

EVIDENCE FOR l AND r MEDIALS IN OLD CHINESE
AND ASSOCIATED PROBLEMS

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Introduction

It is a pleasure to contribute a paper to the Festschrift honoring Paul B. Benedict, the pioneer of modern Sino-Tibetan linguistic studies. This book appears at a time of great creative ferment. No one scholar in this field can be expected to agree completely with another scholar's views, but it is perfectly clear that without the stimulus of Benedict's Sino-Tibetan works we could not have progressed as far as we have done, even if our work is now largely still in an exploratory stage.

The present paper derives from one presented in Paris, 1979, at the Twelfth International Conference on Tibeto-Burman Languages and Linguistics, then more simply entitled "Evidence for l and r Medials in Old Chinese". There have been no major changes, but new data have been added and errors have been corrected.¹ In both the Paris paper and the present version, most of the examples are taken from a much longer work which came out at the end of 1980: "Proto-Chinese and Sino-Tibetan: Data Towards Establishing the Nature of the Relationship"; this work will be referred to as Bodman 1980. To facilitate reference to the more detailed argumentation in the longer work, the section numbers and example numbers are often included here within parentheses.

The Old Chinese (OC) reconstructions are based on a backwards projection of the Middle Chinese (MC) values with the added evidence of the OC rhymes and the structure of the graphs in phonetic series (*xiesheng*). The internal reconstruction is also greatly aided by observing the alternations in word families and the presence of doublets, some of which must be due to dialect variation. In a good number of cases, the Min and Gan dialects point to phonological features for stages that differ from and antedate the MC forms. Important phonological clues have also come from transcriptions of foreign words, largely place names, and in the Eastern Han period also from paranomastic glosses. Poetic rhyming of various periods of course is of much use in helping to determine the changes of the phonological system through

¹ I am happy to thank T. L. Mei and W. Baxter for helpful comments on the earlier paper. The discussion of OC types *tr- and *trj- has been considerably revised and expanded. Old Ex. 14 and 15 have been deleted, a new Ex. 14 added, and old Ex. 16 through 47 renumbered as Ex. 15 through 46. Ex. 70 has had errors in definition and tone category corrected. Most importantly, the last part of the paper including Tables 5 and 6 has been amplified and revised.

time. The reconstruction of the initials, medials and the features that gave rise eventually to the MC tones owes much to previous scholarship, especially to the studies of F. K. Li 1971 and E. C. Pulleyblank 1961-2 and 1973, but here my views sometimes differ (Bodman, 1980 Sec. 1.1 and especially Table 6). The analysis of OC vocalism stems from Bodman 1971 but has been modified and improved greatly by the work of W. H. Baxter (refer to Baxter 1977, Baxter 1980, and his oral presentations of 1978 and 1979). The MC forms are in Karlgren's system as modified by F. K. Li (1971).

The well-proved methods of internal reconstruction of Chinese, the essential first step, have provided much knowledge on the phonology of OC, but there are still many doubtful or disputed points. The phonological systems devised by various scholars, no matter how elegantly formulated, show many areas of divergence and disagreement. With our present better understanding of OC phonology, however, we are now at the stage where it is profitable to attempt seriously the work of Sino-Tibetan (ST) linguistic comparison. The comparative evidence, drawn from various Tibeto-Burman (TB) languages, especially Tibetan (T), often suggests an early Chinese form which could not be assumed from internal Chinese evidence alone: I label this stage Proto-Chinese (PC) and mark it with the asterisk. In the examples, the OC forms if different follow, and the MC forms come last. The OC and MC forms are separated by the slash symbol (/). Although many of the rules of phonological correspondence between TB and PC can be definitely established, we are still far from having an accurate knowledge of the phonology of many TB languages, nor do we have as yet an adequate knowledge of their subgrouping. Our work is still in an exploratory stage. Nevertheless, I think that we have enough information to make a good beginning. Correlations can certainly be made between TB l and r medials with PC and OC medials. These show essentially a cognate relationship. The relative abundance of related forms between T and Chinese may be due both to genetic relationship and borrowing (this is discussed at some length in Bodman 1980, sec. 1.0). Much supporting evidence on OC medials comes from loanwords in unrelated languages; I have cited many forms from Proto-Tai, Proto-Yao and Austroasiatic, including old loans into Vietnamese. Some of these loans bear witness to changes in the values of the medials in late OC.

Reconstruction of Medial r

Medial r in OC is taken up first because the phonetic series in which it occurs are numerous and well understood. As elsewhere in this paper, I deal primarily with the medial after stops and will not take up very many examples of medials after spirants or nasals. The phonetic series we deal with here mainly show MC initial alternations with l- and either velar or labial initials. For this type of alternation, Karlgren reconstructed OC clusters with stop plus l throughout the phonetic series regardless of the MC syllable type (i.e. he disregarded the MC placement into the deng or divisions). Li follows Karlgren in reconstructing the l medial when MC shows l- initial in Division 1, (Div. 1), no medial, or the sequence of l- plus yod (lj-) which appears in Div. 3. MC Div. 2 syllables are now generally reconstructed with the OC r medial, and both OC -r- and -rj- are set up by Li and Pulleyblank for the antecedents of the MC retroflex initials of type t-, tj-, ts-, and tsj-. Baxter and I agree in extending the domain of -rj- in OC (see Baxter's 1979 paper, p. 2). A table will clarify these notations for forms that in MC were placed in Div. 1 or Div. 2.

Table 1

	OC	MC Div.1	OC	MC Div.2	OC	MC Div.2
Karlgren	lâm & glâm /	lâm	kam & klam /	kam	tam / tām	
Li	lam & glam /	lâm	kram /	kam	tram / tām	
Pulleyblank	ram (only?)/	lam	kram /	karm	tram / tram	
Bodman	(g-)ram /	lâm	kram /	kam	tram / tām	

I am uncertain how Pulleyblank would reconstruct the leftmost item in the table. My view is that MC l- is a reflex of various clusters in the earlier stages of OC (which I represent by the ad hoc notation g-r, b-r and d-r). Later, probably during Eastern Han, these clusters simplified to r- which later shifted to MC l-. I believe it is also reasonable to assume that OC medial r first shifted to l which was then lost shortly before the stage of MC, as in the syllable type of OC kram, late OC klam and MC kam. Note that MC l- (with a tiny number of exceptions in Div. 2) regularly occurs in Div. 1 whereas the reflexes of OC type kram, etc. always are placed in Div. 2. There is therefore complementation between late OC and MC l- initial and -l- medial. The OC sequence -rj- would likewise have been -lj- at a later stage. OC clusters of the type tr- would have been phonologically /t1-/ in late OC but probably phonetically retroflex [t-] (Bodman 1980 6.2). The shift from r to l will be treated in more detail below. Changing now from emphasizing the xiesheng evidence, I present a number of examples of cognates and old borrowings which provide the chief evidence for reconstructing medial r rather than medial l. The fact that a contrast between r and l occurs in many of the languages cited is good evidence for the nature of the reconstructed medial here as r. Unless the MC initial is l- (with Div. 1 vocalism), these examples all illustrate MC vocalism of Div. 2.

1.	(34)	T	sgreg	'to belch'	噫	*sgraks, *skraks,	
		pft.	sgregs			?raks / ?āl-	'to belch'
2.	(35)	T	grags	'to bind'	韋	*gwāk / ywək	'to bind'
			hgrogs	'be associated, bind, tie, fasten'			
			sgrog	'to bind'	韋	*sgwrak, *skwrak	
						?wrak / ?wək	'to bind'
3.	(78)	T	brgyad	'eight'	/ 八	*pret / pwat	'eight'
			(*b-ryat)				
		Lushai	pà-riát	'eight'			
		Proto-Tamang	*bret	'eight'			
4.	(79)	T	brgya	'hundred'	百	*pra?	
	(246A)		(*b-rya)			prak / pək	'hundred'
						also ?	
						*prya?	
						prjak Taiyuan piə?	

² See Bodman 1980, sec. 8, pp. 125-9 regarding this final -- either OC *-w? according to Baxter or *-kw according to F.K. Li. The same remark applies to Ex. 8 here.

5.	(308)	T	dkroq	'rouse'	覺	*kraw?2 or *krakw / kāk	'awake, rouse'
6.	(310)	T	(h) phru-ma	'uterus'	胞	*pru / pau *phru / phau	'womb'
7.	(311)	T	khraab	'armor, scales'	甲	*krap	'shell, buffcoat'
	(405B)				輪	also: *krəp / kɛp	'cuirass'
8.	(311A)	WB (Written Burmese)	prok	'speckled, spotted'	駁	*prwa? or *prakw / pāk	'horse with mixed (brown & white) colors'
	(254)	Mikir	phròk	'speckled'			
9.	(312)	WB	krwe	'shellfish, cowrie'	蝸	*kroy kroj / kwa kwai	'snail'
		STC (Benedict: Sino-Tibetan Conspectus)				(luâ) ³	
		311	*kroy				
10.	(313)	T	grong	'habitation, village, town'	巷	*grongs / ɣəŋg-	'lane, street' (?*'village')

Examples 2 and 10 above are placed in MC Div. 2. The OC voiced initials here contrast with another type for which I am temporarily using the ad hoc notation of *g-r, *b-r, and *d-r, which all develop to MC l- with Div. 1 vocalism. Evidence for this second type, as in Ex. 11, 12, and 13 below comes from the Tai languages where we assume borrowing from OC to have occurred. Clusters can also be reconstructed from the xiesheng evidence alone.

11.	(81)	Thai	phruan	'neck bells (for (*br-, Tone A2) domestic animals)'	鑾	*b-ron, b-ruan / luân	'bells on horse's trappings'
12.	(82)	Thai	khraam	'indig ⁴ '	藍	*g-ram / lâm	'indigo' ⁴
		(PTai	gram, Tone A2)				
13.		--PTai	*gran, Tone C2	'lazy'	懶	*g-ran:/ lân:	'lazy'

Although there are many words with MC dental retroflex initials that go back to OC type *tr- (Div. 2) and *trj- (Div. 3), we find similar clusters strangely lacking in most TB languages, and no good case for reconstructing such a type for PST.⁵ I has only the voiced type *dr- as in the word 'six' drug (see Ex. 37 below). In such words the d- may sometimes represent a prefix; I hdr- is also common, and this can often be taken back to an earlier *h-r- (Li 1959). It is possible that I rt- and rd- are sometimes metathesized from an assumed *tr- or *dr- (see Ex. 39 below for a possible case of Pre-I *tr- and OC *tr-). Types of dental and resonant clusters like *tr- and *tl- have been reconstructed for PTai (Li 1977, Chapter 7). Chang Kun 1966 includes a few such clusters for Proto-Miao, while Purnell sets up both types for both Proto-Miao and Proto-Yao (Purnell 1970:172-4). With the possible exception of the two cases mentioned just above (Ex. 37 and Ex. 39), I have not found good TB

³ The reading luâ seems aberrant. (Bodman 1980, note 49, p. 143).

⁴ A late OC *ram borrowed as T rams is indicated here. I assume Lepcha rym was probably borrowed from T.

⁵ The Central Chin language Lushai has tr- and thr- from Proto-Kuki-Chin *kr-, *khr and *pr-, *phr-, as well as tl- and thl- from *kl-, *khl-, pl-, *phl-. (Bodman 1980 Ex. 238 and footnote 44).

evidence that type *tr- should be reconstructed for PTB when OC has initial clusters of the *tr- type. However, we may find an occasional loan word between OC and one of the non-Han languages. Example 14 below relates an Austroasiatic form with Proto-Min (PM) for which no sure OC form is known:

14. (464) Proto-Vietnamese-Muong
 *traw B 'dry'
 (Thompson 1976:1170)



PMin	*tau	'dry
Fuzhou	ta ¹	'dry'
Amoy	ta ¹	'dry'

This comparison involves deriving the PMin form from an earlier *tr- cluster such as would occur if OC had a related form. PMin *-au here relates regularly to MC -au (Div. 2), hence the r medial is inferred for OC; it seems well established now that Min is an "r-losing" dialect group.⁶ (The fact that Amoy ta¹ is sometimes written 佻 MC tsjau 'roast, burn, scorch' is irrelevant, merely a popular etymology).

Another source for OC trj- (Div. 3) has recently been suggested by T. L. Mei in his paper for the International Conference of Sinology, Taipei, August 1980 (to have been published late in 1981, see the bibliographical entry under Mei 1981). He sees this as sometimes being a reflex in the Qi and Lu dialects of older *krj-, and I find this argument convincing. I shall cite one such example here (Mei's Ex. 2) which compares T gru 'elbow' with 肘 MC tjuu:; 'elbow'. In Mei's notation, the earlier and later stages of the OC are **krjaugx and *trjaugx; my notation for these forms would be **krũ: and **trjœu:. Mei's article gives other reflexes of **krj- as MC tsj- (following Li 1976) and MC kj- (where he agrees with Baxter and Bodman, see our 1980 papers, especially Table 22, p. 186 in Bodman 1980). In all these formulations the existence of doublet and triplet dialect forms is explicitly recognized. Another formulation, Type *K-l- > MC Tj- is shown in the present paper, Ex. 96 and Ex. 99.

MC is noteworthy for the fact that roughly half of the forms are reconstructed with yod. I have distinguished two types, "primary yod" that is reconstructable for PST in that yod occurs both in TB and OC cognates -- this is sometimes part of the root, and sometimes an infix occurring in derivations; probably more frequent is what I call "secondary yod" where yod does not appear in cognates or old borrowings, and therefore is assumed to have developed within Chinese from some other feature. Pulleyblank (1961-62) originally thought it arose from OC long vowels. In his 1973 article he posited two syllable types for OC, each with two morae: an accent on the first mora yields Type B where yod has arisen in Chinese and Type A with accent on the second mora which yields yod-less forms. Loeffler in his 1977 and 1979 papers attributes yod to a metathesis of an early ə- prefix. Although I am not happy with any of these explanations, I have a slight preference for the long vowel hypothesis. I make use of Pulleyblank's Type B notation, marking it by the grave accent. Here I treat only Type B syllables that developed the sequence -rj-. I assume that the chief source of these is -r- in Type B syllables. Forms with the -rj- sequence are placed in MC Div. 3.

15. (221) T	hbrub	'gush, spout forth, overflow'	𣶒	*prũp,	'to gush forth
				prjut / pjuet	(as a spring)'
T	hbrubs	'water that has flowed over'		*prũps,	
				prjuts / pjwěi-	'to bubble up'

⁶ See Bodman 1980 Sec. 10.381 and Mei 1979:128.

(STC 151 *brup, *prup)

cf. Jinghpaw (JP):

16. (228)	T	prùt hbrlm	'boil, bubble, gush forth' 'to distribute, deal out'	稟	*prím:, prjəm: / pjəm: 'rations' and *b-rím: b-rjəm: / ljəm: 'rations'
17. (229)	Sanskrit: Brahma		'Brahma'	梵	*bràm(s) 'Brahma; Sanskrit, brjam(s)/bjwəm- Pali, Indian'
18. (118)	Bahing rap WB rap P-Lolo *ʔryap ^L Jiarong ka-ryap		'to stand'	立	*g-rəp or *g-ryəp g-rjəp / ljəp 'stand, set up, raise'
19. (119)	TB *krap JP khrəp Thulung khrap T khrab-khrab		'weep' (STC 116) 'weep' 'weep' 'weeper'	泣	*khrəp khrəp / khjəp 'weep'
20. (417)	T grang		'cold'	凉	*g-ràng, g-rjang / ljang 'chilly, cold'
21. (418)	T hgrang T grangs		'to count' 'number'	量	*g-ràng, g-rjang / ljang- 'to measure' *g-ràngs g-rjangs / ljang- 'a measure'
22. (419)	T nya-grə		'fishbones'	吕	*g-ra: g-rja: / ljwə 'spine'
23. (419)	T dgra (267)		'enemy'	旅	*g-rà:, g-rja: / ljwə: 'troop, guest, stranger'
24. (420)	T khrl		'chair'	几	krjɿ:, krjɿj: / kjɿ: 3 'small table, ⁷ stool'
25. (421)	T hbrong		'wait upon, serve'	奉	*bròng:, brjong: / bjung: 'hold in two hands'
26. (422)	T hbrong		'wild yak'	犏, 犏	*pròng and phròng, / pjong 'kind of wild / phjong humped cattle'
27. (423)	T hbru, hbrud (*brut)		'dig, carve, cut, chisel'	筆	*prùt, prjət / pjět 3 'kind of writing pencil'

Old borrowings from Chinese are Japanese fude and V. búť. (See Baxter, 1980 2.3 and 3.2; where I use shwa, he has ǐ.)

28. (424)	T bkres L krft (* -s) T bkren bgren		'be hungry, hunger' 'hunger'	飢	*krəy, krjəj / kjɿ 3 'famine, hunger'
			'poor, hungry'	殍, 餓	*grəns, grjəns / gjěn- 3 'starve, famine'

⁷ See Bodman 1980 Table 5 and footnote 17 on p. 48.

29. (425) T	gru	'boat (of inflated hides)'	裘	*gru grju / gjəu	'fur' (*hide)
30. (426) T	hgrul	'to walk, pass, travel'	逵, 植	*gwrùl, *gwrùw, gwrju, gwrjə / gjwi 3	'where several roads meet, thoroughfare'
31. (427) JP	khrun (*khrul)	'path'	軌	*kwrùl; kwrùw; kwrju, kwrjə: / kjwi: 3	'...rut...'
T	šul (*hryul ?)	'empty place, track, rut, furrow, road, way'			
32. (429) L	tă-gryu	'cheek'	頰	*gwyu or *gwrù, gwrju, gwrjə / gjwi 3	'bones of the face'
			頰	*gwyu or *gwù, gwju, gwju / gjəu	'cheekbones, bones of the face, face'
33. (430) T	gru	'lustre of gems'	球	*grù, grju / gjəu	'gem adorned'
34. (431) PLB	*kruw ¹ (STC 37 *kruw	'horn'	球	*grù, grju / gjəu	'long and curved, hornlike'
35. (433) WB	krf (485a)	'great'	祁, 抑	*grl, grjlj / gjl 3	loan for 'great, large, numerous'
36. (434) Thai	kreeng A1 (Manomaivibool '75 #131)	'to fear'	驚	*krèng krjeng / kjəng	'be afraid, attentive, scare'
			PC Min	*kiang ¹	'be afraid, fear'
37. (80) T	drug	'six'	六	*C-rùk, *C-rjuk / ljuk	'six'
Lepcha	tă-rók	'six'			
JP	krú	'six'			
PLB	*C-krok				
PTai	*xr- , D1 tone				

When one finds similar words in OC, some of which are doublets and others related members of word families, it often happens to involve a relationship of medial r and late OC -rj- which has arisen from a Type B syllable. There are many "double readings" of this kind. The few examples following by no means exhaust the inventory; all save the first (Ex. 38) were chosen because of TB cognates.

Division 2			Division 3		
38. (415A)	*breis / ban-	'divide, distinguish'	采, 辨	*brəl:, brjel: / bjän: 3	'discriminate'
39. (452) T	rtod	'to attach'	鈎, 鈎	*trot, trwat / t̥wat	'sharp iron point at end of whip'
T	rtod (*trod)	'stake, peg'	鈎, 鈎	*tròts, trwats / t̥jwäi-	'needles used as tallies'
also: gtd		'stake, peg'	鈎, 鈎	tròt	
btod		'stake, peg'	鈎, 鈎	trwat / t̥jwät	'tie, connect'

40. (453) WB ḡrā 'meet with, find; copulate' 訝, 逢 *ngraʔs, ngraks / ngā- 'meet, receive'
JP nyā 'encounter; frolic' 逢 *ngraʔ, ngrjak / ngjɔk '... go to meet, receive'
(STC 154 *ḡra)
41. (454) T skrag 'be terrified, afraid' 嚇 *skhrak (s), xrak(ʔ) / χāk 'to scare'
(*skhrag) χa- 'to scare'
驚, 虎見 *skhrāk χrjak / χjɔk 'fear'
42. (454) T skrog 'to stir, rouse, scare up' 懼 *skhwak, χwrjak / χjwak 'scared'
(-khr-) (Above is irregular for expected χjwɔk)

On page 148 above, I assumed the passage of OC type kr- to late OC kl-; parallel to this would be the transitional form -lj- for earlier -rj- (the latter usually attributable to the development of secondary yod in Type B syllables). As support for this notion, I cite several cases where reconstructed Proto-Tai shows -l- rather than -r-, and assume that these represent later borrowings from Chinese. However, it is also possible that these forms go back to an original l medial, so I have here represented the medial as l in the reconstructions.

43. (314B) PYao *klaau 3 'to pay' 交 *klaw / kau 'cross, exchange, hand over'
(209) (tone aberrant)
44. (315) PTai *klet 'fish scale' 介 *klets / kǎl- 'scale (fish, armor)'
D1S
45. (316) PTai *kla 'young rice plants, rice seedlings' 稼 *klas / ka- 'grain; to sow'
C1 (PTai C1 implies shang tone)
46. (317) Thai phlɔɔng 'club, cudgel' 棒 *blong: /*bāng: 'club, stick'
Tone A2 (PTai A2 implies ping tone)
*blong
47. (318) Wu-ming klwe 'small green frog' 蛙, 蛙 *Kwie / ʔwal ywal 'frog'⁸
PTai ? *klwɛ ʔwa ywa 'frog'
Tone C1
48. (437) Thai pleeu A1 'flame' 燄, 票 *pləw & *phləw, pljew & phljew/pjäu 3 'leaping'
PTai *plɛu A1? /phjäu 3 flames'
49. (438) PTai *pliu A1 'float in air' 漂 *phlɛw, phljew / phjäu 3 'to float (in air)'

Related forms are 飄 MC pjəu 3 and bjəw 4 'whirlwind' and 疾 MC pjəu 4 'rushing, violent (of wind)'. The forms placed in Div. 4 may be a dialect development of -lj-.

There have been quite a few illustrations of types *g-r- and *b-r- whose

⁸ See remarks after Ex. 318 in Bodman 1980.

MC reflexes are l-. I now adduce some examples where borrowings indicate a late OC stage of r-. These borrowings probably reflect that later stage. The next example from the Fang Yan of Middle Han date is unusual because the entry comes first where we expect the standard Chinese term to occur, and it is not specified as a regional dialect term, yet since it is not a normal Chinese word, one assumes it may have been originally Tai.

50. Thai cingrild 'cricket' 蜻蛉 *tsəng rət,
 PThai *tɕingrjet tsjeng rjet/ tsjäng
 Tones: Cl D1 ljät 'cricket'
 (also read tshjäng)
 (Fang Yan 11.4)

The following show Vietnamese r- from early borrowings and the expected l- for Sino-Vietnamese. The different tonal reflexes are regular. *r- is posited for late OC here.

51. (113) V rào 'enclose with a 牢 *raw / lau 'pen, fold; jail'
 SV lao 'fence', 'jail'
 52. (114) V rồng 'dragon' 龍 ?*b-ròng,
 SV long 'dragon, imperial' rjong / lɿwong 'dragon'
 Khmer rong 'dragon'
 Thai piimarong 'year of the dragon'
 (Thai pii = 'year')
 PYao *rong² 'dragon'
 53. (115) V rèm 'bamboo blinds' 簾 *rəm, or *g-rəm,
 rjem / lɿəm 'bamboo screen, blinds'
 54. (116) V rét 'be cold' 冽 *rət,
 rjet / lɿät 'cold'
 55. (117) V nư đ'ng 'beam, girder' 梁 *rang,
 rjang / lɿang 'beam, bridge'

For an early stage, probably the Proto-Chinese stage, I reconstruct *r- that corresponds to TB initial r-, but which has an annoying number of reflexes in OC. The various values I assign to the correspondence sets are shown in the following table.

Table 2

Set 1a	Set 1b	Set 2	Set 3
*r- hr / ɣ (Div.2)	hrw / ɣw (Div.2)	*w hr / ɣw (Div.1)	*y hj / dz (Div.3)
*ry- hrj / ɣj (Div.3)	hrwj / ɣjw (Div.3)	hrwj / jw (Div.4)	Three dialect reflexes: rj / zj (Div.4) rj / ʒ (Div.3) rj / j (Div.4)

Sets 1a and 1b have MC Div. 2 placement, agreeing with the reflexes of medial r as shown above. Set 2 has merged with PC *w- and Set 3 with PC *y-. Some cases of the PC *ry- sequence may be due to secondary yod. Phonemic forms

for Set 3 MC reflexes differ from the Karlgren-Li notation.

Ex. 18 (118) above, PC *g-rəp or *g-ryap 'to stand' belongs in a phonetic series with velar initials. The simple graph appears in bronze inscriptions usually in a loan sense for Ex. 56 below 'place of rank, position as ruler'. The two words are possibly related, but at any rate the same graph could be used in either sense.

56. (120) T	rabs	'lineage, family, generation, series'	位 *rəps, hrəps,	'place of rank'
	Mikir rap	'family'	hwrjets / jwl- 3	(*place in lineage)
	Rawang rap	'family'		
	(Daru dialect)			

The OC form of the above fits perfectly with Set 1b in Table 2, but since the phonetic series otherwise has no forms with the lip-rounded feature -w-, it may more properly belong to Set 1a with a transfer of lip-rounding from the final -ps to the initial before the earlier -ps was assimilated to -ts. (Further examples of PC *r- are given in Bodman 1980 6.31 through 6.34, Ex. 121 through 143).

OC -l- clusters like *kl-, *pl-

Some TB languages like Tamang, Lepcha, Mikir, Jiarong, Thulung, etc. show many minimal contrasts between medial l and r, but TB cognates of l medial words with OC are disappointingly few. Jinghpaw has no l medials, nor does modern Burmese, although both l and r medials are reconstructible for Proto-Lolo-Burmese, and even for Proto-Burmese. In T besides initial l- and lh- there occur kl- and gl- (and several T words have doublet forms in kl- and gl-), bl- and sl-. T has no clusters of aspirate initials with l. (T lt- and ld- are sometimes to be derived from earlier *hlh- and *hl-; the rare zl- may be from *d-sl-). The following two correspondence sets, although not numerous, seem valid:

57. (319) Lepcha	klo, glo	'to fall'	下 *gla: / ya:	'down'
PBurmese	klà	'to fall'	*glas / ya-	'go down'
PBurmese	khla	'to drop'		
Mikir	klò	'to fall'		
(STC 123 *kla, *gla	'fall')			
58. (177) T	lɛi	'dung'	屎 *hlyl: or *hlɛ:,	
(* hlyl)			hlɛlɛ: / ɛjlɛ:	'dung'
JP	khyf	'dung'		
Thulung	khll	'dung'		
PTamang	klɛ	'dung'		
(STC 125 *kily)		'dung'		

The last example may even point to a common innovation from *khl- to *hl- shared by T and OC. In the following three examples, we may perhaps reconstruct medial l for pre-Tibetan (remembering that l does not occur with aspirated stops in the written T).

59. (320) T phugs 'end, innermost part, 窟 *phlaks, 'cave
innermost apartment' phlaks / phau- cellar'
cf. T phug-pa 'cavern'
(*phl-)
60. (321) T phar 'board' 板 *plar:, 'board,
(*phl-) plan: / pwan: plank'
61. (322) T hphar 'great' 大 *plar:, 'great'
(*phl-) plan: / pwan: & bwan: 'great'
62. (269) 膚 *plaks, 'skin'
(443A) T (l)pagš pljaks / pju 'skin'
(*plaks) (MC has ping rather than qu tone)⁹

T md- cluster may sometimes be a reflex of *ml-; T mda 'arrow' has been compared with Kha Li ka-mla, Thangkhol mla, WB hmrà, etc. (Benedict STC 449). (*mr- is excluded as Coblin 1974 has demonstrated that the latter is one source of T rm-). Ex. 63 and 64 below are exact correspondences, but in Ex. 65 we have a vowel difference -- perhaps an ablaut variation.

63. (442) T mdongs 'white spot on 龍 *mlong / māng loan for:
(*ml-) horse's forehead; 'mixed black and white
eye in peacock's color, variegated'
feather' 龙 *mlong / māng 'particolored, motley,
variegated'
64. (443) T mdangs 'color of face, appear- 明 *mlāng, 'light, bright'
(*ml-) ance, brightness' mljang / mjwəng 'light, bright'
65. (441) T mdongs 'blind' 盲 *mlang / mōng 'blind'
(*ml-) 'blind'
ldongs 'become blind'
ldong (*hl-)

In Ex. 66 below, the medial appears in Southern Chin as l, but there is no medial r in contrast in this language.

66. (457) So. Chin hmləng 'rafter' 梁 *mləng or 'rafters, beams
*mrəng / mēng inside roof'

In the following three examples, I conjecture Pre-Tibetan may have reduced a medial sequence of *-ly- to medial y. (*-ry- is less likely since in T, syllables with the same medial and final consonant like *kror or *klol do not occur). In these items, the vocalism of the Chinese forms might also be *-o- rather than *-wa-. In all three cases, we have a MC chongniu doublet placed in Div. 3 for which the OC sequence is either -rj- or -lj-.

⁹ See Bodman 1980 sec. 2 for qu tone derivation from final stop plus -s. A small number of examples show ping tone rather than qu.

- | | | | | | |
|-------------|-----------------------|----------------|---|---------------------------------|--------------------------------|
| 67. (339) T | *hkhyor
(*khlyor) | 'to warp' | 捲 | *khwlyar,
khwljān / khjwän 3 | 'crooked wood,
curved bowl' |
| 68. (340) T | kyor-kyor
(*klyor) | 'weak, feeble' | 倦 | *gwlyars,
gwljāns / gjwän- 3 | 'tired' |
| 69. (341) T | khyor
(*khlyor) | 'handful' | 拳 | *gwlyar,
gwljān / gjwän 3 | 'fist' |

In the Zhuang Wu-ming language the word for 'roll' is obviously a borrowing from Chinese (but it does not occur in common Tai and hence is not listed in Li 1977). Note that all these words belong to the same phonetic series. Li 1956 (p. 246 and the text reference of XIII-27) clearly identify the meaning as 'roll (up)' and the PTai tone correlation is regular for this meaning. Note that the Chinese character now tends to be written without the 'hand' radical for the two meanings, basic 'to roll' in shang tone, and derived 'a roll, scroll' in qu tone.

- | | | | | | |
|-------------------|-------|---------------------------------|---|---------------------------------|-----------|
| 70. (200) Wu-ming | klian | 'roll, roll up
(as bedding)' | 捲 | *kwlyar:,
kwljān: / kjwän: 3 | 'to roll' |
|-------------------|-------|---------------------------------|---|---------------------------------|-----------|

The next example is added here for its remarkable phonological and semantic agreement; the Mon form is the only Austroasiatic form I could find with this meaning, and can well be regarded as a chance resemblance:¹⁰

- | | | | | | | |
|-----|----------------------|----------------|---------------|----|--|---------------------|
| 71. | Mon | klòn | 'crest, tuft' | 4P | *klon(s), | 'two tufts of hair' |
| | (written: glon) Mon: | sok klòn | | | kluan(s) / kwan- | on child's head' |
| | (Shorto: 1962) | 'tuft of hair' | | | (First OC attestation is in the QI Feng
section of the Odes). | |

Definitely to be ascribed to an Austroasiatic origin is a word for 'river' which has been widely borrowed into TB languages; it occurs in 'Middle' Old Chinese, but not in the oracle bones. (Norman and Mei 1976: 280-3). The evidence for the medial in this word is mixed -- either l or r is possible. Note also that both I and OC have related words originally referring to river-bottom cultivation.

- | | | | | | |
|-------------|---------------------|---|---|--------------------|----------------|
| 72. (239) T | klung | 'river' | 江 | *krung or *klung , | 'river, esp. |
| | Related to this is: | | | / käng | Yangtse River' |
| T | klungs | 'cultivated land'
(river-bottom cultivation) | 耨 | *krung; or *klung: | 'to cultivate' |
| | | | | käng: | |
| Katu | karung | 'river' | | | |
| Bru | klong | 'river' | | | |
| Old Mon | krung | 'river' | | | |
| V | sōng | 'river' | | | |
| (PMV | *khong A) | | | | |

¹⁰ See also my remarks on Ex. 91 on the Mon form which may also be suspect. However, I regard Ex. 72 and 93 as very solid.

Merger of Types *kr- and *kl-

We have seen that the r medial, and to a lesser extent, the l medial correspond to MC forms placed in Div. 2; Type B syllables placed in MC Div. 3 also go back to both medials. I have also assumed (p. 148) that it is reasonable that type *kr- went through the late OC stage *kl-, paralleling the changes of type *g-r- to r- and eventually l- in MC. Therefore one might logically also assume that "original" type *kl- was unchanged and in Late OC the *kr- type merged with it. This would be the simplest chain of events. However, we shall see starting from Ex. 89, that yet another type which I represent with the ad hoc notation of k-l-, etc. became t-, etc. thus merging with "original" dental initials. It is therefore worthwhile to posit that original *kl- type forms merged early into the *kr- type and only in Late OC did the then *kr- type change to *kl-. Although the latter sequence of changes seems at first glance to be considerably more complicated, it seems to provide a neater explanation overall.

Before taking up the *k-l- type, attention should be given to doublet forms that have multiple readings in MC between Div. 1, where no medial is normally reconstructed, and Div. 2 forms where a medial r or l is reconstructed. It may be true that we sometimes have in such cases a word family alternation where one can assume a medial r or l infix in the form that appears in Div. 2; this assumption would be attractive if we could establish a morphological and semantic function to the so-called infix. It seems to me more likely that the forms with the medial are conservative and the forms placed in Div. 1 represent a dialect in which there was an early loss of the medial.¹¹ In such cases the medial appearing in the Div. 2 forms can merely be regarded as a phonological feature of the word rather than a morphological one.

73. (328) T hbrai	'be separated, be parted'	田半 *brals, *b(r)ans / buân- buân-	'bank between fields (*separator) 'to separate from'
		采, 辨 *brels, brens / bân- ¹²	'divide, discriminate, distinguish' (one reading)
T hphrai	'to separate, to part'	半 *prals, p(r)ans / puân-	'half' (separated into two parts)'
		判 *phrals, ph(r)ans / phuân-	'cleave, divide'
		洋, 鞞 ph(r)ans / phuân-	'semi-circular pool' (divided circle)
		般索 ph(r)ans / phuân-	'meat on the side of an animal (split carcass)'

In the following, one finds this kind of alternation in two phonetic series.

¹¹ Details are given in Bodman 1980 Sec. 10.22.

¹² MC -ân can according to Baxter (1977 sec. 5.3) go back to OC *-rin, *-rân (my *-rân), or *-ren (whereas *-ran gives MC -an). See also Ex. 38 where the vocalic alternation between Div. 2. and Div. 3 is only possible with *-ren and *-rjen.

Division 1 Reflexes		
74. (329)	𩇛	*skh(r)am:/ xâm: 'roaring'
	𩇛	*skh(r)am:/ xâm: 'to shout'
75. (330)	檻	*g(r)am:, 'railing, h(r)am:/ yâm: cage'
76. (331)	盥	*grams, 'bathtub', h(r)ams / yâm- mirror'
77. (332)	覓	*g-ram:, g-ram:/ lâm: 'to see'

Division 2 Reflexes		
	𩇛	*skhram:/ xam: 'roaring, enraged (of tiger)' (& xâm:)
	檻	*gram:, fram:/ yam: 'railing, cage'
	盥	*grams, frams / yam- 'big bowl, basin' *krams, krams / kam- 'mirror, to mirror'
	覓	*kram, kram / kam 'see, look at'
	盥	*krams, krams / kam- 'see, look at, to mirror'

In the next case, the unexpected l in the Wu-ming form might be evidence for an original OC medial borrowed from a conservative dialect.

78. (198)	Wu-ming	plôn	'volume'	李	*p(l)un:/ puən:	'volume'
		C1				

On the other hand, there are words reconstructed for PTai which point to borrowing from forms without medial, although here we may have a conditioning feature. PTai *pr- is reconstructed (Li 1977, 5.3) but not when *ɛ is the vowel. For the next example, refer again to Ex. 3:

79. (332A)	PTai	*pet	'eight'	/ \	*pret / pwăt	'eight'
(78)	PTamang	*bret	'eight'			
80. (323)	PTai	*ke	C1 'untie'	解	*kre / kaĩ:	'untie, unloose'

In the following we have an apparent case of doublets in Division 2 and Pure Division 4.

81. (324)	PTai	*yeng	B2 'leg, shin'	脛	*gengs / yĩleng-	'leg, shank'
				脛	*khreng / kheng	'shankbone of ox'
					*greng / yeng	'shankbone of ox'
82. (325)	Thai	ta-kiap	'chopsticks'	枅	*kəp / klep	'chopsticks'
	(not in Li 1977)				*krep / kăp	'chopsticks'

With the above, compare the doublet:

83. (326)		蛱	*kəp / kiek *kăp	'butterfly' Cantonese kap? Japanese kai (*kapi)
-----------	--	---	---------------------	---

Summing up, in the normal evolution, we have types *kr- and *kl- as sources for MC Div. 2, and in Type B syllables, they yield MC Div. 3. In less conservative dialects, we have some evidence for an early loss of the medial, yielding MC Div. 1.

Reflexes of PC *l-

In comparison with the reflexes of PC *r- (see Table 2) those for PC *l- are relatively simple, and the correspondences with TB *l- regular and fairly numerous. Pulleyblank revised his 1961-2 paper and sets out his new system in his 1973 paper. I agree with these reconstructions. A table will clarify the

various views of different scholars.

Table 3

	Type A	Type B
Karlgren	d' / d'	di / i
Li	d / d	r' / j
Schuessler	dl / d	l / j
Pulleyblank	l / d	l' / j
Bodman	l / d	l' / lj / j

Frequently alternating in word families and phonetic series is *hl- which Li and Pulleyblank agree as being one of the sources of MC th-. The Type B form is *hl- / ʃj- (which Li reconstructs as *hrj- in his revision of 1976). I shall limit my illustration of *l- and *hl- to two important word families, adding two more for *hl-. (Many more examples in Bodman 1980 6.4 and 6.41).

84. (71)	T	lang	'to rise'	揚	*làng / jang	'to lift, raise'
		ldang	'rise, get up'		*làng / jang	'to winnow (toss high)'
		(*hlang)	(applies also to the rising of vapors, see rlang below)		*làng / jang	'hawk (high soaring)'
				風	*làng / jang	'tossed up by the wind'
	T	rlang	'vapor, steam'	陽	*làng / jang	in the meaning 'elated'
		slong slang	'cause to rise give upwards'	湯	*hlang / thlang	'hot liquid, soup'
				商	*hlang / ʃjang	'(trade), endow, give
	T	long-mo	'alms'	賞	*hlang: / ʃjang:	'to reward'
	85. (178) T	glod	'loosen, relax, comfort, cheer up'	兑	*lots,	
		(g-lot)			lwats / dwai-	'glad'
				悦	*lòt,	
					ljwat / jwät	'pleased, glad'
	T	lhod	'loose, relaxed,	脱	*hlòt,	
		(also glod, lod)	easy, unconcerned'		hlwat / thuät	'peel off, take off clothes, relieve, careless'
	WB	hlwat	'free, release'	脱	*lot,	" "
	WB	klwat	'taken off'		lwat / duät	
	WB	khwat	'to take off'	脱	*hlòts,	loan for 'let loose,
	Lepcha	flyát, flyót	'relax, loosen'	说	hljwats / ʃjäi-	'pleased, glad'
		(*hlwyat)				
86. (179)	V	lòt	'to strip, change skin'	蛻	*lot / duät	'peel off'
	V	lòt	'slough, cast-off skin'	蛻	*lòt	'exuviae of insects or reptiles'
		(/*hl-)?			ljot / jwät	
				蛻	*hlòts / thuäi-	" "
					thuä- ¹³	" "
				蛻	*hlòts / ʃjwäi-	" "

¹³ See Bodman 1980:104 for an explanation of the form thuä-.

87. (74)	Chepang	hləy?	'ladder'	梯	*hləy, hləj,	
(307A)	(a = ə, -? often relates to ping tone)				thej / thlɛl	'wooden steps, staircase'
88. (436)	T	lhəm	'now, at present,	覩	*hlām: or *hlīyam:	'time of a short glance,
	(* -yam ?)		directly, instantly'		hlījam: / ɬjām:	moment'
	lhams		'at once...'			

Clusters of Type *k-l- > MC t-

Initials of *l- and *hl- set up both by Pulleyblank and me, are now agreed upon by many scholars; they seem to have been present from PC times down to about Middle Han, at least; Pulleyblank went a step further (1961-2:118-9) in pointing out that there was alternation in some phonetic series between velars and dentals of a more extensive nature. (To distinguish these from Type *kl-, I temporarily use Type *k-l-). For instance, he assigned to one phonetic series graphs that Karlgren had kept apart because of the different initials in MC. The following correlations are very convincing; they appear in my notation as follows:

Yin bone:

唐 *g-lang / dāng

陽 *g-luy / duǎi

Yin bone:

庚 *k-lang or *krang,
krang / kōng

貴 *kùts / kjwǎi-

(See Ex. 89 below)

89. (201)	T	gus-pa	'respect, reverence'
	(* gut-s)		
	gus-po	'expensive, 'costly, dear'	

貴	*kùts,	'precious, dear,
	kjuts / kjwǎi-	expensive'

Apparently examples of this kind went largely unnoticed at the time since I am not aware of discussion on the subject, and Pulleyblank himself has not recently given them prominence. However, there is a very considerable number of good examples in xiesheng series, although the alternation is certainly less common than that of the *kr- and *kl- series. TB cognates are also not easy to find. I supplement the xiesheng evidence with data from a conservative Gan dialect and have added PTai and PYao data to make a very good case of clusters of the *k-l- type. Moreover, these data can now be supplemented somewhat by parallel labial clusters, Type *p-l-, which like the others, also fall in with the dentals. These too can be confirmed by PYao forms. Some puzzling sound glosses are now clarified by establishing the origin of some MC dentals in earlier labial sequences of Type p-l-. It is interesting to observe that the phonetic series that include forms from *l-, *hl-, *k-l- and *p-l- seem to be quite separate from those that are apparently original dentals and include roughly as many (or perhaps slightly more words) than do the dentals; however, this is a preliminary judgement only.¹⁴

Taking illustrations first from the *k-l- type, we can assume earlier

¹⁴ It is possible, perhaps likely, that types *k-l- and *p-l- merged first into a *tl- stage (at least phonetically) before reaching the t- initial found in MC.

*k-l- > MC t-, earlier *kh-l- > *hl- and then MC th-, and *g-l- > *l- and MC d-. The latter two merged with "original" *hl- and *l-. The evolution of the last is comparable to that of *g-r-, etc. which became *r- in late OC and l- in MC.

In the following, MC *thâm* has as phonetic MC *kjəm*, and the Gan dialect of Linchuan has doublet forms with th- and h-:

90. (201A) T	ham-	'avarice, covetousness,	貪	*kh-ləm	
(188)	(*khlam?)	greediness'		hləm / thəm	'to covet'
			Linchuan:	tham ¹ or hom ¹	'covet'
91. (202) ? Mon	klòm	'inner room or	窟	*g-ləm: / dəm:	'recess or small pit
	glām	chamber...'			in bottom of cave or cellar'
	klòm thət	'relic chamber'			
			白	*gləms / ɣəm-	'pit' (no text)
			陷	gləms / ɣəm-	'fall down, fall into
					(as in a pitfall)'

It is doubtful that we should relate the Mon word to the Chinese, especially as I cannot adduce other Austroasiatic forms. The Inscriptional Mon form (Shorto 1971) spells it *dlām*, here defined as 'chamber, enclosed place, ...monk's cell'. On the Chinese side, the word glossed as 'pit' occurs in *Shuowen* but is not used in old texts. However, the word meaning 'fall (as into a pitfall)' is common. This word may be a qu tone derivation from a word 'pit' that might have originally been in the shang tone. If so, we have a doublet in OC, one with initial *g-l- and the other with *gl-. Other similar doublets occur in the next example; note that the first graph has the same phonetic as in the case above, and the fourth, fifth and sixth graphs have the same phonetic as in Ex. 90 above.

92. (203)			吃	*g-ləm: / dām	'eat, swallow'
			啖	*g-ləm: / dām	'devour'
			嚥	*g-ləm: / dām:	'keep in mouth'
T	hgam	'put in mouth'	含, 哈	*gəm: / ɣəm:	'hold in mouth, contain'
	kham	'throw in mouth'	颌	gəm: / ɣəm:	'jaw'
T	hgram	'cheek'	颌	*gram or *glam	'a bit (for horses), carry in
	hgram-rus	'cheekbone, jawbone'		/ ɣam	mouth, carry'

If the last Chinese form is related to T *hgram*, we must reconstruct PC **gram*, but if it was **glam*, then it can be compared with the third from above **g-ləm:* showing the same alternation of **gl-* and **g-l-* as in Ex. 91 above.

The next example with two related Austroasiatic forms is particularly interesting since it may suggest that the word was borrowed into Chinese from a non-TB source. The OC word appears rather late (*Zhanguoce*).

93. (210) Khmu?	kiam	'carry on the	擔	*k-lam / tām	'carry on the shoulder'
PWa	*kiam	shoulder'		k-lams / tām-	'burden'

Purnell's work on PYao and PMiao-Yao provides further good examples. In the next case, the graph is related to that mentioned between Ex. 88 and 89; the third following case has the same phonetic as in the word family illustrated in Ex. 84.

94. (205) PY *glaang ²	'pond, lake'	塘	*g-lang / dāng	'dam, dyke'; currently 'reservoir, pond'
95. (206) PY *klaau 3				
PMY *glaau 3 A	'peach'	桃	*g-law / dāu	'peach'
96. (207) PY *klaang 2	'intestines'	腸	*g-làng / dǎng	'intestines'
97. (208) PY *klui 2	'pestle'	碓	*k-luy,	
(tone aberrant)			k-luj / tuai-	'pestle'
98. --- Thai khlai	'moss' (Pallegoix)	苔	*g-ləy / dǎi	'moss'
PTai *gləi, A2				

(Ex. 95 and 98 are also given in Benedict 1976:188 with similar PTai and PYao forms and with the correct Chinese identifications, but with OC initials rendered as sg'). Ex. 95 above shows a case of secondary yod, and the following is similar. Note that the phonetic of the first variant appears in a series with velar initials elsewhere:

99. (204) JP khyeng	'be red'	靛, 靛	*kh-lyeng or *kh-ləng,	
(*khl-)			hiŋg / tǎŋg	'red'
(STC 162 *kyeng)				

In Coblin 1978 we find a pair of glosses that show that in about 100 A.D. Xu Shen, the author of Shuowen, could still couple *kh-l- with *kh-:

	(using my notation)			Coblin's index:
100.	𪛗 *kh-lu / tǎu	is read like	𪛗 khyu: / khjəu:	(538a L224)
101.	𪛗 *khəm: / khəm:		*kh-ləm / tǎm	(3889b L169)
			(See Ex. 90 above)	

Also paired are 𪛗 and 𪛗 which occur in our Ex. 92. (Coblin 566b L164).

Listed below are other cases where we have MC dental reflexes where the phonetics have velar initials:

Table 4

MC phonetic	MC dental initial	PC *k-l-
合 yəp	答 təp	
見 kien	靛 thien	*kh-l-
鬼 kjwei-	脛 tuəi:	*k-l-
敢 kām:	𪛗 thām:	*kh-l-
敢 kām:	𪛗 thām-	*kh-l-
君 kjuən	𪛗 thuən	*kh-l-
去 khjwo- (PC *khyaps)	𪛗 thāp	*kh-l-

右 kuo:	后 tuo:	*k-l-
万 khâu:	饕 thâu	*kh-l-
果 kuâ:	磓 duâ	*g-l-

In the following Linchuan dialect forms, we find *l-, *hl-, and *hn-) all with initial h- in the colloquial stratum. (The original dentals appear as dentals still in the colloquial stratum, in contrast to the h- forms).

	PC *l-		Linchuan:	Literary	Colloquial
102. (181)	*lon,	'round,	團	thon ⁵	hon ²
	luan / duân	everywhere'			
103. (182)	*lon:,	'cut off,	斷	thon ⁵	hon ⁴
	luan: / duân:	decide'			
104. (183)	*lon:,	'satin,	緞	thon ⁵	hon ⁵
	luan: / duân	thick silk'			
105. (184)	(*lam) and *lâm,		痰	tham ²	nam ²
	ljam / jiām	'phlegm'			
106. (185)	*lay:,		舵	thai ³	ho ⁵
	laj: / dâ:	'rudder'			
107. (186)	*lo,	'head'	頭	thē: u ²	hē: u ²
	PC *hl-				
108. (187)	*hian / than	'to swallow'	吞	then ¹	hen ¹
	(thien	'to swallow';			
109. (188) (**khl-)	*lēm / thēm	'to covet'	食	tham ¹	hom ¹
(89) (201A)					
	PC *hn-				
110. (189)	*hnēks / thâi-	'bearing, manner'	態	thui ¹	hai ¹

Note that the Linchuan colloquial initials are superficially like those of the Toishan dialects where ʔ- corresponds to Standard Cantonese t- and h- to Cantonese th-. The Toishan initials however are reflexes of all dental stops in MC regardless of their OC origin; Linchuan colloquial contrasts "original" *t-, etc. from type *k-l- > MC t-.

Clusters of Type *p-l- > MC t-

I assume that clusters of the type *p-l- merged with the much commoner *k-l- type;¹⁵ the MC reflex of both types is the same. There is some xiesheng evidence for the *p-l- type along with a good sound gloss, but the best evidence comes from PYao and PMiao-Yao:

111. (211)	PY	*blau 2	'rice (plants)'	*b-lu: / dāu:	'rice, paddy'
	PMY	*nblau ¹ A			
		(aberrant tone)			

¹⁵ See footnote 14 above.

In the phonetic series of 缶 MC pjaʊ is the word 陶 MC dāu 'kiln, pottery' which Xu Shen puts into a sound gloss:

112. 陶 *b-lu / dāu read like 缶 *pyu: / pjaʊ:

(My notation. See Coblin 1978:60). Other xiesheng evidence:

113. 𩇛 *pheng / phleng is phonetic in: 𩇛 *ph-ləŋ / tʰjǎŋ
 114. 𩇛 *blak or 𩇛 *ph-lak / tʰak
 𩇛 *brak/bək is phonetic in: 𩇛 *ph-lak / tʰak

Lastly, I speculate that the difficulty of relating the Ahom plāo, borrowed from 𩇛, MC tʰjəu:, may be resolved by reconstructing OC *ph-lù:. The problem comes from the initials of the other members of the phonetic series which indicate OC nj- and snj-. Perhaps a yet earlier form would have to be reconstructed as **ph-nù: (See Li 1945:336 and 338).

We have seen that the types *kh-l- and *b-l- (Ex. 99 and 111) probably remained in that phonological shape, or one very similar, in the dialect of Xu Shen about 100 A.D. In the Shi Ming (see Bodman 1954) it seems likely that initials of this type had already passed into dental stops by about 200 A.D. Moreover, Pulleyblank (1961-2:121-2) cites a transcription for 'camel' from the second century B.C. with MC th- from earlier *lh-, which in Later Han was replaced by MC l-. In his transcription:

Early Han

Later Han

𩇛(駝)院 lhək-dəʊ (/) tʰək-də 駝馬院 (MC) lək-də

He therefore concludes that, although the origin of the word 'camel' is unknown, the shift of *lh- (my *hl-) to th- had already taken place in the Later Han period. No doubt the change occurred earlier in some dialects than in others.

It has been useful to resort to employing ad hoc notations like *b-r- and *h-l-, etc. to distinguish correspondence sets from other forms like *br- which may have gone through a bl- stage at a later time; it is also easier to set up such abstract formulae than to try to pin down what the "real values" might have been. However, I shall risk making a few such assumptions as I bring this paper to an end. I was not yet prepared to voice some of these assumptions when I submitted the manuscript of Bodman 1980 quite a while ago. Some are newer ideas that have resulted from further study of the materials in the intervening period.

At about the time that types *k-l- and *p-l- had merged with the dental stops, we still have quite good evidence from sound glosses (as in Shi Ming, Bodman 1954) of clusters that derive from the OC *kr- type. I assume that at this relatively late period, ca. 200 A.D., that the phonetic shape of the OC *kr- type had become by then *kl-. Whether one wants to ascribe this to a drag chain phenomenon or not, at this time there had ceased to be a contrast between *r and *l either as initials or as medials. The Late Han value of the medial was presumably l. Late OC r- initially, (which could derive from *g-r-, *b-r- and *d-r-) and which had become l- by MC, may have been hl-¹⁶ phonetically (and

¹⁶ See Ex. 36 where the PTai initial *xr- probably derives from a late OC value

perhaps phonemically) in the Late Han period. The changes through time, presented as a kind of flow-chart, are presented in Tables 5 and 6; I here substitute the articulatory class of labials because of the simpler MC reflexes. The last column shows the MC initials and the placement of the syllable type in the various deng (divisions).

Table 5

PC & OC	Later OC	Early Han	Late Han	MC
*pr-	pr-	pr-	pl-	p(2)
*pl-	pl-			
*p-l-	pl-	pl-	t-	t(1)
*b-r-	b-r-	(b) r-	(b) l- ¹⁷	l(1)
*b-l-	bl-	(b) l- ¹⁸	d-	d(1)
*r	hr-	(h) r-	(h) l-	ɣ(2)
*l-	l-	l-	d-	d(1)
*hl-	hl-	hl-	th-	th(1)

The voiceless initials without medials like p and ph presumably remained basically unchanged. *b-r- as in Ex. 11, and *b-l- as in Ex. 111, judging from the reconstructed values of the borrowed forms were very likely voiced lenis since the stop initial was eventually lost.¹⁹ How then to account for the ancestor of MC b- (Karlgren's b^h-) in Div. 2? I suppose that the *b- in *br- was voiced and lenis, and it must have had this value also when no medial followed. On the other hand, the ancestor of MC b may at one time have been aspirated — at any rate it contrasted with the former.

Table 6

PC & OC	Later OC	Early Han	Late Han	MC (Div.)
*b-	b-	b-	b-	b (1)
*br-	br-	br-	bl-	b (2)
*b-r-	b-r-	(b)r-	(b)l-	l (1) ²⁰
*bh-	bh-	bh-	bh-	b (1)
*bhr-	bhr-	bhr-	bhl-	b (2)

hr-; this later went through the hl- stage in Late Han. This item has s- in Northern Min (Mei and Norman 1971 Pmin *lh-).

¹⁷ The initial cluster may have persisted until Late Han.

¹⁸ The initial was lost ca. 100 - 200 A.D. See Pulleyblank's comments on a word for 'camel' in the second paragraph after Ex. 113.

¹⁹ Both Karlgren and Li posit OC clusters of *ql- and *bl- from xiesheng evidence for the OC period. Since these correlate with MC l-, they assume a lenis initial that dropped before the MC stage.

²⁰ See footnote 17.

Some scheme such as this is needed even without bringing in the Min evidence which requires the PMin contrast of *b- and *bh-, etc. (See Norman 1973, 1974 and the detailed discussion in Bodman 1980 Sec. 3.0). In the scheme presented here for OC and MC, the Late Han types b- and bh- merged to one phoneme in MC, here represented as /b/, where regardless of its phonetic status as [b] or [pʰ], whatever it was, there was certainly no longer any phonological contrast. In Min the medial that occurred in OC Div. 2 words was apparently lost early, so that in PMin the initials of OC types Div.1 and Div. 2 merged; as for the finals of Min forms that relate to OC Div. 1 and Div. 2, there was a vowel contrast in some categories, but in other categories there was a vowel merger. In Min the reflexes of OC *b-r-, *g-r- and *d-r- were in most of the area similar to those elsewhere, namely l- as in MC, but in Northern Min, some of the items have initial s- with yang tones (Mei and Norman 1971). These they interpret as PMin *lh- and correlate the initial with OC clusters Cl. Because the yang tone reflexes relate to original voiced initials, I would regard the initial as phonetically [ʃl-] (see this paper, the text preceding Table 5 and footnote #16).

This paper has dwelt at length on r and l medials and their reflexes and correspondences, but of course it cannot be regarded as 'the last word'. However, because of space considerations for this volume, for the present this must be the last word.