngu ^X	ʰŋa? > ŋɔ?	a ^{ga} ? > ngu ^X	lnga
6 liu ⁴ 六	liək / liuk	dljakw	d-nuk	luwk	C-rjuk > ljuwk	ʰruk > ʰəuwk	B ^{Cə} -ruk > ljuwk	drug
7 qi ¹ 七	ts'jēt / ts'jēt	shnjis	s-nis	ts'it	thsjit > tshit	ʰtshit > ts'ʰit	b ^s -hnit > tshit	(bdun)
8 ba ¹ 八	pwāt / pwāt	priat	b-r-gyat	pəit/pet	(pret > pet)	ʰpret > pʰet	a ^p -r[ɛ]t > peat	brgyad
9 jiu ³ 九	kjüŋ / kjəu:	dkwjəyw	d-kuw	kuw'	k ^w ju? > kjuw ^X	ʰkwu? > kəuw?	b ^{ku} ? > kjuw ^X	dgu
10 shi ² 十	ɕjəp / ɕjəp	ɕrip	gip	ɕrip	grip > dzyip	ʰgip > dz'ip	b ^{gip} > dzyip	bcu
100 bai ³ 百	pāk / pok	pria'	r-gya	paijk/pɛjk	prak > pæk	ʰprak > pʰæk	-----	brgya

CHART 2

		OC > MC	PT + MC	> *intermediate form	WT
1	<i>zhi</i> ¹ 隻	Ltek > tɕʰək	k[tek] + tɕʰək	> *ktɕʰək	<i>gcig</i>
2	<i>er</i> ⁴ 二	Lnits > n̥ʰijʰ	k[nits] + n̥ʰijʰ	> *kn̥ʰijʰ	<i>gnyis</i>
3	<i>san</i> ¹ 三	Tksum > [sam]	ksum	>	<i>gsum</i>
4	<i>si</i> ⁴ 四	Lslits > sʰijʰ	p[sits] + sʰijʰ	> *psʰijʰ	<i>bzhi</i>
5	<i>wu</i> ³ 五	Tlŋaʔ > ŋɔʔ	lŋa	>	<i>lŋa</i>
6	<i>liu</i> ⁴ 六	Lruk > ləuwk	truk	>	<i>drug</i>
7	<i>qi</i> ¹ 七	Ltshit > tshʰit			(<i>bdun</i>)
8	<i>ba</i> ¹ 八	Tpret > pʰɛt	pr[et + p]ʰɛt	> *prʰɛt	<i>brgyad</i>
9	<i>jiu</i> ³ 九	Lkʷuʔ > kəuwʔ	t[ku] + kəuwʔ	> *tkəuwʔ	<i>dgu</i>
			or tku	>	<i>dgu</i>
10	<i>shi</i> ² 十	Lgip > dʒʰip	p[gip] + dʒʰip	> *dʒʰi(p)	<i>bcu</i>
100	<i>bai</i> ³ 百	Tprak > pʰæk	pr[ak + p]ʰæk	> *prʰæk(k)	<i>brgya</i>

• "One ~ alone":

PT "one" *ktek, WT *gcig*.

OC "alone" *tjek [Ltek] > MC tsyek [tɕʰək] > *zhi*¹ 隻 (1260c), not attested in Baxter (1992). The actual word for "one" is *yi*¹ — < MC ʒit [ʔʰit] < OC ʒit [Lʔit].

PST *ktek. The presyllable k-, reconstructed on the basis of WT g-, was lost in pre-OC times by aleatory monosyllabization. The division III of MC led to reconstruct a monosyllable in OC.

During the interferences of MC forms with PT forms, the main syllable in PT ktek was replaced by the unfamiliar pronunciation for Tibetan speakers of MC tɕʰək. The combination k[tek] + tɕʰək rose to an hypothetic intermediate form *ktɕʰək well represented by WT *gcig*.

• "Two":

PT *knits, WT *gnyis*.

OC *njits [Lnits] > MC nyij^H [n̥ʰijʰ] > *er*⁴ 二 (564a), not attested in Baxter.

PST *knits. The presyllable k-, reconstructed on the basis of WT g-, was lost in pre-OC times by aleatory monosyllabization, the division III of MC led to reconstruct a

monosyllable in OC. The final -ts changed into -js > -j^h by final cluster simplification (Baxter 1992: 568-9).

The main syllable in PT knits was replaced by the unfamiliar pronunciation of MC 𑖦^əi^jh. The combination k[nits] + 𑖦^əi^jh (with the possibility of a pre-MC form 𑖦^əis) rose to an hypothetical intermediate form *k𑖦^əi^jh well represented by WT gnyis.

• "Three":

PT *ksum, WT gsum.

OC *sum [Tksu] > MC sam [sa] (irregular rhyme) > san¹ 三 (648a). The regular MC rhyme is [-am] (Baxter -om).

PST *ksum.

The pronunciations of MC sam as well as any other MC forms in -am (see below), all belonging to the divisions I or II, were not exotic for Tibetan speakers. So they did not need to imitate it and the WT gsum derives directly from PT *ksum.

Discussion about "three": The problem risen by the reconstruction of "three" and its word family is a very complex one. It has been highly treated by Sagart (1999: 148-152). To discuss the ideas of the author will lead us too far from the present subject. I will just give here briefly my point of view.

L. Sagart proposed two forms for "three": OC *as-hlim > MC sam > san¹ 三 for the simple graph and OC *as-hlim > MC tshom > can¹ 參 for the complex graph or da⁴ xie³. First of all, I consider that the rhymes -um / -up must be reconstructed, the changes -um > -im and -up > -ip occurred after OC times. Aside the basic form OC Tksu > san¹ 三 "three", the word family comprises the MC meaning of 驂 (read can¹), MC tshom [ts^ham] "three horses in a team", and the both MC meanings of 參 (read can¹), MC tshom [ts^ham] "three, a triad" and (read shen¹) MC srin [s^əim] "the triad star of Orion". The character 參 (read san¹) is also used until to day as complex graph for "three". It must be noticed that MC rhymes in tshom [ts^ham] (division I) and in srin [s^əim] (division III) are regular in respect to OC rhyme -um [-um]. For these two words I propose the reconstructions OC *srin [Tksru] > MC tshom [ts^ham] and OC *srjum [Lsrin] > MC srin [s^əim] that I consider as secondary forms of OC Tksu. In résumé:

pre-OC ksum > OC Tksu > MC sam (irr.) > san¹ 三 "three".

pre-OC krsum > (metathesis of -r-) OC Tksru > MC ts^ham 參 "three, a triad" > can¹ (reading by the way of the meaning "take part, visit"), also MC ts^ham 驂 "three horses in a team".

pre-OC krsum > (loss of k- and metathesis of -r-) OC Lsrin 參 "the triad star of Orion" > MC s^əim > shen¹ (reading by the way of the meaning "ginseng").

The change of pre-OC krsum into OC Tksru or Lsrin by metathesis of -r- from the presyllable to the main syllable is, of course, purely hypothetical. But this phenomenon of metathesis could help us to understand the curious fugacity and the intrusive behaviour of some OC medial -r- and the fact that items with or without this medial can occur in the same phonetic serie. Nevertheless the idea of an ancient metathesis of -r- is supported by some lexical correspondences between WT and OC. Let us compare WT rdul "dust" with chen² 塵 < MC drin [d^əin] < OC *drjin [Ldrin] (< pre-OC dril) "id." (example seen in Coblin 1986: 68).

I propose that the archaic character for 參 had previously the meaning "three horses in a team" because this notion was more familiar to peoples than those of "triad of Orion". The meaning of three horses is expressed by the upper part of the character that indicates rather clearly the three horse's heads, contra some other scholars who prefer to see the three stars in it (why the three stars would be tied on?). The lower part of the character has been sometime interpreted as the phonetic element, but neither the element *zhen*³ 參 (OC rhyme -in) nor *shan*¹ 參 (OC rhyme -am) fits phonetically with *can*¹ 參 (OC rhyme -um). For myself, I prefer to see in the lower part of the archaic character for 參 the image of reins hung with ornaments.

The ancient pronounciation of 參 was used to derive numerous other characters that belong to the phonophoric serie GSR 647.

- "Four":

PT *psits, WT *bzhi*.

OC *s(p)jij/ts [Lslits] > MC sij^H [s^aij^h] > si⁴ 四 (518a).

PST *plsits ~ *pslits. The presyllable p- (may be a prefix ?) reconstructed on the basis of WT *b-* was lost in pre-OC times. The medial -l- is justified by occurences in some Tibeto-Burman languages.

The main syllable in PT *psits* was replaced by a corrupted form of the unfamiliar pronounciation of MC s^aij^h. The combination p[sits] + s^aij^h rose to an hypothetic intermediate form *ps^aij^h rather well represented by WT *bzhi*.

- "Five":

PT *lŋa, WT *lŋa*.

OC *ŋa? [Tlŋa?] > MC ngu^X [ŋɔ?] > wu³ 五 (58a).

PST *lŋa?

As for "three", WT *lŋa* derives directly from PT without interference with MC.

- "Six":

PT *truk, WT *drug*.

OC *C-rjuk [Lruk] > MC ljuwk [l^auwk] > liu⁴ 六 (1032a).

PST *truk ~ t-ruk. The first element t- was lost during pre-OC times, it means that tr- must have been a kind of disjoined cluster. In proto Thai proper "six" is reconstructed as *^hrok, the voiceless being an irrefutable proof of an ancient presyllabic element.

As for "three" and "five", the WT form derives directly from PT.

- "Seven":

PT *pdun, WT *bdun*.

OC *thsjit [Lts^hit] > MC tshit [ts^hait] > qi¹ 七 (400a).

Pre-OC (for PST) *snit ~ s^hnit. One can remarks that the rhyme -it(s) exits in knits "two", plsits ~ pslits "four (2+2)" and snit ~ s^hnit "seven (5+2)".

The Tibetan and Chinese forms are not genetically related.

- "Eight":

PT *pret, WT *brgyad*.

OC *pret [Tpret] > MC pet [p^ɛet] > ba¹ 八 (281a).

PST *pret.

The rhyme -et in PT pret was replaced by the unfamiliar pronunciation of the segment - ɕet of MC $\text{p}^{\text{ɕet}}$. The combination $\text{pr}[\text{et} + \text{p}]^{\text{ɕet}}$ rose to an hypothetical intermediate form * $\text{pr}^{\text{ɕet}}$ rather well represented by WT *brgyad*. The segment -gyad is the result of the interpretation of - ɕet in the phonetic system of Tibetan. Some scholars have interpreted -g- as an epenthetic element, but it must be remarked that epenthetic sound appears usually at the junction of two syllables and it was not the ground in the Tibetan word for "eight".

• "Nine":

PT *tku, WT *dgu*.

OC * $\text{k}^{\text{wju?}}$ [$\text{Lk}^{\text{wu?}} \sim \text{Lku?}$] > MC kjuw^{X} [$\text{k}^{\text{əuw?}}$] > jiu^3 九 (992a). The reconstruction of a labiovelar before a high rounded vowel by Baxter is surprising in spite of a firm demonstration, so I will propose an alternate form Lku? .

PST *tku? ~ *tku.

At first sight, WT *dgu* derives directly from PT tku but the voiced velar -g- does not fit perfectly with PST and could be a result of the laxness on MC form. If so, the combination $\text{t}[\text{ku}] + \text{k}^{\text{əuw?}}$ rose to an hypothetical intermediate form * $\text{tk}^{\text{əuw?}}$ represented by WT *dgu*.

• "Ten":

PT *pgip (?), WT *bcu*.

OC *gip [Lgip] > MC *dzyip* [$\text{dz}^{\text{əip}}$] > shi^2 十 (686a).

PST *pgip. The presyllable p- (may be a prefix ?) is reconstructed on the basis of WT *b-* assuming that these forms are related. I suppose that the combination $\text{p}[\text{gip}] + \text{dz}^{\text{əip}}$ rose to an hypothetical intermediate form * $\text{pdz}^{\text{əip}}$. Does the rhyme WT -cu could represent MC $\text{dz}^{\text{əip}}$ after the loss of final -p ? I must confess that I am not absolutely sure of that.

• "Hundred":

PT *prak, WT *brgya*.

OC *prak [Tprak] > MC pæk [$\text{p}^{\text{ɕæk}}$] > bai^3 百 (781a).

PST *prak.

The demonstration about "hundred" is parallel to those of "eight". The combination $\text{pr}[\text{ak} + \text{p}]^{\text{ɕæk}}$ rose to an hypothetical intermediate form * $\text{pr}^{\text{ɕæk}}$ > $\text{pr}^{\text{ɕə}}$ rather well represented by WT *brgya*. The loss of final -k is unexplained but not isolated.

Conclusions

Among the eleven correspondances between Tibetan and Chinese about numerals, nine can be considered as good one. Out of that, occurrences for "seven" are not cognates and correspondance for "ten" is not absolutely sure.

In correspondances about "three", "five" and "six", the WT forms derive directly from PT without MC interference. They must be considered as pure inherited correspondances.

In correspondances about "one", "two", "four", "nine" (presumably) and "ten" (if related) the MC monosyllable replaced the main syllable in PT form, but as for "eight"

and "hundred" the segment replaced was the rhyme. They are what can be called corrupted (or modified) inherited correspondances in which the Tibetan word is the result of a compromise between an inherited form and an acquired segment while the Chinese term remains unchanged. This kind of correspondances can be placed between pure inherited correspondances and acquired correspondances by borrowings.

This mode of borrowing working only with a segment of the word (main syllable or rhyme) is the consequence of a particular situation. The two languages in contact are genetically related with a certain degree of intercomprehension and in a hierarchical relation of prestige. The Chinese language of MC times being in a dominating position was regarded as prestigious by speakers of Tibetan who were led to imitate, by a kind of affectation, some characteristic segments (sounds of division II and III) unknown in Tibetan.

Considerations have been limited to numerals that behave in general as a whole set, but the analysis could be enlarged with profits to other domains of Tibetan vocabulary.

I propose to call **hypercorrection by affected imitation** this special process of borrowing. Such layers of borrowings have never been clearly identified in historical comparative studies.

Selected bibliography

- Baxter, William H. 1995. "A stronger affinity...than could have been produced by accident": a probabilistic comparison of Old Chinese and Tibeto-Burman. *The Ancestry of Chinese Language*, ed. by William S-Y. Yang: 195-223. Journal of Chinese Linguistics monograph series no. 8.
- Baxter, William H. 1992. *A Handbook of Old Chinese Phonology*. Berlin & New York: Mouton de Gruyter.
- Baxter, William H. 1993. Some phonological correspondances between Chinese and Tibeto-Burman. *26th ICSTLL*. Osaka, Japan.
- Benedict, Paul K. 1972. *Sino-Tibetan: A Conspectus*.
- Benedict, Paul K. 1976a. Sino-Tibetan: another look. *JAOS* 96: 167-97.
- Benedict, Paul K. 1976b. Early Chinese borrowings. *Papers for the first Japan-US joint seminar on East and Southeast Asian linguistics*: 60-100. Tokyo.
- Bodman, N.C. 1980. Proto-Chinese and Sino-Tibetan: data towards establishing the nature of the relationship. *Contributions to Historical Linguistics: Issues and Materials*: 34-199. Leiden.
- Coblin, Weldon South. 1986. *A Sinologist's Handlist of Sino-Tibetan Lexical Comparisons*. Monumenta Serica Monograph Series XVIII. Nettetal: Steyler. [Ouvrage de référence]
- Ferlus, Michel. 1996. Evolution vers le monosyllabisme dans quelques langues de l'Asie du Sud-Est. Conférence donnée à la *Société de Linguistique de Paris*, séance du 23 novembre 1996.

- Ferlus, Michel. 1998. Du chinois archaïque au chinois ancien: monosyllabisation et formation des syllabes *tendu/lâche* (Nouvelle théorie sur la phonétique historique du chinois). *31st ICSTLL*. Lund.
- Gong Hwang-cherng. 1980. A comparative study of the Chinese, Tibetan and Burmese vowel system. *BIHP, Academia Sinica* 51: 455-90.
- Gong Hwang-cherng. 1995. The system of finals in Proto-Sino-Tibetan. *The Ancestry of Chinese Language*, ed. by William S-Y. Yang: 41-92. Journal of Chinese Linguistics monograph series no. 8.
- Matisoff, James A. 1997. *Sino-Tibetan numerals system: prefixes, protoforms and problems*. Pacific Linguistics series B-114. Australian National University.
- Miller, R.A. 1988. The Sino-Tibetan Hypothesis. *BIHP, Academia Sinica* 59 (2): 509-40.
- Norman, Jerry & Coblin, W. South. 1995. A new approach to Chinese historical linguistics. *JAOS* 115 (4): 576-84.
- Peiros, Ilia & Starostin, S.A. 1996. *Comparative Dictionary of Five Sino-Tibetan Languages*. Melbourne: Department of Linguistics and applied Linguistics.
- Pulleyblank, Edwin G. 1991. *Lexicon of reconstructed pronunciation in Early Middle Chinese, Late Middle Chinese and Early Mandarin*. Vancouver: University of British Columbia.
- Pulleyblank, Edwin G. 1998. Old Chinese and Sino-Tibetan. *31st ICSTLL*. University of Lund, Sweden.
- Sagart, Laurent. 1995a. Some Remarks on the Ancestry of Chinese. *The Ancestry of Chinese Language*, ed. by William S-Y. Yang: 195-223. Journal of Chinese Linguistics monograph series no. 8.
- Sagart, Laurent. 1995b. Questions of method in Chinese-Tibeto-Burman comparison. *CLAO* 24(2): 245-55.
- Sagart, Laurent. 1995c. The Chinese and Tibeto-Burman words for 'blood'. *In Honor of Mei Tsu-lin: Studies in Historical Syntax and Morphology*, ed. by Alain Peyraube and sun Chaofen: 165-81. Collection des Cahiers de Linguistique Asie Orientale n° 3. Paris: EHESS.
- Sagart, Laurent. 1999. *The Roots of Old Chinese*. Amsterdam & Philadelphia: John Benjamins Publisher Company.
- Starostin, Serguii A. 1996. Vowel correspondances in Sino-Tibetan. *29th ICSTLL*. University of Leiden, Netherlands.